GLOBALIZATION

GLOBALIZATION

Encyclopedia of Trade, Labor, and Politics

Volume 1

Ashish K. Vaidya, Editor

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Ashish K. Vaidya

Introduction

Globalization: Encyclopedia of Trade, Labor, and Politics is a comprehensive reference work on post–World War II issues of globalization. It examines the phenomenon of globalization from an economic, international business, political, legal, and environmental perspective. Written by scholars, the articles are easily accessible to students, business and industry leaders, lawyers, policy makers, academicians, and general readers.

The encyclopedia is intended as a reference book for undergraduate and graduate students, as well as academicians, in the areas of economics, international business, finance, political science, sociology, law, and environmental studies. The two volumes and its associated web site will serve as a valuable resource guide for practitioners in these fields as well. The encyclopedia is divided into four parts: Trade and Investment Issues; Major Business and Economic Sectors; International Blocs and Organizations; and Other Issues.

Part One: Trade and Investment Issues

Part One is dedicated to the discussion of major trade and investment-related issues within a global context. Each essay deals with a history of the subject, current events and issues, and potential developments. The entries in this section deal with issues such as balance of payments and capital flows, currency crisis and contagion, exchange rate movements, international monetary relations, and government policy. With rapid technological developments in communications and transportation, globalization has changed the shape of international production. This section also focuses on the issue of economic integration, foreign direct investment and joint ventures, economic growth, technology and technical change. It also addresses the effects of globalization on developing nations and emerging markets. Each entry includes appropriate statistical information in the form of tables and graphs to illustrate the growth and progress of the subject.

Part Two: Major Business and Economic Sectors

Part Two is devoted to entries on major business and economic sectors of the international economy. Like Part One, this section includes discussions of the history, current issues, and future developments for each sector, specifically as they pertain to globalization, but each entry focuses more on trends and changes. Agriculture, chemicals, textiles and apparel, computers, energy, financial services, food and beverages, media, pharmaceuticals, and transport, both manufacturing and service, are examined.

Part Three: International Blocs and Organizations

Part Three is a description of the major world trade organizations and blocs. Each entry in this section deals with a specific trade organization or bloc, including the EU (European Union), APEC (Asia Pacific Economic Cooperation), NAFTA (North American Free Trade Agreement), and the WTO (World Trade Organization). It also contains entries on international financial institutions that deal with trade issues such as the World Bank, the IMF (International Monetary Fund), WHO (World Health Organization), and specific agencies within the United Nations. Each entry contains a brief description of the organization/bloc, a list of

member countries, the organizational structure purpose and profile, and economic and socioeconomic data on statistical indicators.

Part Four: Other Issues

Part Four focuses on major environmental, legal, political, and cultural issues within the context of globalization. The effects of globalization have been felt in the areas of global security, the environment, food safety, public health, and social policy. Entries in this section deal with natural resources, energy use, climate change, pollution, and conservation. Given the impact of globalization on cities, urban development, and population growth, this section also addresses those concerns from a historical perspective as well as with consideration to future developments. Entries also discuss the legal, political, and cultural aspects of globalization, including concerns of international labor rights and standards, human rights, conflict and cooperation, intellectual property rights, corruption, gender, foreign aid, and trade laws.

The phenomena of globalization has been perhaps the most significant development in the post–World War II era. Globalization has transformed the world economy with an impact has been widely felt in all venues. Its force has led to greater interaction amongst peoples and nation states and has challenged the very foundations of our economic, political, and social systems. This encyclopedia provides the information vital to shedding light on the vital subject of globalization.

PART ONE

Trade and Investment Issues

Antidumping and Countervailing Duties

Antidumping action and countervailing duties are trade measures that have been subject to General Agreement on Tariffs and Trade (GATT) regulation from the inception of the GATT organization in 1947. Both of these trade measures are covered by Article VI of the agreement. This article differs from other articles in GATT in that it is concerned with "unfair trade," whereas the others are concerned with reducing trade restrictions that distort production and consumption in the world economy. Dumping and subsidization were perceived as being "unfair" to domestic competitors and therefore practices tending to undermine respect for the rules of the international trading system and the willingness of countries to liberalize international trade. The GATT law that laid down the unfair trading rules of the world trading system carried over to the World Trade Organization (WTO) when it came into being in 1995.

From the time the GATT rules were introduced, there have been numerous complaints from the exporting countries subject to antidumping actions and, to a lesser extent, those subject to countervailing duties. Both antidumping actions and countervailing duties harm the exporting countries, and there is therefore a clash of interests between exporting and importing countries. Exporting countries have claimed that dumping duties are often applied when they should not be under the letter of the GATT law, and that antidumping actions, and sometimes countervailing duties, are used to discourage cheap imports rather than unfair trading. These rules are still hotly debated.

Dumping Actions

Scope of GATT Rules

Article VI of GATT (1947) defined dumping as a situation in which "the price of the product exported from one country to another is less than the comparable price, in the ordinary course of trade, for the like product when destined for consumption in the exporting country." The difference between the "normal value" and the "export price" is called the "margin of dumping." The duty cannot exceed 100 percent of the dumping margin.

A second form of antidumping action is permitted. This is a "price undertaking," defined as "satisfactory voluntary undertakings from any exporter to revise its prices or to cease exports to the area at dumped prices so that authorities are satisfied that the injurious effect of the dumping is eliminated." The exporter can raise prices no more than the margin of dumping. This measure resulted from British and Canadian complaints during the Kennedy Round (1964–1967) that the U.S. Treasury (which at that time was responsible for dumping investigations) had been slow in its dumping investigations and had encouraged producers to give a price undertaking even though the Tariff Commission inquiry might not have resulted in a finding of injury and the imposition of a duty. It was incorporated into the Antidumping Code drawn up in the Kennedy and Tokyo rounds of GATT negotiations.

Under GATT/WTO rules, antidumping actions apply solely to trade in goods. No provi-

sion for antidumping in services was introduced into the General Agreement on Trade in Services (GATS) in the Uruguay Round that was concluded in 1993. It is generally believed that antidumping action makes little sense in the context of services trade because of the different nature of this trade; services often have to be delivered in the country in which the consumers buy the services, and the intangibility and the bundling of services make it difficult to establish unit prices.

Article VI allows members to take antidumping action on imports of a good when dumping occurs, but there is no obligation on them to do so. The government of the importing country has discretion. Before an antidumping duty is imposed or a price undertaking given, two requirements or tests must be met: It must be established that the good is dumped, and that the dumping causes or threatens material injury to an established domestic industry or materially retards the establishment of a domestic industry. This form of action has the consequence that the GATT/WTO law deals not with the regulation of dumping itself but with the regulation of antidumping measures.

Problems of Dumping Investigation

Dumping investigations are initiated in response to a complaint from the industry in the importing country to its government. In some countries, the determination of dumping is carried out by one agency, and the determination of injury by a second agency. For example, in the United States, the Department of Commerce determines whether dumping has taken place, and the International Trade Commission determines whether this has caused injury to the domestic industry. In other countries, one agency may make both determinations. These procedures make antidumping actions a form of tariff with very high costs of administration to the government and to the private parties involved.

In most countries taking antidumping action, the legislation requires that the action be taken when there is a complaint from the domestic industry followed by a positive finding of dumping and a positive finding of injury to the domestic industry. Hence, the dual tests required by the WTO rules as a necessary condition of action have become in practice a sufficient condition. This process ignores the interests of domestic buyers. In many cases, buyers are other firms purchasing intermediate goods rather than final consumers. A few countries—and the European Union—have a national-interest provision in their legislation. Importing countries do not consider the interests of the exporters in other countries.

The process of price-to-price comparisons of like products required for the determination of goods dumping is not straightforward. If there is no like product sold on the domestic market, or if the product is sold on terms that do not reflect its costs or in such small quantities that fair comparison is not possible, alternative comparisons may be made. As one alternative, the export price of the good that is allegedly dumped may be compared with the price at which the product is sold when exported to another country. A second alternative is a constructed price based on the cost of production and a reasonable calculation of administrative costs, sales, and other costs and profit. Additional problems arise in the case of goods exported from nonmarket economies such as China. These have led to additional rules.

Similarly, the determination of injury is not straightforward. The definition of a domestic industry, a determination of whether the industry is being injured or threatened by injury, and findings about whether the dumped imports are responsible for this injury, have all been subject to contention in many dumping cases.

The conflict of interests, administrative costs, and uncertainties in the rules have prompted a succession of reforms in attempts to improve the discipline in the rules. The Antidumping Code drawn up in the Kennedy and Tokyo rounds gave greater precision to the definitions of Article VI relating to like products, dumping, injury, and domestic industry. It laid

down for the first time procedures and rules of administration, covering time limits for the period of investigation and for the retroactivity of antidumping duties, the rights of interested parties to be heard, rules of evidence, and other administrative matters.

The introduction of the code also saw the extension of dumping to situations in which the goods were sold below (average) cost. The code allowed a determination of dumping if the export price is less than the cost of production of the good exported, but only if there are no sales of the like product in the exporting country or if a proper comparison cannot be made between the export and the domestic price. Moreover, the code introduced two new measures. First, it allowed a price undertaking. Second, it introduced a provision for preliminary duties. Both became widely used.

The Uruguay Round Agreement on the Implementation of Article VI made a strong attempt to tighten the regulation of governments' antidumping actions. The agreement set out yet more detailed rules concerning the determination of dumping, including dumping at below average cost, as well as concerning the determination of injury and the establishment of a causal link between dumping and injury. It also set out more detailed procedures to be followed in initiating and conducting dumping investigations and clarified the role of settlement panels in disputes concerning antidumping actions taken by members. It introduced a "sunset clause" requiring an antidumping duty to terminate within five years unless a fresh review determines that the expiration of the duty would be likely to lead to continuation or recurrence of dumping and injury. Under the Single Undertaking, which obliged all WTO members to accept all of the rules in the Uruguay Round Agreement, this agreement and the earlier code relating to dumping became binding on all members.

The agreement allowed, for the purpose of determining injury, consideration of the combined effect of dumped imports from more than one supplying country. This combined effect was called "cumulation," and its inclusion in determination of injury codified a relatively new principle in international trade law. With the experience of six years of application of the Uruguay Round amendments, this new feature can now be seen as a substantial change. Before the Uruguay Round Agreement, the practice was used on a limited scale, but it could be argued that it did not conform to GATT law. The Uruguay Round Agreement made the practice WTO-legal. This has increased the coverage of complaints and their likelihood of meeting the injury test in countries that use this provision. Since the formal introduction of the cumulation, studies have shown that a clear majority of antidumping cases in the United States and the European Union have involved the principle.

On balance, it is not clear whether the changes to the GATT/WTO rules since their inception have strengthened or weakened the discipline on countries taking antidumping actions. These rule changes have maintained the basic features of antidumping measures for more than fifty years.

Despite the changes, the discipline applied by the WTO rules to country action against dumped imports is still weak. In some countries, the procedures allow protection virtually on demand. Over the ten years 1987–1997, the proportion of all completed antidumping investigations that resulted in the imposition of definitive measures was 51 percent for all countries reporting to the GATT/WTO. It was 64 percent for the United States and 62 percent for the European Union (Miranda, Torres, and Ruiz 1998, Table 24). In most countries, a higher proportion of applications fail because of a negative finding on the injury test than because of a negative finding on the dumping test. In the United States, over the past decade the Department of Commerce has rarely issued negative determinations of dumping.

The Pattern of Antidumping Actions

Antidumping actions have risen rapidly since the conclusion of the Uruguay Round negotiations. The WTO Committee on Antidumping

produces semiannual reports that give data on the number of antidumping investigations and measures adopted by members of the organization. Until the mid-1980s, only the United States, Australia, New Zealand, and countries that are now members of the European Community took antidumping action regularly. In 1990, only nine members were reported as taking antidumping action during the year. In recent years, the WTO reported that several members had taken antidumping actions. The main new users have been Mexico, Brazil, South Africa, India, and Korea.

More countries are introducing legislation providing for antidumping duties, though there is no obligation for them to do so under WTO rules. These include developing and transition economies such as China. As of December 31, 2000, sixty-three countries (counting the European Union as a single member) had notified the WTO that they had legislation providing for antidumping action. Thus, antidumping action is becoming a standard tool of international trade policy.

As important as the frequency of action is the magnitude of the levels of protection resulting from the actions. There are no systematic data on this aspect. Empirical studies done for some years show that, in the United States and the European Union, dumping margins are on average two to three times higher than the rates of tariffs on ordinary imports, and in Australia they were five times the average tariffs on the same goods.

Moreover, the imports that are subject to antidumping actions are predominantly sourced from developing and transition economies. WTO statistics show that, after the EU countries, the most frequent targets are China, Korea, Chinese Taipei, and a number of other East Asian exporters. Hence, antidumping action has become another of the issues that divide the developed and the developing countries in the WTO. It has led to an increasing number of formal complaints from exporting countries under the dispute settlement procedures of the WTO in recent years.

Pressure for More Reforms in the WTO

Continued dissatisfaction among the members of the WTO with the antidumping rules was recognized in the Ministerial Declaration issued at Doha in November 2001, in which the parties agreed to engage in negotiations aimed at clarifying and improving disciplines included in the antidumping rules. However, the declaration also stated the ministers' intention of "preserving the basic concepts, principles and effectiveness of these Agreements." There is a basic conflict between the view of the major countries taking antidumping actions and the countries whose exports are subject to these actions. There are likely to be strong demands from exporting countries, especially developing and transition countries, for major changes to the rules, but there is unlikely to be much support among the developed countries for changing antidumping provisions in a substantial way. This clash of views is one of the major challenges of the current round.

In the longer term, more far-reaching reforms are possible. International trade economists, unlike officials from national governments, have been widely opposed to antidumping action. From the time of the publication of the classic study of dumping by Jacob Viner (1926), international trade economists have regarded dumping as a form of price discrimination. There is a conflict of interest within the importing country: Buyers gain from dumping, and domestic sellers of substitute goods lose. Apart from infrequent cases of predatory and strategic dumping, dumping is beneficial rather than harmful to the national welfare of the country in which the goods are dumped. Consequently, national welfare is reduced if an antidumping duty is imposed unless the terms-of-trade effect of the duty is large. This is the standard analysis of a tariff, based on equal weighting of the welfare losses to buyers and the gains to sellers from an antidumping action. This conclusion holds a fortiori for a price undertaking as the higher price is received by the foreign supplier rather than the home government or, alternatively, de-

mand is diverted to higher cost alternative import sources. Both cases result in a higher cost of imports. Empirical studies of the welfare effects of antidumping actions confirm that the importing countries taking the actions are net losers (see Blonigen and Prusa 2003).

In practice, according to trade economists, most antidumping action is a form of protection against imports from the cheapest sources rather than action against "unfair trade." As voluntary export restraints and other nontariff barriers have been curtailed by the GATT and WTO, antidumping action is being used as a substitute form of nontariff barrier that is still permissible under the WTO rules. The marked cyclical pattern of new antidumping actions and the heavy concentration in certain industries (see Miranda, Torres, and Ruiz 1998), especially steel and chemical products, support this view.

To reestablish a link to harmful unfair trading, a number of economists have recommended that a third competition test be added to the dual tests of dumping and injury currently required under existing WTO law. The basis for this view is that pricing behavior is appropriately examined under the standards-of-competition analysis and law. This approach has in fact been adopted in a number of regional trading agreements. The European Union; the European Economic Area (EEA) Agreement, a treaty between the European Union and the European Free Trade Area; and the Closer Economic Relations (CER) Agreement between Australia and New Zealand have all banned the use of antidumping measures on intra-area trade, preferring instead to rely on the application of area-wide competition law to deal with instances of anticompetitive pricing. The Canada-Chile Free Trade Agreement simply bans antidumping actions on bilateral trade without any backstop provision for the application of competition law.

The experience of the GATT over almost fifty years indicates that reform of the antidumping law will be a difficult and slow process. Antidumping action is likely to remain one of the major concerns in the WTO with regard to the rules relating to goods trade.

Countervailing Duties

In several respects, the WTO rules relating to countervailing (antisubsidy) duties follow closely the rules relating to antidumping actions, but there are important differences. Subsidies are government measures, whereas dumping is a private action. The subsidies of a nation may inhibit imports as well as encourage its exports. GATT's Article VI, which contains the original rules regulating the use of countervailing duties, is supplemented by Article XVI, which contains rules that regulate the use of subsidies themselves.

Scope of GATT Rules

Article VI states, "The term 'countervailing duty' shall be understood to mean a special duty levied for the purpose of offsetting any bounty or subsidy bestowed, directly or indirectly, upon the manufacture, production or export of any merchandise." As with antidumping duties, a countervailing duty may be levied only if there is proof of subsidization and of injury or threatened injury to the domestic industry, and the amount of the duty cannot exceed the estimated value of the subsidy.

Article XVI ("Subsidies") is concerned with the trade-distorting effects of subsidies. It has two sections. Section A relates to subsidies in general. Subsidies are defined broadly as financial contributions by a national or subnational government. This section requires that each government notify GATT of all subsidies that have the effect of increasing exports or reducing imports. The only limitation on the use of subsidies in general is a weak provision for consultation between governments. Section B concerns export subsidies. These are defined quite broadly to include tax incentives and other concessions related to export performance. The section prohibits export subsidies on all goods other than primary products, and

governments are exhorted to avoid the use of export subsidies on primary products.

The Tokyo Round produced a Subsidies Code that refined the rules. Paralleling the new rules in the Tokyo Round Antidumping Code, there were new provisions in the Subsidies Code for provisional countervailing measures, retroactivity, and procedures and rules of administration. There was also provision for undertakings, either by the government of the exporting country agreeing to eliminate or limit the subsidy, or by the exporter agreeing to revise its price, so that the injurious effect of the subsidy would be eliminated. However, unlike price undertakings for dumped goods, these undertakings have been used rarely. Consequently, for practical purposes, countervailing measures are limited to countervailing duties. There are supplementary provisions relating to developing countries.

Article XVI and the Subsidies Code imposed effective discipline on non-primary-product export subsidies only. As subsidies not based on exports and export subsidies on primary products are not prohibited, many governments have increased their use of these measures in a world trading environment where greater discipline has been imposed on other border measures. This has created a web of conflicting interests. Countries that export goods that compete in world markets with goods from other countries that benefit from subsidies, as well as countries that export goods subject to countervailing duties, have sought more discipline on subsidies and countervailing actions. Countries that assist domestic import-competing or export industries by means of subsidies, or those that use countervailing duties, generally oppose greater discipline.

The Uruguay Round Agreement

The Uruguay Round resulted in an Agreement on Subsidies and Countervailing Measures. This represents a radical change of approach from Article XVI and the Subsidies Code, and one that diverged from the approach of the Uruguay Round Agreement on antidumping measures. The new agreement imposed for the first time some binding discipline on subsidies based on production and nontrade factors by putting restrictions on their use. There are additional rules for developing countries that allow them a longer time to conform to the new rules and in some circumstances to maintain export subsidies indefinitely.

The agreement adopts what is called a "traffic light" approach. There are three categories of subsidies: prohibited ("red"), actionable ("amber"), and nonactionable ("green"). The prohibited category comprises "import-substitution subsidies" (defined narrowly as those contingent on the use of domestic over imported goods), as well as the export subsidies previously prohibited, and other subsidies likely to have adverse effects on other member countries. The nonactionable category comprises subsidies that are not specific to individual enterprises or industries and other subsidies designated "green," including assistance for basic research or to disadvantaged regions and environmental requirements. Only subsidies in the amber category may be subject to countervailing duties.

All categories of subsidies may be challenged by one member or members bringing a complaint against another member or members under the dispute settlement procedures of the WTO. For the actionable category of subsidies, a complaint may be based on one of three types of adverse effects: injury to the domestic industry of an importing country; the nullification or impairment of benefits accruing to another member from tariff concessions or improved market access into the subsidizing members; or serious prejudice (the loss of exports of another member, either into the market of the subsidizing member or in a third country). The last two effects allow exporting countries affected adversely by the production-based subsidies of another country to make a complaint that might result in the reduction or elimination of a subsidy.

Several complaints have been made under these provisions. Indeed, alleged breaches of

the Agreement on Subsidies and Countervailing Measures have been a common subject of the complaints surfacing in the WTO dispute settlement procedures. Most of these have concerned subsidies rather than countervailing duties, as there is less scope for the miscalculation of subsidy levels than for the margin of dumping. As a result of decisions of WTO panels and the Appellate Body, several areas of government budgetary assistance previously regarded as outside GATT discipline have been judged to be prohibited subsidies within the terms of the Uruguay Round Agreement. This applies, for example, to the Foreign Sales Corporation regime of the U.S. Internal Revenue Code and to Brazilian and Canadian interest equalization payments on export sales of regional aircraft.

The rules and procedures relating to action through the imposition of countervailing subsidies are essentially the same as those relating to antidumping action under the Antidumping Agreement. For example, in the assessment of injury to domestic industry, imports from multiple countries may be cumulated, and there is a five-year limit and provision for retroactivity.

The Uruguay Round Agreement on Agriculture has rules relating to subsidies on agricultural products that supplement those in the Agreement on Subsidies and Countervailing Measures. Article 13 has a temporary and partial derogation from the rules of the Agreement on Subsidies and Countervailing Measures for subsidies on agricultural products. In broad terms, this Agreement on Agriculture followed the tariff-lights categories of the Agreement on Subsidies and Countervailing Measures. Domestic agricultural support measures for subsidies in the "Amber Box," that is, actionable subsidies that distort trade, were the subject of negotiations. The end result was a 20 percent reduction in the aggregate levels of government agricultural support measures. This was the first time in the history of the GATT that reductions in subsidies on agriculture were achieved through negotiation. There is no parallel in the negotiations on industrial goods, where the negotiations in all GATT rounds were confined to tariffs and nontariff measures not including subsidies. This difference in treatment of subsidies in the agricultural and industrial sectors derives principally from the fact that the proportion of assistance that comes from subsidies rather than from tariffs and other border restrictions is higher for domestic producers of agricultural products than for the industrial sector. This is true of the European Union and the United States.

Countervailing actions apply solely to goods. In relation to services, GATS Article XV has its own provisions on subsidies. These are, however, confined to a relatively weak provision allowing for consultations among members, a provision for future negotiations on subsidies affecting services, and a commitment to examining the need for countervailing measures.

The Pattern of Countervailing Duties

The number of members with legislation providing for countervailing duties and the number of countervailing duty applications have risen since the end of the Uruguay Round. As of December 31, 2000, fifty-two countries had notified the WTO that they had legislation providing for countervailing measures. As with antidumping actions, the principal countries taking action have been developed countries, chiefly the United States and the countries of the European Union. The principal countries whose subsidies are subject to action are developing countries plus, in this case, EU countries.

The industries targeted are broadly the same industries as those subject to frequent antidumping actions, notably metal products and chemicals, as well as some agricultural products. Typically, imports subject to countervailing duties have also been subject to antidumping actions: This is the pattern in the United States, the European Union, and Australia, which have been the most frequent users of countervailing duties. This provides a direct link, in practice, between the use of antidumping actions and countervailing duties, and it

suggests a common protective motive for these actions.

However, countervailing duty actions are taken much less frequently than antidumping actions. In 1999–2000, the WTO Committee on Subsidies and Countervailing Measures reported that only five countries took countervailing duty actions during the year. The number of countervailing duties in force on June 30, 2000, was less than one-tenth the number of antidumping measures.

Pressure for More Reform in the WTO

Since the Uruguay Round, there has been some continuing concern over the discipline exercised over subsidies and actions to countervail subsidies and the procedures under Article VI and the Agreement on Subsidies and Countervailing Measures. Developing countries have some dissatisfaction with the agreement, but this centers on the transition period for them to conform to the rules and on special and differential treatment issues.

The Ministerial Declaration at Doha in November 2001, again under the section relating to WTO rules, agreed that there would be negotiations aimed at clarifying and improving the discipline applied to countervailing duties. Action to countervail subsidies may also be considered under the services negotiations.

Countervailing duties lower the national welfare in importing countries that impose the duties, as well as in the exporting countries, because they distort production and consumption, like an ordinary tariff. Empirical studies have confirmed the losses. In the case of subsidized trade, however, there is no doubt that the subsidies themselves distort world production and world trade. Unlike dumping, therefore, there is a case for action against subsidized trade by reducing the levels of the subsidies themselves.

There is no provision, however, in the Doha Ministerial Declaration for negotiating the levels of industrial subsidies. This continues the practice throughout the history of the GATT of excluding industrial production-based subsidies from the set of trade-distorting measures that are covered by these negotiations. However, some regional trading agreements have disciplined the use of subsidies that distort intra-area trade. The 1957 Treaty of Rome—which established the European Community—prohibits all "state aids" (subsidies) that distort intra-area trade, though these controls have proven to be ineffective in practice, and it prohibits the use of countervailing duties on imports from member countries, as they are a form of customs duty. The CER Agreement between Australia and New Zealand has gone further in removing all subsidies that affect bilateral trade.

The absence of any provision for negotiating down subsidy levels for industrial subsidies is an anomaly, as the declaration provides for negotiations to phase out all forms of export subsidies and to reduce substantially trade-distorting domestic support in the agricultural sector, in fisheries, and in services. Unless the levels of industrial subsidies are reduced, countervailing duties on actionable subsidies, and, in some cases, formal complaints under the dispute settlement procedures, are the only forms of action possible against subsidies. Imposing greater discipline on levels of subsidies that assist export- and import-competing producers is unfinished business.

P. J. Lloyd

See Also National government policies; Non-tariff barriers; Protectionism; Subsidies; Tariffs; Technical barriers to trade; GATT; World Trade Organization (WTO); US Trade laws

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Balance of Payments and Capital Inflows

The balance of payments is a summary statement that, in principle, records all the transactions of the residents of a nation with the residents of all other nations during a particular period of time, usually a calendar year. The United States and some other nations also keep such a record on a quarterly basis. The primary purpose is to obtain reliable and up-to-date information on transactions between domestic residents and foreign residents. As trade and investment flows expand and globalization of international business becomes a reality, domestic monetary and regulatory policy no longer focuses on domestic markets alone but increasingly has to take into account foreign developments as well. The information collected is used to help support trade negotiations, formulate policy, and analyze the impact of that policy and the policies of foreign countries on international transactions.

Interest in maintaining records of international transactions predates data collection within other economic accounts. During much of the seventeenth and eighteenth centuries, the dominant economic policy was mercantilism. Mercantilism describes the theory that a nation's economic prosperity can be reflected by the stock of precious metals accumulated in the public treasury. As a way of accumulating gold and silver, mercantilism suggests that a nation should sell more output to foreigners than it bought from them. To achieve this, nations restricted imports through such devices as tariffs and quotas. But the restrictions reduced international trade and thereby reduced the gains that arose from the division of labor, specialization, and exchange. Tensions between advocates and opponents of free trade were a recurrent theme during the time when mercantilism was popular. Since then, economists, policymakers, and others have had an intense theoretical and empirical interest in the measurement of international transactions.

Concurrent with the changes in the world economy were efforts to modernize economic accounting standards and provide more detailed guidance in areas of emerging interest. Since the Bretton Woods Agreement in 1945, the International Monetary Fund (IMF) has had primary responsibility for setting international standards for the compilation of balance of payments accounts. In 1993, the IMF released the fifth edition of its *Balance of Payments Manual* (BPM), which replaced a 1977 edition. The United States took a leadership role in the coordinated international effort that culminated in the release of the new BPM. The manual was modeled upon existing U.S. accounts, especially in areas such as foreign direct investment, where the United States is clearly the world's leader. In other areas, the new BPM amended rules governing the United States and other major industrial nations.

In the United States, official balance of payments accounts are maintained by the Bureau of Economic Analysis (BEA), a division of the U.S. Department of Commerce. U.S. international transactions accounts are published every January, April, July, and October in the *Survey of Current Business,* a monthly publication of the BEA.

Balance of payments accounting standards have not remained static. Over time, they have evolved in response to changes in concerns and changes in the structure and organization of the world economy. For instance, when the Eurodollar market gained significance in the 1950s, during the Cold War, the Soviet Union shifted dollar deposits out of the United States and placed them in London banks. Further, dollars were becoming considerably more abundant in Britain and Europe because of the existence of legal ceilings, through Regulation Q of the Federal Reserve, on the interest rates that could be paid by U.S. banks on their time and savings deposits. Many U.S. depositors chose to place their dollars in Europe, where higher interest rates were available, and the Euro banks were quite willing to receive them.

Beginning in the 1960s and continuing throughout the 1970s and 1980s, world financial markets changed dramatically. Financial innovation produced new instruments that widened the scope for transactions, fostering the development of new markets in financial futures, junk bonds, and swaps. Also in the 1980s, Regulation Q was phased out. Financial liberalization occurred worldwide. Scandinavia, Latin America, Asia, and the United States were especially affected. Before the shift toward liberalization, banks in many Latin American countries were owned by the government and subject to interest rate restrictions, as in Scandinavia. Moreover, lending was restricted to government and other low-risk borrowers. With the deregulation trend, many countries liberalized their credit markets. International lending exploded, and financial capital became more internationally mobile. Countries with large imbalances between domestic saving and investment, such as Japan, became lenders on international financial markets.

Since the 1980s, there has been mounting evidence of the growing interdependence of national economies and the strong interconnections among them. Clearly, there has been a remarkable proliferation in the volume of international transactions for which records must be maintained as well as in the types of international transactions that occur, necessitating revisions in the manner in which records are collected and maintained. The shift in the nature of cross-border financial flows has heightened interest in the quality of the balance of payments accounts maintained by the United States and other countries to measure international securities flows and holdings. To a large extent, the data improvement efforts are driven by changing needs and changing economic conditions.

Definitions of International Transactions

Since a nation's balance of payments account is the statistical record of all economic transactions taking place between its residents and the rest of the world, the notion of a "resident" is fundamental to balance of payments principles. In international transactions statistics, a resident may be an individual, branch, partnership, associated group, association, estate, trust, corporation, or other organization or government entity. An economist speaking about the transactions of U.S. residents, for example, would have in mind not only the transactions of individual Americans but also transactions of U.S. firms and of the U.S. government at all levels.

For individuals, it can be difficult to determine who is a "resident" and who is not, but certain standards have been adopted in international transactions statistics. For example, a U.S. resident means any person resident in the United States or subject to the jurisdiction of the United States. A foreign resident would be any person resident outside of the United States or subject to the jurisdiction of a country other than the United States. As a general rule, tourists, diplomats, military personnel, and temporary migrant workers are all regarded as residents of the countries from which they come. For example, the expenditures of Japanese tourists purchasing U.S. goods are re-

garded as a U.S. export because the transaction involves U.S. sales to foreign residents, the Japanese tourists. The expenditures of U.S. tourists in foreign countries are treated as imports in the U.S. balance of payments because they involve the purchase of foreign goods by U.S. residents. The income received by Mexican temporary migrants working on U.S. farms would also be classified as an import. The transaction represents a purchase of foreign services by U.S. residents and is therefore an international transaction included in the category "services transactions." Furthermore, the U.S. system defines foreign residents as individuals or institutions residing outside the United States on a permanent or long-term basis, regardless of whether they are U.S. citizens. U.S. residents are defined in a like manner. For instance, a U.S. citizen who retires to Spain is a foreigner for purposes of the data.

In most cases, a transaction clearly is or is not an international transaction. However, in some cases in which the seller provides the good or service in the country of the purchaser, questions may arise as to whether the transaction should be regarded as an international transaction or a local sale by a foreign affiliate. Foreign affiliates of U.S. firms can be broken down into foreign subsidiaries and branches according to their legal status. The "foreign subsidiary" is legally incorporated into the country in which it operates, whereas the "branch" is considered an extension of the parent company and is not incorporated abroad. Affiliates of multinational companies are regarded as residents of the countries in which they are located rather than as residents of the countries of their owners. As a result, transactions between the parent company in the United States and a foreign affiliate are recorded as transactions between a U.S. firm and a foreign resident. Therefore, if a U.S. resident's foreign activity or operation is incorporated abroad, it is a foreign affiliate and regarded as a foreign resident. Honda USA, for example, is considered a U.S. firm, and General Motors Canada is considered foreign.

If a U.S. person's foreign activity or operation is *not* incorporated abroad, its status is based on the weight of the evidence with regard to specific factors. In general, an unincorporated foreign operation of a U.S. company is considered to be a foreign affiliate if the operation (1) pays foreign income taxes; (2) has a substantial physical presence abroad (for example, plant and equipment or employees); (3) maintains financial records so that it can prepare its own financial statements; (4) takes title to the goods it sells and receives the revenues from its sales; or (5) receives funds for its own account from customers for the services it performs. An unincorporated foreign operation of a U.S. company is generally *not* considered to be a foreign affiliate if the operation (1) pays no foreign income taxes; (2) has limited physical assets or employees permanently located abroad; (3) has no financial statements; (4) conducts business abroad only for the U.S. company's account and not for its own account; and (5) receives funds to cover its expenses only from the U.S. entities. Operations meeting the second set of criteria are considered operations of the U.S. company, and their sales within the foreign country are recorded in U.S. international transactions accounts as exports to that country. In contrast, sales abroad by foreign affiliates of U.S. companies are regarded as transactions between foreign residents and are not included as a U.S. balance of payments transaction.

Criteria for determining which U.S. activities do or do not constitute a U.S. affiliate of a foreign entity are parallel to those listed above. For example, sales within the United States by U.S. affiliates of foreign companies are considered transactions between two U.S. residents and would not be included in the U.S. international balance of payments accounts.

Breakdown of the Accounts

A nation's balance of payments account is broken up into three primary accounts: (1) the

current account (CA); (2) the capital account (KA); and (3) the official reserve transactions account. The current account records a nation's trade in goods, services, interest income, and gifts with the rest of the world. The capital account measures a nation's nonofficial trade in short-term assets, long-term assets, and foreign direct investment. The official reserve transaction account records transactions by monetary authorities. Specifically, the official reserve transaction account for the United States records changes in U.S. official reserve assets carried out by the Federal Reserve Bank and any changes in foreign official assets in the United States carried out by foreign central banks. Each of these three accounts is in turn divided into subaccounts, as described below.

Current Account

The current account is composed of four subaccounts: (1) merchandise trade; (2) services; (3) investment income; and (4) unilateral transfers. Merchandise trade consists of trade in all raw materials and manufactured goods. Together with the Census Bureau and the U.S. Customs Service, the BEA continues to make improvements in the measurement of the statistical account of exports and imports. Until mid-1993, the merchandise balance was reported in the media. Since then, the merchandise trade account has been combined with a second subaccount, services, to determine the balance of goods and services.

The second subaccount within the current account, trade in services, refers to economic activities whose outputs are other than tangible goods. This category includes, but is not limited to, banking, other financial services, insurance, transportation, communications, data processing, advertising, accounting, construction, design, engineering, management consulting, real estate, professional services, entertainment, education, and health care. Royalties and license fees paid for the use of a work or invention, when the copyright or patent is held by a resident citizen of another country, are also counted as payments for a service.

The third subaccount within the current account, investment income, includes interest payments and dividends because they are considered payments for the services of capital that is working abroad. The profits earned by a factory owned by a foreign resident, for example, are payments for the services of the capital embodied in that factory. It is important to distinguish yearly payments for the services of capital, which appear in the current account, from the original investment itself, which appears in the capital account. The net balance on the merchandise, services, and investment income subaccounts yields the current balance of goods, services, and income.

Unilateral transfers, or gift transactions, the fourth subaccount of the current account, consist of government transfers to foreign residents, foreign aid, personal gifts to friends and relatives abroad, personal and institutional charitable donations, and the like. Money sent abroad by a U.S. resident to friends or relatives would be included in U.S. unilateral transfers. Net unilateral transfers equal the unilateral transfers received from abroad by U.S. residents minus unilateral transfers sent to foreign residents by U.S. residents. U.S. net unilateral transfers have been negative each year since World War II, except for 1991, when the U.S. government received sizable transfers from foreign governments to help pay their share of the Persian Gulf War.

Economists add the net unilateral transfers to the balance of goods, services, and income to derive the balance on the current account. The balance on the current account is reported quarterly in the United States.

Capital Account

When economists talk about capital, they usually mean the physical goods employed to produce goods and services. Sometimes, capital is just another word for money. The capital account records a country's nonofficial, international transactions involving purchases or sales of financial assets and real assets. Within the capital account, the key distinction is be-

tween foreign direct investment and portfolio capital. Portfolio investment, in turn, is divided into long-term and short-term assets.

The first subaccount within the capital account is direct investment. Direct investment means the ownership or control, directly by one person, of 10 percent or more of the voting stock of an incorporated business enterprise or an equivalent interest in an unincorporated business enterprise. Direct investment would also describe the construction of a new factory or enterprise as well as the purchase of real estate. Direct investment is measured by the Department of Commerce's BEA.

Securities and banking flows are classified as cross-border portfolio investments. Portfolio investment is the ownership or control, by a single investor or an affiliated group, of less than 10 percent of the voting equity of an incorporated business enterprise or an equivalent interest in an unincorporated enterprise. The earliest measurement effort was an 1853 Department of Treasury survey of foreign holdings of U.S. public and private securities conducted in response to congressional concern about the increasing level of U.S. debt held by foreigners. In 1934, in connection with the banking emergency, the United States began to collect monthly data on transactions in long-term securities and monthly and quarterly data on other financial flows, such as bank and non-bank lending and borrowing and holdings of short-term financial flows. Currently, the U.S. Treasury collects data on cross-border portfolio investment through the Treasury International Capital (TIC) reporting system. In addition to the TIC system, surveys of foreign holdings of U.S. securities continue intermittently by the Department of Commerce.

Long-term portfolio investment involves international transactions in financial assets with an original term to maturity greater than one year. Such investments consist of purchases of capital market securities, such as stocks and long term-bonds and bank loans with terms to maturity of greater than one year. Cross-border transactions in equities and long-term debt securities are measured at market value through monthly reports filed by transactors, which are mainly brokers and dealers. Data are collected at the aggregate level by country.

Short-term capital flows involve assets with original terms to maturity of less than one year. Examples include transactions in money-market instruments such as treasury bills, commercial paper, certificates of deposit, and repurchase agreements. Also included as short-term capital flows are any international shifts in the ownership of liquid funds such as checking deposits or cash. Foreign holdings of U.S. short-term securities are measured in the aggregate, at face value, through monthly reports filed by banks and brokers and quarterly reports filed by corporate borrowers. U.S. holdings of foreign short-term securities are measured in the aggregate, at face value, through monthly reports filed by banks and brokers and quarterly reports filed by custodians and investors. All such holdings are commingled with other types of assets, such as time and demand deposits.

U.S. securities are defined as securities issued by institutions resident in the United States. Neither the currency in which a security is denominated nor the exchange on which a security trades determines whether a security is domestic or foreign. Therefore, a security issued in Germany by a U.S. resident firm that is denominated in euros is a U.S. security. Likewise, a security issued by a Canadian firm that trades in the United States and is denominated in U.S. dollars is a foreign security. American Depositary Receipts (ADRs) are considered foreign securities because, although they are issued by U.S. institutions, their purpose is to serve as proxies to facilitate the trading of the foreign securities the ADR represents.

When the BEA publishes the official balance of payments data, it augments the TIC transactions data with data on stock swaps. Stock swaps occur through cross-border mergers and acquisitions and involve the exchange of stock in the target company for stock in the new firm, in the case of a merger, or in the acquiring firm, in the case of an acquisition. For

example, when British Petroleum, a UK firm, acquired Amoco, a U.S. firm, in an equity financed deal worth a reported $48 billion, holders of stock in the now defunct Amoco were given stock in newly formed BP Amoco, a UK firm. From a balance of payments perspective, the net transaction records the U.S. residents' acquisition of $48 billion in UK equities less the value of Amoco stock held by foreigners. The value of foreign stocks acquired by U.S. residents in stock swap arrangements has increased sharply in recent years.

All transactions in the current and capital accounts are called autonomous transactions because they take place for business or profit motives and independently of balance of payments considerations. Autonomous items are sometimes referred to as "the items above the line." The sum of the various subaccounts of the current account and the private capital account constitute the overall balance of payments. In general, the balance of payments can be a negative value, a positive value, or a sum totaling zero. The economic interpretation of a balance of payment disequilibrium will be addressed in Section VIII.

Official Reserve Transactions Account

The official reserve transaction account records official reserve transactions carried out by domestic and foreign central banks. For the United States, for example, the net balance consists of the difference between the change in the U.S. central bank's holdings of official reserves and the changes in foreign central banks' holdings of official assets in the United States. The international reserve assets include four items: gold holdings, foreign exchange reserves, credits issued by the IMF, and Special Drawing Rights (SDRs). SDRs, an asset created by the IMF, are described as "paper gold," and their value is defined in terms of a fixed-proportion, weighted mix of four currencies—U.S. dollars, Japanese yen, British pounds, and euros. Transactions in official reserve assets are called "accommodating transactions" or "items below the line" because they result from and are needed to balance international transactions. The official reserve transactions balance can be used to measure the intervention of monetary authorities in foreign exchange markets.

Double-Entry Bookkeeping

Balance of payments accounts are maintained according to the principles of double-entry bookkeeping. In this method, each international transaction is recorded twice—as a credit on one side of the ledger and as a debit of equal amount on the other side. Double-entry bookkeeping thus acknowledges the fact that in general every transaction has two sides: When we sell something, we receive a payment for it, and when we buy something, we have to pay for it.

Say, for example, that a U.S. resident visiting France spends $2,000 on hotels, meals, and entertainment. In other words, he purchases travel services from foreigners and makes a payment to them in return. The United States would debit $2,000 under the services subaccount of the current account and simultaneously credit $2,000 to short-term capital flows because, in receiving the U.S. payment, the French are augmenting their holdings of U.S. short-term financial assets.

In another example, suppose the U.S. government gives a gift of $500 to an African government. Again, the transaction would be recorded twice. The payment itself is a unilateral transfer. Therefore, the United States would debit the subaccount of the current account in the amount of $500. However, the payment is received by the African government, and this side of the transaction represents an increase in foreign claims on the United States. Therefore, the United States would credit $500 to the U.S. short-term capital flow subaccount of the capital account.

Tables 1–3 itemize the types of credit and debit transactions recorded in a nation's balance of payments. Since the balance of payments consists of several individual accounts, a deficit in one account must be offset by a surplus in another account.

Table 1: Current Account Credit and Debit Entry Items Only

Current Account: Credit Items	*Current Account: Debit Items*
Exports of goods	Imports of goods
Exports of services	Imports of services
Interest income earned from investments in a foreign country	Interest income paid to other country's residents from their investments in the home country
Unilateral transfers or gifts received from abroad	Unilateral transfers or gifts made to foreigners

Table 2: Capital Account Credit and Debt Entry Items Only

Capital Account: Credit Items	*Capital Account: Debit Items*
An increase in foreign-country ownership/ holdings of home country's assets in the form of direct investment, long-term capital, or short-term capital	A reduction or sale of financial assets held in the home country by foreign residents
A reduction in home-country ownership/ holdings of foreign country's financial assets in the form of direct investments, long-term capital, or short-term capital	An increase in home-country resident's holdings of foreign financial assets and foreign direct investment

Table 3: Official Reserve Transactions Credit and Debit Entry Items Only

Official Reserve Transactions: Credits	*Official Reserve Transactions: Debits*
Foreign central banks acquire official reserves (currency or bank accounts) in the home country	Foreign central banks decrease or sell their assets (currency or bank accounts) in the home country
The home country's central bank reduces or sells some of its international reserve assets or its assets of foreign currency	The home country's central bank increases its international reserve assets or its holdings of foreign currency

Statistical Errors in Balance of Payments Accounts

In principle, the balance of payments should record all international economic transactions between the residents of one nation and the rest of the world. In practice, many international economic transactions are hard to capture through any systematic procedures of data collection. The literally millions of transactions of the residents of a nation with the rest of the world cannot appear individually in the balance of payments accounts. As a summary statement, the balance of payments aggregates all transactions into a few major categories. Errors are bound to occur for several reasons.

First of all, some transactions may be valued incorrectly, resulting in data gaps in the accounts. In the United States, much of the data are generated by survey responses. For most of the surveys, the reporting period used is the fiscal year of the reporter, and in most cases, the reporter's fiscal year coincides with the calendar year, so that the published statistical aggregates track calendar year activity fairly closely. But based on comparisons with partner country data, port audits, and other sources of information, the Census Bureau estimates that goods exports are underestimated by as much as 3 to 7 percent of the published value. Second, some transactions may be omitted entirely from the accounts. This is because transactors may undervalue transactions so that they fall below the threshold reporting level, may fail to file the required documentation, may file documents with incomplete information, or may intentionally undervalue shipments to avoid quotas and tariffs. Finally, some gaps are believed to exist in the coverage of the e-commerce services. With the increased use of the Internet, some transactors may not be aware of the nationality of their foreign counterparties. In some cases, transactors may not even be aware they are transacting business with foreign residents. Internet-generated transactions are not currently covered by existing BEA surveys. Therefore, balance of payments accounts list the "statistical discrepancy," that is, the best available estimates of the measurement errors.

Economic Meaning of Imbalances

The joint sum of the current account, the capital account, and the statistical discrepancy determines the overall balance of payments status of a country. Although the totals of payments and receipts are equal in theory, there will be inequalities—that is, deficits or surpluses—in particular kinds of transactions. For example, if a country is observed to run a deficit in the current account, then in all likelihood the country will have an equal surplus in the capital account and vice versa.

Contrary to the general perception, the existence of a current account deficit is not in itself a sign of a bad economic policy. If a country has a current account deficit, it simply means the country is importing capital. Importing capital is no more unnatural than importing shoes or automobiles. The deficit is a response to conditions within the country. A country is more likely to have a deficit in its current account if it has higher exchange rates or price levels vis-à-vis its trading partners or if it is observed to have lower barriers to trade.

If a country is running a current account surplus, and its private residents are not acquiring foreign assets, then it must be the central bank that is acquiring foreign assets. Because every debit has an offsetting credit somewhere, the sum of a country's current account, capital account, statistical discrepancy, and official reserve transactions must sum to zero. This must be true because it is an accounting identity.

Data

Historical data for the U.S. balance of payments accounts are included in Tables 4 through 7 and Figures 1 through 5.

R. M. Payan

See Also Currency Crisis and Contagion; Dollarization; Exchange Rate Movements; Foreign Direct Investment and Cross-Border Transactions; International Financial Markets; International Monetary Fund (IMF)

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Table 4: Summary Calculation of Balance of Payments Subaccounts in the United States, 2003 (in billions of U.S. dollars)

	1985		1990		1995		2000		2003	
Current account balance (CAB)	$-118.1		$-80.0		$-109.5		$-413.4		$-530.7	
Trade balance	-122.2		-111.0		-174.2		-452.4		-547.6	
Capital account balance		123.6		55.7		10.2		370.0		283.1
Reported capital account	107.1		30.5		-13.9		432.8		295.1	
Statistical discrepancy	16.5		25.2		24.1		-62.8		-12.0	
Official reserve settlements (ORS) balance	5.5		-24.3		-99.3		-43.4		-247.6	
U.S. official reserve assets, net	-3.9		-2.2		-9.7		-0.3		1.5	
Foreign official assets in the U.S., net	-1.6		26.5		109.0		43.7		246.1	
Overall balance of payments		0.0		0.0		0.0		0.0		0.0

Notes: The precise figure for the reported capital account is obtained by adding (1) U.S. government assets other than official reserve assets, net; (2) U.S. private assets, net; (3) other U.S. government liabilities; and (4) other foreign assets in the United States, net. In the calculation of the ORS balance some foreign official assets in the United States that are not regarded as international reserves by foreign monetary authorities are excluded.

Source: U.S. Department of Commerce.

Table 5: The U.S. Capital Account Balance, 1985–2003 (in billions of dollars)

	1985	*1990*	*1995*	*2000*	*2003*
Capital account balance	$123.6	$55.7	$10.2	$370.0	$280.6
I. U.S. assets abroad, net	-40.9	-79.1	-342.5	-569.5	-284.96
U.S. government assets other than official reserve assets, net	-2.8	2.3	-1.0	-0.9	0.54
U.S. private assets, net	-38.1	-81.4	-341.5	-568.6	-285.5
II. Foreign assets in the U.S., net	1484	109.6	328.58	1,002.3	580.04
Other U.S. government liabilities	0.84	1.9	-0.12	-1.8	-0.56
Other foreign assets in the U.S., net	147.2	107.7	328.7	1,004.1	580.6

Note: The Capital Account Balance is obtained by summing rows I. and II.
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

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Table 6: Summary Calculation of Balance of Payments Subaccounts in the United States, 2003 (in billions of U.S. dollars)

Current account balance (CAB)		$-530.7
Trade balance	-547.6	
Capital account balance		283.1
Reported capital account	295.1	
Statistical discrepancy	-12.0	
Official reserve settlements (ORS) balance		-247.6
U.S. official reserve assets, net		1.5
Foreign official assets in the U.S., net		246.1
Overall balance of payments		0.0

Notes: The precise figure for the reported capital account is obtained by adding (1) U.S. government assets other than official reserve assets, net; (2) U.S. private assets, net; (3) other U.S. government liabilities; and (4) other foreign assets in the United States, net. In the calculation of the ORS balance some foreign official assets in the United States that are not regarded as international reserves by foreign monetary authorities are excluded.

Source: U.S. Department of Commerce.

Table 7: Summary of U.S. International Transactions, 2003 (in millions of dollars)

Transaction	*2003*
Exports of goods, services, and investment income	$1,314,888
Merchandise goods, excluding military	713,122
Services and military goods	307,381
Income receipts on investments	294,385
Imports of goods, services, and investment income	-1,778,117
Merchandise goods, excluding military	-1,517,011
Services and military goods	-256,337
Income payments on investments	-261,106
Unilateral transfers, net	-67,439
U.S. assets abroad, net [increase/capital outflow (-)]	-283,414
U.S. official reserve assets, net	1,523
U.S. government assets, other than official reserve assets, net	537
U.S. private assets, net	-285,474
Foreign assets in the United States, net [increase/capital inflow (+)]	829,173
Foreign official assets, net	248,573
Other foreign assets, net	580,600
Allocations of Special Drawing Rights	601
Statistical discrepancy	-12,012

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Figure 1: The U.S. Current Account Balance (deficit)

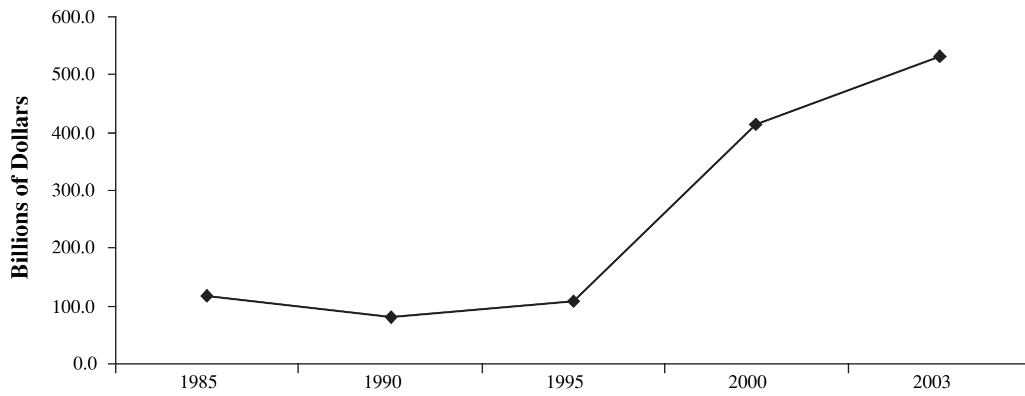


Figure 2: The U.S. Capital Account Balance (surplus)

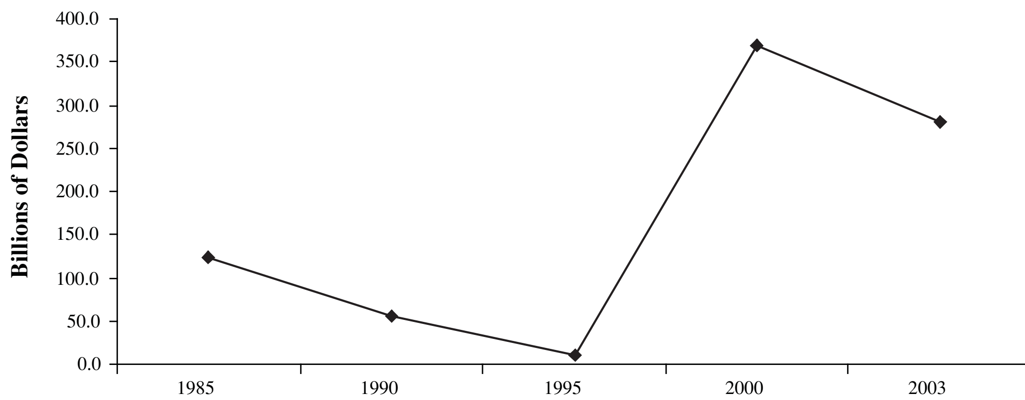


Figure 3: The U.S. Official Reserve Settlements Balance

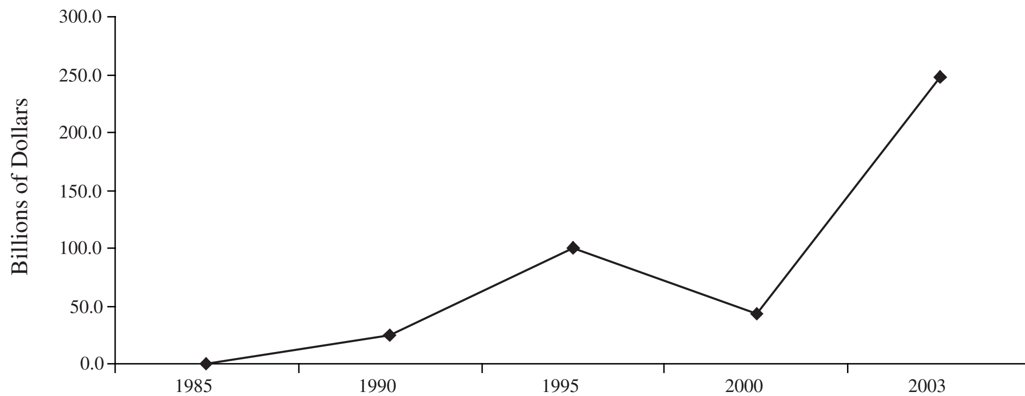


Figure 4: Increase in U.S. Assets Abroad

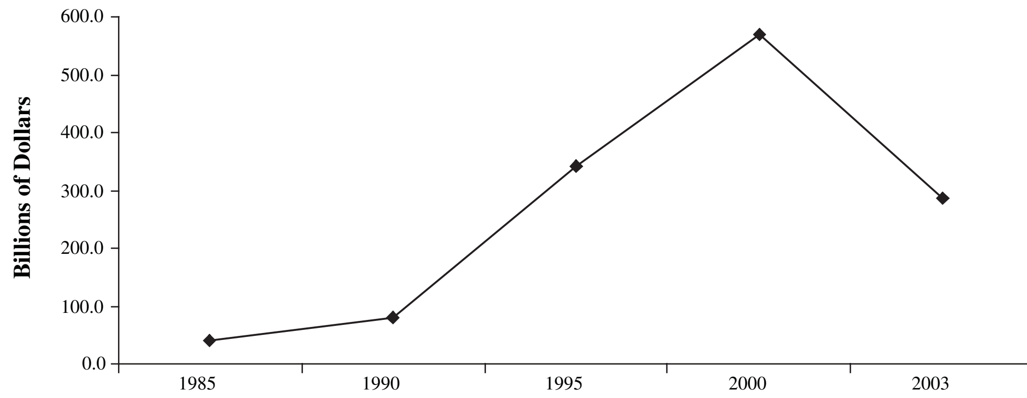
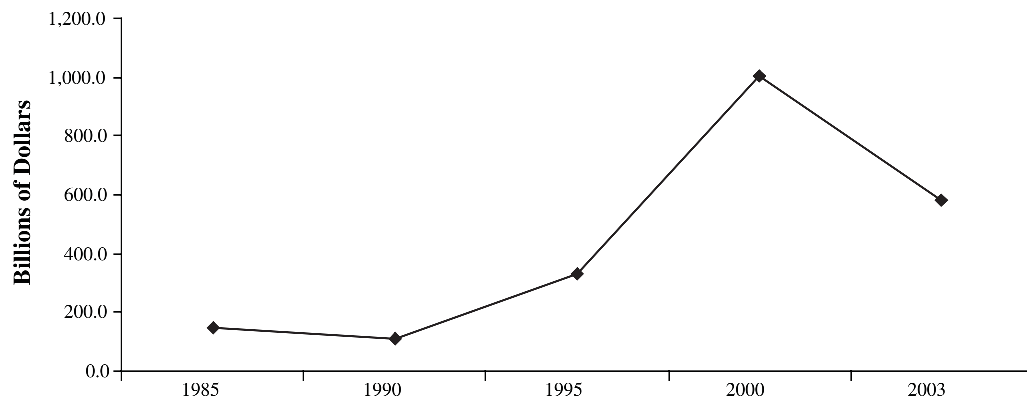


Figure 5: Increase in Foreign Assets in the United States



Currency Crisis and Contagion

There is from time to time much talk in the press, and indeed in all forms of media, of currency crises. These are sometimes said to spread as a result of "contagion"—rather like an illness. But what are "currency crises"? What is meant by "contagion" in this context? The starting point for answering such questions lies in the study of financial crises in general.

Financial Crises

Numerous definitions of financial crises exist. In a 2003 speech, Andrew Crockett, chairman of the Bank for International Settlements, approached the problem by first defining financial stability—the situation that a financial crisis disrupts. "I will take financial stability to be a situation in which the capacity of financial institutions and markets to efficiently mobilise savings, provide liquidity, and allocate investment is maintained unimpaired" (Crockett 2003). He went on: "Note that in my definition, financial stability can be consistent with the periodic failure of *individual* financial institutions, and with fluctuations of prices in markets for financial assets. The failure of individual institutions is of concern only if it leads (as it sometimes can) to an impairment of the basic intermediation role of the financial system at large. And asset price volatility is of concern only if it leads to a severe misallocation of capital" (ibid., 4).

Then, after discussing the reasons that such crises would be costly, he gave examples of crises:

> The past decade or so has provided ample evidence of the costs of financial instability. At the international level, think of the Mexican crises of 1994–95; think of the East Asian crises of 1997–98; think of the Argentine crisis that began in 2001 and is still far from reaching its end.
>
> At the national level, there are also examples of financial instability in advanced industrial countries. These include: banking crises of Spain and the Nordic countries in the 1980s; the S and L crisis in the United States; and the financial bubble in Japan, whose costs are still being felt today. Closer to home [the speech was given in London, England], if one defines instability broadly, is the ERM (Exchange Rate Mechanism) crisis of 1992.[1] (ibid., 7)

What can be summarized, distilled, from these examples? What, on the basis of these examples, is a "financial crisis"? A broad definition, illustrated by this range of examples, might posit that the term encompasses big changes in exchange rates, big fluctuations in stock markets, collapses in banking systems, and also what might be called "partial collapses" in banking systems, episodes when banks survive but with their balance sheets in such poor condition that they can do little new lending—they cannot fulfill one of their core purposes, the transmitting of funds from lenders to borrowers. Such a broad definition would once have been regarded as extraordinary, for although the study of dramatic episodes in financial markets is not new, in the early days of its study a definition rather nar-

rower than that suggested by Andrew Crockett's examples would certainly have been taken as given.

Crashes and Crises

Until this century, only problems within the banking system itself were seen as financial crises. Crashes of financial or other asset markets were the consequence of prior "manias," a result of human gullibility and folly, a proper subject of study by the disinterested observer but not requiring any policy action. This attitude is vividly summarized in the title of Charles Mckay's (1845) classic, *Extraordinary Popular Delusions and the Madness of Crowds.*

Crises in the banking system, however, were regarded as serious, even dangerous, occurrences. Anna Schwartz, in a recent statement of this view, described such events as "real" crises. "Such a crisis is fuelled by fear, that means of payment will be unavailable at any price, and in a fractional reserve banking system leads to a scramble for high-powered money" (Schwartz 1986, 11). In contrast to these "real" crises are "pseudo" crises. These involve "a decline in asset prices, of equity stock, real estate, commodities, depreciation of the exchange value of the national currency; financial distress of a large non-financial firm, a large municipality, a financial industry, or sovereign debtors" (ibid., 24). Such loss of wealth causes distress, but it is not in itself a financial crisis. A "pseudo" crisis is simply an unusually large case of mistaken investment, and mistaken investments are inevitable in an uncertain world. A "real" financial crisis occurs when the stability of the whole banking system is threatened.

Such "real" crises have been quite rare. Certainly, on this definition episodes frequently described as crises—such as Latin America in the early 1980s and Russia in 1998—were not crises outside these countries, and they may not have been crises in the sense in which Schwartz uses the term inside these countries.[2] According to Schwartz, no such crisis has occurred in Britain since 1866,[3] or in the United States since 1933.

Schwartz's definition says nothing of the cause of the crisis. In that regard, as in the definition itself, it follows in the tradition of Henry Thornton (1802) and Walter Bagehot (1873). Their approach aimed at clarifying a problem and then going on to propose a solution. A "real" crisis in the Schwartz sense is dangerous because it can lead to an unanticipated and undesired collapse in the stock of money, and such an unanticipated squeeze will cause a recession, perhaps a depression. The monetary squeeze is produced both by a fall in the money multiplier (as cash shifts from the banking system to the public) and in bank deposits. To prevent this squeeze, Thornton, Bagehot, Schwartz, and other writers in this tradition have all suggested a similar course of action, recommending that the central bank of whichever country experiences such a shock should lend freely on collateral. It should not restrict lending to the classes of security (usually quite narrow) that it would accept for discount at normal times. Advances should be made without limit, on demand, but at a rate of interest above the precrisis rate. These loans should be made to the market—that is, to anyone who brings in acceptable security. In addition (and argued in particular by Bagehot), it should be made clear that the central bank will act in that way should there ever be a crisis: This reduces the likelihood of runs because knowledge that the central bank will supply liquidity makes it seem less urgent to scramble for it.

What can trigger such a "real" crisis? Robert Harry Inglis Palgrave (1889), under the heading "Crises, Commercial and Financial," provided first a definition of crises and then a description of the development of several nineteenth-century crises. "Times of difficulty in commercial matters are, when pressure becomes acute, financial crises." His description of the events of 1825 is a good example:

> The next serious crisis occurred in 1825, one of the most severe through which the com-

> mercial *and banking* [emphasis added] systems of the country had ever passed. At this date speculation ran very high, for the most part in loans and mining adventures, and other investments abroad. The foreign exchanges were so much depressed as to be the cause of a nearly continuous drain on the bullion of the Bank. Many and heavy banking failures, and a state of commercial discredit, preceded and formed the earlier stage of the panic. The tendency to speculation, and the undue extension of credit, was preceded, probably caused, and certainly favoured and promoted, by the low rate of interest which had existed for some time previously; and this low rate of interest was apparently prolonged by the operations of the Bank of England. (Palgrave 1889, 457)

Palgrave supplied several examples of such chains of events and referred to Thomas Tooke (1838) and Leone Levi (1888) as providing many more details.

To summarize so far, the view developed in the nineteenth century and restated in the twentieth, by Schwartz and others, is that crashes in financial markets are not in themselves crises. They can lead to runs on the banking system and thus produce "real" crises. One can lead to the other by starting a scramble for liquidity.[4] But to quote Palgrave, "Commercial crises may take place without any reference to the circulating medium as has been exemplified in Hamburg and elsewhere."

There is plainly a rather fundamental difference of view between, on the one hand, Andrew Crockett, and on the other all those writers who define a financial crisis narrowly, thinking of it as essentially any event that produces a sharp and undesired fall in the quantity of money. To qualify as a crisis on that definition, a big fluctuation in an exchange rate would have to produce a sharp, substantial, and unexpected monetary contraction. The issue of whether a fluctuation in the exchange rate, without first causing a monetary contraction, can produce recession is discussed below.

Stable Exchange Rates and Economic Stability?

The International Monetary Fund (IMF) was established with the preservation of exchange rate stability as its main objective. Why, in the years that it was first designed and then set up (roughly speaking, from 1941 to 1948), was exchange rate stability seen as so important? To understand this emphasis, it is necessary to look back to the period between World War I (which ended in 1918) and World War II (which broke out in 1939).

The story has several strands that need to be identified. After World War I, the nationalism that played its part in bringing the war about continued and even intensified. This was manifest in various ways, finding its economic expression in increased barriers to trade, wrangling over war debts, and reparation payments. It generally soured international relations. It was this climate, together with the failure of the faulty restored gold standard, compounded by the ineptitude of the Federal Reserve in the years 1928–1932, that initiated and exacerbated the Great Depression in the United States, which in turn had worldwide ramifications. The resulting mixture of dirty/managed exchange rates in the 1930s provoked a series of competitive devaluations—something future designers of the international monetary system would want to avoid.

What has to be remembered is that the principal participants in the planning of that system were the United States and the United Kingdom—the two major economies in the free world (and the key currency countries, though there was to be an attempt to destroy this concept). This is important because the final outcome—the establishment of the IMF and other associated institutions—had perhaps more to do with British and American monetary and trade matters than with a wider concern with, and analysis of, the world economy, though some of that was obviously involved.

Another important element in the story was capital movements. World War I, and its unsat-

isfactory outcome for the resolution of many issues, had created a great deal of political uncertainty in Europe and stimulated a corresponding amount of capital flight. Some flight was prompted by fear that the capital would not be able to be moved. From World War I through the 1920s, there was flight from all parts of Europe. There was, too, a "normal" change in the direction of capital flows when, for example, American investment in Germany began to be returned in the late 1920s as the New York Stock Exchange boomed. But the really large movements of capital were provoked by increasing uncertainty generated at the turn of the decade by the spreading world depression and other political developments. When the Nazis emerged as the second-largest party in the Riechstag in 1930, things got worse. In the summer of 1931, the Bruning government introduced exchange controls, and a standstill on short-term debt owed abroad was negotiated. Not surprisingly, capital flight increased. There were fears that Britain would do something similar, and in September 1931 it did. Many other countries followed suit soon after, and it was at that point that exchange controls proliferated.

Although Britain did not suffer greatly in the Great Depression (output fell less than 6 percent against the U.S. fall of around 35 percent), it nevertheless behaved as if it were affected. For example, it reversed its free trade policies of almost a century and introduced a general tariff. At the same time, Britain saw in its empire a possible solution to trade and output concerns, for it contemplated turning the empire into a customs union. At the Ottawa conference of 1932, it did something less than that but nevertheless signed a large number of trade agreements with empire partners, and more significantly, extended preferential treatment to empire countries—imperial preference. This is of significance because of the extent to which it upset Britain's biggest trading partner, the United States. Tension between the United States and the United Kingdom had also blown up earlier over Britain's share of reparation payments from Germany after World War I.

Ever-spreading trading barriers, in part arising out of the depression and in part in retaliation against the United States for the introduction of the Smoot-Hawley tariff in 1930, provoked further impediments to international discourse. All manner of obstacles appeared: quotas, bilateral settlements, clearing arrangements, exchange controls, and invisible barriers to trade. Some would go so far as to say that all this led inexorably to World War II. Whether or not that is too strong a conclusion, it is clear that great damage was done to the international economy: International trade collapsed between 1930 and 1935 and had barely made any recovery by 1939. International economic relations had deteriorated, to a disastrous or potentially disastrous extent, depending on one's view of the origins of World War II.

It is here that the direct link with the 1930s comes into view. Given what was widely accepted would be Britain's balance of payments position after the war (little to export with still strong demand for imports), it was felt that some safeguards would be needed if Britain were to abandon the imperial preferential apparatus. In order to develop a plan that would allow Britain to do this, in 1941 John Maynard Keynes drafted his proposal for an International Clearing Union—the basis of the "Keynes Plan" for the new international monetary system. Keynes himself described it as utopian. It seemed to cover all international finance, from postwar reconstruction through development finance, an investment board, and so on. And of course the British were keen to restore the position of sterling after the war, in part to demonstrate Britain's ability to maintain its status as a leading power. It was not at all clear that the United States was supporting of Britain's stance. The scheme would attend primarily to short-run balance of payments adjustments. The institution would issue a new international currency (the "bancor"), which would be held and used by central banks for settling the external account. The union would be there to provide liquidity, with a view to keeping exchange rates stable. The plan was put forward in the midst of continuing Anglo-

American talks on monetary and trade matters that ran through the war. Through Harry Dexter White, the United States proposed a more limited stabilization fund. It is important to remember at this stage that the United States had established its own exchange stabilization fund in 1934 to operate under the control of the secretary of the treasury. The White plan was more conservative than Keynes's in that it saw the new institution's reserves being made up of national currencies and gold rather than envisioning an institution with the power to create new money.

By the spring of 1944, the two proposals had been combined to form "The Joint Statement of Experts on the Establishment of an International Monetary Fund." The concentration was on developed industrial countries, and although the stabilization fund was initially to be a policeman with discretionary powers, it was to rely on the member countries behaving responsibly. Later that year, the plan developed into the Bretton Woods Agreements to establish the IMF and the World Bank. The White plan reflected the interests of a creditor nation, the Keynes plan those of a debtor.

The aims for the new international financial architecture reflected concerns of the times and the upheavals of the interwar years. The plan called for stable and "realistic" exchange rates; countries in difficulty were to have access to adequate international reserves to smooth short-term problems. Good behavior would be expected; some codes of behavior were put into place. This ambition in a sense aimed to incorporate the good aspects of the past (the international pre-1914 gold standard) while removing the problems of the 1930s (restrictions and emphasis on domestic survival).

An Inherent Problem

The reasons for the existence of the IMF, and of the system of pegged exchange rates that it was designed to preserve, show that only pegged exchange rates were thought to be desirable. But note, too—and this is of the greatest importance—that countries were intended to remain free to change their exchange rate. Keeping the exchange rate fixed was a commitment that could be overridden, if the consequences of keeping it fixed would be severe domestic disruption. The system was of "fixed but adjustable" rates.

Now, there is a fundamental design problem with this system. The problem was set out very clearly in 1953, well before examples of the fundamental flaw first appeared, by Milton Friedman. (Other writers on the subject at around the same time were F. A. Lutz [1954], E. Sohmen [1957], and L. B. Yeager [1959]). Friedman summarized his argument as follows:

> Because the exchange rate is changed infrequently and only to meet substantial difficulties, a change tends to come well after the onset of the difficulty, to be postponed as long as possible, and to be made only after substantial pressure on the exchange rate has accumulated. In consequence, there is seldom any doubt about the direction in which an exchange rate will be changed, if it is changed. In the interim between the suspicion of a possible change in the rate and the actual change, there is every incentive to sell the country's currency if a devaluation is expected—or to buy it if an appreciation is expected. (Friedman 1953, 164)

His point was that an arrangement of "fixed but adjustable" rates is an illusion. Rates must be either truly fixed—in effect one currency—or free to float. Subsequent work has developed this idea and set out a variety of models in which Friedman's original insight is confirmed time and time again. Examples of this literature include P. R. Krugman (1979), R. P. Flood and P. M. Garber (1984), P. M. Garber and L. E. O. Svensonn (1995). A particularly straightforward exposition was provided by Obstfeld and Rogoff (1995).

Obstfeld and Rogoff made a crucial point:

> If central banks always have the reserves to crush speculation, why do they suffer period-

> ic humiliation in foreign exchange markets? The problem, of course, is that very few central banks will cling to an exchange rate target without regard to what is happening in the rest of the economy. Domestic political realities will not allow it, even when agreements with foreign governments are at stake. (Obstfeld and Rogoff 1995, 79)

Another point worth bringing out is that there can be attacks on a currency, substantial foreign exchange reserve loss, and depreciation, with rational expectations, even when no shock is currently present. In the Flood and Garber analysis noted above, an attack occurs because some policy that is being pursued domestically—monetary expansion, say—is inconsistent with the goal of keeping the exchange rate pegged. Subsequent work constructs models in which there can be an attack that shifts the exchange rate even without such an inconsistency. Such attacks in reality are rare and unlikely. What the models actually do is underline the unsustainability of the "fixed but adjustable" exchange rate regime so long as domestic objections take priority over external agreements.

Overview So Far

It may be useful at this point to pause and take stock and then look ahead. First it was shown how modern and comparatively unusual it is for an exchange rate movement *in itself* to be seen as a crisis. Then it was shown how an attachment to a system of "fixed but adjustable" exchange rates developed. It has also been shown that, despite that system's attractions, it is fundamentally incompatible with capital mobility.

The next step must be to consider why capital mobility is regarded as so important that having it is more important than having a regime of fixed but adjustable exchange rates. That done, it is necessary to consider some examples of "currency crises." Examples, that is to say, of countries that have experienced sharp depreciations of their currency and domestic economic turmoil. Did the currency depreciation cause the domestic crisis? Also examined are examples of countries that experienced depreciations without having "domestic crises." What are the key differences between the two groups of countries? Differences between developing and developed countries are relevant here. That leads on to contagion. What *exactly* is contagion? How often has it occurred? Why is it often mentioned as an aspect of a currency crisis?

The Importance of Capital Mobility

Economists have over many years demonstrated and measured the gains from freedom of trade in goods. That in itself has an important implication for capital mobility. This follows from balance of payments accounting. Remember that a balance of payment is a set of accounts; it has to balance. If the current account is in surplus, then the capital one must be in deficit (see Chrystal and Wood 1988).

This, in turn, means that a restriction on the capital account can imply a restriction on the current account, and hence loss of some of the gains from trade.

Further, although examples of calculations of the benefits of capital mobility cannot be provided, illustrations abound. One notable example occurred between 1869 and 1878, when the United States ran, on average, a current account deficit of around 1 percent of gross domestic product (GDP) every year. The deficit then continued, at a lower average level, for another ten years. This permitted domestic investment to exceed domestic saving by a very substantial amount for some twenty years. That investment, among other things, allowed the development of the railroads and the opening up of the West. The United States developed more rapidly than it otherwise would have. Without the investment, the nation would have lost a substantial amount of income. Further-

more, any measure of that income loss would underestimate the loss to the world as a whole. The development of the United States raised real wages throughout a good part of Europe by lowering the price of grain, then a major component of workers' expenditure. That benefit, too, would have been lost without capital mobility.

Currency Crises

The East Asian Crises

The East Asian crises were certainly not all identical, but they did have common features. There were asset price booms, followed by crashes, followed by problems in banking systems and flight from currencies. As the preceding narrative shows, that is not a new story. Commentators who expressed surprise at crises arising in the absence of public-sector problems had formed their expectations on a narrow slice of history.[5] Why the asset price crash led so rapidly to large-scale banking problems and then to problems with currencies has been neatly summarized by Ronald McKinnon, who said that "banks and other financial institutions were poorly regulated but their depositors were nevertheless insured—explicitly or implicitly—against bankruptcy by their national governments. The resulting moral hazard was responsible for the excessive build up of short-term foreign-currency indebtedness" (McKinnon 2000, 3).[6]

This buildup of foreign-currency indebtedness was encouraged by the pegged exchange rate regime. Because of the guarantees, there was undiversified lending as well as undiversified borrowing by banks. In addition, and again because of the guarantees, the problem was large in scale, and the banks had little collateral to offer in exchange for liquidity from the central bank. These problems, themselves substantial, were exacerbated by many of the banks involved having to make loans on the direction of government rather than according to commercial criteria.

In short, the system could not have been worse designed either to provide stability or to facilitate lender of last resort (LoLR) action; and even had LoLR action been feasible, the fall in value of the East Asian currencies undermined the capital position of the banks via their net foreign-currency indebtedness. Crash turned into crisis. Would crash without crisis have led to serious economic difficulties? The evidence from the past is that it would not.

"Problem-Free" Crises

Currency crises are not new, nor are they confined to developing countries. One of the most famous of currency crises, and one of major symbolic importance, occurred in 1931. That was when Britain finally left the gold standard. Britain had been on that standard, linking its currency firmly to gold, for around 200 years. The standard had delivered long-run stability of prices. Occasionally, in times of war, Britain had left the standard, but these had been "suspensions"—temporary leavings of the standard, with the declared intention of returning. Britain always had returned, and it did so in 1925, after the suspension occasioned by World War I. But there was still a far from smoothly working world economy, and in 1931, after a struggle, including raised interest rates, Britain finally abandoned gold, and with no intention to return. (For an accessible account of the events leading up to Britain's leaving gold, see Capie, Mills, and Wood 1985.) Was the abandoning of gold a crisis for Britain? The answer to this question is a clear no: The economy grew strongly, and there was a period of steady, essentially noninflationary growth until almost the outbreak of war in 1939.

The great Austrian economist Joseph Schumpeter wrote of it as follows: "In England there was neither panic nor—precisely owing to the way the thing had been done or, if the reader prefer, had come about—loss of 'confidence' but rather a sigh of relief" (Schumpeter 1939, 956). Remarkably, exactly the same could have been written about what happened when Britain left the ERM in 1992. Britain had strug-

gled to maintain the exchange rate. Just as Milton Friedman had described in 1953, ERM had made clear which way the currency was going to move. It was a one-way bet. And in another echo of the past (that is, of 1931), Britain's leaving the ERM was followed by a period—about ten years—of strong low-inflation growth. So currency crises need not be crises, although they plainly can be.

But what turns currency crises into crises for the economy? Before answering that question, it is useful to review the concept of contagion. For in the course of clarifying what that is, the crucial factors turning currency crises to economic crises will be exposed.

Currency and Contagion

Suppose a country experiences some sort of financial panic or crisis in its banking system. Lenders in other countries are then, quite reasonably, unwilling to lend to it. One argument for this causing international problems is that third countries, untarnished by these domestic difficulties, nevertheless lose their creditworthiness. This is sometimes called the "tequila effect," after what supposedly happened in the aftermath of Mexico's 1994 difficulties. It is argued on the same basis that a bailout of the original country is required, lest contagion produce a wave of crises across the world, with quite likely disastrous effects.

What evidence is there for this "contagion" actually occurring? Models can undoubtedly be constructed to show it is likely. But has it happened in recent years? Two cases are often cited—Argentina in 1995 as a result of Mexico in 1994, and the problems in the rest of Asia after the collapse of Thailand's currency (the baht) in July 1997. We consider these in turn.

Argentina had adopted an arrangement in all essential features comprising a currency board in March 1994. The peso was convertible one-to-one with the U.S. dollar. Inflation fell, and fiscal discipline was restored. Private capital started to flow in. Unfortunately, although monetary and fiscal arrangements had been reformed, no such changes had affected the banking system. It was undercapitalized, and although the central bank had regulatory powers, no improvement in the banking system was effected. Nor, in the event that problems hit this frail system, was the central bank in a position to act as lender of last resort: A currency board arrangement prevents this.

The Argentinian banking system was thus not only fragile: It had no possibility of central bank liquidity support. A cliché is sometimes apt, and that is the case here: The Argentinian banking system was an accident waiting to happen. Thus the conventional view of Argentina's problems, in which Argentina is an innocent victim of Mexico's circumstances, misses an important part of the story. The timing is correct: After Mexico's problems, depositors at Argentinian banks did withdraw their pesos and convert them into U.S. dollars, producing, as was inevitable in the absence of a lender of last resort, a sharp monetary contraction. Gross domestic product fell by over 5 percent in 1995, and unemployment rose from 10 percent to 17 percent. This led, in turn, to a sharp move into deficit by the public sector. No fewer than 205 banks failed in 1995.

It may be the case that observing Mexico led Argentinians to a careful evaluation of their own country's economic situation, and thus to the Argentinian crisis. But was that contagion? Rather, it was the reverse: It was rational action prompted by a warning from elsewhere, not irrational panic in response to an irrelevant signal.

And what of Southeast Asia? There can be no claim that Thailand was an innocent victim of bad luck. The baht collapsed not for that reason but because of surging short-term foreign borrowing, a banking system whose main activity was speculative property lending, and a corrupt government. What about the other countries that suffered in the fallout? Indonesia, Malaysia, and the Philippines all had to give up their exchange rate pegs. Was this "contagion"? The case for that is not persuasive. Every

one of these countries had adopted an exchange rate peg as a way of reducing inflation. That policy worked: Low inflation and manifest investment opportunities led to large capital inflows. These inflows were allowed to affect the domestic money supply. In consequence, prices rose, first of nontradables and then, via the pressure of these on costs generally, of tradables. The real exchange rates started to appreciate despite the nominal rates being pegged. This led to a rapidly widening current account deficit—far from always bad, but invariably a signal that the cause should be investigated.

It started to be noticed that the banking systems of these countries were not lending prudently what they had borrowed. Nonperforming loans were high and rising, especially in the state-owned banks. Local lenders were quite well informed, and there was, in consequence, a risk premium on domestic securities. This led banks (and firms) to borrow in foreign currency while lending substantially in domestic currency. Again, like Argentina, the situation was an accident waiting to happen. Thailand may have been the catalyst, but these countries were not innocent bystanders affected by the resulting explosion. Thailand, after all, was followed only by those countries that were themselves in dangerous situations. Whether these countries might have got by had Thailand not triggered their collapse is an interesting question, but only superficially so, for it is unanswerable. It is plain, though, that they could not go on as they were.

In summary, it is hard to make the case that contagion was the source of problems in these often-cited episodes. The "tequila effect" on the basis of these episodes—including the one that gave it its name—is an effect without consequences.

Overview and Conclusions

What general points can be made about currency crises and contagion? The first is that currency crises—sudden collapses or upward shifts (although these are much less common) in an exchange rate—are a product of a particular exchange rate system. This is a pegged exchange rate, one that is fixed subject to the proviso that if domestic difficulties become too great it will be changed. Milton Friedman in 1953 pointed out the inherent instability of such a system. Since then, numerous authors, some listed above, have formalized and developed that insight. It is understandable that the world was attracted to such a system; the fact remains that such a system is fundamentally flawed.

But currency crises need not become economic crises. Indeed, as the experience of Britain in both 1931 and 1992 shows, a currency crisis may end in preventing, if not an economic crisis, certainly severe economic hardship. What turns a currency crisis into an economic crisis is when the exchange rate collapse interacts with the country's financial system—in particular, its banking system—and severely damages it.

Contagion, the transmission of crises from one problem-free country to another, though perhaps conceivable in principle, is hard to find in practice. What is noticeable is that one currency crisis, of the sort that leads to an economic crisis, frequently triggers another by prompting observers to look around for countries with similar symptoms. But that is not contagion.

Geoffrey Wood

See Also Balance of Payments and Capital Flows; Dollarization; Exchange Rate Movements; International Financial Markets; International Indebtedness; International Monetary Fund (IMF)

Endnotes

1. The last item refers to the practical breakup of the system of pegged exchange rates that had prevailed between most of the countries of the European Union. The pound sterling floated and caused countries to develop their exchange rates against the DM (Deutsch Mark).

2. This is not to say they were not severe problems for the countries concerned.

3. In this Schwartz followed Palgrave: "One of the most remarkable and instructive facts is negative, viz., that there has been really no panic in England since 1866" (Palgrave 1894, 462).

4. This theory of the origin of banking panics is clearly related to what Calomiris and Gorton (1991) called the "asymmetric information approach."

5. Goodhart and Delargy (1998) also remarked on this.

6. This indebtedness explains why breaking the link with the dollar, for these countries the counterpart of the Bank of England's suspension of the Bank Charter Act in 1866, was of little help.

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Dollarization

Currency substitution occurs when residents of a country extensively use foreign currency alongside or instead of the domestic currency.[1] When the foreign currency used is the U.S. dollar, the phenomenon is called "dollarization." Commonly, the term serves as shorthand for the use of any foreign currency by another country. The issues that dollarization raise, used in this broad sense, are identical for countries in the region around South Africa using the South African rand, for example, as for a country of, say, Eastern Europe considering adopting the euro. Thus, in common usage, dollarization is synonymous with currency substitution in general, that is, a country adopting a foreign currency as its own. Definitions for related terms are the same whether the currency being substituted is the dollar, the euro, the yen, or some other currency. Dollarization has three main varieties: unofficial dollarization, semiofficial dollarization, and official dollarization. These three types are described below. This discussion of dollarization in its broad sense is followed by a brief examination of dollarization in Latin America. In the Latin American context, "dollarization" is normally employed to refer specifically to the use of U.S. currency; "currency substitution" is the more appropriate term for references to other foreign currencies in the region.

Types of Dollarization

Unofficial Dollarization

Unofficial dollarization occurs when people hold much of their financial wealth in foreign assets even though foreign currency is not legal tender in their country of residence.[2] Unofficial dollarization occurs in stages that correspond to the textbook function of money as a store of value, means of payment, and unit of account. In the first stage, which economists sometimes call "asset substitution," people hold foreign bonds and deposits abroad as stores of value. In the second stage of unofficial dollarization, people hold large amounts of foreign currency deposits in the domestic banking system (if permitted) and later foreign notes, both as a means of payment and as stores of value. Wages, taxes, and everyday expenses such as groceries and electric bills continue to be paid in domestic currency, but expensive items such as automobiles and houses are often paid in foreign currency. In the final stage of unofficial dollarization, people think in terms of foreign currency, and prices in domestic currency become indexed to the exchange rate. Such informal dollarization is a response to economic instability and high inflation, which cause residents to seek to diversify and protect their assets from the risks of devaluation of their own currencies.

Measuring the extent of unofficial dollarization is difficult. Accurate statistics on how much people hold in foreign bonds, bank deposits, or notes and coins is usually unavailable. However, estimates of the extent to which notes of the U.S. dollar and a few other currencies circulate outside their countries of origin give a rough idea of how widespread unofficial dollarization is. Researchers at the Federal Reserve System estimate that foreigners hold 55 to 70 percent of U.S. dollar notes, mainly as

$100 bills.[3] The amount of dollar currency in circulation is currently about $480 billion, which implies that foreigners hold roughly $300 billion.[4]

Semiofficial Dollarization

More than a dozen countries have what might be called semiofficial dollarization, or officially bimonetary systems. Under semiofficial dollarization, foreign currency is legal tender in the country and may even dominate bank deposits, but it plays a secondary role to domestic currency in paying wages, taxes, and everyday expenses such as grocery and electric bills. Semiofficially dollarized countries retain a domestic central bank or other monetary authority and have corresponding latitude to conduct their own monetary policy.

Official Dollarization

Official dollarization, also called "full dollarization," occurs when foreign currency has exclusive or predominant status as full legal tender. That means that foreign currency is not only legal for use in contracts between private parties, but used by the government in payments. If domestic currency exists, it is confined to a secondary role. It may be issued only in the form of coins having small value, for example. Under this official form of currency substitution, a government forfeits its right to print money, declaring the U.S. dollar or some other strong international currency, such as the euro or yen, legal tender. The country closes its central bank and gives up control of monetary policy. Some dollarized countries do not issue domestic currency at all, whereas others, such as Panama, issue it in a secondary role.[5]

Many countries have used foreign currency at some point in their history. In the United States, for example, foreign coins were legal tender until 1857. Today, twenty-nine countries or territories officially use a foreign currency as their predominant currency; for thirteen of these, the currency of choice is the U.S. dollar. Of the total, fifteen are territories that are not independent, such as the U.S. Virgin Islands. With minor exceptions, territories use the currency of their "mother" country. Independent officially dollarized countries use either the currency of a large neighbor or, in the case of Pacific Ocean islands, the currency of their former colonial power. Of the fourteen officially "dollarized" countries that are independent, Panama, with a population of 2.7 million and a gross domestic product (GDP) of $10 billion (2000 figures), is several times larger in population and economy than all the rest combined.

Dollarization in Latin America

The idea of official dollarization would have been unthinkable in Latin America five or ten years ago, when market liberalization was sweeping the continent. Since then, hopes of economic revival have gone largely unrealized. During the past thirty years, Latin America has been plagued by financial instability, partly blamed on inflationary and unstable currencies. The crises have periodically seen severe crashes, such as the peso collapse in Mexico in late 1994,[6] and across the continent central banks have consistently failed at their job of stabilizing the local currency, setting off massive inflation. Now, political leaders, mostly of the Right, see the dollar as a way of bringing order to the chaos by forcing even soft-money radicals to obey the hard-money discipline of America's Federal Reserve. They are willing to dollarize even if it means swallowing their national pride and entrusting monetary policy to the United States.

"It is like castration," according to Sebastian Edwards, an economics professor at the University of California, Los Angeles, and the former chief Latin American economist at the World Bank. "You can teach abstinence to kids, or you can castrate them. Castration seems like a drastic last resort. Yet dollarization is being embraced with a religious fervor."

Unofficially and Semiofficially Dollarized Countries

As of January 2005, dollarized countries could be categorized as follows:

Unofficially dollarized—U.S. dollar: Most of Latin America and the Caribbean, especially Argentina, Bolivia, Mexico, Peru, and Central America; most of the former Soviet Union, especially Armenia, Azerbaijan, Georgia, Russia, and Ukraine; various other countries, including Mongolia, Mozambique, Romania, Turkey, and Vietnam.

Semiofficially dollarized—U.S. dollar: Bahamas, Cambodia, Haiti, Laos (also Thai baht), Liberia.

Officially dollarized—U.S. dollar: Ecuador, El Salvador, Panama.

Unofficially dollarized—other currencies: some former French colonies in Africa (French franc); Balkans (German mark); Macau and southern China (Hong Kong dollar); Belarus (Russian ruble).

Semiofficially dollarized—other currencies: Bhutan (Indian rupee); Bosnia (German mark, Croatian kuna, Yugoslav dinar); Brunei (Singapore dollar); Channel Islands, Isle of Man (British pound); Lesotho (South African rand); Luxembourg (Belgian franc); Montenegro (German mark, Yugoslav dinar); Namibia (South African rand); Tajikistan (use of foreign currencies permitted—Russian ruble widespread).

Anastasia Xenias

See Also Balance of Payments and Capital Flows; Currency Crisis and Contagion; Exchange Rate Movements

Endnotes

1. For a more detailed discussion, see, for example, Ronald McKinnon 1982; Marc Miles 1978; and Lance Girton and Don Roper 1981.

2. A currency designated as "legal tender" is legally acceptable as payment for all debts, unless the parties to the payment have specified another currency; that is, the currency *may be* used in transactions. Legal tender differs from "forced tender," which means that people must accept a currency in payment even if they would prefer to specify another currency.

3. Porter and Judson 1996, 899.

4. The term "unofficial dollarization" covers cases where holding foreign assets is legal as well as cases where it is illegal. In some countries, it is legal to hold some kinds of foreign assets, such as dollar accounts with a domestic bank, but illegal to hold other kinds, such as bank accounts abroad, unless special permission has been granted. In general, unofficial dollarization can include holding foreign bonds and other nonmonetary assets, generally abroad; foreign-currency deposits abroad; and foreign notes (paper money) in wallets and mattresses.

5. Panama has a unit of account called the "balboa" that is equal to the dollar and issued in coins but not notes. In practice, there is no difference between the balboa and the dollar; the balboa is simply the Panamanian name for the dollar.

6. Inter Press Service, October 6, 2000.

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Economic Integration

The term "economic integration" commonly refers to increased economic interaction between two or more countries resulting from the removal of barriers on the movement of goods and services, factors of production (such as labor and capital), and information and ideas. Economic integration can thus occur in each of these areas—that is, through trade in goods and services, through movements of labor and capital, and through the exchange of information and ideas. The extent of integration that takes place, and the welfare implications of the integration, vary depending on the forms of integration that emerge.

Economists have proposed several theories of trade in goods and services, traditionally considered the key mechanism for integrating economic activities across countries. The simple Ricardian model of comparative advantage illustrates how countries can gain from international trade in goods. The key insight here is that a country can gain by devoting more of its resources to the production of the goods that it is best at producing, and exchanging them for other goods through international trade. Another model of trade, known as the Heckscher-Ohlin model, posits the differences in the endowments of different factors of production between countries as the basis of trade. This model demonstrates that the gains from trade do not necessarily accrue to everyone in the economy. Trade can produce winners and losers, even though the country as a whole gains from it. Other models look at trade based on economies of scale and love of variety. All of these insights about the gains from trade in goods and services apply as well to the other two main forms of economic integration—integration through the movement of labor and capital and through the exchange of information and ideals. However, these forms also raise new issues. Also, significant strides toward economic integration have been made worldwide, and it is a central issue in the current debate on globalization.

International Trade in Goods

Ricardian Theory of Comparative Advantage

The theories of nineteenth-century British economist David Ricardo illustrate the desirability of economic integration through a simple model that shows how countries can gain by integrating their goods market, or simply by eliminating all barriers to trade in goods.

Suppose there are only two countries in the world: North and South. Each makes two goods, bread and cloth. Each has 100 labor hours per day, and labor is the only required input. The technology for producing the two goods in the two countries, along with other relevant information, is summarized in Table 1.

North could make 100 loaves of bread a day if it devoted all its labor to bread production, or it could make 100 yards of cloth if it devoted all its labor to cloth production. These numbers imply that it requires one hour of labor to produce a loaf of bread or a yard of cloth in North. Using all its labor, North could produce any combination of bread and cloth on the solid

Table 1: Illustration of Ricardian Comparative Advantage

	North	South
Total amount of labor, hours per day	100	100
Productivity		
Yards of cloth per labor hour	1	0.5
Loaves of bread per labor hour	1	0.9
Labor hours to make		
1 yard of cloth	1	2
1 loaf of bread	1	1.11
Autarky		
Production and consumption of cloth	55	30
Production and consumption of bread	45	36
Price of cloth in terms of bread	1	1.8
Price of bread in terms of cloth	1	0.55
Post-trade		
Production of cloth	100	0
Production of bread	0	90
Consumption of cloth	65	35
Consumption of bread	50	40
Price of cloth in terms of bread	1.43	1.43
Price of bread in terms of cloth	0.7	0.7

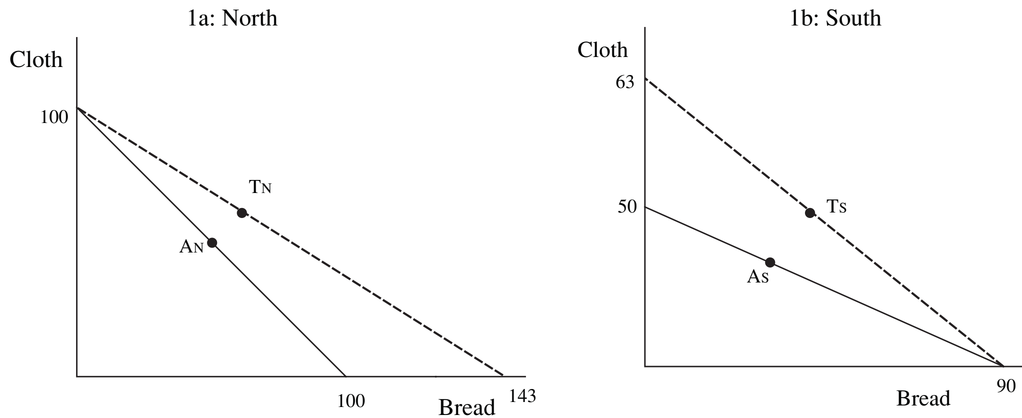
line in Figure 1a, which is the production possibility frontier (PPF hereafter) of North. To keep the focus on real values rather than looking at dollar prices (dollars per yard of cloth or per loaf of bread), one must look at the relative price, defined as the price of one good in terms of another. The numbers imply that one loaf of bread will exchange for one yard of cloth in North. Therefore, the relative price of bread in terms of cloth is one, and vice versa. Exactly how much of each good is produced in North depends on the demands for bread and cloth in North. Suppose demand is such that North produces and consumes 45 loaves of bread and 55 yards of cloth in autarky, that is, when it is not trading with South. This is point A_N on its PPF.

The technology for South is as follows. It could either make 90 loaves of bread or 50 yards of cloth a day by devoting all its labor to one or the other activity. These numbers imply that it requires 1.11 hours of labor to produce one loaf of bread and 2 hours of labor to produce one yard of cloth. These numbers clearly show that South has lower productivity in both bread and cloth production: Each labor hour produces 0.5 yard of cloth or 0.9 loaf of bread in South. The numbers also imply that one loaf of bread will exchange for 0.55 yards of cloth. So, the relative price of bread in terms of cloth is 0.55. Alternatively, the relative price of cloth in terms of bread is 1.8: One yard of cloth exchanges for 1.8 loaves of bread. The PPF for South is the solid downward sloping line in Figure 1b. Assume that in autarky South produces and consumes 36 loaves of bread and 30 yards of cloth, given by point A_S on its PPF in Figure 1b.

Now suppose that the two economies are allowed to trade with each other. Do they want to trade? What is the pattern of trade? What are the gains from trade?

Since a yard of cloth sells for one loaf of bread in North, while it sells for 1.8 loaves of bread in South, North will be happy to exchange some cloth in return for bread. The flip side of this is that a loaf of bread exchanges for 0.55 yards of cloth in South but can fetch one yard of cloth in North. Therefore, South will be willing to exchange bread in return for cloth.

Figure 1: Comparative Advantage and Gains from Trade



This is the Ricardian theory of comparative advantage. Even though North has higher productivity in both bread and cloth, South still has a comparative advantage in the bread production. In South, bread is cheap in relation to cloth; in North, bread is expensive in relation to cloth. Therefore, given the opportunity to trade, North will like to sell cloth to South in exchange for bread.

The rate at which the two goods will exchange for each other in the post-trade situation will depend on the demand conditions; however, it must fall within the range of the two price ratios that prevailed in each country before trade began: The price of cloth in terms of bread must be between 1 and 1.8. The gains from trade for both countries can be easily demonstrated by the numbers. Suppose North offers South the following deal: Give me 50 loaves of bread in exchange for 35 yards of cloth. The implied price of cloth in terms of bread is 1.43, while the price of bread in terms of cloth is 0.7. If South accepts this deal, then in the post-trade situation North can make itself better off by devoting all of its labor to cloth production. If North does so, it produces 100 yards of cloth, out of which 35 yards are exported to South in exchange for 50 loaves of bread. Therefore, North consumes 65 yards of cloth and 50 loaves of bread, which is clearly preferable to its pre-trade consumption of 55 yards of cloth and 45 loaves of bread. The post-trade consumption point of North is given by T_N in Figure 1a, which lies to the northeast of A_N. What about South? South can now devote all its labor to bread production and thus produce 90 loaves of bread. Since South has to export 50 loaves of bread to North, it consumes 40 loaves of bread as well as the 35 yards of cloth that it imports from North. The post-trade consumption point of South is given by T_S in Figure 1b, which lies to the northeast of its autarky consumption point A_S. Therefore, international trade has the potential to make both countries better off.

In general, if the post-trade relative price of cloth is 1.43 in terms of bread, then North can consume anywhere on the dashed downward sloping line in Figure 1a, if it devotes all its resources to cloth production and exchanges some cloth for bread in the international market. The area between the dashed line and the solid line captures the expansion in the North's consumption opportunities as a result of trade. The same is true for South in Figure 1b. That is, upon opening to trade, a country can enhance its consumption opportunities and welfare by specializing in the production of a good in which it has a comparative advantage. This is how a country gains from economic integra-

tion in general and international trade in particular.

Apart from showing how countries can gain from trade, this example also shows that even if a country has lower productivity in all goods, it can still have a comparative advantage in some goods. This is a very powerful result, and the failure to grasp it lies behind a lot of misconceptions about trade. For example, it is commonly argued that many poor countries do not have a comparative advantage in anything. This is clearly wrong, as can be easily seen from the numerical example. Despite having a lower productivity in both bread and cloth, South is a relatively cheaper source of bread.

The basic insight of gains from trade due to the Ricardian comparative advantage, which arises from differences in technology across countries, carries over to other more general models of trade as well. One limitation of the simple Ricardian model is the assumption of a single factor of production: labor. The Heckscher-Ohlin model of trade generalizes the theory of comparative advantage to the case with many factors of production.

Heckscher-Ohlin Model of Trade

Named after two Swedish economists, Eli Heckscher and Bertil Ohlin, the Heckscher-Ohlin model studies the pattern of production and trade that arises when countries have different endowments of factors of production, such as labor, capital, and land. In contrast to the Ricardian model, where the pattern of comparative advantage, and consequently the pattern of trade, is determined by technological differences, in the Heckscher-Ohlin model it is determined by variations in the availability of different factors of production.

To understand the role of resources or endowments in trade, again assume that the world consists of two countries, North and South, each of which produces two goods, bread and cloth. In contrast to the Ricardian model, there are two factors of production: labor and capital. Both cloth and bread use both labor and capital; however, cloth production requires more capital per unit of labor. That is, cloth production is more capital intensive in relative terms, and hence bread production is more labor intensive. Assume that each country has access to the same technology for producing the two goods. The only difference between the two countries comes from the fact that North is better endowed with capital than South. To be more precise, assume that North has more capital per unit of labor than South, which makes North relatively abundant in capital and South relatively abundant in labor.

Now, if North is capital abundant compared to South, then capital is going to be cheaper in North. Since cloth production uses more capital per unit of labor than bread production, it is going to be relatively cheaper to produce cloth in North, and hence in the pre-trade situation, the relative price of cloth in terms of bread is going to be lower in North than in South. Since the relative price of cloth is lower in North compared to South, North has a comparative advantage in cloth production. Therefore, upon opening up to trade, North will export cloth to South and import bread from it. By doing so, both countries can gain from trade just as in the Ricardian model.

The result is known as the Heckscher-Ohlin theorem. The statement of the theorem is as follows: *Countries tend to export goods that are intensive in the factors with which they are abundantly endowed.* In the example, North is abundantly endowed with capital, and hence it exports cloth, which uses capital more intensively than bread does; South is abundantly endowed with labor, and hence it exports the labor-intensive good, bread.

After trade begins, the relative price of cloth, which is exported by North, rises compared to the pre-trade situation. As North produces more cloth to meet the export requirement, the relative demand for capital increases in the North because cloth is more capital intensive. This leads to an increase in the reward of capital and a decrease in the reward of labor. Therefore, in North, capital owners gain from trade, whereas labor owners lose. The opposite

happens in South. This important result shows that in a multifactor world, trade is likely to produce some winners and some losers. How can this result be reconciled with the gains from trade established in the Ricardian case? The implication in the Heckscher-Ohlin model is that the gains from trade do not accrue to everyone automatically. Since the country as a whole gains from trade, the winners from trade can compensate the losers and still be better off. However, in the absence of such redistribution, the potential losers from trade will have an incentive to restrict trade.

Given these two theories of trade, it is time to ask the next logical question: What determines the pattern of trade in the real word? Is it the differences in technologies or endowments? Empirical evidence on this issue is mixed. Both technological differences and endowment differences have been found to affect the pattern of international trade.

Trade Based on Economies of Scale and Love of Variety

According to the trade theories emphasizing comparative advantage, the similarity of industrialized countries in factor endowments and technologies suggests little reason for trade among them. Yet there is a lot of trade among the industrialized countries: It represents about half of world trade. Furthermore, a large part of this trade consists of intra-industry trade (IIT) in which a country both exports and imports goods in the same product category. For example, the United States exports cars to Europe and imports cars from Europe. Since the traditional trade theories cannot do a very good job of explaining IIT, trade theorists came up with newer models of trade based on economies of scale in production and love of variety in consumption. Much IIT involves trade in differentiated products—exports and imports of different varieties of the same basic product. One key factor driving this trade is that people love to have a wider choice of products. Another factor is that many industries are characterized by economies of scale in production: Production is more efficient (average cost of production is less) the larger the scale at which it takes place. These two factors together imply that larger markets can support a wider variety of items at a lower price. Therefore, in the presence of economies of scale in production, economic integration through trade, by creating a larger market, benefits consumers.

Dynamic Gains from Trade

Gains from trade include not just the relatively static gains discussed thus far, however. Countries engaging in trade also enjoy dynamic gains. Theories of dynamic gains take into account a country's long-run economic growth prospects and how they are affected by economic integration.

There are two sources of economic growth: accumulation of factors of production, and technological progress. In terms of Figure 1, these changes will lead to an outward expansion of the PPF. International trade can affect economic growth by altering the incentives to factor accumulation and by affecting the pace of technological progress. Even though there is a wide agreement among economists on the subject of static gains from trade, the question of dynamic gains is far from settled. Theoretical models do not predict an unambiguous impact of trade on growth; however, most of the empirical work in this area has found that freer trade tends to lead to greater growth.

The Extent of Economic Integration through Trade

In addition to devising different theories of how trade occurs and how it benefits the parties engaging in it, economists are interested in the quantitative importance of trade for the world economy and its evolution through time. One measure of trade's quantitative importance for the world economy is the ratio of exports to gross domestic product (GDP) for the world as a whole, presented in Table 2.

The table shows that the first spurt in trade occurred in the late nineteenth century. It was driven primarily by the reduction in transport

Table 2: Merchandise Export as a Percentage of World GDP.

1820	*1870*	*1913*	*1929*	*1950*	*1998*
1.0	4.6	7.9	9.0	5.5	17.2

Source: Years 1820 and 1929 from Angus Madison, *Monitoring the World Economy, 1820–1992* (Paris: Organisation for Economic Co-operation and Development (1995); other years from Madison, *The World Economy: A Millennial Perspective* (Paris: Organisation for Economic Co-operation and Development, 2001).

costs due to the invention of steam-powered iron ships during the second half of the nineteenth century. The advent of railroads, and the reduction of tariffs and other trade restrictions by many countries, were other contributory factors. The interwar period, particularly the period after 1929, experienced a collapse of world trade. This collapse partly reflected the worldwide depression of economic activity and partly the huge increase in tariffs and other trade restrictions during this period, the Smoot-Hawley tariff of 1930 by the United States being the most infamous one. Since World War II, there has been a remarkable expansion in world trade driven mainly by continuing improvements in the technology of transportation and communication and a very substantial and progressive reduction in government-imposed restrictions on trade.

International Trade in Factors of Production (Capital and Labor)

Factor movements include labor migration, the transfer of capital via international borrowing and lending, and the subtle international linkages involved in the formation of multinational corporations. Movements of labor and capital are not radically different from the movement of goods, however, in economic analyses.

Labor Migration

International factor movements can sometimes substitute for trade, so it is not surprising that international migration of labor is similar in its causes and effects to international trade based on differences in resources. Labor moves from countries where it is abundant to countries where it is scarce. This movement raises total world output, but it also generates strong income distribution effects—just as trade did in the Heckscher-Ohlin model discussed earlier—that hurts some groups. A numerical example can be used to illustrate the economic effects of migration. Again assume two countries, North and South, that now produce a single good, rice, using two factors of production: land and labor. To fix ideas, assume that each country has the same amount of land. Table 3 describes a relationship between the amount of labor used and the output of rice in each of the two countries.

In Table 3, the column labeled "Marginal Output" shows the increase in total output resulting from the addition of an extra worker. Now, suppose that South has 7 workers while North has only 3 workers. Given the information in the table, the total output of rice is 490 in South and 270 in North. Output per worker is 70 in South and 90 in North. If workers in each country are paid according to the marginal output, then the wage of a worker in South is 40, while the wage in North is 70. Therefore, workers in South will have an incentive to migrate to North. What happens if free migration is permitted? Workers will keep moving to North until wages in the two regions are equalized, which means that the marginal output of an additional worker must be the same in both regions. This happens when two workers move from South to North so that the marginal output and hence the wage of workers in each region becomes 60. World output increases from 760 in the premigration situation to 800 in the postmigration situation. Also,

Table 3: Output and Input

Number of Workers	*Total Output*	*Marginal Output*	*Output per Worker*
1	100	100	100
2	190	90	95
3	270	80	90
4	340	70	85
5	400	60	80
6	450	50	75
7	490	40	70
8	520	30	65
9	540	20	60
10	550	10	55

the workers who originally resided in South experience an increase in wages from 40 to 60. However, the workers who originally resided in North experience a reduction in wages from 70 to 60. Therefore, even though the world as a whole experiences an increase in output, the workers in North become worse off as a result of migration.

Throughout most of historical time, human migration has remained the predominant mechanism of interaction and integration of different societies. Ironically, during the present time this channel of economic integration is the one that faces the strongest barriers. Data from the United States—known as the country of immigrants—summarized in Table 4 show that the immigration rate per thousand of population is significantly lower now than it was prior to World War I. Similarly, the share of foreign born in total population is lower than it was in 1910, even though it increased in the past three decades after reaching a low of 4.7 in 1970. The late nineteenth and early twentieth centuries saw great economic integration through all channels, including migration. Many Europeans left their native countries and immigrated to the New World. This trend had a substantial impact in reducing wage gaps between the host and source countries.

The transportation costs of migration have continued to decline since World War I. The economic incentives to migrate from Europe may have declined owing to the narrowing of the income gap between the United States and Europe, but the economic incentives for migration to both of these areas from developing countries are huge. The reason for the lower immigration rates has to do with government policies restricting immigration. The United States did not have any significant restrictions on immigration until the Chinese Exclusion Act of 1882. However, the wage-depressing effect of immigration was the principal driving force behind restrictions. For example, the restriction on Chinese immigration was imposed partly in response to political opposition from California and other western states that were facing downward pressure on wages owing to the import of Chinese laborers for railroad construction and other work. General restrictions on immigration from other countries did not come until the National Origins Act of 1924. In recent times, even though the barriers to the movement of goods and capital have come down significantly, economic integration through migration remains stifled.

Movement of Capital

The movement of capital takes place via international borrowing and lending, which are broadly classified into the following categories.

I. Private lending and investing
 A. Long term
  (1) Portfolio investment (purchases and sales of securities, such as

Table 4: Immigration to the United States

	Immigration Rate/ 1000 Population	*Foreign-Born as a % of Population*
1870	6.4	13.9
1890	9.2	14.6
1910	10.4	14.6
1930	3.5	11.5
1950	0.7	6.9
1970	1.7	4.7
1990	2.6	7.9
2000	4.1	10.4

Source: U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States (Washington, DC: various years).

bonds and stocks, in amounts that do not imply any direct management control or influence on the businesses issuing the securities)

(2) Loans (to a foreign borrower, maturity more than a year)

(3) Direct investment (lending to, or purchasing shares in, foreign enterprises largely owned and controlled by the investor)

B. Short term (short-term loans or purchase of foreign bonds with maturity of less than a year)

II. Official lending and investing (by a government or multilateral organization such as the World Bank, International Monetary Fund [IMF]; both long term and short term)

By its very nature, the movement of capital involves an intertemporal transaction because it involves a payment today to acquire something that is expected to return a payment or a series of payments sometime in the future. This kind of exchange can be viewed as a kind of international trade, but one that involves trade of present consumption for future consumption rather than trade of one good for another at a single point in time. Instead of exchanging bread for cloth today, intertemporal trade lets the parties exchange bread today for the promise of income with which to buy bread tomorrow. Due to this intertemporal dimension, capital mobility involves problems that international trade in goods does not have, such as the uncertainty of future payments, a lack of information with which to estimate expected future payments, and adverse incentives to default on future obligations. Carrying out intertemporal exchanges across borders is even more difficult because the parties to the transaction live under different legal systems, their behavior is guided by different institutional and cultural factors, and they have different degrees of access to information that will enable them to judge the future value of an asset.

To understand the economics of intertemporal trade and gains from it, again assume two countries, North and South, which now exist for two periods: present and future. Consumers in each country consume a single good, in this case simply called "Consumption." Since the economies exist for two periods, there are effectively two goods in the model: present Consumption and future Consumption. Each country has a given amount of resources to devote to the production of present Consumption and future Consumption. The countries may have different preferences between present Consumption and future Consumption and/or different technologies for production, which will form the basis of comparative advantage. To fix ideas, assume that North has a comparative advantage in present Consumption and

South has a comparative advantage in future Consumption. Following the logic of the theory of comparative advantage, North should export present Consumption and import future Consumption, while South should import present Consumption and export future Consumption. Exporting present Consumption is lending, whereas importing present consumption is borrowing. In order to be a lender a country needs to produce more than it consumes today, so that it can lend the surplus amount. So, the model is very similar in spirit to the models of comparative advantage discussed earlier, and hence the gains from this intertemporal trade are similar to the gains from trade posited in those models.

The interesting question to ask is what determines the pattern of borrowing and lending or, alternatively, what gives South a comparative advantage in future Consumption. The tradeoff between present and future Consumption in a country depends on the investment opportunities and the preference of consumers between present Consumption and future Consumption. Suppose North and South have identical intertemporal preferences, but South has more attractive investment opportunities. Given this situation, South wants to devote fewer resources to present Consumption and more to investment activities that would increase the capital stock of South and lead to greater production of output in the future. Therefore, with identical intertemporal preferences, a country with relatively better investment opportunities is going to be a borrower in the international capital market. Alternatively, if countries have identical investment opportunities, but different intertemporal preferences, then the country with a greater preference for present Consumption will have a higher relative price of present Consumption, and hence it will import present Consumption, that is, will borrow in the international capital market. Now it can be shown that the price of present Consumption in terms of future Consumption is 1+r, where *r* is the real rate of interest. When a country borrows a dollar today, it has to pay 1+r next year. So, the tradeoff is one dollar of present Consumption exchanges for 1+r dollars of future consumption. Therefore, the price of present Consumption in terms of future consumption is simply 1+r. If r_S is the real rate of interest in South, and r_N the real rate of interest in North, then saying that North has a comparative advantage in present Consumption implies that the relative price of present Consumption is lower in North: $r_N < r_S$. Therefore, the country with a lower real rate of interest is going to be a lender, and the country with a higher real rate of interest is going to be a borrower.

One category of international investment—direct foreign investment—is mainly undertaken by multinational firms. Two elements are supposed to be crucial in explaining the existence of multinationals: location motive, that is, the factor that leads the firm to locate its operations in different countries; and internalization motive, the factor that leads it to integrate these activities into a single firm.

The quantitative importance of international investments in the world economy is demonstrated by the ratio of foreign assets to the world GDP over the past several decades, as summarized in Table 5. The table shows that the extent of borrowing and lending was huge between 1870 and 1914, just as in the case of merchandise trade. There was a significant slowdown in capital movement during the interwar period, and it was not until 1980 that

Table 5: Foreign Assets as a Percentage of World GDP

1870	6.9
1900	18.6
1914	17.5
1930	8.4
1945	4.9
1960	6.4
1980	17.7
1995	56.8

Source: Maurice Obstfeld and Alan Taylor, *Global Capital Markets: Integration, Crisis, and Growth* (Cambridge: Cambridge University Press, 1999).

the ratio of foreign assets to the world GDP reached its pre–World War I level. However, in the past couple of decades, there has been a huge expansion of international capital flows.

Unlike growth in trade of goods, increased mobility of capital is not an unmixed blessing, and it has been implicated in many recent financial crises in developing countries. There are five main reasons why increased capital mobility can lead to or deepen financial crises. First, governments or banks may engage in excessive lending or borrowing. Second, events beyond the control of a country, such as increases in foreign interest rates, can shift flows away from developing country borrowers and make repaying debts more difficult. Third, the borrowing country may overuse short-term loans and bonds in its borrowing habits. The borrower may then experience difficulties if foreign investors refuse to refinance or rollover the debt. Fourth, debts denominated in foreign currency can become very expensive to pay off if the local currency depreciates unexpectedly. Finally, financial crises have elements of self-fulfilling panics, where investors fearing default stop lending and demand quick repayment. If many lenders do this at once, the borrowers cannot repay and a default and crisis occurs. For these reasons, many economists now advocate restrictions on private capital flows, particularly short-term credit flows, for countries with weak financial systems to reduce the likelihood of financial crises.

International Flow of Ideas and Knowledge

Another important channel of economic integration is through the exchange of economically relevant information and technology. International trade and movements of people and capital facilitate the flow of ideas and knowledge across borders. Provided that channels of communication remain open, there will be an exchange of ideas and knowledge across borders even in the absence of trade in goods and factors of production. The recent and continuing advances in communications technology are going to be a driving force in fostering deeper global economic integration in the future.

The Extent of Economic Integration in the World

Complete economic integration is a far-fetched idea for the world as a whole; however, several groups of countries have made progress in this direction. Below is a list of successive stages of economic integration that some groups of countries have achieved.

1. Free trade areas: Member countries remove trade barriers among themselves but keep their separate barriers against trade with the outside world. An example of this form of economic integration is the North American Free Trade Area (NAFTA), comprising Canada, the United States, and Mexico, which formally began in 1994.
2. Customs unions: In addition to removing internal trade barriers, members adopt a common set of external barriers. For example, the European Economic Community (EEC) was a customs union from 1957 to 1992. A southern common market, Mercosur, comprising Argentina, Brazil, Paraguay, and Uruguay, which started in 1991, is also a customs union.
3. Common markets: Members allow full freedom of factor flows (migration of labor and capital) in addition to having a customs union. The EEC was not a common market until the late 1980s owing to barriers on the movement of labor and capital. In 1992, it became a common market and the name changed to the European Community (EC).
4. Monetary unions: In addition to the features of a common market, member countries also have a permanently fixed

exchange rate for each others' currencies (or a single currency), and a single monetary authority conducts unionwide monetary policy. Twelve European Union countries are members of the European Monetary Union, which was established in 1999 and has a single currency, the euro. The European Central Bank conducts unionwide monetary policy.

5. Economic unions: Member countries unify all their economic policies, including monetary, fiscal, and welfare policies, as well as policies toward trade and factor migration. This is the highest stage of economic migration. Belgium and Luxembourg have had economic union since 1921, and the European Union is on the road to becoming an economic union.

Gains from trade suggest that if two or more countries form a free trade area or a customs union it must necessarily improve the welfare of the member countries. However, as was first pointed out by Jacob Viner in 1950, the creation of a customs union or a free trade area by a group of countries in a multicountry world has two opposing effects on welfare. Since the member countries eliminate trade barriers on each other's goods, there is *trade creation* among members, which is welfare improving. However, since member countries keep their trade barriers intact on nonmembers, the goods coming from nonmembers are discriminated against as they incur a higher tariff. This may result in what is called *trade diversion,* that is, some goods that were earlier imported from a lower-cost nonmember country are now imported from members. For example, Mexico's access to the U.S. market becomes tariff-free under NAFTA, but India's is not, so the United States shifts from cheaper imports from India to more expensive imports from Mexico, which causes welfare losses for the United States. The net effect of a customs union or a free trade area on welfare depends on the relative strengths of trade creation and trade diversion effects, an empirical issue.

The difference between a free trade area and a customs union is that in the former, each country has its own set of tariffs against nonmembers, whereas in the latter, all members have a common external tariff against nonmembers. The requirement of common external tariffs makes the customs union a politically difficult proposition compared to the free trade area. However, the administration of free trade areas is a nightmare because, in order to get a preferential treatment within the union, each good has to satisfy the rules-of-origin requirement. In the absence of such rules of origin, nonmembers will have an incentive to export all goods to the union through the member country with the lowest external tariff.

Even though a customs union may potentially be welfare worsening due to trade diversion, any move from a customs union to a common market is likely to be welfare improving by equalizing the returns to factors of production within the union. So, the additional gains from a common market are the same as the gains from labor migration and capital inflows mentioned earlier.

Monetary unions have both advantages and disadvantages. The advantage comes from the reduction of transaction costs and exchange rate risks. The disadvantage comes from the fact that by joining a monetary union a country gives up the ability to run an independent monetary policy to mitigate domestic imbalances and the ability to use exchange rate changes to mitigate external imbalances. In the case of economic shocks that affect member countries differently, monetary policy cannot be used to mitigate the effects of an adverse shock for a particular member country. Countries can use national fiscal policies to offset the effects of internal imbalances; however, fiscal policy changes have to go through a political process, which can cause delays. A unionwide fiscal policy, a feature of full economic union, can mitigate the problem by shifting some tax revenues from the growing countries to the recession countries through lower taxes and larger expenditures in the latter. Having a

full economic union would eliminate the disadvantages of a monetary union.

Concluding Remarks

Improvements in transportation and communications technologies have played a key role in the increased economic integration of the past several decades. These improvements have reduced the costs of transporting goods, services, and factors of production and of communicating economically useful knowledge and technology. In addition, countries have generally favored taking advantage of the gains from economic integration. This can be most clearly seen in the desires of many East European countries to join the European Union, and of many small countries, such as Singapore and Chile, to enter into free trade agreements with the United States.

The protests and demonstrations at recent meetings of the World Trade Organization (WTO)—a multilateral institution facilitating trade agreement among countries—in Seattle and Cancun have shown that globalization has many detractors. The main groups opposed to unfettered economic integration are nongovernmental organizations (NGOs), including environmental groups and labor rights activists. These groups demand the incorporation of labor and environmental standards in trade agreements, which essentially means that the WTO should allow the use of trade sanctions to enforce higher labor and environmental standards in countries with lower standards. Most economists feel that economic integration through free trade should be kept separate from the issue of enforcing higher labor and environmental standards. The issue of standards should be dealt with through other multilateral institutions, such as the International Labour Organization (ILO), and in the context of multilateral environmental agreements such as the Kyoto Protocol, the Montreal Protocol, and so on. The main reason for the economists' reluctance to tie trade with labor and environmental standards is the fear that the use of trade sanctions to enforce these standards will become a tool for disguised protectionism.

Despite the current controversies, economic integration has been an important source of economic prosperity throughout history. Societies that cut themselves off from economic interaction with the rest of the world tend to stagnate.

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See Also Andean Community; APEC (Asia Pacific Economic Cooperation); Australia-New Zealand Closer Economic Relations Agreement (ANCERTA); Caribbean Community and Common Market (CARICOM); Central American Common Market (CACM); Common Market of the South (MERCOSUR); Common Market for Eastern and Southern Africa (COMESA); Commonwealth of Independent States (CIS); Council of Arab Economic Unity (CAEU); East African Community (EAC); Economic Community of Central African States (CEEAC); Economic Organization of West African States (ECOWAS); European Economic Area (EEA); European Union (EU); Gulf Cooperation Council (GCC); Latin American Free Trade Association; League of Arab States; South Asian Association for Regional Cooperation (SAARC); Southern African Development Community

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Economic Sanctions

Economic sanctions are policies of an economic nature adopted by one government to induce policy changes by another government.[1] Examples include (but are not limited to) boycotts; embargos; subsidies; imposition of tariffs, quotas, or other import and export controls; denial of licenses; most-favored-nation treatment, national treatment, or membership in a trade agreement; suspension of aid or loans; freezing or seizure of assets; and blacklisting. In spite of their demonstrated costs, risks, unintended consequences, and ineffectiveness, economic sanctions continue to be employed by governments and international organizations as key policy instruments, and they continue to grow in number and scope. Their use runs counter to the trends of trade liberalization and globalization, however, and should be disciplined by enlightened self-restraint and international agreements.

History and Proliferation of Economic Sanctions

Economic sanctions have a venerable history, stretching back to Athens's attempt in 432 B.C. to curb Megara's trade. They were employed in the Roman conquest of Jerusalem, in a variety of wars during the Middle Ages, and in the American Revolution and American Civil War, the Franco-Prussian War, modern colonial and postcolonial conflicts, World Wars I and II, and the Cold War.[2] Debate continues on whether military measures such as siege, blockade, and interdiction qualify, with Geoff Simons arguing the case for inclusion and most others inclined to exclude purely military measures and to focus on economic measures.

Economic sanctions appear to have proliferated during the twentieth century. From 12 cases in the period 1914 to 1945 (0.4 sanctions per annum), the number rose to 41 in the next quarter-century ending in 1969 (1.6 sanctions per annum). The count rose to 67 during the next twenty years (3.4 sanctions per annum) and peaked at 50 during the period 1990–1998 (6.3 sanctions per annum).[3] Within these totals, the proportion of multilateral sanctions grew when compared with unilateral sanctions. Whereas the League of Nations imposed only 7 notable sanctions from 1921 to 1939, the United Nations imposed 18 from 1945 to 2000. All but 5 of these took place in the 1990s, confirming the observation that sanctions are increasing in frequency.[4] During the decade 1990–2000, the UN Security Council passed 25 economic sanctions resolutions, imposing penalties on Iraq, Yugoslavia, Somalia, Libya, Liberia, Cambodia, Haiti, Angola, Rwanda, Sudan, Sierra Leone, Afghanistan, and Ethiopia/Eritrea.[5]

Within these broad trends, sanctions proliferate or attenuate with political and international events and in response to particular controversies. They have tended to rise with wars, economic depressions, or alleged political provocations, notably by the regimes of southern Africa, Israel, and the Communist countries. Particular leaders have backed sanctions for particular purposes. For example, U.S. President Jimmy Carter stimulated sanctions

against human rights violations in the 1970s; Ronald Reagan encouraged trade sanctions against Asian partners, particularly Japan, in the 1980s; and in the 1990s Bill Clinton championed sanctions against Serbia's, Iraq's, and North Korea's military policies, often working through the United Nations.

Thus, economic statecraft or economic coercion, as economic sanctions are sometimes called,[6] should be regarded as equal in significance to diplomacy and military strategy in modern international relations. This is particularly true to the extent that the multilateralization of diplomacy, the rising risks and costs of military intervention, and the delegitimizing of interstate war by the UN Charter are recognized and acted upon by leaders of governments. Because economic sanctions stand midway between diplomacy and war, they provide leaders with a nonlethal but nevertheless concrete and visible set of instruments, easy to apply and difficult to ignore, by which to manage their relations with other states.

Objectives of Economic Sanctions

The broad category of economic sanctions linked to policy objectives may be divided into two streams: those based on economic policy objectives and those based on political-military policy objectives.

In the first category, the initiating government wishes to change the economic behavior of the target government through the imposition or threat of sanctions. For example, the initiating government may want to pressure the target government to lower trade barriers or subsidies, open investment opportunities, begin speedier repayment of debts, or curb illegal practices such as intellectual piracy or export of illicit goods. A subcategory of this stream is the policy area known as trade remedies—most notably, but not exclusively, practiced by the United States—in which antidumping penalties, countervailing duties, and "safeguard" levies are imposed on trade partners in response to alleged unfair trading practices such as dumping, subsidizing, and market-disrupting export surges. The United States is also notorious for its use of Section 301 of the Trade Act of 1974 to bring pressure to bear on partners accused of unfair or unreasonable trade practices that restrain U.S. exports. Typically, these sorts of sanctions are exclusively economic in nature and guided by well-established legal and administrative precedents.

In the second category, the initiating government wishes to alter the political behavior of the target government. For example, the initiator may use sanctions to force an end to the target government's curbing of civil liberties, violation of human rights, threats or launching of military action such as cross-border aggression, or development or transfer of weapons of mass destruction and long-range missiles. Sanctions in these cases are often mixed, with economic penalties accompanying diplomatic pressure and military actions, including threat, blockade, interdiction, and attack. These mixed economic-diplomatic-military sanctions are also less routinized than purely economic trade sanctions inasmuch as they are initiated by political bodies such as cabinets and the UN Security Council, which apply criteria derived from international law, security requirements, and power politics to emerging and often unpredictable crises in the international arena.

U.S. Economic Sanctions

The United States is the country most active in imposing economic sanctions, including trade remedies, and therefore it is widely criticized by trade liberals and by sanctioned or potentially sanctioned governments. By 1998, the United States had no fewer than fifty-one laws and regulations authorizing unilateral economic sanctions in force, each of them legitimized by an act of Congress or a presidential executive order.[7] They are listed in Table 1.

Table 1: U.S. Laws and Regulations Authorizing Unilateral Economic Sanctions in Effect in 1998 (slightly abridged)

Antiterrorism Act of 1987
Antiterrorism and Effective Death Penalty Act
Arms Export Control Act
Atomic Energy Act
Bretton Woods Agreements Act
Burmese Sanctions Regulations
Chemical and Biological Weapons Control and Warfare Elimination Act
Cuban Assets Control Regulations
Cuban Liberty and Democratic Solidarity Act ("Helms-Burton Act")
Department of Commerce, Justice and State … etc. … Appropriations Act of 1990
Department of Defense Appropriations Act of 1987
Export Administration Act of 1979
Export-Import Bank Act
Federal Republic of Yugoslavia Sanctions relating to Kosovo
Fisherman's Protective Act of 1967
Foreign Assistance Act of 1961
Foreign Operations, Export Financing … Appropriations Act of 1997
Foreign Terrorist Organizations Sanctions Regulations
Hickenlooper Amendment
India: Presidential Determination of May 13, 1998
Inter-American Development Bank Act
Internal Revenue Act
International Development Association Act
International Emergency Economic Powers Act
International Financial Institutions Act
International Monetary Fund Act
International Security and Development Cooperation Act
Iran and Libya Sanctions Act
Iran-Iraq Arms Nonproliferation Act of 1992
Iranian Transactions Regulations
Lacey (environmental protection) Act of 1981
Libya Sanctions Regulations
Magnuson-Stevens Fishery Conservation and Management Act
Marine Mammal Protection Act
Narcotics Control Trade Act
Narcotics Trafficking Sanctions Regulations
National Defense Authorization Act
North Korea: Relevant Foreign Assets Control Regulations
Nuclear Nonproliferation Act of 1978
Nuclear Proliferation Prevention Act
Pakistan: Presidential Determination of May 30, 1998
Spoils of War Act
Sudanese Sanctions Regulations
Tariff Act of 1930
Terrorism Sanctions Regulations
Trade Act of 1974
Trade Expansion Act of 1962
Trading with the Enemy Act of 1917

Note: Each of the above authorizes the curtailment of trade, aid, and financial flows. U.S. trade remedies acts, principally sections 202 and 301 of the Trade Act 1974, regarding antidumping, countervailing duties, import surge injury safeguards, fair trade, and intellectual property protection are additional to this list.

Source: Overview and Analysis of Current U.S. Unilateral Economic Sanctions: Investigation No. 332–391, Publication 3124 (Washington, DC: U.S. International Trade Commission, August 1998), available at http://www.usitc.gov/wais/reports/arc/w3124.htm (cited September 25, 2003).

Objections to Economic Sanctions

The principal objection to the employment of economic sanctions is their negative effect on the initiating government's own economy. That is, sanctions imply a curtailment of some economic activity, whether trade, investment, or movement of people, money, or ideas. They may be regarded as the antithesis of globalization. To the extent that a given bilateral transaction is economically beneficial to the government, commercial producers and marketers, or private consumers of a sanctioning country, that country will be less well off as a result of sanctions that interrupt that transaction.

There are exceptions. Some sanctions are applied in the expectation that they will produce a beneficial consequence for world economic transactions. For example, some trade sanctions may succeed in lowering a partner's import or investment barriers or reduce market-distorting subsidies.[8] These are characterized as trade remedies by the U.S. government even though they reduce net trade in the short run. In the political realm, they provide an opportunity for critics to castigate the United States as a protectionist country.[9] Thus the sanction may be treated as an investment with a positive long-term return. Governments must weigh the costs as well as the benefits, discounted by future uncertainties, expected as a result of their sanctions policies.

Governments must also weigh the political risks of their economic sanctions at home and their diplomatic acceptability abroad. U.S. sanctions regarding Communist China before 1979, pertaining to the Soviet pipeline during the Reagan administration, and against Cuba, Libya, and Iran up to the present have not only constrained U.S. producers and contractors from doing lucrative business abroad but also enraged European governments, particularly insofar as U.S. government policy constrained the choices of foreign branches of U.S. firms and even foreign commercial interests.[10]

A second objection is the lack of discrimination of many economic instruments and consequent harmful effects on innocent people. The outstanding example was the UN Security Council boycott and embargo of trade with Iraq from 1990 to 2003 to induce nuclear disarmament. Although the policy permitted oil to be sold for food and medicine, the regime of Saddam Hussein deliberately misapplied the oil-for-food exception, channeled funds to regime elites, neglected the infrastructure of Iraq, and impoverished its people. Ironically, Saddam blamed the UN and Western governments for Iraq's deterioration, attempting speciously but not without some success to legitimate his authoritarian regime as a "protector" against Western and Zionist hostility. Other Arab governments, Western liberals, and international humanitarian agencies joined the criticism of the sanctions. Sanctioning government leaders agonized over this unwanted consequence and deliberated how to recast sanctions to bring more direct pressure to bear on Saddam's regime. So-called "smart sanctions" were applied, such as restrictions on overseas travel by regime leaders and their families.[11] But the Iraq sanctions will be seen in retrospect as a well-intentioned policy that missed its target.

A third objection to the use of sanctions is their inefficacy. That is, they don't always work. Even when they do, their benefits may be outweighed by the economic and political costs and risks to the initiating governments and their producers, traders, and people and the detrimental effects on the innocent populations of the target governments. More often than not, the target countries ignore them, or evade them by diverting trade to other partners, without changing the targeted policies. As will be shown below, the picture is not encouraging to those who would advocate economic sanctions. Some estimates of success run as low as one-third, with corresponding nil or negative effects in two-thirds of cases.[12] Success rates vary by the category of behavior targeted by economic sanctions. Economic policies of targeted governments are more often successfully changed through sanctions than

diplomatic and military policies, which often prove unsusceptible to economic coercion. When economic sanctions are reinforced by diplomatic and military pressures, and when they are applied by powerful and rich countries to small countries, the success rate rises. But numerous cases of multiple sanctions applied by the United States, even to small trade partners or political adversaries over a period of many years, have not ended in success.

Critics and Assessors of Sanctions

Observations regarding costs to the sender, political risks to leaders, collateral injury to innocent populations, and general lack of efficacy have mobilized numerous critics of U.S. sanctions policy. Among them are Geoff Simons cited above, Robert Pape,[13] Richard Haass,[14] and Thomas Weiss et al.[15] They are joined by American spokespeople for trade and commercial interests; free-enterprise think tanks such as the Cato Institute, Heritage Foundation, and American Enterprise Institute; and sanctioned governments and enterprises abroad. Nevertheless, economic sanctions continue to be widely employed by governments and international organizations, and they show no signs of disappearing as significant policy instruments in international relations. Empirical research on this policy sector continues in an attempt by scholars to assess and improve it—or definitively repudiate it.

Lessons from Case Studies

Research on economic sanctions falls into two categories: case studies and comprehensive surveys. These categories, in turn, are subdivided by their degree of qualification and statistical grounding. Case studies lend themselves to accounts involving political, diplomatic, and military elements and are characterized by qualitative analysis and policy-relevant conclusions. They provide vivid illustrations of the causes, instruments, and outcomes of sanctions in their wider political and international setting. A well-known example is a 1998 volume edited by Richard N. Haass on *Economic Sanctions and American Diplomacy,* which presents reviews of U.S. sanctions of China, Cuba, Haiti, Iran, Iraq, Libya, Pakistan, and former Yugoslavia.[16] Haass concludes with lessons and recommendations to U.S. policymakers (summarized in Table 2). A wider net, capturing 115 historical and contemporary examples, was cast by Gary Clyde Hufbauer and Jeffrey J. Schott, assisted by Kimberly Ann Elliott, in their solid 1983 study *Economic Sanctions in Support of Foreign Policy Goals.*[17] The Hufbauer series of studies under the auspices of the Institute of International Economics underpins the widely cited estimate that economic sanctions are effective only one-third of the time.

Findings of Econometric Assessments

Comprehensive surveys, particularly those based on statistics and econometric analysis, lend themselves to more precise assessments of the effects of economic instruments, not only on the target economy but, equally important, on the economy of the initiating government. They rely on statistics of transactions, primarily commodity trade, but also incorporate trade in services and investment, where possible, and effects on the growth rates of manufacturing, jobs, GDP, and other comprehensive indicators. They are dependent not only on figures collected for other purposes but also on historical data series, so their policy implications are only as sound as the plausibility of the extrapolation of their findings to the future.

The most widely cited recent econometric study was one conducted by Gary Clyde Hufbauer and his associates at the Institute of International Economics in Washington, DC, in 1997.[18] The authors compiled data on U.S. exports and imports regarding eighty-eight partner countries in the years 1985, 1990, and 1995

Table 2: U.S. Sanctions: A Summary of Lessons Learned and Recommendations

Lessons Learned from Case Studies of U.S. Sanctions

1. Sanctions alone are unlikely to achieve desired results if the aims are large and time is short.
2. Under the right circumstances, sanctions nevertheless can achieve (or help to achieve) various foreign policy goals ranging from the modest to the fairly significant.
3. Unilateral sanctions are rarely effective.
4. Sanctions often produce unintended and undesirable consequences.
5. Sanctions can be expensive for American business, farmers, and workers.
6. Authoritarian, statist societies are often able to hunker down and withstand the effects of sanctions.
7. Military enforcement can increase the economic and military impact (although not necessarily the political effect) of a given sanction.
8. Sanctions can increase the pressures to intervene with military force when they are unable to resolve the crisis at hand.

Recommendations Distilled from Case Studies of U.S. Sanctions

1. Economic sanctions are a serious instrument of foreign policy and should be employed only after consideration no less rigorous than what would precede any other form of intervention, including the use of military force.
2. Multilateral support for economic sanctions normally should constitute a prerequisite for their introduction by the United States.
3. Secondary sanctions or boycotts are not a desirable means of bringing about multilateral support for sanctions and should be avoided.
4. Economic sanctions should focus to the extent possible on those responsible for the offending behavior or on penalizing countries in the realm that stimulated sanctions in the first place.
5. Sanctions should not be used to hold major or complex bilateral relationships hostage to a single issue or set of concerns.
6. Humanitarian exceptions should be included as part of any comprehensive sanctions.
7. Any use of sanctions should be as swift and as purposeful as possible.
8. Policymakers should prepare and send to Congress a policy statement not unlike the reports prepared and forwarded under the War Powers Act before or soon after a sanction is put in place.
9. All sanctions embedded in legislation should provide for presidential discretion in the form of a waiver authority.
10. The federal government should challenge the right of states and municipalities to institute economic sanctions against companies and individuals operating in their jurisdiction.
11. U.S. intelligence capabilities must be reoriented to meet the demands created by sanctions policy.
12. Any sanctions should be the subject of an annual impact statement.

Source: Richard N. Haass, ed., *Economic Sanctions and American Diplomacy* (Washington, DC: Council on Foreign Relations, 1998), pp. 197–210.

and, employing the standard "gravity model," analyzed them with regard to the severity or absence of economic sanctions toward those countries. Their findings were, in brief:

1. Sanctions reduced bilateral trade with sanctioned countries by an average of one-quarter to one-third, but by as much as 90 percent in some cases.
2. Sanctions reduced U.S. exports to twenty-six target countries by as much as $19 billion.
3. Sanctions reduced U.S. export-related jobs by 200,000.
4. Sanctions wiped out $1 billion in wage premiums among those employed in the high-tech export sector.

Criticism of the methodology of the Hufbauer study led Hossein Askari and his associates in 2003 to collect annual rather than snapshot data, refine the categories of sanctions, separate the effects on exports from those on imports, and consider third-country and regional effects in addition to bilateral effects. These and other refinements to the assumptions, methodology, and analysis of the gravity model were applied to data from 1980 to 1998. The basic equation was as follows:

Trade = function of economic size,
income effect, geographic distance,
sanctions, and influence of trade blocs

The regression calculations showed that sanctions had reduced U.S. exports overall by an average of $15.563 billion per year since 1989, with losses of more than $18 billion in 1997 and $23 billion in 1989.[19] Aggregate export losses were highest in the figures for the former Soviet bloc countries, including Russia, plus China, which together accounted for an average annual loss of around $10 billion. Losses to a collection of a dozen "rogue states," including Iran, Iraq, North Korea, Cuba, and Vietnam, amounted to more than $5 billion in 1998. Askari et al. also found sharp reductions in imports from those countries. But they also found evidence of export diversion by the sanctioned countries to the European market, which suggested that U.S. unilateral sanctions were being evaded. Overall, Askari et al. concluded that their findings independently confirmed those of the Hufbauer et al. study, and improved upon it in certain respects.

Conclusion

Case studies and statistical assessments revealing the flaws of sanctions policies are relatively recent and seem to have had little effect on policymakers. But there is hope that more numerous, credible, and persuasive studies will follow to inform a new generation of political leaders, empowering them to fend off protectionist interests and their legislative allies and thus to resort to sanctions less often and with more caution than current leaders. Another factor inducing less abuse of sanctions is the deepening of globalization and the widening of trade liberalization agreements. These parallel developments reveal the self-harm and futility of interventions to constrain legitimate economic intercourse and give strength to those leaders who would seek other means to achieve their diplomatic and military policy objectives that do not harm economically vulnerable members of society.

As Haass recommended, international economic problems should be dealt with through economic policies that are appropriate and proportionate to the sector. By the same token, diplomatic and military problems should be dealt with by diplomatic and military means, not by falling back on palliative, provocative, or muddled economic sanctions in lieu of making clear hard choices. The WTO and parallel regional, minilateral, and bilateral trade negotiations have the potential to elevate and at the same time regulate international economic relations for mutual benefit, making economic sanctions redundant, inappropriate, or unlawful in the long term.

Stephen Hoadley

See Also National Government Policies

Endnotes

1. Economic sanctions may also be initiated by groups of governments or intergovernmental organizations and directed at more than one target government or at nongovernment entities such as firms, churches, rebels, or secessionists. This wider conception was proffered by Dianne E. Rennack, E*conomic Sanctions: Legislation in the 106th Congress* (Washington, DC: Congressional Research Service, Library of Congress, 2000), as follows: "Economic sanctions are coercive measures imposed by one country, or coalition of countries, against another country, its government or individual entities therein, to bring about a change in behavior or policies." Harold S. Sloan and Arnold J. Zurcher generally concurred but added the aims of enforcing international law in their *A Dictionary of Economics,* 4th rev. ed. (New York: Barnes and Noble, 1964), 111. For simplicity, this entry assumes the bilateral government-to-government case unless otherwise specified (for example, UN Security Council sanctions).

2. Geoff Simons, *Imposing Economic Sanctions: Legal Remedy or Genocidal Tool?* (London: Pluto, 1999).

3. Calculated from figures provided by Hossein G. Askari et al., *Economic Sanctions: Examining Their Philosophy and Efficacy* (Westport, CT: Praeger, 2003), 3.

4. From tabulation presented by Askari et al., *Economic Sanctions.* The number has grown with sanctions against Afghanistan, Sierra Leone, and Liberia, among others, and with the economic measures instituted since September 11, 2001, to combat terrorism.

5. David Cortright and George A. Lopez, eds., *Smart Sanctions: Targeting Economic Statecraft* (Lanham, MD: Rowman and Littlefield, 2002), 4–5.

6. David A. Baldwin, *Economic Statecraft* (Princeton, NJ: Princeton University Press, 1985); Miroslav Nincic and Peter Wallensteen, eds., *Dilemmas of Economic Coersion: Sanctions in World Politics* (New York: Praeger, 1983). Economic sanctions do not preclude an initiating government from employing diplomacy or military suasion as reinforcement, as long as its policy instruments are primarily economic. Likewise, the policy changes desired in the target government are assumed to be mainly economic in nature, but they can equally well be directed at changes in another sector, such as political or military behavior.

7. *Overview and Analysis of Current U.S. Unilateral Economic Sanctions: Investigation No. 332–391* (Washington, DC: U.S. International Trade Commission Publication 3124, August 1998), http://www.usitc.gov/wais/reports/arc/w3124.htm (cited September 25, 2003).

8. But the effects of safeguard levies or negotiated voluntary export restraint agreements can impact negatively on consumers even as they may give relief to producers of the initiating country.

9. Anne O. Krueger, *American Trade Policy: A Tragedy in the Making* (Washington, DC: American Enterprise Press, 1995); Jagdish Bhagwati and Hugh T. Patrick, eds., *Aggressive Unilateralism: America's 301 Trade Policy and the World Trading System* (Ann Arbor: University of Michigan Press, 1990); Richard Boltuck and Robert E. Litan, eds., *Down in the Dumps: Administration of the Unfair Trade Laws* (Washington, DC: Brookings Institution, 1991).

10. The Soviet pipeline sanctions, the Iran-Libya Sanctions Act, and the Helms-Burton Act regarding investment in Cuba were also condemned by otherwise friendly European governments as illegitimate extraterritoriality. Successive U.S. presidents in the national interest were obliged to waive applications of these acts, which then retained symbolic effect only.

11. Cortright and Lopez, *Smart Sanctions.*

12. Hufbauer, et al. "US Economic Sanctions: Their Impact on Trade, Jobs, and Wages."

13. Robert A. Pape, "Why Economic Sanctions Do Not Work," *International Security* 22 (Fall 1997): 90–136, and "Why Economic Sactions Still Do Not Work," *International Security* 23 (Summer 1998): 66–78.

14. Richard N. Haass, "Sanctioning Madness," *Foreign Affairs* 76, no. 6: 74–95.

15. Weiss, Thomas G., David Cortright, George A. Lopez, and Larry Minear. *Political Gain and Civilian Pain: Humanitarian Impacts of Economic Sanctions* (Lanham, MD: Rowan and Littlefield, 1997).

16. Richard N. Haass, ed., *Economic Sanctions and American Diplomacy* (Washington, DC: Council on Foreign Relations, 1998). In a similar vein is Zachary Selden, Economic Sanctions as Instruments of American Foreign Policy (Westport, CT: Praeger, 1999).

17. Their studies were repeated, deepened, and updated to become the two-volume work *Economic Sanctions Reconsidered: History* and *Current Policies and Economic Sanctions Reconsidered: Supplemental Case Histories,* both with second editions published in 1990 by the Institute of International Economics in Washington, DC.

18. Hufbauer, et al. "US Economic Sanctions: Their Impact on Trade, Jobs, and Wages."

19. Askari, et al., *Economic Sanctions,* 169.

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Emerging Markets and Transition Economies

The term "transition economies," in a broad sense, includes all economies in transition from centrally planned to market systems. This group includes all ex-socialist countries in central Eastern Europe, all countries on the territory of the former Soviet Union, and several Asian countries, including China, Cambodia, Laos, Mongolia, and Vietnam. This definition has been used by the World Bank and the International Monetary Fund (see, for example, World Bank 1996 and IMF 2000).

In a narrower definition, used by the EBRD (European Bank for Reconstruction and Development) and the IMF (see, for example, EBRD 2001 and IMF 2000, 194), the term applies only to countries that are both transitioning from a centrally planned system to one based on market principles and in the process of restructuring a sizable industrial sector that has become largely obsolete. Under this definition, the Asian countries would be excluded because most of them are largely rural and low-income economies for whom the principal challenge is economic development as such (IMF 2001, 194).

Based on the EBRD classification, in the narrower definition the group includes twenty-seven countries that may be divided into three regional subgroups (EBRD 2001):

- *Central Eastern Europe and Baltic States (CEEBS).* This subgroup includes Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, and Slovenia.
- *South Eastern Europe (SEE).* This subgroup includes Albania, Bosnia and Herzegovina, Bulgaria, FR (former Republic of) Yugoslavia, FYR (former Yugoslavian Republic of) Macedonia, and Romania.
- *Commonwealth of Independent States (CIS).* This subgroup includes as full or associate members all countries of the former Soviet Union except for the Baltic states: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

Transition economies are also a subgroup of the nations considered "emerging markets." This term, introduced by the International Finance Corporation (IFC) in the mid-1980s, has also been interpreted to mean different things. Under a broad interpretation that has been used by the IMF (see, for example, IMF 1997a, 61), the term "emerging markets" includes all low- and middle-income countries that are not classified as "advanced economies" as well as some that are: that is, "developing countries," "transition economies," and also some "advanced economies" such as Hong Kong, the Republic of Korea, Singapore, and Taiwan.

In many contexts, especially in international finance and on international capital markets, the term is used in a significantly narrower sense. The IFC, for example, defines an emerging market as a country with a stock market that is in transition and increasing in size, level of activity, and sophistication. More specifically, a stock market has to meet two general criteria to be classified as "emerging": "(i) it is located in a low- or middle-income country as

defined by the World Bank, and (ii) its investable market capitalisation is low relative to its most recent GDP figures" (IFC 1999, 2).

Transition—What Is It?

At the end of the 1980s and the beginning of the 1990s, socialist countries in Central and Eastern Europe embarked on a process known as a transition from a centrally planned to a market economy. In standard economic theory, there is no claim that market economies are necessarily better than planned ones. This means, in pure theory, that a perfect planning system can be as efficient in allocation of resources as a decentralized, competitive market mechanism. Why, then, did countries in the region consider a market system a better allocation mechanism than a planned system at the time when the communist regimes collapsed? The main reason seems to be the huge failures that took place in the planning system. The failures on political issues (for example, the lack of freedom and democracy) were compounded by failures on economic efficiency issues (for example, the impossibility of getting enough information about the economy to make appropriate adjustments and the suppression of individual incentives).

In response to these failures, countries of the region rejected central planning and embarked on a process—transition—toward a decentralized market system underpinned by widespread private ownership. Transition encompasses two closely interrelated processes. The first is a major change in the coordination and allocation system; the second involves a change in efficiency. "Transition" therefore means that fundamental reforms must penetrate to the rules of the economy and society as a whole as well as to the institutions that shape behavior and guide organizations.

The long-term goal of transition is the same as that of market economic reforms in emerging markets elsewhere: to build a vibrant market economy capable of delivering long-term growth and better living standards. What distinguishes transition economies from reforms in other emerging markets is their starting point as centrally planned economies and, consequently, the depth of the required changes. As economists Christopher Allsopp and Henryk Kierzkowski have pointed out, "Transition needs to involve the dismantling of one (politically discredited) system and its replacement by another . . . the political, legal and institutional changes required to go with this are large" (Allsopp and Kierzkowski 1997, 5).

The Legacy of the Central Planning System

In the first half of the twentieth century, countries containing about one-third of the total population in the world abandoned the market economy and started building up an alternative economic and political system based on the principles of communism and socialism. At the beginning, the achievements of the central planning system were considerable. They included growth in gross domestic product (GDP), industrialization, the provision of basic health care and education, jobs for the entire population, and relatively equally distributed incomes.

Among the many negative legacies of the now-defunct central planning system, the single most important one was the absence of market-generated signals about relative scarcities of outputs and inputs. This led to highly distorted relative prices and output structure. Central planning commissions simply could not get enough information to substitute for that supplied by prices in a market economy. As a consequence, enterprises emphasized plan fulfillment rather than profitability and had no incentive for innovation and for reducing the technological gap vis-à-vis advanced market economies. In order to facilitate control, production and employment were concentrated in large firms with a monopolistic or oligopolistic position on the market. Product markets were

distorted by price and trade control, while labor markets were distorted by highly administrated wage structures and actual prohibition of dismissals. Financial markets were almost nonexistent, with financial flows simply implementing the demands of the plan. The system was also characterized by an absence of well-defined property rights, commercial legislation, and market-oriented institutions, both inside and outside the government. Distorted price structures led socialist countries toward relative autarky of their economies within their protected Council of Mutual Economic Assistance (CMEA). This policy bias disregarded potential gains from global international trade and made it difficult for these countries to identify their international comparative advantages.

After having initially narrowed the development gap with advanced market economies through forced industrialization, the relative performance of the centrally planned economies, in terms of per capita income and international competitiveness, deteriorated in the period after World War II. Several socialist countries, including Yugoslavia, Hungary, and Poland, introduced reforms aimed at stalling this relative decline. Their common characteristic was that they wanted to achieve this objective by reforming the planning system and by decentralizing the decisionmaking process. On this issue, Alan Gelb and Cheryl Gray wrote, "Major lessons of reform socialism in Central and Eastern Europe were negative. Efforts to increase efficiency and productivity through decentralisation and heavier reliance on market forces met with only limited success in the absence of ownership reform or capital market" (Gelb and Gray 1991, 4).

The serious inefficiencies of these central planning systems became increasingly evident with time. After posting relatively high annual economic growth rates during the 1950s, the economies of the region decelerated in the 1960s through the 1980s, and in 1990 they actually contracted. This trend took place in spite of the fact that socialist countries traditionally had high investment rates, usually above 30 percent. Social indicators worsened as well during the 1980s, confirming the troubled state of the system.

There have, however, been positive legacies of the socialist systems. Human capital endowment, with respect to the level of education and health standards, was and still is relatively high in these countries in comparison with other emerging economies at their level of economic development. Incomes were significantly more evenly distributed than in capitalist countries, as work and thus income was guaranteed as part of a comprehensive social safety net.

Macroeconomic Developments

The macroeconomic developments of transition economies over the past dozen years have differed significantly, both across individual countries and across subgroups of the region. Macroeconomic developments are those involving general patterns in such areas as output level and structure, inflation, fiscal position, employment, and poverty and income equality.

Output Level and Structure

All countries in this transition experienced a substantial decline in recorded output in the early years of their transition. The initial output loss reflected: (1) the introduction of price and exchange rate liberalism, resulting in a significant cut of domestic purchasing power; (2) the general collapse of the former system of enterprise linkages and finance; and (3) the breakdown of the socialist trading bloc.

At the beginning of the transition, the difference in initial conditions and policies led to a much greater decline of GDP in the CIS than in the CEEBS. Another difference between these two subgroups of countries, with respect to output development over the recent decade, is that in the CEEBS, output since 1989 has followed a U-shaped pattern, with the lowest point being reached in 1992 or 1993. By 2001,

the aggregate output of the subgroup surpassed its 1989 level by 10 percent. In contrast, the output pattern in the CIS was on a downward trend until 1998. Consequently, the GDP for this subgroup of countries was in 2001 at only 62 percent of its pre-transition level (EBRD 2002, 17).

Not all sectors of the economy were equally hit by the transformation from centrally planned to market-based systems. Trade liberalization, the new power of consumer preferences, and the cutback in defense spending are only some of the reasons that industrial growth rates were even more disappointing than the GDP rates. Sharp declines in the industrial-sector output in the early 1990s, accompanied by a strong performance in the services sector, have resulted in a dramatic shift in the economic structure of transition economies.

Inflation

The countries of the region had experienced significant inflationary pressures already in the pre-transition period. Therefore, it is not surprising that inflation exploded in the early years of transition. The size of price increases amounted to over 100 percent, and in some countries to even more than 1,000 percent a year. In most countries, the initial jump of inflation was a result of a combination of factors, including price liberalization, the sharp drop in output, and large fiscal and quasi-fiscal deficits. As there were actually no alternative sources of finance, large budget deficits were financed almost exclusively by monetary sources, and a result was a rapid growth of inflation. By the mid-1990s, however, most countries of the region had succeeded in drastically cutting inflation.

There is no doubt that disinflation has been one of the most remarkable achievements of the first decade of transition. It has been, however, confirmed very quickly that macroeconomic stability is not sustainable if it is not accompanied by appropriate structural-adjustment measures. The experiences of some CIS countries have clearly demonstrated that weak macroeconomic foundations, especially large fiscal deficits and problems in the banking sector, combined with the negative implications of the Asian and especially Russian crisis, have contributed to the recent revival of inflation in these countries.

Fiscal Position

An important source of inflationary pressures in transition economies has been significant fiscal deficits. They peaked in 1992, when combined government deficits of CEEBS countries amounted to 5.1 percent of GDP, while those of the CIS and SEE countries rose to 17.6 and 10.1 percent of GDP, respectively (EBRD 2001, 62). Since then, government deficits by and large have been on a downward trend throughout the region. The exceptions were years 1998 and 1999, when some countries registered a deterioration of their fiscal position due to a combination of internal factors, such as adjustment to the European Union, and external factors, including the Russian and Kosovo crises.

Fiscal imbalances of transition economies, particularly strong in the early transition period, have been caused by developments on both the revenue and expenditure sides. A decline in taxes collected from the contracting state sector, administrative problems associated with the introduction of VAT (Value-added tax), and generally poor tax administration are the main explanations for the overall revenue fall in government budgets in almost all transition economies during the early 1990s. In some countries, especially in the CIS, large tax arrears have become a form of implicit subsidization of inefficient companies and have further reduced the already shrinking revenue base. On the expenditure side, transition has exposed governments in the region to new challenges, though these challenges were different for different groups of countries. In the more advanced countries of the CEEBS, relatively generous safety-net provisions were introduced early in the transition period, when many countries of the subgroup used pension schemes as a policy instrument to reduce the

negative social implications of large-scale layoffs. As a consequence, pension systems have entered into extensive deficits and with time have become a growing fiscal burden. In the countries of the CIS, where a safety net was practically nonexistent, the main issue on the expenditure side continues to be how to reduce subsidies to enterprises.

Employment

Transitions from centrally planned to market economies have been associated with major changes in the level of employment. Prior to transition, open unemployment was almost nonexistent in the region. The situation reversed dramatically thereafter, when, following the output collapse in early 1990, registered unemployment grew throughout the region and in many countries exceeded the 15 percent mark.

The revival of output growth in more advanced countries of the region over the past few years has so far not led to a significant revival of registered employment. Unemployment therefore remains uncomfortably high, which can at least partially be explained by the continuing process of labor shedding. Persistent high unemployment in the region is in contrast with initial expectations that fast-growing private-sector development would be able to absorb a significant proportion of the labor force previously employed by the state sector. The evidence for some CEEBS countries shows that the subgroup is increasingly facing the problem of structural unemployment where people who have become unemployed have no or little prospects to reenter the labor force.

Poverty and Income Inequality

Although extreme poverty is still less pronounced in transition economies than in other countries at similar income levels, it has increased sharply during the past decade. The increase was much greater than many expected at the start of the transition process and was more pronounced in the countries of the CIS, that is, in countries where the reform process has stalled and where privatization, accompanied by poor targeting of safety-net measures, has permitted a concentrated accumulation of wealth. Poverty in the region increased not only because of the fall in output but because of greater inequality in the distribution of wealth. Income inequality, measured using the Gini coefficient, increased in all transition economies, although this increase has been much smaller in the CEEBS subgroup than in the CIS. In the latter, the average Gini coefficient almost doubled between the 1987–1990 period and the 1996–1998 period (from 28 to 46), while for CEEBS this coefficient increased from 23 to 33 during the same time span (World Bank 2002, 8).

Structural Adjustment and Institutional Changes

If the major objective of macroeconomic policies is to create a stable environment, then the major objective of microeconomic policies and structural reforms is to actually accomplish the transition and to make a transition economy a viable and competitive long-term actor on the internal market. Macroeconomic reforms alone, although necessary, do not automatically supply the responses needed for a comprehensive transformation to a market economy. These reforms, namely, do not deal systematically with the structural weaknesses of a country's economy, with the lack of entrepreneurial cadres and managerial and supervisory personnel, and with the inadequacies in the technological, financial accounting, and marketing realms.

The major components of the structural reforms and institutional changes that have been carried out in transition economies include: (1) adjustment of the legal and regulatory system; (2) financial-sector reform; and (3) enterprise-sector reform, including privatization, promotion of SMEs (Small and Medium-sized Enterprises), and enterprise restructuring. As

in areas of macroeconomic stabilization, there are huge differences among individual transition economies in terms of the progress achieved in these areas. Countries that have already carried out a comprehensive macroeconomic stabilization program, primarily the CEEBS, are typically also countries that are now in a more advanced stage of transition. In contrast, countries that have been late with the introduction of macroeconomic measures are lagging behind also with structural transformation processes.

Adjustment of the Legal System

Aware that appropriate legislation is a necessary condition for an efficient transition from a centrally planned to a market economy, all countries in the region started at the outset of the transition with a comprehensive reform of their legal and regulatory systems. Although the design of a fully operational legal and regulatory framework takes time and makes heavy demands on scarce human resources, many of the transition economies have already gone a long way in drafting laws in all areas fundamental to economic transformation. A large majority of the countries has by now adopted property, contract, security, bankruptcy, competition, and company legislation. Although passing the legislation is an important step forward, experiences gathered over recent years increasingly show that this is of limited relevance if not accompanied by all the necessary by-laws as well as by effective implementation and enforcement.

Financial-Sector Reform

Transition to a market economy has required a drastically changed role for the financial sector in transition economies. The main challenge in this area has been and still is to overcome the legacy of the past and at the same time to design and develop an efficient system of financial markets and institutions. There are at least three reasons why financial-sector restructuring has been of strategic importance for transition economies: (1) Without an active financial market mechanism, their economies, having abandoned planning, have no alternative allocation mechanism; (2) through intermediation of financial institutions, resources can be channeled directly to enterprises and to the real sector in general; and (3) efficient financial institutions help impose a hard budget constraint on enterprises.

Taking into account the dominance of banking in the overall financial system within countries in transition, as well as at the nexus of nonperforming loans and enterprise-sector losses, the banking sector has been in the forefront of financial-sector reforms. Introduction of market reforms has forced banks to start their transition from passive distributors of credit to professional bankers. As in other market economies, banks in countries in transition are now required to actively meet their clients' financial needs, on the one hand, and on the other to adhere to capital adequacy criteria and new accounting rules regarding the provisioning of debt.

In spite of various difficulties, including the high concentration of the sector, the high share of nonperforming loans, and high transaction costs, transition economies have gone a long way in transforming their banking systems. The transformation has been implemented through a combination of policy measures. In addition to the replacement of the original mono-bank system with the two-tier banking system across all countries of the region, government policies in this area have typically included reforms in prudential regulation and supervision, recapitalization and privatization of state-owned banks, and the entrance of new private banks. Countries across the region differ not only in terms of the design of these policies but even more in terms of their implementation. The transition countries that have been strong performers in banking-sector restructuring share a number of features. Of particular importance are effective domestic and foreign entry and exit regulations, which facilitate the entry of foreign banks and thereby foster competition and encourage the development of

new banking products. All of these countries have addressed the problem of bad debt in a rather early stage of their transition. There have, however, been two completely different approaches applied in dealing with this problem. Some countries have opted for a centralized, or top-down, approach, with a special workout agency established to handle bad debts taken over from banks, while others have followed a decentralized, or bottom-up, approach, leaving banks and enterprises to directly negotiate solutions.

Enterprise-Sector Reform

This segment of structural transformation is clearly at the very heart of the transition process and, in general, involves processes associated with the transition from a public-dominated to a private-dominated economy. These processes include: (1) introduction of financial discipline and competition in the enterprise sector; (2) private-sector development through both privatization of state-owned firms and promotion of new private firms; and (3) restructuring of enterprises in both the pre- and post-privatization periods.

- *Introduction of financial discipline.* The decade of transition was characterized by a sharp deterioration of enterprises' liquidity position as their sales were drastically reduced, or even stopped, owing to the opening of the markets to foreign competition, while the banks became, in a changed environment, much more reluctant to extend new loans. As a result, enterprises increasingly fell behind in payments to each other for goods and services and to the government for taxes and social security programs. In addition to curtailed bank lending, sharply reduced government subsidies, made either through direct or indirect budget transfers or through subsidized energy and/or other input prices, have been an important element of the financial discipline imposed on the enterprise sector.
- *Privatization of state-owned enterprises.* In contrast to market economies where a mixed economy has prevailed and where privatization has meant an enhancement to already-existing market rules in economic activity, for countries in transition privatization has become one of the crucial tests for the commitment of new governments to the establishment of a market-based economic system and a political system based on private property rights and individual freedoms. Practically all countries of the region have pursued privatization on two parallel tracks. The first, called "small-size privatization," refers mainly to privatization of retail outlets, transport equipment, and service enterprises. This segment of privatization has typically not been politically controversial and has received strong popular support, as procedures were relatively transparent and positive effects strikingly visible on a relatively short run. As a result, "small-scale privatization" has been more or less completed throughout the region.

  In contrast, so-called "large-scale privatization," that is, privatization of former state-owned enterprises, has proved to be more complicated than expected, and as a consequence the advances in this area have generally been much slower and also less uniform across the countries of the region. The slower pace of large-scale privatization has been typically caused by one or more of the following: (1) a high capital requirement; (2) major restructuring needs; (3) restitution problems; (4) regulatory and governance weaknesses; and (5) political sensitivity or even resistance. Countries have applied a wide range of methods for privatizing their large and middle-sized companies. Some countries—Hungary is the most notable but not the only case—have been successful in selling their enterprises to strategic, often foreign, investors. Others,

such as Slovenia, Croatia, and Macedonia, have relied more on internal ownership transformation in the form of management buyouts. To help bring about massive and rapid privatization in an environment lacking prospective strategic buyers, voucher privatization has also been extensively used in the region.

- *Promotion of SME development.* Countries in the region have made significant progress in the SME sector since the transition began. Laws setting up a legal framework for small businesses have been adopted, and the countries have actually witnessed an impressive growth and development of their SMEs. The process has been marked especially by the surge of new small firms created, either in the form of start-ups, mainly in the trade and service sectors, or through spin-offs of large state-owned enterprises. In spite of the fast development of the SME sector throughout the region over recent years, entrepreneurs still face several kinds of difficulties and barriers. Some of them are common to all countries of the region, while others are more country specific. The most important barriers to even faster development of SMEs include inadequacies in the area of business regulation, lack of financial resources, and poor access to specialized training aimed at quality improvement, management, and technology counseling.
- *Enterprise restructuring.* In the world of constant changes and globalization, enterprise restructuring is centrally concerned with improving the efficiency with which an enterprise adapts itself to changing constraints and opportunities in an international environment. Firms throughout the world must continuously restructure in order to maintain their international competitiveness and therefore profitability, challenged by both increasing global competition and rapid technological change. For countries in transition, enterprise restructuring is even more important. For them, it does not mean simply maintaining enterprise profitability, but transforming a highly distorted economy with many loss-making firms into a viable market economy in which most industrial enterprises are internationally competitive and profitable. Enterprise restructuring in countries in transition involves activities at both the policy and enterprise levels.

  Countries in the region have achieved slower progress in enterprise restructuring than in many other areas of transition because of the complexity of the tasks involved. According to the EBRD, none of the countries in transition has reached a standard and performance typical for advanced countries in this area. Nevertheless, significant progress in enterprise restructuring has been made in a number of the CEEBS countries. Better enterprise-restructuring results in all these countries can be attributed to both their overall advancement in transition and their efforts toward early accession to the European Union. All other countries in the region have been considered less successful in restructuring their enterprise sectors (see EBRD 2001, 14).

Trade and Integration into the Global Economy

The pre-1989 socialist countries of Central and Eastern Europe were largely characterized by a deliberate isolation from other parts of the world economy. All segments of their international economic cooperation were predominantly occupied with intra–Soviet bloc transactions, and economic ties with countries outside the region were rather weak.

The change of political regime and the beginning of the transition process was a starting point on the region's path toward global economic integration. The economic transition of

the countries of Central and Eastern Europe and their integration into the global economy are, in fact, two sides of the same coin. There would have been no economic transition for these countries to a market economy without their participation in the international markets for goods, services, capital, and labor. Moreover, the competitiveness of products from ex-socialist countries on international markets would not have been effectively established without dismantlement of the centrally planned economic systems that had over several decades proved to be economically inefficient and thus inferior to the market-led type of economy.

Trade Integration

Before transition, international trade was almost exclusively an intra-CMEA affair for these countries. Trade with other countries of the CMEA region accounted for more than 80 percent in the former Soviet Union and around 50 percent for Central European countries (Brenton and Gros 1997, 67–68). Trade within the region was distorted in several other ways as well. For example, trade flows were handled exclusively by the state-owned trading organizations.

Since the start of transition, trade has become an increasingly important part of transition economies. The ratio of foreign trade (average of exports and imports) to GDP increased throughout the region as a result of both strong growth of foreign trade, on the one hand, and the decline of GDP, on the other. The liberalization of external trade led to another important foreign trade pattern in transition economies, namely, a sizable change in the geographic composition of the trade, consisting mostly of the geographical reorientation of trade flows away from the CMEA and toward Western market economies, especially those of the European Union. The CEEBS have achieved by far the most in shifting away from trade with former CMEA countries and integrating themselves into the global trading system, roughly doubling the share of advanced countries in their total exports and imports in the ten-year period between 1986 and 1995, each from 35 percent to almost 70 percent (IMF 1997b, 98). Several factors contributed to the success of the CEEBS in reorienting their trade. These countries benefited from their geographical proximity to EU markets, and they had better initial conditions. They also more rapidly stabilized their economies and started the process of industrial restructuring. In addition, they have made significant strides toward institutionalizing their access to export markets in advanced countries.

A less favorable geographical position, slower progress in macroeconomic stabilization and industrial restructuring, and a lack of institutional trade arrangements with Western partners hampered Russia and other countries of the CIS in reorienting their trade flows. They continue to be highly dependent on trade links with other transition economies. To a large extent, this reflects the dependence of most CIS states on Russia rather than an intensification of their trade with other transition economies.

Financial Integration

In the pre-transition period, centrally planned economies were largely excluded from the global financial system, as most of them were not members of multilateral financial institutions and many of them, owing to considerable debt service problems, had no access to international capital markets. Besides, equity financing was never applied in socialist countries, and the decentralized system of bond financing was not in line with the centrally planned economy.

The reintegration of the region into the global financial system started at the outset of the transition process, when practically all countries of the region rapidly joined the three key multilateral finance institutions, namely the IMF, the World Bank, and EBRD. This institutional integration was accompanied by radical change both in the volume and composition of capital inflows to the region. In the early transition years, capital flows were dominated

by flows from official Western government sources, multilateral and bilateral; more or less all transition economies were their recipients. These official flows aimed at supporting and protecting profound political and economic changes in the region have paved the way for an increasing flow of funds from private sources. In the early post-transition period, private-sector funding sources took a rather cautious attitude toward the region, as the country and commercial risks were perceived to be unacceptably high. Later on, when the economic performance of the countries improved and the process of transition progressed, private capital started to enter the market, first slowly, then with great speed. In contrast to some degree of uniformity of official flows in the early transition period, private capital quickly began to differentiate across countries. The perception of investment and lending risk has been closely correlated with the progress of transition.

Total capital flows to the region rose from around $3 billion in 1989 to over $60 billion in 1997 (EBRD 1998, 78). Owing to the Russian financial crisis, the total volume of capital inflows to the region has declined since then. Within the structure of capital flows to the region, the share of private flows has increased sharply, from less than 25 percent in 1993 to 84 percent in 1997. Although most CEEBS have practically ceased to rely on official financing, there are other countries, especially in the CIS and SEE subgroup, that still do not fulfill the criteria required for entering international capital markets.

Foreign direct investment (FDI) represents by far the most important source of private capital for the region. The FDI inflow trend was continuously upward after 1989 and reached $25 billion in 2001. The surge of FDI to the region has been caused by a combination of factors, including the strong interest that Western companies have in spreading their operations to new markets, improved macroeconomic performance in many countries in the region, and reduction of barriers in trade among the countries themselves and with advanced countries, especially EU members. Geographical distribution of FDI inflows has been very uneven. The CEEBS attracted some two-thirds of total 1989–2000 inflows, and even within this subgroup of countries, there is a big concentration, as Hungary, Poland, and the Czech Republic alone accounted for more than half of total inflows (EBRD 2001, 68).

Variations in the Progress of Transition

The most comprehensive analytical tool for assessing the overall progress achieved by an individual country in the transition process has been developed by EBRD. EBRD's rating system—published in its annual publication *Transition Report*—focuses on eight elements of a market economy: (1) small-scale privatization; (2) large-scale privatization; (3) enterprise governance and restructuring; (4) price liberalization; (5) trade and foreign exchange liberalization; (6) competition policy; (7) banking reform; and (8) capital markets. Progress in each of these areas represents an improvement in how well markets, enterprises, and financial institutions function, and the progress is measured against the benchmark set by industrialized countries. The measurement scale for each individual indicator ranges from 1 to 4+, with 1 representing little or no change from the old regime, and 4+ representing a standard that is in place in a mature market economy.

This overall transition indicator provides a summary measure of overall progress in reform across the region. Two major patterns emerge from EBRD's annual *Transition Report*s:

First, the data show *clustering of countries within particular geographical subgroups.* The average transition indicator score tends to decline the further east the subgroup of countries is located. The subgroup in the west, CEEBS, had the highest average transition indicator scores in the region, amounting to more than 3 in 1999. Countries in the other two subgroups,

SEE and CIS, had lower scores, indicating less progress achieved in the transition process. The data also show that the variation among individual countries within each of the three subgroups increases from west to east. There are a wide range of structural, political, and geographical factors that have contributed to the differences among the subgroups of countries with respect to their achieved progress in transition reforms. Among others, these factors include: (1) large differences in initial structural and macroeconomic imbalances; (2) political environment, including wars in SEE; (3) policy choices made with respect to the timing and sequencing of reforms ("shock therapy approach" versus "gradualist approach"); and (4) geographical proximity to the West (countries closer to the European Union have benefited from the process of integration arising from trade with Western countries and from strengthened political cooperation with this group of countries). The EU accession process has proved an extremely powerful instrument for speeding up the process of transition.

Second, the data reveal *persistent disparity across different areas of transition reforms.* Progress in areas in which the task of the state was to withdraw from all economic responsibilities has been particularly fast. By their nature, reforms that involve liberalization—that is, elimination of government-imposed restrictions on prices, trade, and the market for foreign exchange—are reforms that made rapid progress early in the transition. Areas of reforms in which transition requires redistribution of assets—that is, small- and large-scale privatization—have on average moved steadily over the period, with small-scale privatization moving much faster than privatization of large-scale company assets. The third set of reform areas are those that involve the building and/or rebuilding of institutions—that is, enterprise restructuring, banking-sector reform, the introduction of competition policy, and the establishment of securities markets and nonbank financial institutions. It is in these areas of institutional reforms that progress has been slowest. This is not surprising, since institutional reforms inevitably take time because they require not only the enactment of new laws but also the capacity of the authorities to enforce the legislation (Stern 1998, 5).

Policy and Institutional Challenges for the Future of Transition

In 1989 and immediately thereafter, there was a broadly shared belief that transition to market economy would be a rather short and simple process. Based on a set of policy measures agreed upon by influential international financial institutions, political bodies, and professional economists, the so-called "Washington consensus" was accepted as a common wisdom of policies that would move transition economies from stabilization to growth. This set of policy measures, which also paved the way for the integration of transition economies into the global economic environment, also stressed the importance of liberalization, privatization, and the opening of transition economies and financial discipline (Kolodko 1999, 5).

After twelve years of experience, it has become obvious that transition is a highly complex, difficult, and lengthy process. There is no doubt that substantial progress has been made by the countries in the region in transforming their economies from centrally planned to market based. However, the advancement in transition has been unevenly distributed both across the countries of the region and across different areas of transition. There seems to be a growing consensus among numerous analysts that the region as a whole is now approaching the end of the first phase of transition. The analysts also agree that, while the process of change in the first phase of transition has been remarkable, the tasks have been in many respects more straightforward than those that follow.

The main challenges of the new, second phase of transition are to make these new mar-

ket economies function more efficiently and to build on the foundations established in the first phase. The main objective is sustainable economic growth. The agenda for the new phase of transition should also incorporate issues that have not been addressed properly during the first phase, as confirmed by recent developments in the world, especially by the financial crises in Asia and Russia. Last but not least, there are some important issues for transition economies that have been either missing or have been largely underestimated in the first decade of transition. These issues—including institution building, redesign of the role of the state, improvement of corporate governance in the enterprise and financial sectors, investment in both education and infrastructure, and reduction of poverty and social inequality—must find an appropriate place in this new agenda. True, more attention has been given to these issues since the mid-1990s, and especially in the past three years, but much more has to be done on these issues in the future.

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See Also Commonwealth of Independent States (CIS)

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Exchange Rate Movements

The exchange rate is the price of one nation's currency in terms of another nation's currency. This is often called the "foreign exchange rate," in that it is the price determined in the foreign exchange market when people buy and sell foreign exchange. The "numeraire" (or standard) of the international monetary system is the U.S. dollar. Exchange rates are thus normally quoted in terms of U.S. dollars. There are various possible exchange rate regimes. At the two extremes are fixed rates and floating rates, and in between the two extremes are a variety of possibilities, including "crawling peg" systems and managed (or "dirty") floats where the government intervenes to try to influence the value of the exchange rate.

The exchange rate can be used as a tool of economic policy to affect trade, inflation, interest rates, and growth in gross national product (GNP). Economists remain divided as to the macroeconomic benefits of different exchange rate regimes. Typically, fixed exchange rates have been associated with lower inflation, whereas flexible exchange rates have been associated with higher inflation but also higher levels of income growth. Currency crises remain a problem, sharpened by technology and globalization of capital. Since 1945, global trends in exchange rates have shifted from a preference for fixed rates in the immediate postwar period, to flexible rates in the 1970s and 1980s, to various forms of fixed rates and currency unions beginning in the 1990s, with economic and monetary union in the European Union as the most prominent example. Politics plays a role in a country's choice of exchange rate regime, with political parties, presidential versus parliamentary systems, economic size, openness, and industrial versus agricultural production, as well as the political voice of various sectors, typically influencing government decisions to a certain degree.

Determining Exchange Rates, Equilibrium, and Movements

Each country has a currency in which the prices of goods and services are quoted—the dollar in the United States, the euro in Germany, the pound sterling in Britain, the yen in Japan, and so on. A foreign exchange rate is the relative value between two currencies, or the quantity of one currency required to exchange one unit of currency for another, quoted as the price of the foreign currency in terms of home currency or as the price of home currency in terms of foreign currency. A hard currency—money that can be readily converted to other leading world currencies—is one in which investors have confidence, such as that of an economically and politically stable country. A soft currency is a currency that is not acceptable in exchange for currency of other countries, due to unrealistic exchange rates. Purchasing power parity (PPP) states that exchange rates between different currencies are in equilibrium when their purchasing power is the same in the two countries. In other words, the exchange rate between two countries should be equal to the ratio of the two countries' relative price levels. If the price level of one country increases (due to

inflation), its currency depreciates to maintain PPP. The basis for PPP is the "law of one price," which states that in the absence of transportation costs and other transaction costs, competitive markets will equalize the price of an identical good in two countries when the prices are expressed in the same currency.

For example, a television set that sells for 750 Canadian dollars (CAD) in Toronto should cost 500 U.S. dollars (USD) in Boston when the exchange rate is 1.50 CAD/USD. If the price of the TV in Toronto were only 700 CAD, consumers in Boston would prefer to buy the TV set in Toronto. If this process (called "arbitrage") is carried out on a large scale, the U.S. consumers buying Canadian goods will bid up the value of Canadian dollars. The Canadian goods will become more costly to them. This process continues until the prices are equalized. One key problem with PPP is that it is based on impractical assumptions. It does not take into account different tastes and preferences across countries, trade barriers, the existence of nontradable goods, lack of competition, transportation costs, or other transaction costs. It also does not address daily market information. Exchange rate movements in the short term are news-driven. Announcements about interest-rate changes, economic growth, political scandals, and other factors drive exchange rates in the short run. PPP, by comparison, describes economic forces that equalize exchange rates in the long run of four to ten years.

Demand for anything depends not only on the price of that product but also on the prices of all other products. The same is true for currency: Demand, for a currency, is reflected in appreciation or depreciation of the exchange rate. Appreciation of the exchange rate is a more or less permanent increase in the value or price of the local currency in terms of an international standard or numeraire. For example, an appreciation of the euro in terms of dollars means that it "costs" more dollars to acquire the same amount of euros as in the previous time period, or fewer euros to acquire the same amount of dollars as in the previous time period. The appreciation of a nation's money is shown by an increase in the exchange rate, generally caused by a growing, expanding, and healthy economy, which increases demand for that country's currency and assets. Conversely, depreciation of the exchange rate is a more or less permanent decrease in value or price of the local currency in terms of an international standard or numeraire. The depreciation of a nation's money is seen as a decrease in the exchange rate. For example, in a yen depreciation against the dollar, the price of yen in terms of dollars declines, so that it "costs" fewer dollars to acquire the same amount of yen (or more yen to get the same amount of dollars). The exchange rate "overshoots" if in response to a shock it initially jumps above its long-run equilibrium and then adjusts back slowly.

Whereas appreciation and depreciation are market-determined exchange rate movements, revaluation and devaluation are policy-determined exchange rate movements. Revaluation is the act of increasing the price (exchange rate) of one nation's currency in terms of other currencies. This action is taken by a government if it wants to raise the price of the country's exports and lower the price of the country's imports. The procedure for revaluation is for the national monetary authority to buy the nation's currency and/or sell foreign currencies through the foreign exchange market in order to decrease supply and increase demand of domestic currency while increasing supply of foreign exchange. Devaluation is the act of reducing the price (exchange rate) of one nation's currency in terms of other currencies. This action is usually taken by a government to lower the price of the country's exports and raise the price of the country's foreign imports, which ultimately results in greater domestic production, higher exports, and lower imports. A government devalues its currency by actively selling it and buying foreign currencies through the foreign exchange market. Both revaluation and devaluation are achieved through foreign exchange intervention.

Types of Foreign Exchange Intervention

Foreign exchange intervention is the process of foreign exchange transactions conducted by monetary authorities with the aim of influencing market conditions and the value of the home currency exchange rates. Intervention usually either aims to promote stability by countering disorderly markets or in response to special circumstances. There are various types of foreign exchange intervention. "Entrustment Intervention" refers to intervention that is conducted in overseas markets with funds of local monetary authorities; an example would be the Federal Reserve Board of the United States intervening to support the dollar in the London market. "Reverse-Entrustment Intervention" refers to cases in which monetary authorities need to intervene in a country's foreign exchange market but request that country's authorities to conduct the operation on their behalf. For example, if the United States needed to support the dollar in terms of yen in the Tokyo market, the central bank of Japan could conduct interventions on behalf of the United States upon request. Concerted or Coordinated Intervention refers to cases where two or more countries jointly intervene by using their own funds simultaneously or in succession. For example, the Plaza Agreement in 1985 (a G5 meeting) and the Louvre Accord in 1987 (a G7 meeting) were held for the discussion of multilateral intervention to depreciate the overvalued U.S. dollar.

Foreign exchange intervention may or may not change the monetary base. When it does change the monetary base, it is called "nonsterilized intervention"; when it does not, it is referred to as "sterilized intervention." When a monetary authority buys foreign exchange, its own monetary base increases by the amount of the purchase. When it sells foreign exchange, its monetary base decreases by the amount of the sale. In order to prevent the money stock from increasing (or decreasing), the monetary authorities can sterilize the effect of the exchange market intervention by selling (or buying) short-term domestic assets through the banking system, leaving the monetary base of the country unchanged. Since sterilized intervention does not affect the money supply, it does not affect prices or interest rates and so does not influence the exchange rate. Instead, sterilized intervention affects the foreign exchange market through two routes: the portfolio-balance channel and the signaling channel. The portfolio-balance channel assumes that risk-averse investors diversify across assets denominated in different currencies. For example, sterilized purchases of yen raise the dollar price of yen. Risk-averse investors must be compensated with a higher expected return to hold the relatively more numerous U.S. bonds, thus the yen price of the U.S. bonds falls (the dollar price of yen rises). The signaling channel assumes that intervention affects exchange rates by providing the market with new relevant information as to the intentions of the risk-averse investors regarding the exchange rate and their expectations regarding economic indicators. Because private agents may change their exchange rate expectation after intervention, the exchange rate will be expected to change as well.

All interventions occur in the foreign exchange (FX or Forex) markets, where there are primarily two types of transactions, spot and forward. An agreement to buy or sell currency immediately at the current exchange rate is known as a "spot transaction." By convention, spot transactions are settled two days later. An agreement to buy or sell currencies for settlement at a future date at least three days later (but typically longer), at predetermined exchange rates, is known as a "forward transaction." Both the spot and forward markets can be used for intervention, and the two may be used simultaneously. A transaction in which a currency is bought in the spot market and simultaneously sold in the forward market is known as a "currency swap." Although a swap itself will have little effect on the exchange rate, it can be used as part of an intervention. Some central banks use swaps to sterilize spot inter-

ventions by conducting the forward leg of the swap in the opposite direction to the spot market intervention. The options market is also used for intervention. In this market, a call (put) option confers the right, but not the obligation, to purchase (sell) a given quantity of an asset on a given date. Usually, the option contract specifies the prices for which the asset may be bought or sold, called the "strike" or "exercise price." Monetary authorities seeking to prevent depreciation or devaluation of their currency may sell put options on the domestic currency or call options on the foreign currency. There are also many ways of indirectly influencing the exchange rate without conducting any transactions in Forex markets. These methods, known as "indirect interventions," involve capital controls (taxes or restrictions on international transactions in financial assets) or exchange controls (the restriction of trade in currencies).

Fixed to Floating: Forms of Exchange Rate Regimes

A fixed exchange rate is one where the value of the domestic currency is pegged (or fixed) at a certain level against another currency, a basket (or group) of currencies, or a commodity such as gold, and remains exactly the same from day to day. Governments hold large amounts of foreign exchange reserves in order to actively intervene to maintain the value of the currency. Monetary and fiscal policies also must be directed to keeping the rate constant. A flexible exchange rate is one where the external value of a currency is more or less determined by market supply and demand. Although it is customary to speak of fixed and flexible exchange rates, regimes actually span a continuum, ranging from hard pegs to currency boards, adjustable pegs, crawling pegs, or target zones; to managed (or "dirty") floats with heavy, light, or no intervention; to independently floating. Regimes can be classified according to either a publicly stated commitment of the central bank (a de jure classification) or the observed behavior of the exchange rate (a de facto classification).

A country that claims to have a pegged exchange rate might, on the one hand, have frequent changes in parity. On the other hand, a country might experience very small exchange rate movements, even though the central bank has no obligation to maintain parity. Arguments in favor of a purely floating exchange rate regime are: (1) Laissez-faire: The exchange rate is a market price and as such should be determined by private demand and supply without government interference; and (2) Policy flexibility and independence: Exchange rates adjust more easily to new economic developments than wages and prices and can quickly equilibrate the trade balance by altering the relative price of imports and exports, while government policy remains free to pursue other economic goals. The arguments in favor of a purely fixed exchange rate rest on stable expectations: (1)Exchange rate volatility is low, which reduces investment risk, resulting in larger international trade, lending, and borrowing; and (2) A nominal anchor provides lower inflation expectation, yielding a lower actual inflation rate.

Forms of Fixed Exchange Rates

Establishing a fixed exchange rate between one national currency and another national currency (usually that of an industrial power) is often referred to as a "hard peg." The U.S. dollar is frequently used for a hard peg, but increasingly the euro and yen are being used. A nation that uses a hard peg relinquishes its control of the exchange rate and relies on the actions of the anchor nation or on conditions in the gold market. When the peg is to a single currency, fluctuations in the anchor currency against other currencies imply fluctuations in the exchange rate of the economy in question against those currencies. When the peg is to gold, the currency is valued in terms of gold; that is, the

pegging nation fixes the price of gold in terms of national currency and maintains the convertibility of national currency into gold at that price. A gold standard defined the international monetary system in the nineteenth century and part of the twentieth century.

The case for a single-currency peg is stronger if the peg is to the currency of the country's dominant trading partner. A case against a single-currency peg can be made if a significant portion of the country's debt is denominated in currencies other than the anchor currency. By pegging to a currency basket instead, a country can reduce the vulnerability of its economy to the swings of a single country. Such a system characterizes regional monetary arrangements. An example of a regional monetary arrangement is the exchange rate mechanism (ERM) of the European Monetary System (EMS) that preceded the euro. The ERM set an initial fixed central value for the exchange rate of a member currency against the European Currency Unit (ECU). That exchange rate was then allowed to fluctuate in a target zone band by a set percentage up or down around that central value. If the currency approached the upper or lower limit, then the government would intervene, either by buying and selling the currency or foreign exchange or by changing the level of interest rates. An increase in interest rates would help raise the demand for the currency and raise its value, whereas a decrease in interest rates would help lower the demand for a currency and thus lower its value.

A currency board is an extreme form of a hard peg in which a country fixes its exchange rate and guarantees the peg by maintaining a 100 percent backing of its money supply with foreign exchange reserves. Under such a system, the central bank ceases having an independent monetary policy and issues currency solely in exchange for foreign assets, specifically the reserve currency. The country is importing the counter-cyclical monetary policy and the exchange rate policy from the anchor country; however, the central bank of the anchor country sets the interest rate according to its own needs without regard to the needs of the follower country. If the follower country suffers shocks positively correlated with the domestic shocks of the anchor country, mimicking its policy is not very costly. If the shocks are negatively correlated, then the follower country imports the opposite economic policy from that which it would need, amplifying the width of its economic cycle and potentially prolonging a crisis. This system may prohibit the printing of money to finance fiscal deficits, but it does not encourage fiscal adjustment. Because of the high level of reserves necessary and the parity commitment, a currency board arrangement may encourage the debt financing of unsustainable deficits. Argentina adopted this approach from 1991 to 2001, when it was abandoned in the midst of a severe crisis. Hong Kong has successfully maintained a currency board from 1983.

A crawling peg is an exchange rate arrangement whereby the exchange rate could be adjusted according to such preset criteria as relative changes in the rate of inflation. The basic idea behind a crawling peg system is that there exists an exchange rate that equilibrates the international demand and supply for a given currency. However, because political or economic uncertainties might generate undesirable fluctuations in the supply and demand over short periods, the movement of the exchange rate should be controlled. To accomplish this, countries hold the exchange rate within a predetermined range against a specified anchor during any business day by intervention, but allow the rate to change from day to day by small amounts. The crawling peg is distinct from an adjustable peg system. The adjustable peg is what characterized the Bretton Woods system. All countries maintained a hard peg to the U.S. dollar at a fixed rate within small fluctuations of 1 percent, but they could occasionally alter the rate, typically through a government announcement.

Nations may decide to forgo a national currency and the exchange rate altogether by entering into a currency union with one or more

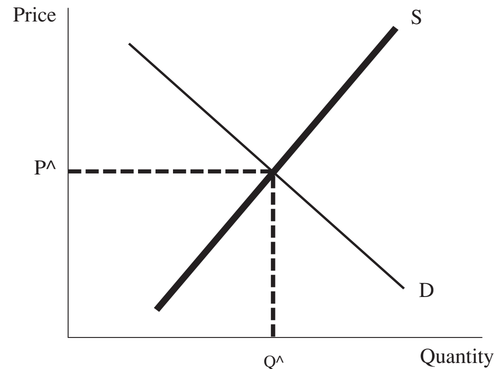
states. By joining a currency union, a country relinquishes its national currency and adopts the currency of another state or group of states as its own. For example, eleven members of the European Union in 2002 decided to form a currency union and create a new regional currency among them, the euro. Luxembourg used the Belgian franc as its national currency prior to the euro.

Ecuador and El Salvador decided to eliminate their national currency completely and adopt the U.S. dollar. As the national currency disappears, the exchange rate also disappears. There are a number of advantages to having a regional common currency. In a regional currency area, it is no longer necessary to change the domestic currency into a foreign currency. Transaction costs can be reduced in international trade and investments. Foreign exchange risks caused by fluctuations in relative currency values are no longer an issue. Credible commitment to the peg is not in question. There are also disadvantages, however. For example, all concerns regarding fixed exchange rates apply, and the country also loses all seignorage revenue. In the economic theory defining the rationale for such a system, a currency union is known as an "optimum currency area." In its basic form, the theory argues that if economic shocks among countries are similar, and capital and goods move freely and significantly among them, then the countries would benefit from a currency union.

Forms of Flexible Exchange Rates

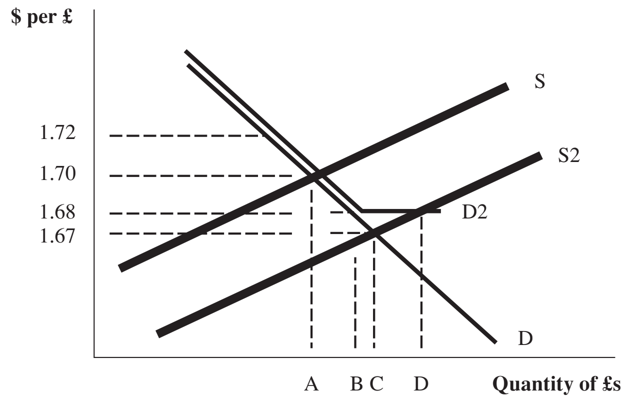
A floating exchange rate, also called "independently floating," is one that is determined through the unrestricted interaction of supply and demand in the foreign exchange market. There is no government intervention, so the government is not trying to manipulate currency prices to achieve some change in the exports or imports, and the external value of the currency is allowed to find its own value against other currencies. The value of the currency then rises or falls according to changes in supply and demand. This relationship can be represented by the graph in Figure 1.

Figure 1:
The Supply and Demand Model



A managed float, also called a "dirty float," is an exchange rate system with periodic central bank intervention to reduce fluctuations and change the direction of the value of the national currency. A managed float is similar to a floating exchange rate in that the exchange rate is free to move up and down, but as in a fixed exchange rate regime, the system is subject to government control and intervention if the rate moves beyond certain boundaries. With a managed float, the government intervenes in the foreign exchange market and buys or sells whatever currency is necessary to keep the exchange rate within desired limits. If it wants to try to raise the exchange rate or prevent it from falling further, the government intervenes by selling foreign exchange and buying local currency. This will raise the demand for the currency and help support the value of the exchange rate. The logic behind a managed float is that an unrestricted movement of exchange rates is usually pretty healthy; however, serious problems in the balance of payment and balance of trade result if the rate floats too far up or down. The graph in Figure 2 illustrates a managed float of British pounds sterling and U.S. dollars.

Figure 2: Government Interventions in the Foreign Exchange Market



For example, if the government of the United Kingdom wants to intervene to prevent the exchange rate from falling below the threshold (for example, of $1.68) then it will have to buy all sterling offered at the rate it wants to maintain. This is shown by D2, where the demand curve becomes perfectly elastic at that rate. This is because the government will buy any sterling offered. A shift in supply from S1 to S2 will therefore only allow the exchange rate to fall to $1.68 rather than to the $1.67 that would be the case without intervention.

The Role of the Central Bank

Under a fixed exchange rate regime, central bank operations in the foreign exchange market are largely passive, with the central bank automatically clearing any excess demand or supply of foreign currency to maintain a fixed exchange rate. When there is an increase in the demand for foreign currency, the central bank purchases the local currency against foreign currency. Under this system, both the stock and the flow of the monetary base must be fully backed by foreign reserves. Hence, any change in the monetary base must be matched by a corresponding change in reserves, and the central bank is passive in intervening in the market. Under a flexible exchange rate regime, central banks retain discretion to intervene in the foreign exchange market, but, as they are not obligated to maintain an exchange rate parity, they typically refrain from frequent interventions.

Exchange Rates and Economic Performance

Getting the exchange rate "right" is essential for economic stability and growth. Casual observation and formal econometric analysis suggest the existence of an empirical link between financial turmoil, economic problems, and currency crashes. Globalization can amplify the costs of inappropriate policies. When capital inflows accelerate, if the exchange rate is prevented from rising then inflationary pressures build up and the real exchange rate appreciates through higher domestic inflation. Sterilization prevents domestic interest rates from falling in response to the inflows and hence typically results in the attraction of more capital, pushing exchange rates up further. When capital outflows accelerate (capital flight), the opposite happens. New technologies make it increasingly difficult for governments to control either inward or outward international capital flows when they wish to do so. To fix the exchange rate and maintain it at a set level, a government must be willing to buy and sell currency in the foreign exchange market in whatever amounts are necessary. If the exchange rate is fixed too low, then a government needs to sell its currency in the foreign exchange market and may end up expanding the money supply too much, causing inflation. If the exchange rate is fixed too high, then export sales suffer. However, central bank reserves are only a fraction of the highly mobile capital available on global markets, and speculators possess an almost infinitely elastic supply of resources with which to test a government's resolve.

The exchange rate may be a useful weapon when a nation needs to adjust its external terms of trade and when domestic wages and prices are sticky. Exchange rate realignment can swiftly accomplish what might otherwise require a painful period of recession or inflation. However, an exchange rate is not helpful when internal relative prices are what need to change. In general, a fixed exchange rate (or a greater degree of fixity) is preferable if the disturbances affecting the economy are predominantly monetary—such as changes in the demand for money—and thus affect the general level of prices. A flexible rate (or a greater degree of flexibility) is preferable if disturbances are predominantly real—such as changes in tastes or technology that affect the relative prices of domestic goods—or external, originating abroad. Often, however, real world economies experience a combination of these conditions, with one or the other predominating over various (possibly short) periods. Selecting the appropriate exchange regime and deciding when to change it thus demand considerable skill.

A fixed rate constrains the monetary authority's choice of interest rate and exchange rate. A flexible exchange rate provides greater room for maneuver in a variety of ways. Most important, it leaves the authorities free to allow inflation to rise—which is also a way, indirectly, to increase tax revenue (through the "inflation tax"). The danger here is that it will probably be harder to establish that there is a credible policy to control inflation under floating exchange rates, and expectations of higher inflation often become self-fulfilling. Conversely, there is a strong link between fixed exchange rates and low inflation so long as the peg is credible. A mere declaration of a pegged exchange rate is insufficient to reap the full anti-inflationary benefits. Countries that change their parity frequently, although declaring a pegged exchange rate, experience higher inflation and higher inflation variability than countries that stick to their peg. In part, low inflation is associated with fixed exchange rates because countries with low inflation are better able to maintain an exchange rate peg.

But there is also evidence of causality in the other direction: Countries that choose fixed exchange rates achieve lower inflation. This results from a discipline effect and a confidence effect. A pegged exchange rate provides a highly visible commitment to greater policy discipline and thus raises the political costs of loose monetary and fiscal policies. To the extent that the peg is credible, it instills confidence in stable policies, and there is a stronger readiness to hold domestic currency, which reduces the inflationary consequences of a given expansion in the money supply. There is also a link, albeit weaker, between the exchange rate regime and the growth of output. Pegged exchange rates, by enhancing confidence, can engender a greater demand for the domestic currency and foster higher investment, so that pegged rates are associated with higher investment. But they are also correlated with slower productivity growth.

While short-run effects of exchange rates are quite visible, economists remain divided as to which form of exchange rate regime is ultimately preferable in the long run and even whether the exchange rate regime has any effect at all on macroeconomic fundamentals and long-run equilibrium. Some argue that neither of the two main exchange regimes, fixed or flexible, ranks above the other in terms of its implications for macroeconomic performance. Although in previous years inflation appeared consistently lower and less volatile in countries with pegged exchange rates, in the 1990s the difference narrowed substantially. Output growth also does not seem to differ across exchange rate regimes, and misalignments and currency "crashes" are equally likely under fixed and flexible exchange rate regimes. There is also no clear-cut distinction between managed float and float within a crawling band in terms of macroeconomic outcomes. Some have concluded that exchange rate uncertainty has only a very small effect on trade, which may be attributed to financial instruments

such as hedging that can eliminate risk at relatively low cost. The effect, then, of exchange rates is uncertain in the long run, though exchange rate uncertainty takes its toll in the short run.

In globalization, uncertainty has led to increasing monetary cooperation among states in order to stabilize adverse effects and secure benefits. Monetary cooperation is the cooperation among monetary authorities of different countries, often through forums, to prevent and cure the monetary problems among them and help stabilize further economic growth. There are various forms for monetary cooperation: information exchange among central banks; policy cooperation at the macro level; resource provision; banking supervision and financial regulation; and monetary integration, with a common currency, common fiscal policies, and common foreign exchange arrangements in a given region. One monetary problem that countries hope to solve through monetary cooperation is the problem of exchange rate or currency crises.

Risk, Volatility, and Crises

Exchange risk, or currency risk, is the risk that a business's operations or an investment's value will be affected by changes in exchange rates. For example, if money must be converted into a different currency to make a certain investment, changes in the value of the currency relative to the U.S. dollar will affect the total loss or gain on the investment when the money is converted back. This risk usually affects businesses, but it can also affect individual investors who make international investments. Exchange risk is higher under conditions of exchange rate volatility.

Exchange rate volatility is often attributed to three factors: volatility in market fundamentals, changes in expectations due to new information, and speculative "bandwagons." Volatility in market fundamentals, such as the money supply, income, and interest rates, affects exchange rates because the level of the exchange rate is a function of these fundamentals. For example, large changes in the money supply can lead to changes in the level of the exchange rate. Changes in the level of the exchange rate, in turn, imply exchange rate volatility. Changes in expectations about future market fundamentals or economic policies affect exchange rate volatility because when market participants receive new information, they alter their forecasts of future economic conditions and policies. Exchange rates based on these forecasts will also change, thereby leading to exchange rate volatility. For example, news about a change in monetary policy may cause market participants to revise their expectations of future money supply growth and interest rates, which could alter the level and hence the volatility of the exchange rate. Volatility is also affected by the degree of confidence with which these expectations are held. Exchange rate volatility tends to rise with increases in market uncertainty about future economic conditions and to fall when new information helps resolve market uncertainty. Finally, exchange rate volatility can be caused by speculative bandwagons, or speculative exchange rate movements unrelated to current or expected market fundamentals. For example, if enough speculators buy dollars because they believe the dollar will appreciate, the dollar could appreciate regardless of fundamentals. If speculators then think that the market fundamentals will not be sustained, active selling by the same speculators could cause the dollar to depreciate. Fluctuation in the value of the dollar arising from such speculative forces will contribute to exchange rate volatility. Most of the governmental exchange rate interventions in recent years have aimed to stabilize disorderly exchange rate markets. Unfortunately, many studies have revealed that intervention could not have smoothed exchange rate movement. Making interventions large, coordinated between two or more countries, spread out over several days, and publicized increases their chances for success.

Exchange rate crises, or currency crises, are characterized by large, out of the ordinary changes in the exchange rate in a very short period of time caused by large and swift movements in markets in cases where government intervention is usually ineffectual. With the rapid development of international trade and international investment (including direct investment, portfolio investment, and bank lending), economies of different countries are increasingly integrated. Therefore, financial crises occurring in one country are said to be more globally or regionally "contagious" than in earlier times.

One well-known example of a currency crisis that illustrates the dangers is what is now known as the Asian financial crisis. It started in early July 1997, when Thailand had to devalue its currency, the baht, about 20 percent against the U.S. dollar as a result of intense pressure in the foreign exchange market. In the process, interest rates shot up as the outflow of short-term capital intensified. The previously inflated stock and real estate markets collapsed, leading to Thailand's worst recession in the postwar period, with sharply rising unemployment and business failures. The crisis quickly spread to neighboring countries in the Southeast Asian region. The devaluation of the baht made Thai exports cheaper, pressuring other currencies to follow suit. In particular, Indonesia's rupiah came under vicious attack and had to be devalued by about 90 percent over a period of just a few months while again interest rates rose sharply as capital flight accelerated. South Korea had invested heavily in the Southeast Asian countries in general, and in Indonesia, in particular.

In this so-called "Asian contagion" process, South Korea, Indonesia, and Thailand almost became bankrupt as nations and had to rely on financial assistance from the International Monetary Fund (IMF) and other major countries. The crisis spread to create currency and financial problems in Russia, Eastern Europe, and Latin America. Exchange rates played a role in triggering the crises. By the end of 1996, all of the Southeast Asian currencies were overvalued, as they were pegged to the rapidly appreciating U.S. dollar against the Japanese yen and the Chinese yuan in 1995–1996. In particular, the Thai baht, which was first hit by speculation in the crisis, had been almost completely pegged to the dollar for more than ten years.

In the European currency crisis of 1992, long-term forces pushed the German mark and British pound apart, but each had a fixed exchange rate commitment within the ERM. Speculators gambled that the link could not be maintained and sold pounds in huge quantities, forcing the pound to withdraw from the ERM, float, and fall in value. Other currencies in the ERM came under speculative attack at the same time, resulting in massive interest rate increases, unprecedented government interventions (and losses) in the currency markets, and realignments within the EMS. In the Mexican peso crisis in 1994, the peso dropped 20 percent in one day and 50 percent over several months when allowed to float.

Recent exchange rate crises are not all alike. Earlier crises, such as those in Mexico (1976 and 1982) and Argentina (1975 and 1981), seemed to be due to ongoing expansion of domestic credit. Domestic credit growth depletes foreign exchange resources until near exhaustion. A speculative attack exhausts the supply of reserves, reducing real money demand to its post-collapse equilibrium, with higher interest rates due to higher monetary growth. This model has focused attention on inconsistent government policies as the reason exchange rate regimes fail. Inconsistent fundamentals imply an inevitable collapse.

The exchange rate crises in the ERM in 1992–1993 and in Mexico in 1994 did not seem to follow this pattern, however. In these crises, governments had not been pursuing steady domestic credit creation to finance deficits. Therefore, to explain these recent crises, a second-generation exchange rate crisis model was developed. This approach focuses on the optimizing decision of government to main-

tain or abandon the fixed exchange rate when private-sector behavior affects the net benefits of pegging. Exchange rate crises can be caused by shocks to macroeconomic policy variables, including a change in expectations or a speculative attack itself. These models focus on the role of government choice in setting policy and in the potentially self-fulfilling nature of expectations. The most recent round of crises in Southeast Asia (1997–1998) has led to the development of additional models that emphasize the role of financial fragility in generating exchange rate crises, relating these crises to bank runs on the central bank's reserves. Others attribute the crises to a combination of moral hazard and a change in expectations about the willingness of governments to stand behind bank loans.

Whether central banks should defend their currencies against a speculative attack has emerged as a key and controversial aspect of the policy response, and this choice is increasingly governed by possible effects on the financial sector. Some have called for monetary expansion and depreciation in response to adverse shocks, reaffirming the validity of prescriptions derived from the conventional Mundell-Fleming analysis. Others have argued that in the presence of sizable dollar debts, a sudden depreciation may do more harm than good. One useful way of thinking about exchange regimes is that sharp devaluations and appreciation can occur with both fixed and flexible exchange rates, but the daily standard deviation around the mean is smaller in fixed-rate systems.

Fixed to Flexible to Fixed

The shift from fixed to more flexible exchange rates has been gradual, dating from the breakdown of the Bretton Woods system of fixed exchange rates in the early 1970s, when the world's major currencies began to float. At first, most developing countries continued to peg their exchange rates—either to a single key currency, usually the U.S. dollar or the French franc, or to a basket of currencies. By the late 1970s, they began to shift from single-currency pegs to basket pegs, such as to the IMF's Special Drawing Right (SDR). In 1975, for example, 87 percent of developing countries had some type of pegged exchange rate. By 1996, this proportion had fallen to well below 50 percent.

For most countries it is folly to try and recapture the "lost innocence" of fixed exchange rates. As a number of examples show, a fixed exchange rate is very costly for a government to maintain when its promises not to devalue lack credibility. At the same time, developing and maintaining credibility has become increasingly difficult. A careful examination of the genesis of speculative attacks suggests that even broadband systems à la EMS pose difficulties, and that there is little, if any, comfortable middle ground between floating rates and the adoption of a common currency. Efforts to reform monetary institutions should focus directly on restraining domestic inflation. The exchange rate should be used as an indicator but virtually never as the central target for monetary policy. Fixed rates are impossible; most economists recommend either having a free-floating currency with an inflation target or joining a currency union.

According to the "unholy trinity" explained by the Mundell-Fleming model, governments cannot simultaneously maintain the objectives of capital mobility, fixed exchange rates, and monetary policy autonomy. Only two out of the three can hold at once. Whether a country has fixed or flexible exchange rates will depend partly on which two of these three objectives they value more and which one they are willing to sacrifice. Importers prefer an overvalued exchange rate that reduces the costs of foreign products. Exporters prefer undervalued exchange rates that make their goods cheaper. Banks and large corporations are likely to favor exchange rate stability.

Policymakers representing constituents harmed by nominal exchange rate instability

propose exchange rate institutions to improve their constituents' welfare. Exchange rate systems evolve as the costs of exchange rate stability rise above the benefits. Labor-capital conflict over the distribution of income enters the political arena as conflicting monetary policy preferences. Ties to trade unions and capital interests are represented by parties. Parties of the left tend to accommodate shocks and generate inflation; right-wing parties tend to prefer monetary policy and fixed exchange rates. Instability in exchange rates disrupts business in trade-oriented sectors, with companies unable to plan correctly because of unpredictable changes in income and expenses.

Despite shared interests in currency stability and monetary cooperation, states do experience conflicts over exchange rates. States often prefer a low value for their own currency relative to others because a low value promotes exports. In any case, policymakers adopt exchange rate systems in order to achieve politically determined domestic monetary objectives, and they face a formidable challenge in attempting to balance the complex factors involved in doing so.

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See Also Balance of Payments and Capital Inflows; Currency Crisis and Contagion; International Financial Markets; International Monetary Fund (IMF)

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Fiscal Policy

Fiscal policy concerns the behavior of national governments in raising the money they need to fund the vital aspects of public policy for which they are responsible. Edwin Seligman, who dedicated his scholarly career to the science of finance, first used the term "fiscal policy" to emphasize the need for government to implement some redistribution of income through taxing and spending.[1] Later, John Maynard Keynes and the Keynesians modified the term's meaning to suggest "the manipulation of taxes and public spending to influence aggregate demand."[2]

The goals of the modern theory of fiscal policy extend beyond stabilization to the idea that fiscal tools can help to redistribute and allocate resources. Nowadays, however, theory and practice are far apart, as fiscal policy is undergoing a serious crisis owing to economic globalization, which is an increasing part of the world's economic activity, now carried out across borders,[3] and imposing further constraints on governments' sovereignty to fulfill an allocative, distributive, regulative, and stabilizing role in their national economic systems. These constraints originate from the incongruence of the dynamic transjurisdictional mobility of production factors and the static institutions of governance based on geographic criteria. National governments therefore have to balance external and internal pressures when formulating fiscal policies and must consider the issues of efficiency, equity, and feasibility within a complex global environment with fuzzy borders

Technological changes and market forces have induced a dematerialization of the tax base, which gives rise to a *fuzzyfication* of the national border. Historically, taxation has been based on territorial and residential principles, but the dematerialization is now undermining the practical rule of these principles. The *exit option*[4] of mobile factors[5]—capital, services, and skilled labor—implies that governments' sovereignty and autonomy has been significantly reduced. The formulation and implementation of macroeconomic fiscal policies are no longer a purely national affair because domestic policies can influence the economic activity of other national economies. The restrictions on internal fiscal sovereignty, coupled with external pressure, push governments to "race to the bottom." In this race, each national government is forced to shift the tax burden from highly mobile factors (capital, enterprises) to less mobile factors (individuals, unskilled labor, older people) in order to collect enough revenue, while cutting social security public expenditure.

Under these constraints, the welfare state becomes obsolescent. Each national government has to reform the social security system and improve public-expenditure efficiency in order to limit the effects of economic globalization, which include, for instance, the erosion of national control over the management of economic and social affairs[6] in the interest of citizens, especially for democratic governments.

In a different analysis, Dani Rodrik[7] underlined that the relationship between a country's vulnerability to international markets and the size of its tax-based social programs is positive

and could be implied by the negative "race to the bottom"; that is, countries with greater global market vulnerability typically have higher taxes and more social spending.[8]

Tax Sovereignty and Globalization

Economic globalization has jeopardized the basic idea of economic and political governance based on geographic jurisdiction. In this context, one of the main problems for national governments comes from the incongruence of the dynamic transjurisdictional mobility of production factors and the static institutions of governance. The conflict between the modern concept of multinational enterprises and the very old idea of a nation-state means that the latter can no longer satisfy the needs of the present-day complex world. Nowadays, governments are formally still the sovereigns of a particular territory, but they are losing their internal sway—represented by monopoly force within their territory—and their external sovereignty as defined by relations among states in the international system.

In other words, the national system of taxing asset transactions and corporate earnings loses its autonomy as more enterprises become multinational and put aside national characteristics while assuming a global breadth with other countries having a higher degree of economic cohesiveness.

Unfortunately, the loss of autonomy caused by the framework of a globalized market reduces the role of governments and increases the emphasis on private markets, making life harder for policymakers. The state's ability to control the results of policy tools is reduced, making it difficult to achieve policy objectives. Economic globalization has increased the fiscal constraints facing states, and thus their ability to raise revenue; this has started a cumulative process of causation between liberal policies, fiscal constraints, and welfare reduction. Trade and investment liberalization—coupled with transportation and telecommunications cost reduction—weakens the tax base and makes it difficult to sustain a large share of public sector expenditures within the economy.

Microeconomic and Macroeconomic Effects of Globalization

The process of global economic integration increasingly exposes private agents and governments to international competition. It is possible to differentiate between microeconomic and macroeconomic effects. At the microeconomic level, global competition leads to a lowering of both price markups and excess wages, whereas at the macroeconomic level, as new countries (competitors) enter the world's market, global economic integration leads to new and fiercer competition. The increased openness to trade and capital flows, due to liberalization and deregulation, augments the locational or infrastructural competition between regions and countries and in turn forces governments to reduce inefficiencies. This is because the unitary cost of tax augmentation, or the marginal cost of the rise of revenue, will increase in terms of *legitimacy;* the effect will be a *nonlinear,* regressive redistribution of taxes and expenditures.

Effects of Globalization on Public Budget

Economic globalization often implies some additional costs for public budgets because of the need for additional spending and reductions in total revenue. The additional spending is required to help society adjust to the rapid economic changes that are taking place and to respond to the challenges brought about by resource migration. The cumulative effects of these costs pose a dilemma to public authorities about whether to cut public expenditure—which could jeopardize social cohesion and weaken the government's ability to raise revenue—or cut the tax rate. Moreover, each government competing within the global market has to implement policies that are attractive to its tax base. This can be accomplished by cutting taxes on capital gains, for example. However, if these cuts lead to a dealignment of dif-

ferent rates on capital income, domestic allocation becomes less efficient. Thus, internal resources tend to reproduce and evolve slowly.

To contain this allocation inefficiency, governments could maintain high and progressive tax rates on labor incomes, but they should sacrifice comprehensive income taxation. The significant reduction in the progressiveness of labor income taxation implies significant revenue losses; therefore, governments have to simultaneously reach four goals—competitiveness, allocative efficiency, horizontal equity (comprehensive income taxation), and progressivity—if a given revenue level is to be maintained. This is not an easy task, because public institutions seem to change more slowly than enterprises, due to technology and market innovation, and sometimes no change is adequate for neutralizing the effects of the "fiscal termites,"[9] and especially the effects of economic globalization on public budgets.

Direct Effects. The direct effects of globalization include:

- erosion of the tax base, as in the case of loss of revenue from tariffs, with a weakening of administrative abilities to collect information about global revenue, tax loopholes, e-commerce, intracompany trade, offshore financial centers, derivatives and hedge funds, growing foreign activities, and foreign shopping; and
- an increase in public expenditures, due, among other things, to an increase in public goods demands[10] that regard risks not adequately covered and that are linked to rapid economic change, and the need to bring welfare provisions into line with these new demands.[11]

Indirect Effects. Economic globalization also affects the public budget indirectly, imposing on national governments to provide:

- additional resources for firms, such as tax investment incentives for firms that localize their activities in a given place, financial aids, and subsidies to business; and
- social adjustments, such as labor mobility subsidies.

Fiscal Competition

Because enterprises possess both potential mobility and exit options, national authorities must formulate and implement active competitiveness policies in the global framework in order to fulfill two aims: provision of public goods[12] and reduction of the fiscal burden. Each government tries to attract mobile capital[13] from other locations and to keep domestic mobile capital (human capital as well as financial and real capital and investment) from moving outward. In other words, globalization induces stronger locational competition among countries for mobile capital and in the meantime leads to a widespread cutback[14] and to a social protection redesign.

To attract mobile capital, the competition policies could require each country to lower its source-based capital taxes to the Nash equilibrium.[15] Furthermore, for countries wanting to operate generous programs, competition would jeopardize their ability to do so and might even lead, through a downward spiral, to levels that no country would consider best. Assaf Razin and Efraim Sadka (1991) gave a second-best scenario for efficiency if residence-based capital taxes and wage taxes are available.

Worldwide competition policy thus limits government autonomy and imposes additional constraints to tax and redistributive policies. A potential incompatibility might arise between certain types of national welfare arrangements and increasingly integrated product markets, compounding the effects of technological change on patterns of employment.

Implications for the Welfare State

Economic globalization might significantly influence welfare state policies because, by modifying the width of the public sector, it changes

the determinants of global tax policy and internal income distribution.

Although the literature traditionally takes a negative approach to this subject, worldwide competition may also have positive effects, since it could reduce the monopoly power of institutions and limit the waste of public resources. Unfortunately, sometimes asymmetries of power and technological and financial capacity between rich and poor countries have produced very different consequences. In particular, the withdrawal of strategic public investments (in physical infrastructure), the reduction of social spending, and the dismantling of public social security systems weaken society and foster increased violence and further concentration of income within and across countries. As a consequence, fiscal policy in a globalized framework has to consider the complexity and the economic consequences of the capital-labor relationship: It has to avoid allowing welfare systems to disappear or go below a certain minimum level as economic global fluctuations occur.

The standard neoclassical approach to calculating the social welfare function no longer works because it was based on the notion that governments possessed an absolute or at least partial fiscal autonomy, which implies that the best allocation of resources between public and private sectors derives from an optimization, based on the hypothesis of a substantial invariance of tax base to fiscal policy. A more recent approach solves the optimization problem using either the fitness landscape[16] or the dynamic evolutionary approach.

Conclusion

This framework shows that state reforms are required to meet the challenges of globalization. They must be equitable, efficient, and sustainable fiscal policies capable of improving the balance between competitiveness and equity while not inhibiting economic progress.

A widespread feeling among analysts highlights the need for a new adaptive institutional framework to permit a more efficient public management of global interdependence. As a consequence of economic globalization, national state fiscal policy has to evolve toward a multilayer, pluralistic sovereignty having a variable geometry. In this way, each functional or spatial jurisdiction will be able to address the structurally complex aspects of public policy for which it is responsible.

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See Also National Government Policies; National Tax Rules, and Sovereignty

Endnotes

1. Edwin Seligman was a professor of economics at Columbia University in the early part of the last century. As highlighted by Tanzi 2004a, "This was the genesis of the 'redistribution branch' of [Richard] Musgrave's famous trilogy" which also includes stabilization and allocation (Musgrave 1959, 5).
2. Tanzi 2004a.
3. This, of course, implies serious problems in applying traditional tax principles based on territorial and residential criteria. The territoriality principle recognizes the right of each country to determine tax institutions within its territory (Abedian and Biggs 1998, 13).
4. Habermas 1999, 50.
5. The mobility of the production factor allows owners of firms to "vote with their feet" on the implementation of fiscal policies: "Footloose capital that is, as it were, exempt from the obligation to stay at home in its search for investment opportunities and speculative profits can threaten to exercise its exit options whenever a government puts burdensome constraints on the conditions for domestic investment in the attempt to protect social standards, maintain job security, or preserve its own ability to manage demand" (Habermas 1999, 50).
6. This effect of globalization seems mainly due to an increasing interconnectedness between nations, which restricts national sovereignty and democratic control over the political agenda and tends to eliminate social correctives to the market economy.
7. Rodrik 1998.
8. Therefore, in this case there is no apparent tendency for globalization to undermine the safety nets. Tanzi 2004b highlights the link between globalization and public spending, which cannot be restricted to the role that each state should play to protect individuals from economic risks that could be increased due to globalization. In fact, that connection must also be considered in

terms of the role that each state plays that might be affected by globalization.

9. "Fiscal termites" are parts of the evolving ecosystem of globalization; see Tanzi 2001, 34.

10. For example, the need for upgrading low-skilled groups through extended schooling, vocational training, and education.

11. For example, the need for health and pension schemes, which face growing cost pressures, and the need to shift the cost burden for such programs through changes in taxation or social insurance systems. Moreover, governments must determine how much of these costs should be borne by companies and the risks caused by fluctuations in demand when the costs are transferred to workers.

12. Locational competition means that countries have to provide good infrastructure (better infrastructure than competing countries) to attract mobile production actors. Good infrastructure increases the incentive for foreign direct investors to invest in the country and improves the chances of domestic firms attracting foreign mobile production factors or keeping their own productive factors from moving outward.

13. Governments feel pressured by the (globalization-driven) locational competition to promote international competitiveness through macroeconomic stability, particularly by lowering taxes, government debt, and inflation; as is highlighted in economic literature, governments play an important role in creating the conditions for attracting foreign direct investment (FDI) and in maximizing the FDI contribution to growth and development.

14. Increased competition in product markets, in combination with rapid technological change, has led to a significant decline in the demand for low-skilled labor in the exposed sectors, forming the most important challenge to social and employment policy.

15. A Nash equilibrium, named after John Nash, is a set of strategies, one for each player, such that no player has incentive to unilaterally change her action. Players are in equilibrium if a change in strategies by any one of them would lead that player to earn less than if she remained with her current strategy.

16. Kauffman and Levin 1987.

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Foreign Direct Investment and Cross-border Transactions

The commonly accepted goal of a multinational enterprise (MNE), sometimes called a multinational corporation (MNC) or transnational corporation (TNC), is to maximize shareholder wealth. Thus, MNEs, like other firms, enact strategies to improve cash flows, increase market share, and enhance shareholder wealth. To reach its stated sales and profit targets, however, the MNE has gone beyond local investment to invest in a foreign country. The foreign market may have offered better opportunities (market size, liberalized economy, market prospects, and so on); the home market (also called a local market or the company's market of origin) may have become too saturated; or globalization and competition pressures may have played a role in the decision. Thus, when a company is planning to become multinational, its management must decide which market(s) to enter, when to enter, and which entry modes to implement. All the possible obstacles that the enterprise will face in the foreign market must be considered, and the various incentives offered by the host country (recipient country) must also be taken into account.

Foreign Involvement and Entry Modes

The choice of a market entry mode is the most crucial part of an international business strategy. Companies employ different modes to cope with international markets that differ in the level of control that the entrant attains over the local operations and the resources that are required for the entry. Firms entering a foreign market can choose among an array of possible organizational modes.

In general, there are five main ways to become involved in the economic activities of a foreign country. The first is to engage in foreign trade, that is, to either import goods from a foreign country or export them to a foreign country (directly or indirectly). The second way is to engage in foreign direct investment (FDI), and the third is to engage in indirect (portfolio) investment. (See page 89 for the other two methods.) Portfolio investment is the mere transfer of money capital that allows the investor to participate in the earnings of a company. It is differentiated from direct investment by the intent of the investor. In portfolio investment, the goal is short term and focused on making a quick return on the money invested, and the investor has no intention of interfering with ownership rights, management, and voting equity. In direct investment, the primary goal is the beneficial influence (enlargement of market share, elimination of competition, strategic alliance, and so on) of the investment for the investor-company, which is expected to lead eventually to increased profits. Another difference between the two is the percentage of the financial capital involvement. What is considered FDI is different throughout the world owing to different regulations concerning the percentage of ownership in the operations in question.

There are six types of FDI projects:

1. Wholly owned subsidiary: 100 percent ownership of the assets by a sole company. It involves the internal transfer of capital technology, know-how, and rights to production of the parent firm to the subsidiary and full ownership of the subsidiary by the parent firm.
2. Joint venture: a commitment, for more than a very short duration, of funds, facilities, and services by two or more legally separate interests to an enterprise involving doing business in common, the sharing of profits, the sharing of business risk and losses, and longevity of cooperation. A special kind of joint venture is the contractual joint venture, where a local firm and a foreign firm form a joint venture (but without creating a separate entity) of limited (long term or short term) time in order to conclude a certain project.
3. Greenfield investment: the establishment of an entirely new entity, including building production facilities and an organizational structure as well as distribution channels, human resources, and so on.
4. Brownfield investment: the acquisition of an existing establishment, followed by the development of entirely new production facilities (Estrin et al. 1997, 23).
5. Other forms of acquisition: direct acquisition or privatization of a state-owned company (SOE), acquisition majority holding, or even an acquisition stake.
6. Merger and Acquisition (M&A): the merger of two or more companies. Usually one is larger than the other(s), and the larger company has as its main purpose the dismantlement and restructuring of the small company or companies. The banking sector is a pioneer in M&A. Major banks or enterprises merge in order to survive in a time of high levels of information, strong competition, and pressures from global integration (Bitzenis, Aristidis, 2004a).

The fourth way to become involved in foreign activity is employed by MNEs when they perceive a strong need to complement and reinforce their knowledge through collaboration with other MNEs in order to cope with the pressures of intense global competition and increasingly complex and rapid technological development. Collaboration can be achieved through participation in a strategic alliance. An alliance is a form of weak contractual agreement or even minority shareholding between two parent companies and usually falls short of the formation of a separate subsidiary. Several European telecommunications companies have built alliances as the basis for international expansion.

The fifth path for foreign involvement concerns agreements that do not involve money transfers on the part of the foreign partner. Instead, the foreign partner contributes knowledge and experience around the investment project in return for a reward, either financial or other (strategic). Such involvement may include licensing agreements, franchising, management contracts, and turnkey projects. In turnkey projects, the foreign company starts the facilities from scratch in the host country, and the company operates for a short period of time and then hands management over to the local company. A management contract may be negotiated, if it is considered necessary. This arrangement involves the transfer of know-how and requires the foreign company to train the local workers and the local managerial staff (Buckley and Casson, 1985, 26–33).

Each company must find its own way to fully exploit the potential of its investment. A firm's foreign strategy may involve creating an offshore company in a country where certain aspects about the relationship of MNEs and government, such as taxation, are favorable, for example, in order to minimize taxes. Typical "tax havens" are Cyprus, Bermuda ($7.7 billion FDI outward stock), Cayman Islands ($20 billion FDI outward stock), and Virgin Islands ($23.7 billion FDI outward stock). A "fade-out," or planned divestment agreement, may also be

applied in all kinds of FDI agreements that involve a local partner. In a fade-out, the agreement states that the foreign company agrees to liquidate the investment by selling its stakes after a certain period of time.

The expansion of a company's operations across the same level of production, either in the same sector or in a different sector from the one in which the company is already active, is referred to as "horizontal integration." The purpose of horizontal integration is mainly to expand the company's market share and eliminate competition, or, if applied to a different sector, to employ the company's expertise in the specific level of production (raw materials supply, production, distribution channels, and so on) in order to exploit an opportunity.

"Vertical integration" is the acquisition of control of other stages of a product's passage from raw material to retail sale. For example, a producer of a certain product may expand to the retail stage (forward integration), or expand from the retail stage to the production stage (backward integration). This can be done either within a country or internationally. As in the case of horizontal expansion, the company will search for the most cost-effective site that simultaneously fulfills the quality requirements. The new location may offer easier access to production factors such as physical resources or skilled labor, if the integration is backward, or may present only limited competition in an atmosphere suitable for a new company, for both backward and forward integration. Vertical integration is a common form of FDI because the foreign investments may be structured so that each location offers advantages suitable for a particular stage of production and its corresponding requirements for inputs and processes.

Difficulties in Defining Foreign Direct Investment

Despite the difficulties involved in defining FDI, some generally accepted characteristics are common to all FDIs and have been defined by several sources. According to the International Monetary Fund (IMF), "Direct investment is a category of international investment made by a resident entity in one economy (direct investor) with the objective of establishing a lasting interest in an enterprise resident in an economy other than that of the investor (direct investment enterprise)" (IMF 1993). "Lasting interest," in this case, implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence by the direct investor on the management of the direct investment enterprise. Direct investment involves both the initial transaction between the two entities and all subsequent capital transactions between them and among affiliated enterprises, both incorporated and unincorporated (IMF 1993).

Several authors have proposed definitions for FDI or commented on existing definitions. As Thomas L. Brewer has pointed out, the IMF's definition emphasizes the investor's "lasting interest" in the foreign company and its "significant degree of influence" over the foreign company (Brewer 1994, 117). Klaus Meyer wrote, "FDI is defined as investment in equity to influence management operations in the partner company" (Meyer 1998, 125). Ray Barrell and Nigel Pain said, "There are many different operational definitions of FDI, but all aim to encompass the desire of a home country firm to obtain and manage an asset in a host country" (Barrell and Pain 1997, 64). And Giorgio Ragazzi wrote, "A Foreign Direct Investment is the amount invested by residents of a country in a foreign enterprise over which they have effective control" (Ragazzi 1973, 471).

The issue of control and influence is obviously a very important part of the FDI definition, but it does need some clarification. The fact is that, depending on the host country, when an entrepreneur or a company acquires more than 10, 20, or even 25 percent of a foreign company, it is considered an FDI. But does such a small percentage ensure control for the investor? The ownership rights issue is a very

complicated subject nowadays. Who has control over the decisions affecting the company is determined by the elaborate enactment of each company, which varies greatly, enough to forbid assumptions and generalizations. Sometimes a person owning only 10 percent of a company can have management control (if, for example, the given company's shares are divided among many shareholders through the stock market), but another person, who owns more than 50 percent of a company, may have little or no management control. In another scenario, someone with more than 50 percent of the shares may have management control and yet not be able to make important decisions (for example, if the agreement of all parties dictates that in order for a decision to be valid, two-thirds of the owners must agree). Thus, not all investments of more than 10 or 25 percent aim and lead to control.

Through the years, many theorists have studied the concept of investing abroad, and foreign direct investment in particular. Nevertheless FDI eludes simple definition because it involves much more than a simple monetary transaction aiming at profit. The complications begin with the very first step economists might take: measuring and comparing FDI flows among several countries. This is because each country may have different standards for a foreign investment to be considered direct. The IMF and the Organisation for Economic Cooperation and Development (OECD) (1999) have recommended that the minimum equity stake for an investment to qualify as direct should be 10 percent. The international manuals generally agree that owning 10 percent or more of the ordinary shares or voting power (for an incorporated enterprise) or the equivalent (for an unincorporated enterprise) establishes a direct investment relationship—the so-called "10 percent rule." The differences, though, among countries are distinct. For example, in the United States, Canada, and Australia, the minimum is 10 percent; in France and Germany it is 20 percent (or 25 percent, according to Brewer [1994, 117]; and in New Zealand it is 25 percent. It is obvious that the requirements differ across states (Dunning 1993, 12).

Moreover, the components included in FDI measurement are difficult to measure. The following components should be used in FDI when reporting to the IMF:

- Equity capital: the value of the initial investment
- Reinvested earnings: all earnings of the affiliate company that are reinvested on the initial investment
- Other capital: the transfer pricing between the mother company and the affiliate (short- and long-term capital)

A problem arises because many countries in their records leave out at least one, if not two, of these components. As Brewer pointed out, "The reinvested earnings component of FDI is particularly problematic. It is the most difficult component to measure because the data are not collected from foreign exchange records, but are based on surveys of the firm" (Brewer 1994, 117). Consequently, this component is left out in many national FDI records.

Another problem that often arises is the failure of many countries to record cross-border real estate transactions. A significant number of countries exclude all cross-border purchases and sales of real estate in reporting FDI flows, and many additional countries exclude "noncommercial" real estate transactions from the statistics.

A third problem appears when incremental rather than accumulated ownership is used to define FDI. For example, if an investor purchases 5 percent of the share in an enterprise as a portfolio investment, and subsequently acquires another 7 percent of the shares of the enterprise, only the 7 percent is recorded as direct investment. In other words, shares previously classified as portfolio investment are not reclassified in the balance of payments (BOP) as an FDI when the 10 percent threshold is reached.

There are several sources from which one may find data on FDI. The primary sources of

information are the company itself and the governments of the home and the host country. The secondary sources are the international and regional economic agents. Some of them are the United Nations, especially the United Nations Conference on Trade and Development (UNCTAD) and the United Nations Economic Commission for Europe (UNECE) and its Economic Analysis Division (EAD); the International Monetary Fund (IMF); the Organisation for Economic Co-operation and Development (OECD); the European Bank for Reconstruction and Development (EBRD); the Economist Intelligence Unit (EIU); the WIIW (Vienna Institute for International Economic Studies); the World Bank; the EU's Eurostat;the industrial and commercial trade associations; and academic scholars.

In general, one should be careful when using statistical data on FDI because of several inaccuracies. Sometimes the deviations are so significant that the FDI outwards (outflows) are not so close when measured as inwards (inflows). Such deviations also exist when the data are derived from two different sources regarding the same variable. According to the Polish research department PAIZ, Poland had received $6.06 billion in 2002, while at the same time, according to UNECE, Poland had received less than $4 billion.

Table 1: FDI Inflows in Poland

1990	10
1991	117
1992	284
1993	580
1994	542
1995	1132
1996	2768
1997	3077
1998	5130
1999	6474
2000	8293
2001	6995
2002	4119
TOTAL	39521

Source: United Nations Economic Commission for Europe (UNECE), http://www.unece.org/ead.

Global capital flows can be examined by looking at either capital outflows (flows coming from the source home country—outward FDI) or capital inflows (flows received by the recipient host country—inward FDI), which theoretically should be equal in magnitude. In practice, recorded world capital inflows tend to be larger than world capital outflows.

Since there is little anyone can do about those inaccuracies, a researcher should always remember that all estimates are only as good as the data on which they are based.

Decisive Factors and Obstacles for Undertaking an FDI Project

Empirical studies regarding the determination of FDI worldwide have shown that the majority of foreign investors have undertaken FDI projects to service domestic demand in the host country, especially to overcome natural or policy-induced barriers to trade. Most investors further emphasize that their focus is to invest in countries with large markets and promising growth prospects. At the same time, investors with efficiency-seeking investments prefer low labor-force costs, and those engaged in extractive activity note that foreign investments will be driven largely by the availability of natural resources. However, investors engaged in efficiency-seeking activities cite the importance of the availability of skilled labor and wage-adjusted labor productivity.

Generally, investors prefer sound macroeconomic fundamentals (stable exchange rate, low inflation, and sustained growth) and the availability of infrastructure as well as a stable and favorable tax regime and stable institutional and regulatory factors and policies, mentioning at the same time the importance of free trade agreements and regional trade integration schemes. Most of the investors claim the importance of infrastructure (electricity, water, transportation links, and telecommunication), rather than their costs, in influencing FDI location decisions.

One of the most important factors a company considers before undertaking FDI is the minimization of risk for their investment. When a country has an unstable legal system (with frequent changes), lacks appropriate laws, and insufficiently enforces the ones it does have, the risk increases. From the economic point of view, if the exchange rate is volatile and the country suffers macroeconomic instability (inflation), and from the political point of view, if the country suffers political or social instability (for example, a high level of strikes), the risk of investing in this country is also increased. Especially in transition economies, when the transition process is delayed (because of unclear property rights; delays in resolving problems; slow progress in privatization, banking reform, or liberalization; existence of a mafia; corruption and bureaucratic red tape; and so on), then the economic and political instability is enforced, and the risk again increases. Moreover, a significant number of investors observe that recent financial crises have highlighted the underlying risks of investing in emerging and transition markets. Potential investors must pay attention to issues relating to political and macroeconomic stability, the legal framework, corruption, and bureaucracy (Bitzenis Forthcoming).

The Impact of FDI on the Parties Involved

FDI has a significant impact on the host country, especially when the country is in the midst of a transition process, as well as on the home country and on the MNE itself. Foreign firms may influence the productivity and growth of the domestically owned firm; may change the nature and evolution of consideration; and may alter financing, marketing, and technological and managerial practices. However, foreign direct investment significantly affects the host country in many aspects, both directly and indirectly. The effects of FDI in the host country may be either positive or negative, depending on the way it is handled by the local government and industry. The effects of FDI may be seen either in the short run or in the long run. The short-run effects may be different from the long-run effects in terms of maturing conditions. For example, the unemployment rate may increase in the short run by acquisitions but decrease in the long run if the company expands production. Magnus Blomström and Ari Kokko (1995) concluded that MNEs may play an important role for productivity and export growth in their host countries, but that the exact nature of the impact of FDI varies among industries and countries, depending on country characteristics and the policy environment.

The Impact of FDI in the Host Country

According to economic theory and empirical evidence, there are four groups of areas in a host country that may be affected by FDI: resources (technology and capital); employment; growth and productivity; and balance of payments and trade.

Resource Transfer Effects (Technology and Capital). MNEs play a major role, especially in developing countries, in applying and transferring new technology. Technology can stimulate economic development (growth) and industralization. It can be incorporated in a production process, in a product, in research development, and in skills development (management skills, labor force skills, and entrepreneurship). The technology transfer may lead to an increase in the efficiency of the local firms (efficiency spillover). In some cases, the countries do not absorb the technology provided by the MNE and cannot use or develop it locally without depending on the foreign company. This still results in short-term benefits from the technology transfer, but the country will probably fall behind in later years. Often, the technology transfer is speeded up, and the local firms become interested in the new technology. If the MNE is by far more efficient than the other firms in the industry, its presence does

not positively affect the efficiency rate of the whole industry. When the technology transfer occurs through employee and management training, the people of the host country become familiar with previously unknown technologies, and the upgrades in their skills may be transferred through them to the rest of the industry. The technology spillover is more likely to be significant when the gap between the technology level of the MNE and that of the local industry is large. The managers who initially work for an MNE subsidiary may later transfer the new skills to the host economy.

The entrance of foreign firms affects the structure of the host economy and the performance of the local firms, and there is a spillover effect for related industries. Other companies of the same industry may "steal" managerial techniques from the MNE, improving, in this way, their own organizational structures. The "ownership structure" of MNEs may provide an example of a new structure for the other firms in the industry. The entrance of MNEs may also trigger the development of related industries that recognize the opportunity to provide necessary services or inputs for the MNE at a profit. The services sector, in particular, gains by the presence of MNEs, because their operations necessitate the existence of banks, insurance companies, financial consultants, and financial intermediaries, thus providing incentives for those industries to seek improvement and development. It should be noted that the effects of FDI are stronger in a small market of a developing country than in an already big market of a developed country.

Different researchers have expressed different opinions about the significance of FDI spillovers in a host country. Several empirical studies on different countries have supported the assumptions that FDI has significant positive effects on the productivity of labor in the related industries of the MNE and generally on productivity levels and growth rates. Other studies have found no evidence of consistent, significant spillovers of FDI in any industry or country. Foreign firms seem to positively influence large local firms in terms of growth rate and multifactor productivity, especially in low-technology industries. The weaker firms in an industry cannot keep up with large MNEs, cannot absorb the technology transferred, and cannot afford the higher rate of competition; therefore, the entrance of a large foreign firm may lead to their elimination or their further weakening. The technology spillover is only valuable when the local firms are strong enough to absorb them and when there is not a large productivity gap between the foreign firm and the local industry (Kokko 1994).

The host country also gains from the capital transfer and from the company's own capital sources (funds that have been invested or will be invested). The revenue from the taxation of profits of foreign companies is then available to finance the budget or other deficits of the host country, to cover and repay government debts, or generally to improve the BOP position of the host country.

Employment Effects. The employment effects of FDI on the host country may be positive or negative. Although MNEs may provide the country with new job positions (especially in the case of green-field FDI), they may have a negative effect on the employment rate when they invest in capital-intensive production or participate successfully in a privatization program. In the latter situation, the MNE may decrease the number of job positions in order to increase efficiency. The effect on the employment rate may be positive if the MNE is aiming at exploiting the low labor costs in the host country to create a labor-intensive industry (for example, textiles companies). FDI may also increase the total real wages of the labor force, especially in transition (developing) or less-developed countries. However, the entrance of large-sized MNEs that are strong financially in a host country may create problems for local companies owing to the increased competition. Thus, a few of them may close down (having a negative employment effect). Furthermore, an indirect positive

employment effect occurs when the establishment of MNEs in a specific industry creates a favorable environment for related industries to emerge and operate.

Growth and Productivity. FDI has an effect on the gross domestic product (GDP) of a country because MNEs may add to the number of production sites or cause an increase in the productivity rate. The "competitive pressure" increases, motivating higher efficiency in host country companies. That is, local firms are pressured by foreign competition to seek more efficient methods in their operations. FDI may bring about changes in supporting industries as well. Thus, it is expected that lower prices for products will result from the increased competition, although sometimes the opposite appears. The demands of an MNE, in terms of quality of goods and services from local producers, may influence those producers to pursue better operations, such as improved time of delivery, stock control, supply networks, and the like. The host country gains by the creation of "external economies" (Blomström et al. 1994). However, negative effects may also appear, especially when the MNE acquires greater economic power, when private monopolies are created in the host country, when the MNE threatens the national sovereignty of the host country, and when there is a loss of economic independence of the host government. The highly developed and sophisticated MNE and the increased competition may result in the elimination of local firms that are small and weak, if they fail to keep up with the MNE. The local government may block FDI through buyouts in order to encourage "green-field" investments that encourage competition rather than foreign acquisition of local firms that eliminate competition for the MNEs. Finally, FDI and the participation of MNEs in a host country may increase consumer choice, improve the quality and variety of products, modernize the infrastructure, increase the wages, and/or boost production, the GDP, the GDP per capita, and the living standards.

Balance of Payments (BOP), Trade, and Capital Balance Effects. FDI provides significant financial assistance to host countries, and these capital inflows can be utilized in covering the BOP deficit or the interest payments of international debt. Although foreign companies tend to export rather than only to serve the local market, the evidence demonstrates that they also tend to import much of their inputs and that, on average, they have a negative effect on the trade balance. The effect on the trade balance may be positive (current account) if the FDI is a trade substitute (an MNE stops exports to the host country and moves to FDI) or aims at establishing an export base (the MNE starts exports to the home country or to a third country). However, the initial capital inflow of the FDI has a one-time positive effect on the BOP of a host country, although the outflow of an MNE's earnings (repatriation of profits) to the parent company, or to any other MNE's foreign subsidiary, has a negative effect on BOP.

The Impact of FDI in the Transition Process

Foreign ownership may be of great help in the transformation of a state-owned firm to an efficient "market" firm; it may also put pressures on the government to proceed on various issues. For example, it may pressure the government to establish a legal framework concerning companies' rights and obligations. It may make it clear that the government needs to proceed into reforms in order to stop the monopolies, that it should eliminate government subsidies, that it must accelerate the competitive pressures in the market, and that it should enforce hard budget constraints and consequently bring the "fair play" rules of an open market to bear. The foreign ownership will certainly reform the objectives of a firm from output and rent-for-the-state maximizing to profit maximizing. The foreign firm will contribute to legal reform because it does not jeopardize its investment by relying on bluer laws and regulations. It may also contribute to minimizing the exploitation of state bureaucracy, or at least the dependence on it, although MNEs are known

to be able to receive favorable government treatment. FDI assists the transition of the country as a whole to a market system because the capital invested helps to stabilize the economy. Thus, apart from the financial help, FDI aids in the clarification of property rights, the reallocation of resources, and the establishment of profit orientation. FDI also helps the effective corporate governance system and brings about technological, management, and employment advancement. Therefore, it provides significant assistance for the transition process from a planned to a market economy.

The Benefits and Costs of FDI for Home Countries

FDI "produces" costs and benefits to the home country. The benefits of FDI outflows to the home country are threefold. First, the capital account of the home country's BOP benefits from the inward flow of foreign earnings (repatriation of profits). FDI can also benefit the current account of the home country's BOP if the MNE receives exports from its home country of capital equipment, intermediate goods, complementary products, and so on. A second benefit occurs when the MNE boosts employment (for example, when the MNE imports raw materials that are produced into goods in the home market). Third, benefits accrue when the home-country employees of the MNE learn valuable skills from their exposure to foreign markets that can subsequently be transferred to others in the home country (superior management techniques, superior product and process technologies, entrepreneurship, and the like).

Negative effects also relate (or accrue) to the home country's BOP, which may suffer in three ways. First, the capital account of the BOP suffers from the initial capital outflow required to finance the FDI. Second, it suffers if the purpose of the foreign investment is to serve the home market with imports from a low-cost foreign production location (creating an export base). Third, it suffers if the FDI is a substitute for direct exports. With regard to employment effects, a problem also arises when FDI has been seen as a substitute for trade (increasing the home country's unemployment rate).

The Impact of FDI on the MNE

In general, a company investing abroad aims to increase its corporate profitability. Thus, it wishes to reduce costs and to increase sales and profits, and it will therefore invest only when real returns are positive or when other gains from the investment are feasible. The company has to establish a relationship with the government in the host nation and must take into account the favorable or unfavorable infrastructure of the host country, the difficulties in establishing ownership structure, the stability of the legal framework, the difficulties of financing its own operations, the problems involved in creating a human resources strategy in a different cultural environment, and the importance of positive or negative financial indicators in the host country. The company has to work out many different issues that are essential for the operation of the new subsidiary. Finally, the MNE must consider state bureaucracy, corruption, and the different mentality of the workers and consumers, who may have been born and raised in a different business environment, such as those created by the communist regimes of transition economies. In general, more often than not the cultural differences and the language gap are significant drawbacks for foreign managers.

Cross-border Transactions under Globalization

FDI can play a key role in improving the capacity of the host country to respond to the opportunities offered by global economic integration, a goal increasingly recognized as one of the key aims of any development strategy or effort to bring about an increased growth rate. It can be argued that there was a continuous increase of FDI flows up to 2000 and then a significant decrease. Global flows of FDI fell

sharply in 2001 and 2002 in the largest decline in three decades: The FDI flows shrank by half in 2001 and by another quarter in 2000. This decline followed a historical boom when, in 1999–2000, FDI flows worldwide exceeded $1 trillion annually (WIR 2003).

World FDI inflows grew rapidly and faster than world GDP and world exports during the 1980s and 1990s. In particular, world FDI inflows over the period 1991–2000 increased 4.8-fold as compared to the previous ten-year period and surpassed the 4.5-fold increase attained between the 1970s and 1980s. From an all-time high of $1392 trillion billion in 2000, world FDI inflows fell by around 50 percent to $651 billion in 2002.

The dramatic increase in FDI over the 1990s was based on eight main factors: (1) globalization and economic integration; (2) technological improvements in communications, information processing, and transportation; (3) new organizational structures and restructuring processes adopted by companies in order to become more competitive and effective; (4) the changing framework of international competition and the deregulation of key sectors, such as telecommunications, which led to the liberalization of capital flows among countries; (5) the sharp increase in investments in the high-tech and telecommunication sectors in the advanced economies; (6) the increase in M&A cross-border transactions; (7) the liberalization occurring in developing and transition countries, which were abolishing their barriers and obstacles in order to receive decisive inward FDI flows; and (8) the abolishment of monopolies, elimination of tariffs and quotas, and increased free trade transactions that complemented FDI flows.

But there were also reasons for the dramatic decrease in FDI flows after the year 2000. The first is the slowdown in the world economy, which has reduced world demand and accelerated the global restructuring process of major MNEs in sectors characterized by excess capacity. Especially from 2001 onward, the decline reflects the terrorist attacks of September 11, 2001, in New York City and Washington, DC. The decline in 2001, which was most evident in developed countries, was also a result of a decisive drop in cross-border M&As. The economic recession, especially in the United States and the European Union, has intensified competitive pressures, thus forcing companies to search for cheaper locations (this is a reason for the stable FDI flows to the CEE [central Eastern Europe] region). The picture is not totally bleak, however. The issue of lower demand (the economic recession resulted in lower GDP per capita) can be offset by lower prices and lower production costs. The downward trend may result in increased FDI flows in activities that benefit from relocation to low-wage economies (for example, increases of Japanese FDI outflows to China and EU outflows to the CEE region). In general, there has been a redistribution of FDI toward developing countries, where growth has reportedly been higher than in developed countries. The rise in developing countries' shares may also reflect the further liberalization of their FDI regimes and the openness of their borders, which have been reinforced by the growth in the number of bilateral investment promotion and protection treaties.

Cross-border M&As

In recent years, cross-border M&A activities have risen significantly. Europe was an increasingly active player in the M&A market throughout these years, though Central and Eastern Europe remained out of favor for cross-border M&As. Actually, the increase in FDI flows was primarily due to the rise in M&A activities. For example, in 1999 the four largest cross-border M&As in which German investors participated accounted for more than half of the German total investments abroad (outflows) (WIR 2000). The value of international cross-border M&A activities attained record levels in the peak year of 2000, when it reached more than $865 billion (WIR 2001). The importance of cross-border M&As can be seen by the following example. In 2002, Vivendi, a

French company, acquired USA Networks for around $11 billion; thus it spent an amount almost equal to the total (stock) FDI inflows received by Greece over the past three decades. Just one cross-border transaction nearly equaled three decades of FDI inflows.

In other statistical milestones, the United Kingdom overtook the United States as the most active source (purchaser) of M&A investment. In terms of inflows, the United States has remained the most attractive location (seller). The telecom industry is still the most important sector for M&A, closely followed by the chemicals sector. The sale of state-owned companies to foreign investors has represented a large share of the source of FDI, particularly among new members to the OECD and in some emerging economies. For example, the most attractive location for FDI (inflows) in 2001 and 2002 was the United States, with $185 billion and $173 billion, respectively; within the European Union, it was the United Kingdom, with $68 billion and $53 billion, followed by Germany, with $48 billion and $46 billion, respectively. In the peak year 2000, the United States was again first, with $324 billion, followed by Germany with $247 billion and the United Kingdom with $180 billion. The countries with the highest levels of FDI outflows in 2001 were the United Kingdom with $111 billion, followed by the United States with $96 billion, France with $59 billion, and Germany with $57 billion. In 2002, the United States was first, with $78 billion, followed by the United Kingdom with $69 billion, Germany with $45 billion, and France with $33 billion. In the peak year 2000, the United Kingdom was first with $382 billion, followed by France with $168 billion and the United States with $159 billion, and only $58 billion from Germany. The preferred sectors and industries for cross-border M&As (either sales or purchases) over the past decade have been transport, telecommunications, finance, and business services followed by food, beverages and tobacco, chemicals, petroleum and nuclear fuel, and electrical and electronic equipment (WIR 2003, 2002).

Specific M&A deals have brought cross-border transactions to some of the world's leading countries in recent years. For example, two deals, Vodafone-Airtouch ($60.3 billion) and Zeneca-Astra ($34.6 billion), made the United Kingdom the world's most acquisitive country for cross-border M&As in 1999. At the same time, the United States was the leading country for inward M&A deals in 1999 due to two major transactions, including Vodafone-Airtouch and Scottish Power–Pacificorp ($12.6 billion) (WIR 2000). In 1997–2002, the ratio of FDI flows over M&A transactions ranged from 27 percent to 62 percent (the peak year was 2000, when 62 percent of total world FDI inflows were cross-border M&A transactions). Thus, M&A deals constitute the most important driving factor behind overall FDI flows; at least one-third (up to two-thirds) of the total FDI flows may be due to M&A cross-border deals in any given year.

Trends in FDI

Regarding the regional distribution of FDI inflows for the period 1986–1990, more than 80 percent went to the advanced economies, whereas the developing countries absorbed less than 20 percent of world inflows. This trend changed dramatically in the period 1991–1998, when only 61–66 percent went to the advanced economies and 31–35 percent went to the developing countries. However, in the period 1999–2000 flows returned to the trend of the 1980s: The advanced countries absorbed 80 percent of total FDI inflows and only 18 percent was absorbed by the developing countries. In 1986–2001, Asia and the Pacific absorbed between 10 and 20 percent of the world inflows, Latin America and the Caribbean absorbed between 5 and 12 percent, and FDI inflows into Africa and the Middle East and into the CEE region remained level at less than 2.5 to 4 percent of world inflows, respectively. The share of the FDI inflows in the transition economies in 2001 reached 3.7 percent, surpassing that in developing Asia, excluding China, which had a much longer history of hosting FDI (Table 2).

Table 2: Distribution of World FDI Inflows, 1986–2001 (percentage)

Region	*1986–1990*	*1991–1992*	*1993–1998*	*1999–2000*	*2001*
Developed countries	82.4	66.5	61.2	80.0	68.4
Western Europe	38.4	46.0	33.7	51.9	45.7
European Union	36.2	45.3	32.1	50.2	43.9
Japan	0.2	1.2	0.3	0.8	0.8
United States	34.6	12.7	21.7	22.6	16.9
Developing countries	17.5	31.2	35.3	17.9	27.9
Africa	1.8	2.2	1.8	0.8	2.3
Latin America and the Caribbean	5.0	11.7	12.3	7.9	11.6
Asia and the Pacific	10.6	17.4	21.2	9.2	13.9
Central and Eastern Europe (CEE)	0.1	2.2	3.5	2.0	3.7
Least developed countries	0.4	1.1	0.6	0.4	0.5

Source: World Investment Report (WIR), *Transnational Corporations and Export Competitiveness,* United Nations Conference on Trade and Development (New York and Geneva: United Nations, 2002).

Cumulated FDI inflows in the developed countries were concentrated in the United States, with over $1.3 trillion FDI inflows, followed by China (Hong Kong included) with approximately $900 billion, the United Kingdom with $600 billion, and Germany and France with less than $500 billion each. In the developing countries, FDI inflows were concentrated in a handful of countries, such as China, Brazil, Argentina, and Mexico. China emerged as a popular destination of FDI in the early 1990s and became the second-largest FDI recipient in the world after the United States. Other main destinations of international investment within Asia in the 1990s were Singapore, Malaysia, Thailand, Indonesia, and the Philippines. The four largest economies of Latin America—Mexico, Argentina, Brazil, and Chile—have been constantly receiving over 70 percent of the total inward FDI in Latin America since the 1970s. This trend remained unchanged in the 1990s. For the countries in transition in Central and Eastern Europe and the Commonwealth of Independent States (CIS), FDI only began to take off as they moved toward more market-based economies in the early 1990s. However, two-thirds of the total inflows to these transition economies are concentrated in Poland, Hungary, the Czech Republic, and Russia (WIR 1999, 2000, 2003).

Western Europe supplied over 40 percent of world FDI outflows in 1980 and close to 55 percent in the 2000s. It was followed by the United States, with a share of 38 percent in 1980 and 19 percent in the 2000s, and Japan, with a share of less than 4 percent in 1980 and less than 5 percent in the 2000s (OECD 2002, 2003, 2004; WIR 2003). However, only a limited number of countries became net providers (having more outflows than inflows) of direct investment to the rest of the world: the United Kingdom ($400 billion), Japan ($270 billion), France ($250 billion), and the United States ($120 billion). In terms of net inflows (inflows overcome outflows), China has the largest ($475 billion), followed by Brazil ($180 billion), Mexico ($140 billion), and Ireland ($120 billion). Among the top twenty countries with the largest net inflows, five are Asian economies: China, Malaysia, Singapore, Thailand, and Indonesia.

Finally, there are regional concentrations of FDI: Greek MNEs in the Balkan region; the Austrians in Slovenia and Croatia; the Nordic countries (Sweden, Norway, and Finland) in the Baltic region (Estonia, Lithuania, and Latvia); Germany, France, and the United Kingdom in the ex-Visegrad countries (Poland, Hungary, the Czech Republic, and Slovakia); the United Kingdom, France, Germany, and the Netherlands in advanced economies such as Belgium; Spain in Latin America; the United States in Canada and Mexico; Japan in China

and in the whole Southeast Asian region; and so on (Bitzenis 2004c).

A Universal Model of FDI Theories

What stands out from a review of the literature on FDI from 1937 up to the present is the relativity of each theory of FDI; there is no theory that dominates the decisionmaking processes of companies undertaking FDI projects. Some of the FDI theories may be viewed as static, whereas others may be considered dynamic. The static theories study only the factors leading up to the decision about whether to engage in FDI; the dynamic ones also consider the evolution of the foreign company, its interactions within the industry, and its interaction with the host country (Aristidis 2003).

Market conditions are always changing, and the changing character of international boundaries and globalization theory, as well as the creation of the European Union, the Economic and Monetary Union, and other organizations, will definitely create new challenges and opportunities for a company seeking value-adding activities internationally that are different from the ones studied up to now. Authors of theories on FDI have drawn conclusions about why companies have undertaken FDI in certain time periods, but one might also argue that no theory can be general and applicable to all countries or time periods. Since every country offers different motives and incentives for investment and has different obstacles that change through time, firms considering becoming MNEs must look at their specific circumstances and choose the country that maximizes their possibility of success. Each investment plan will be different. Even when two countries hold the same properties, an MNE must base its investment decision on an evaluation of all the factors in relation to its corporate priorities and needs. FDI policies and decisions require all the parties—countries, MNEs, and industry leaders—to carefully examine all the options, and always in relation to the time period in which they are living.

It is more than possible that the world will become more globalized with the passage of time. Globalization pressures, liberalization, economic integration, and the constant increase of MNEs will facilitate a constant increase in world FDI flows, on the one hand; on the other, these flows will most likely continue to be concentrated in specific regions that offer unique opportunities. The investment opportunities that countries and regions "have to offer," however, will change through time, and MNEs will have to continue to evaluate these opportunities to develop optimal plans (Bitzenis 2004b).

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See Also Balance of Payments and Capital Inflows; Industrial Location and Competitiveness; International Joint Ventures; Strategic Alliances

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Global Economic Growth

The development of a global economy, initiated by the Industrial Revolution of the mid-eighteenth century but with roots that go back further, accelerated with the technological leaps of the twentieth century, which have revolutionized industry and generated increases in living standards. Although Great Britain was the first center of the Industrial Revolution and the dominant world economic power, new technologies spread rapidly throughout Western Europe and to the United States.

With industrialization, world trade expanded considerably. In the nineteenth century, the nature and geographical patterns of world trade changed with the export of manufactured goods throughout the world and the import of raw materials, especially from colonies. The export of textiles became the engine of economic growth, followed in the second half of the nineteenth century by heavy manufactured goods such as iron, steel, and coal. As a result, a new international division of labor emerged. Economic growth changed pace over the period. In the second half of the nineteenth century, the growth was faster than it had been in the first half. In 1870, Great Britain produced about 30 percent of the world's industrial output. The new industrializing United States produced almost 25 percent of the total figure, and Germany produced 13 percent. By the beginning of the twentieth century, growing international commerce and investment, dominated by Europe and the United States but with increasing impact on local economies, had participated in the evolution of a global economy. The main characteristics of the period that helped to produce an integrated economy on a global scale were the adoption of the gold standard system, an open international trading system, and economic leadership by Great Britain. The gold standard was a monetary system in which most major currencies were convertible into gold and could be exchanged on this basis. Most nations adopted the gold standard between 1870 and 1910. It was a system that allowed money to cross borders very easily, that equilibrated processes in international trade, and that removed barriers to international investment and finance. A major problem with the gold standard was that the world's supply of money would depend on gold discoveries, and any unusual increase in the supply of gold would lead to an abrupt rise of prices.

The growth of the global economy before 1914 involved the development and increasing role of the multinationals. Companies from the 1870s onward started to expand their activities over national borders. For example, in the late nineteenth and early twentieth centuries, the United States emerged as a major industrial nation with the support of modern multinational enterprises that had production facilities outside the country, such as Standard Oil of New Jersey, Singer, International Harvester, Western Electric, and Ford Motor Company by 1914. However, the major source of overseas investments was still Great Britain.

The global economy was based on the gold standard until the start of World War I. As a consequence of the war, international trade was disrupted, and most of the world's major

currencies, except the U.S. dollar, had to cease trading openly. When the war ended, the attempt to recreate the global economic structure that prevailed before the war became a vain effort. The 1920s and 1930s were chaotic for the international monetary system. Most countries, such as Great Britain in 1925, also tried to return to the gold standard but later found it necessary to abandon gold.

The Great Depression, which began with the crash of the New York Stock Exchange in October 1929, had profound effects on international finance and trade. It created high unemployment levels and low production and investment levels in both the United States and Europe. With the devaluation of most currencies, the global economy disintegrated into a group of currency blocs. Many countries imposed high tariffs on imported goods. For example, the Smoot-Hawley Tariff Act of June 1930 in the United States increased U.S. tariffs to historic levels. U.S. imports from Europe were characterized by a decline, decreasing from US$1.33 billion in 1929 to US$390 million in 1932. U.S exports to Europe declined from US$2.34 billion to US$784 million during the same period. Higher tariffs and a dysfunctional international monetary system contributed to a drastic decline in international commerce. As a result, world trade fell by two-thirds between 1929 and 1934. Unemployment rose to 22 percent in the United Kingdom. French production represented 72 percent of the 1929 level by 1932. In July 1932, world industrial production was 38 percent lower than it had been in June 1929. Moreover, the balkanization of the global economy into exclusive currency blocs is viewed by some historians as a major cause of World War II. According to this theory, Germany and Japan pursued military expansion because they could not trade for the primary resources they needed for their expanding industrial economies. In the mid-1930s, some nations, particularly the United States, Great Britain, and France, made an effort to revitalize the global economy by negotiating new trade and monetary agreements. Those efforts, however, had not brought any positive results by the time of the outbreak of the war in 1939.

World War II produced the same effects as World War I on international commerce and devastated the global economy. The postwar reconstruction period started with actions to shape a new global economic system. This new beginning reflected the new political realities of the postwar period, particularly the political division between the West (led by the United States) and the East (the Soviet-dominated nations of Eastern Europe). The so-called "Third World," or developing world, a heterogeneous but impoverished group of nations, many of whom at that time were still under colonial domination, were neutral in this East-West alignment. The Soviet bloc would control the boundaries around itself and its European satellites. The postwar international economy came to be dominated by two systems: the capitalist market economies of the West, and the Soviet economy.

The economic and political domination of the United States had a strong influence on the economic order built after 1945 in the West. After World War II, of all the major industrial nations, the United States experienced the most phenomenal economic growth. It consolidated its position as the world's richest country. The U.S. gross national product (GNP) was US$200 billion in 1940, reached US$300 billion in 1950, and surpassed US$500 billion in 1960. The institutional basis of this new order was set up formally at a conference at Bretton Woods in New Hampshire in July 1944 with representatives from forty-four countries. Agreements from the Bretton Woods conference (official title: United Nations Monetary and Financial Conference) resulted in the establishment of two major international institutions: the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (World Bank). It was the first time a formal agreement at the international level had set up the rules for the international monetary system.

The main objective of the Bretton Woods

system was to ensure the stabilization and regulation of international financial transactions between and among nations on the basis of a fixed currency exchange rate in which the U.S. dollar would play the central role. Under Bretton Woods, the exchange rate of IMF members was fixed in terms of gold or the dollar. In that period, only the dollar was convertible into gold, at a rate of US$35 per ounce. The aims of the World Bank were to raise and channel the funds required for postwar reconstruction and to promote economic and industrial development. These two institutions still play a central role in the management of the global economy The other major pillar of the postwar international economic order was free trade. In 1947, the General Agreement on Tariffs and Trade (GATT) was set up. The purposes of GATT were to reduce tariff barriers and to prohibit other types of trade discrimination. According to the Most Favored Nation clause, every member state was to receive the same treatment in terms of access to foreign markets as any other member state. Another series of negotiations were held in an attempt to create an International Trade Organization (ITO) that would oversee the liberalization and policing of trade relations. However, the negotiations were not successful, and the ITO never came to be set up.

The free trade principles in action in the capitalist world started to break down as European nations and Japan emerged as potential economic challengers to U.S. economic hegemony. The IMF, the World Bank, and the GATT formed the international institutional framework in which the rebuilding of the world economy took place. The GATT came to an end in 1994 with the conclusion of the Uruguay Round, which aimed to correct the failings of the GATT. The World Trade Organization (WTO), which incorporated the GATT, the new General Agreement on Trade in Services (GATS), and other agreements, provided the new institutional structure and a mechanism for management of trade disputes. These institutions reflected a greater role of the state in the economy and in the management of social welfare. Globalization was well under way, though it is important to note that the reconstruction of the international economy after World War II was not truly global, in the sense that many countries did not participate.

Western powers built up European economies in large part in order to resist the model of communism in the Soviet Union. The Marshall Plan (European Recovery Program), signed by President Harry S. Truman on April 3, 1948, provided aid to European nations to help them rebuild their economies. U.S. aid to Europe amounted to more than US$74 billion by the end of the1950s. Similar aid was given to Japan. It was hoped that this assistance would enable Europe to avoid the errors of the post–World War I era and to rebuild its economies on an integrated, non-Communist basis. Western Europe after the war experienced a period of prosperity for about fifteen years. West Germany, France, and Italy experienced high economic growth rates, and the standard of living reached unprecedented levels. France attained an 8 percent annual growth rate by the end of the 1950s, continued to a slower rate in the 1960s, and returned to an annual growth rate of 7 percent in the early 1970s.

Partly as a result of the aid, this period was one of rapid growth and low unemployment for most of the industrialized world. The economic miracle of Japan proved that non-Western states could be major world powers. Many Eastern bloc countries participated in the Council for Mutual Economic Cooperation (COMECON) but were still largely outside the global economy. The number of countries participating in the international monetary system expanded, particularly as a result of the decolonization process. The process began between 1947 and 1948, when independence came to the Indian subcontinent (India, Pakistan, Sri Lanka); this trend continued, with independence for most Southeast Asian colonies between 1948 and 1957 and most African colonies in between 1956 and 1966. The economic conditions and strategies of the developing countries during this period were very

diverse. Many states were involved in developing industrial policies, including policies on import substitution, and some implemented them with apparent success. The general growth in the world economy in the 1960s and early 1970s generated greater demand for raw materials and primary products that were exported by the less developed countries.

The beginning of the 1970s saw two major changes in the structure of the global economy. The international monetary system created at Bretton Woods for fixed exchange rates collapsed. The United States, which had suffered an acceleration in the rate of inflation during the1960s, lost its competitive edge and ran fiscal and balance of payments deficits. U.S. debts accumulated and exceeded the country's gold stock, and its monetary policy did not respond appropriately to changes in the economic environment. The dollar started to grow weaker, and, owing to the increasing pressures of an overvaluated dollar, the U.S. government suspended the convertibility of the dollar into gold. In response, other countries dropped the dollar, giving rise to fluctuating exchange rates. The international gold standard was replaced by a system in which major currencies could trade freely in an international market.

Another major change came about with the oil shock of 1973. The Organization of Petroleum Exporting Countries (OPEC) imposed selective oil-supply embargoes and restricted oil exports in response to Western support for Israel during the Yom Kippur War. The sensitivity of prices to supply shortages became very apparent; prices increased 400 percent in six short months. This situation had an impact on economic growth, and most industrialized countries entered into recession. At the same time, the major petroleum-exporting countries, particularly those located near the Persian Gulf, became wealthy. "Petrodollars" from global oil transactions gave a boost to the new international capital market developing in response to the collapse of the Bretton Woods agreements, and the capital openness of the global economy gave many developing countries, oil exporters and nonexporters alike, access to loans. Many of the less developed countries borrowed large sums of money when interest rates were low. This resulted in impressive growth rates in many developing economies during the decade. The 1970s brought many changes in international economic relationships; although many developed countries went through a period of economic stagnation, the developing world experienced rapid industrialization.

In 1979, a second oil crisis began, leading to further recession, rising unemployment, and the intensification of "stagflation." With the higher interest rates of the 1980s, it became impossible for the primary debtor countries to pay the interest on their loans; the international debt crisis that ensued had serious consequences for many developing countries and some of the world's biggest banks. The debt crisis gained international recognition when Mexico, in August 1982, declared it would suspend all payments on US$80 million in foreign debt. Brazil was also hit hard by the debt crisis; there, the crisis marked the end of a long period of strong growth that began after the 1929 international stock market crash. Other countries in Latin America (Venezuela, Argentina, and Chile) were affected by the debt crisis as well, along with other developing countries in the world. By late 1983, twenty-seven nations, owing US$239 billion, had to reschedule debt repayment. The 1980s also qualifies as the lost decade because high levels of poverty resulted in huge social costs. Africa's economic annual growth rate was, on average, only 1.8 percent during the period 1980–1990, well below the annual average growth target of 4 percent set by the World Food Conference in 1974.

Even through the crisis of the 1970s and the 1980s, however, average income per capita increased steadily around the world. In general, the global economy has been characterized by steady integration. The world economy has been in continual expansion since 1950, and international trade has grown faster than output, accounting in the 1990s for 25 percent of world gross domestic product (GDP). Despite the fact

that in some parts of the world economic growth slowed for a significant period of time, taken as a whole global economic activities and output have increased continuously. A World Bank study showed that per capita income in wealthier countries was 11 times greater than in the poorest countries in 1870; 38 times greater in 1960; and 52 times greater in 1985. The industrialized economies still dominate economic activity, accounting for US$22.5 trillion of the US$27.7 trillion global GDP in 1993.

There are noticeable variations in the average economic growth rates of countries by region. Between 1985 and 1995, East Asia had the fastest growth of GNP per capita, with more than 7 percent. In two other regions of the developing world, the average annual growth rate showed negative figures: –1.1 percent in sub-Saharan Africa and –0.3 percent in the Middle East and North Africa. The highest decrease in GNP per capita (–3.5 percent) was registered in the Eastern European and Central Asian countries that undertook a transition from a planned to a market economy following political and economic collapse. India and China, however, have shown positive growth rates: In India, the GNP per capita has grown by 3.2 percent a year, and China has seen an unprecedented 8.3 percent a year during the 1990s.

Many economists believe that the contemporary global economy is entering a new stage of its evolution as it enters a period of "postindustrialization" (or "deindustrialization"). The importance of the agricultural sector as a proportion of the total economy has long been in decline as countries developed economically, while, until recently, the share of industry increased. In many low- and middle-income economies, this situation is still prevalent; however, industry is becoming less important in developed, high-income economies. Between 1980 and 1995, agriculture's share of low-income economies decreased from 34 percent to 25 percent; industry's share increased from 32 percent to 38 percent. Industrial production began to move out of Europe and the United States in the 1970s as the newly industrialized economies (NIEs) of the Pacific Rim (South Korea, Taiwan, Singapore, Hong Kong) started exporting to developed countries on a large scale, a situation that has changed the nature of the NIE economies. South Korea, for example, in 1960 derived 75 percent of its national income from agriculture; in 1962, it started its first five-year development plan, and by 1990 it was the eighth largest industrial country, with only 10 percent of its GNP from agriculture. Developed economies meanwhile are more and more dominated by services. Today about three-quarters of the industrial nations' economy is generated by the service sector, and the importance of services in the global economy is growing (from 53 percent in 1980 to 63 percent in 1995).

International developments and issues have been influential in the U.S. economy; indeed, the acceleration in the pace of globalization has meant that one economic event anywhere in the world is more likely to have a significantly greater global impact than it would have in earlier times. The debt crisis of the mid-1980s, and later the Asian crisis, threatened the liquidity and the solvency of U.S. financial institutions. The international trade agreements of the 1990s, such as the North American Free Trade Agreement (NAFTA), the Uruguay Round of GATT, and the agreement establishing the WTO, contributed to both international trade and trade liberalization. Increasing homogenization of economic policies worldwide has extended markets and reinforced capitalist relations on a global scale. The intensification of European economic integration, the breakdown of central planning in Communist-dominated Eastern Europe, and the breakup of the USSR into countries in transition have all affected global relations in crucial ways.

In 1997, the IMF reclassified some newly industrializing countries (NICs) as advanced economies (for example, Hong Kong, Taiwan, Korea, and Singapore). However, the volatility of the global economy was demonstrated in 1997 when speculation against the currencies of some NIEs (Thailand, Indonesia, and Malaysia) produced a series of devaluations, stock market crashes, bank failures, and IMF

rescue packages. These events constituted the most serious shock to the global economy since OPEC's price rise in 1973. This financial crisis, also known as the Asian crisis, spread to other countries in the region, including Korea and the Philippines, and in the world, such as Russia and Brazil. It has been followed by an economic recession that has been severe and of long duration and that has had a significant impact across the world.

Different theories have been advanced regarding the exact causes of the Asian financial crisis. Among the most popular are the "crony capitalism" and "financial panic" hypotheses. The first hypothesis cites the close relations between government and business in Asian countries to suggest inefficient allocation of financial capital. Financial institutions, according to this theory, acted as if lenders had implicit government guarantees and extended excessive loans to borrowers. The lack of regulation in terms of quantity and quality of lending, as well as the lack of transparency in the financial and corporate sectors, therefore contributed to the crisis. The other hypothesis evokes the irrational panic among speculative investors who bet on Thailand having to devalue its currency, given its trade deficits. According to this theory, "contagion" spread the crisis rapidly in the region after the devaluation of the baht because investors worried that other countries in the region were facing similar circumstances: fixed exchange rates, low foreign exchange reserves, trade deficits, and high inflows of short-term capital.

The economic recovery of most of the countries that experienced the crisis has been mixed, but more rapid than anticipated. In 2001, the Thai economy grew at a rate of 1.9 percent, compared to a 4.6 percent growth rate in 2000. The slowdown in the Thai economy resulted from the adverse impact of the sluggish world economy. Exports, which accounted for more than 60 percent of Thailand's GDP, contracted by 6.9 percent as a result. South Korea's economy was hit by the collapse of the won in 1997 and entered into recession in 1998 with a real GDP growth rate of –6.7 percent; a year earlier the GDP growth rate was 5.5 percent. However, South Korea has been recovering strongly; the GDP growth rate reached 10.9 percent in 1999, then slowed to 9.3 percent in 2000 and 3.1 percent in 2001. Indonesia's economy began to grow again in late 1999; its real GDP growth rate was expected to increase to 4.8 percent in 2000. The Malaysian economy achieved a recovery in 1999, when real GDP growth rose to 5.4 percent; the rate reached 8.3 percent in 2000. Stronger economic growth in Malaysia led to a decline of the unemployment rate to 3 percent of the labor force in 1999 from 3.2 percent in 1998.

Japan was not swept into the Asian crisis; however, its economy was sluggish throughout the 1990s, the so-called "lost decade." During this time Japan maintained its position as the world's second-largest economy. In 1998, Japan, along with the rest of the Asian economies, recorded negative growth. Japan's economy, however, had been stagnant since its financial bubble burst in the early 1990s. Moreover, despite the increase in the economic power of the European Economic Community (EEC), Europe was still not performing as well economically as the United States and Japan. Steps were taken to stimulate technological improvements and increase productivity and competitiveness through the removal of some economic restrictions within the EEC. The establisment of the euro in 1999 was the most important innovation in the international monetary system since the collapse of the Bretton Woods system and the advent of floating exchange rates in 1973. The introduction of the euro has contributed to the emergence of a new economic player, the euro area, which represents the largest trading partner in the world economy, accounting for 19 percent of world exports.

By the end of 2000, new signs of a slowdown in global economic growth were appearing. Globally, the growth in output decreased from 4 percent in 2000 to 1.3 percent in 2001. The sluggish economy was exacerbated by the terrorist attacks of September 11, 2001, in the United States. The global economic slowdown forced U.S. manufacturing capacity utilization

to levels equal to the 1982 recession; moreover, the slowdown has been expanding to Europe, South America, and parts of Asia. Foreign direct investment (FDI) have fallen more than 50 percent worldwide, from US$1.49 trillion to US$735 billion (in part because of the decline in cross-border mergers and acquisitions). This slowdown in the economies of advanced countries was induced by several factors, including the tighter fiscal policies of 1999–2000, the collapse of the technology bubble in 2002, and higher oil prices in 1999–2000.The euro area during the period 1998–2000 experienced rates of economic growth averaging more than 3 percent. The high rates of growth reflected the new economy and the euro-integration and macro-stability dividends.

During the same period, new shocks occurred that certainly affected the economy, including the Enron scandal and other corporate scandals; severe tension in the Middle East; and financial crises in some emerging markets. The crisis in Argentina in 2002 was the result of a failure to tighten fiscal policy at the end of the 1990s because of political constraints. Asia has shown signs of recovery as a result of increased trade, a rebound in information technology, and a rise in domestic demand. China arrived at the forefront of the world stage; its entry into the WTO in 2000 and its hosting of the Olympics Games in 2008 will further stimulate its economic growth and accelerate its integration into the global economic market. After China, India continues to be one of the fastest-growing nations and is increasing its integration into the world economy, although its economic growth declined in 2002 to 4.4 percent, from 5.6 percent in fiscal 2001. The economic growth of Africa was positive in 2001. Because Africa has not yet been well integrated into the global economy, it may not be as affected by events in other countries as other regions. The slowdown of the global economy has continued since 2003 with the uncertainties of the U.S.-led invasion of Iraq, the outbreak of SARS (Severe Acute Respiratory Syndrome), and other major events.

Despite the great economic advances that have been achieved in the second half of the twentieth century, the world economy has entered a new century with an increasing globalization of economic activity, new economic problems, and the challenge of ensuring economic growth with equity. Concerns about the long-term future of the world economy now focus on environmental degradation and sustainability.

Nathalie Cavasin

See Also International Productivity; Technology and Technical Change

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Industrial Location and Competitiveness

Studies of industrial location look at why certain countries or regions specialize in specific industries. That is, what determines industrial location, how is industrial activity measured, and what factors determine how it changes over time? In answering these questions, economists have proposed that industrial location is determined by a combination of two main factors: the extent of location advantages, and the intensity of firm competition relative to the size of the market. Technology, factor endowments, geography, and scale economies are influential for determining location advantages, whereas agglomeration, variety, proximity, and market access are important for determining the intensity of firm competition relative to the size of the market. This implies that what appears to be a minor change in the balance of the forces determining industrial location may sometimes turn out to have drastic consequences for the global distribution of manufacturing activity. Both the ongoing process of globalization and local interactions between producers, consumers, and firms are also important factors for determining competitiveness and the location of industrial activity.

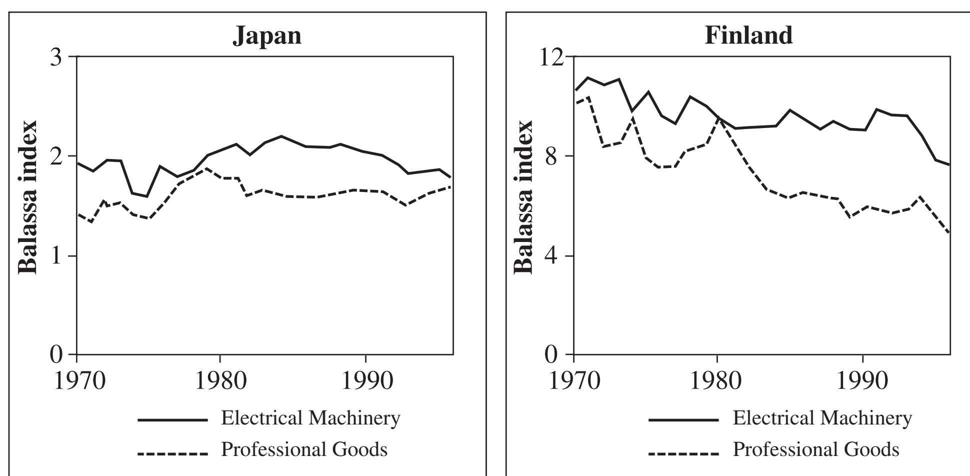
Who Produces (and Exports) What? Revealed Comparative Advantage

Analysts of industrial activity use a standard measure to determine empirically which countries hold particularly strong positions in the production of specific goods. It is based on the idea that a country's actual export flows "reveal" the country's strong sectors. Based on the work of Bela Balassa, a twentieth-century economist, it is known as the Balassa index, and a Balassa index value is also known as a country's "revealed comparative advantage."

The Balassa index depends on detailed analyses of export data. Many countries are, for example, producing and exporting cars. To establish whether a country, say Japan, holds a particularly strong position in the car industry, Balassa argued that one should compare the share of car exports in Japan's total exports with the share of car exports in a group of reference countries. The Balassa index is therefore essentially a normalized export share. So if Japan's normalized export share for cars is higher than 1, Japan is said to have a revealed comparative advantage in the production of cars. Economists generally use the exports of the member countries of the Organisation for Economic Co-operation and Development (OECD) in twenty-eight manufacturing sectors as the reference group.

Figure 1 illustrates the evolution of the Balassa index in the period 1970–1996 for the two sectors with the highest Balassa index for Japan and Finland. The Balassa index is above 1, as it should be for the strong export sectors. Apparently, Japan has a revealed comparative trade advantage for electrical machinery and professional goods. Note the fairly small value of the highest Balassa index for Japan (about 2) compared to Finland (about 11). This can be attributed to the fact that Japan has a much larger industrial base than Finland and exports a wider variety of goods, which makes it more

Figure 1: Two Top Revealed Comparative Advantage Sectors, Japan and Finland



Source: Unless otherwise specified, all information, figures, and tables in this entry are taken from Charles Van Marrewijk, *International Trade and the World Economy* (Oxford: Oxford University Press, 2002).

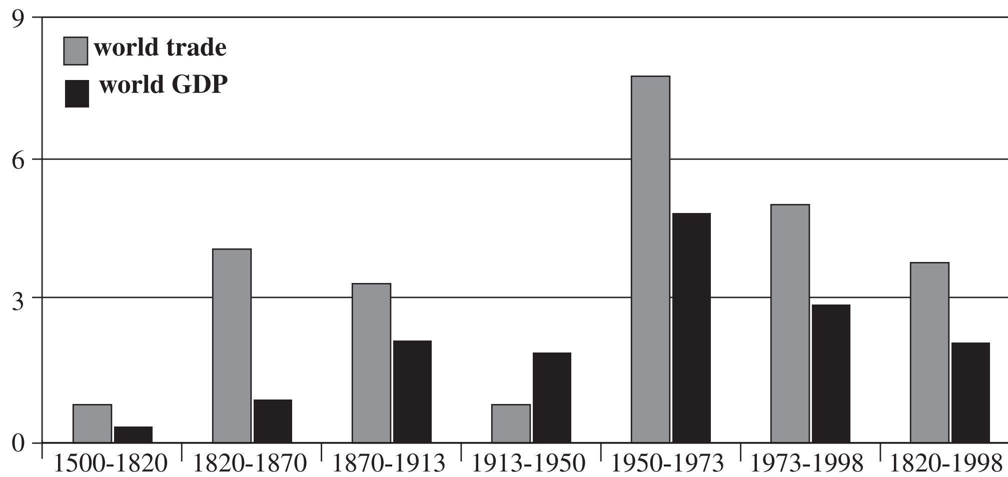
difficult to achieve high values for the Balassa index. Finland's highest-ranking sectors are paper and paper products and wood products. This corresponds with the easy availability of factor inputs, that is, wood from the large Finnish forests, as discussed below.

In general, sectors with a high revealed comparative advantage tend to sustain this advantage for a fairly long time. Tobacco, for example, is always the sector with the highest Balassa index in the United States. The same holds for footwear in Italy and paper and paper products in Finland. Changes over extended periods of time are, however, also possible. Table 1 gives an overview of the sector with the highest Balassa index in 1996 for the twenty OECD countries. In general, the highest Balassa index for large countries is lower than those for small countries. Note that paper and paper products constitute the highest-ranking sector for Finland and Sweden, both of which have extensive forests. Also note that the labor-intensive footwear industry is the highest-ranking sector for Spain, Portugal, and Italy. A closer look at changes in the distribution of the Balassa index shows that:

Table 1: Revealed Comparative Advantage in Manufacturing (1996)

Australia Nonferrous metals	*Finland* Paper & products	*Italy* Footwear	*Portugal* Footwear
Austria Wood products	*France* Beverages	*Japan* Electrical machinery	*Spain* Footwear
Belgium Other manufacturing	*Germany* Industrial chemicals	*Netherlands* Tobacco	*Sweden* Paper & products
Canada Wood products	*Greece* Wearing apparel	*New Zealand* Food	*United Kingdom* Beverages
Denmark Furniture & fixtures	*Iceland* Food	*Norway* Nonferrous metals	*United States* Tobacco

Figure 2: Growth in World Trade and World GDP



Source: A. Maddison, *The World Economy: A Millennial Perspective* (Paris: Organisation for Economic Co-operation and Development, 2001).

- The mean value of the Balassa index is slowly increasing over time. This points to an increase in international specialization.
- There is a positive relationship between employment and industries with a high Balassa index.
- There is no clear-cut relationship between labor productivity and sectors with a high Balassa index.

Two questions now come to the fore: Why do countries tend to specialize in certain industries, and why are those industries found in particular locations? The answers to these questions are related to the process of globalization.

Globalization and Trade

The trend toward increased interaction with distant markets and competition from foreign firms has been in progress for at least 500 years, although not monotonically. During the nineteenth and early twentieth centuries, for example, declining shipping rates and declining levels of protectionism resulted in a highly global world economy as measured by world trade as a percentage of world gross domestic product (GDP). This reached a peak of about 8.7 percent just before World War I, not to be matched again for another sixty years as a result of the inward-looking behavior and protectionist tendencies associated with the two world wars and the Great Depression.

Similarly, there were very large capital and migration flows before 1913. Net capital flows were as high as 10 percent of GDP for investor or recipient. In the period 1870–1910, no less than 10 percent of the world population migrated to other countries, mostly to the New World. The migration flows are now more restricted than in the nineteenth century, whereas capital flows can move more freely than ever before.

Figure 2 illustrates that world trade flows have been increasing more rapidly than world production for the past 500 years, with the exception of the period 1913–1950. As a consequence, merchandise exports as a share of GDP rose gradually, although not monotonically, from about 1 percent in 1820 to more than 17 percent in 2000.

After World War II, many trade restrictions that had hampered the globalization process were relaxed under the guidance of what is now known as the World Trade Organization (WTO). Similarly, transportation costs declined considerably. The cost of ocean freight transport, for example, declined by 70 percent between 1920 and 1990, and the cost of air transport declined by 84 percent between 1930 and 1990. But it was not only commodity trade that increased: Thanks to technological breakthroughs in the information and communication industry, more and more services that used to be nontradable became internationally tradable. These technological advances not only stimulated trade of existing commodities but also created new products. All factors combined to greatly stimulate world trade in goods and services, suggesting that the world economy is becoming a truly integrated economy.

From a historical point of view, world trade has clearly become more important than in the past, but is the world economy now fully integrated? The answer is no, as the following example illustrates. How much would a U.S. citizen spend on foreign commodities in a fully integrated world without any trade barriers whatsoever? The U.S. share in world GDP is roughly 25 percent. If a U.S. citizen were completely indifferent about whether the goods she was purchasing were domestic or foreign, she would spend 25 percent on domestically produced goods and 75 percent on foreign goods. In reality, the current share of U.S. spending on foreign goods is only about 12 percent, so the globalization process may still have some way to go.

Technology Differences

At the end of the eighteenth century and the beginning of the nineteenth, two British economists, Adam Smith and David Ricardo, pointed to a fundamental force determining the location of industrial activity: technology differences leading to differences in relative production efficiency (comparative advantage). International trade is not simply an extension of the local market by adding international markets: It affects the industrial composition of countries. The theory of comparative advantage explains how countries gain from trade even if a country imports commodities that it could produce more efficiently itself, or exports goods to countries that could produce them more efficiently themselves. The key insight of Ricardo is a generalization of the concept of opportunity costs of production. In the case of, for example, shoes and wine, the opportunity cost of shoes is the amount of wine a country must forgo in order to produce more shoes (the price of shoes in terms of wine). A country that is more efficient in producing both types of goods relative to another country might still direct all its resources to shoes if it is relatively more efficient in producing shoes than wine. For a country that prefers to consume both goods, the most efficient way to get wine is to internationally trade shoes for wine, instead of giving up some of the production of shoes and produce the wine itself. So, simply comparing the efficiency of wine producers in different countries gives the casual observer the wrong answer, as he would probably predict that the country would export wine instead of shoes.

The relatively inefficient trading partner gains as well from international trade. A comparison of relative efficiencies in the two hypothetical countries—the inefficient country and its efficient trading partner—would show that the opportunity cost of shoes in terms of wine is higher in the less efficient country (the price of shoes in terms of wine is higher than in the efficient country). This less efficient country directs all its resources to the production of wine. By internationally trading wine for shoes, it gets the shoes cheaper than it would by producing them itself. Comparing absolute productivity differences in one industry across different countries thus produces a misleading conclusion. Sometimes workers and managers in certain industries claim that foreign competition is "unfair"; they feel that they are at least as productive as their foreign counterparts but face "too much competition," and they conclude that

this means that some unfair trading practice is to blame. However, they could be unaware that other industries have the comparative advantage in their country (and are even more productive compared to the trading partners).

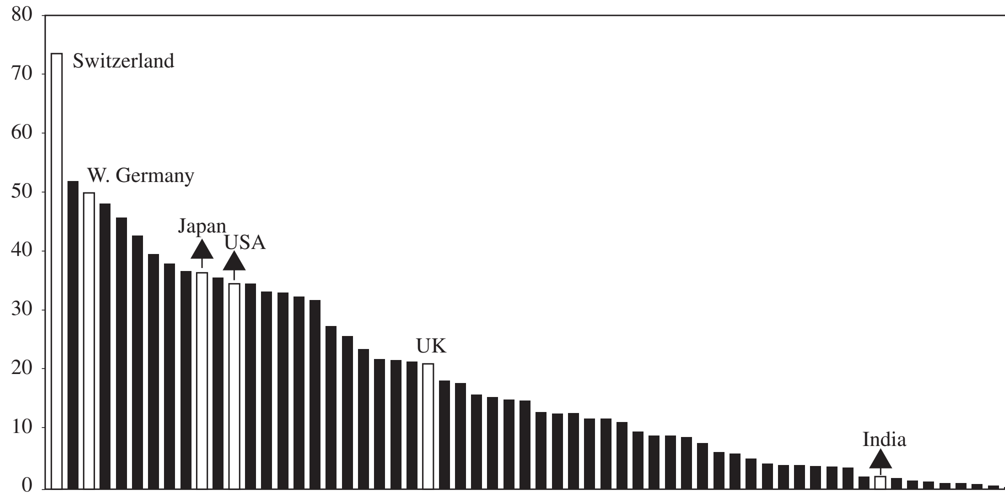
These fundamental principles on competitiveness have important consequences for the industrial structure of a country. The relatively more efficient country will, in this example, specialize in the production of shoes, and the relatively inefficient country will specialize in the production of wine. The industrial structure of both countries is very different in autarky than under free trade: In autarky, they will both have a shoe industry and a wine industry, whereas under free trade the countries will specialize in one of the two industries. Whether this specialization will be complete depends on many factors, such as the relative size of the trading partners. But the key insight here is that relative and not absolute efficiencies determine the international location of industries. In an actual example, that of trade between the European Union and Kenya, the productivity of Kenya is lower in both food products and chemical products: Value added per person in the food sector is $233 in Kenya compared to $45,341 in the EU, and for chemical products the value added per person is $452 in Kenya compared to $154,537 in the EU. Still, Kenya has a net export surplus of food to the EU, and the EU has a net export surplus of chemical products to Kenya, because in relative terms Kenya is more efficient in food products, whereas the EU is relatively more efficient in chemical products. But how did these differences in comparative advantage come about? This is another issue that has captured the attention of economists.

Factor Endowments

At the beginning of the twentieth century, two Swedish economists, Eli Heckscher and Bertil Ohlin, pointed at another force determining the location of industrial activity: differences in availability of factors of production. Heckscher and Ohlin observed that different goods were produced using different intensities of the factors of production. The production of textiles, for example, uses labor intensively, whereas the production of machines uses capital intensively. India, for example, has a large supply of labor, so this factor of production tends to be relatively cheap there. Similarly, Germany has a large supply of capital, so this factor of production will be relatively cheap there. Consequently, textile production, which is labor intensive, tends to be relatively cheap in India, whereas production of machinery, which uses more capital, tends be relatively cheap in Germany. Thus, India will export textiles to Germany and import machines from Germany. As the intensity of international competition increases (owing to lower transport costs and removal of other trade barriers), India will increasingly specialize in the production of labor-intensive textiles, and Germany will increasingly specialize in the production of capital-intensive machines.

If differences in the availability of factors of production determine, in part, where an industry will locate, then obviously it becomes important to identify the factors of production that vary enough to make a difference for comparative advantage. For instance, is the ratio of labor supply to capital that much higher in India compared to Germany, for example, to make labor-intensive products more profitable than other kinds of products? Such questions are not always easy to answer because the factors of production are complex; in this example, one must aggregate many different varieties of capital and labor into one measure. The construction of a consistent data set that can be compared for a large number of countries is complicated and time consuming. Figure 3 illustrates the distribution of the capital stock per worker for the sixty countries for which data are available in the most widely used data set (Summers and Heston, 1988). Swiss workers had the highest capital stock per worker available ($73,459). Workers from Sierra Leone had the lowest capital stock per worker ($223). One would therefore expect Switzerland to pro-

Figure 3: Capital Stock per Worker x $1000 (1990)



duce mostly capital-intensive goods and Sierra Leone to produce labor-intensive goods.

To empirically verify the prediction of specialization in accordance with the availability of factors of production, one needs to identify categories of goods and factors of production. This is done, for example, on the Web site of the International Trade Center (ITC, http://www.intracen.org), the joint organization of the United Nations Conference on Trade and Development (UNCTAD) and the WTO. To classify international trade flows, the ITC distinguishes five factors of production and 257 final goods. It aggregates the 257 final goods into five broader categories based on the intensity of the five factors in the production process, namely (1) primary products; (2) natural-resource-intensive products; (3) unskilled-labor-intensive products; (4) technology-intensive products; and (5) human-capital-intensive products.

For example, the ITC classifies 31 goods as unskilled-labor-intensive manufacturing products, incorporating pipes, various textiles, and clothing, glass, pottery, ships, furniture, footwear, and office supplies. For the 151 countries for which the ITC provides data, total exports of unskilled-labor-intensive manufactures in 1998 were equal to $610 billion, some 13 percent of all exports. China, which exports the equivalent of $78 billion in such products annually, is the world's largest unskilled-labor-intensive manufactures exporter (of, for example, shoes, and wearing apparel), followed by Italy, with a value of $48 billion (including furniture, footwear, and sweaters).

Despite the fact that unskilled-labor-intensive manufactures represent a sizable 43 percent of Chinese exports and 24 percent of Italian exports, neither country makes it to the top ten list of world exporters of unskilled-labor-intensive manufactures in relative terms, the majority of which are located in Asia. The top three are Nepal (carpets), Bangladesh (clothing and textiles), and Pakistan (cotton and textiles). The dependence on the exports of unskilled-labor-intensive manufactures for these countries is high, ranging from 89 percent for Nepal to 62 percent for tenth-ranked Albania. Figure 4 shows the relative dependence of countries on the exports of unskilled-labor-intensive manufactures. These are clearly concentrated in Southeast Asia and Central Europe.

Dynamics of Industrial Location

Explanations of the location of industrial activity based on technology differences, the avail-

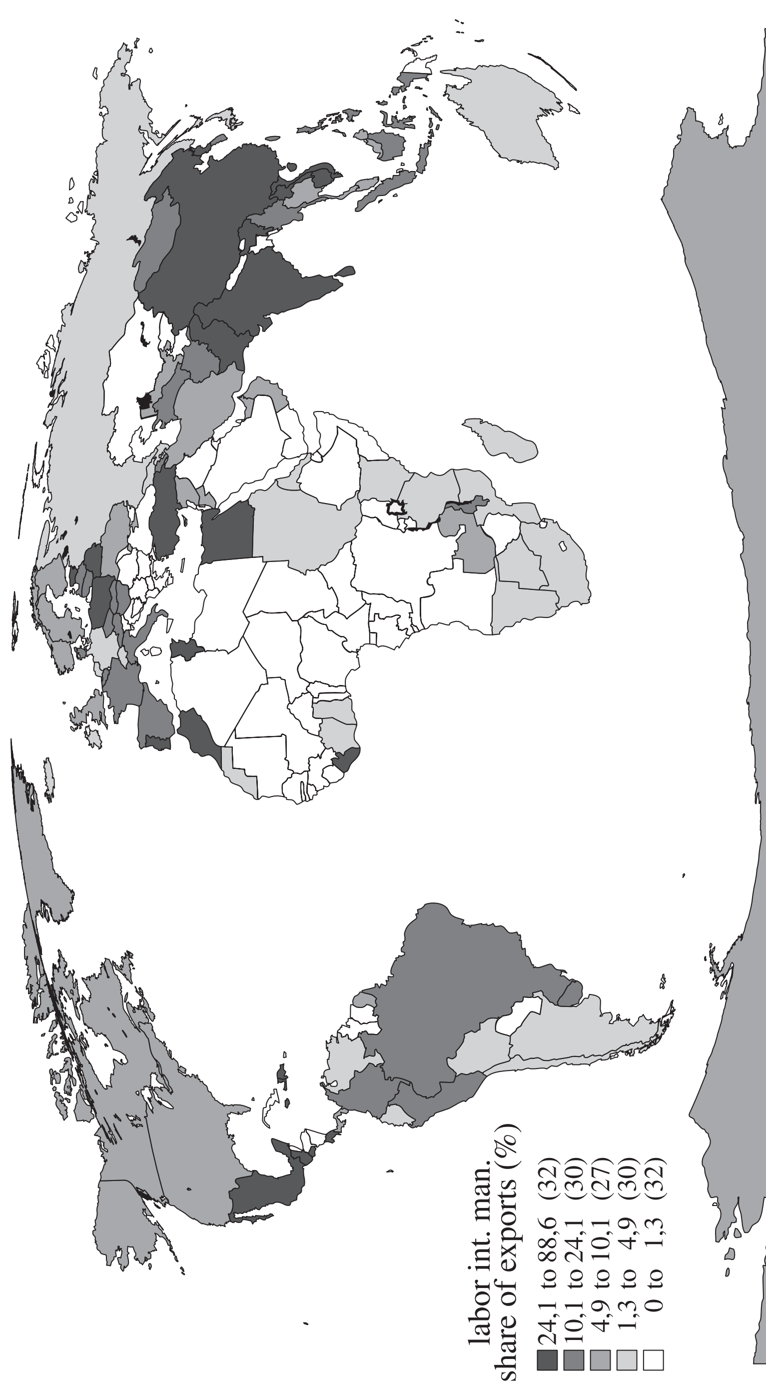
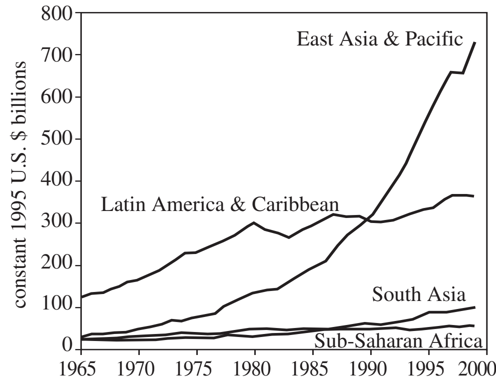


Figure 4: Unskilled-Labor-Intensive Manufacturing: Share of Exports, 1998

Figure 5: Dynamics of the Location of Industrial Production



Source: World Bank development indicators CD-ROM (2001).

ability of factors of production, and the ongoing process of globalization, especially as the pace of the latter increases with the elimination of trade barriers, reductions in transport costs, and technological improvements, suggest that fundamental shifts in the structure of global industry should be in progress. This is indeed the case, as illustrated in Figure 5 for four of the seven global regions identified by the World Bank: (1) East Asia and the Pacific (including China and Indonesia); (2) Latin America and the Caribbean (including Brazil and Mexico); (3) South Asia (SAS, including India); and (4) sub-Saharan Africa (including Nigeria and South Africa). Measured in constant 1995 U.S. dollars (corrected for inflation), these four regions produced a total of $173 billion in manufactures in 1965. This amount increased more than seven times (by about 6 percent per year) to reach $1.23 trillion in 1999.

The distribution of the production of manufactures for the four regions changed drastically in this period. The increases in the sub-Saharan and Latin American regions were modest, or about 3.4 percent per year in both cases, rising from $16 billion to $49 billion in sub-Saharan Africa and from $117 billion to $361 billion in Latin America. As is well known, most countries in these regions did not actively promote international trade and specialization throughout most of this period. The South Asia region, with its increasingly outward-looking development strategy, saw its production level of manufactures rise more substantially, from $15 billion to $93 billion, about 5.5 percent per year. The East Asia and Pacific region, with its predominantly outward-looking development strategy throughout most of the period, experienced very rapid growth and saw its production level of manufactures rise more than twenty-eight times in thirty-four years, from $26 billion to $730 billion, or about 10.4 percent per year.

The spectacular rise of the production of manufactures in the East Asia and Pacific region demonstrates the power of the forces underlying the globalization process and the speed at which changes in industrial location can take place. It does not indicate, as is frequently suggested, that manufacturing activity disappears in the developed countries. For example, the European countries now forming a monetary union produce about twice as many manufactures as the entire East Asia and Pacific region. Moreover, this level is still rising, although slowly. Instead, the developed countries are increasingly shifting their economic structure toward producing a wide range of services. A related aspect of international economic interactions that deserves our attention is that more than 75 percent of the world trade flows are to and from the high-income countries (Western Europe, North America, and Japan). Indeed, the majority of flows are from one high-income country to another high-income country. For example, the intra–West European trade flows alone account for more than 27 percent of world trade. As it is hard to see how differences in technology and factor abundance can fully explain these large trade flows, one must examine other forces underlying the global economic structure.

Intra-Industry Trade, Scale Economies, and Variety

The international trade flows between similar high-income countries are not only very large,

Table 2: Intra-Industry Trade Index, Manufacturing Sector, 1995 (3-digit level, %)

Country	*World*	*OECD 22*	*NAFTA*	*East Asia Dev.*	*Latin America*
Australia	36.6	17.5	16.0	39.2	41.6
Bangladesh	10.0	3.5	1.7	3.4	8.0
Chile	25.7	10.1	11.5	3.6	47.8
France	83.5	86.7	62.7	38.7	22.9
Germany	75.3	80.1	61.2	36.2	22.8
Hong Kong	28.4	20.2	25.2	19.9	13.6
Japan	42.3	47.6	45.7	36.1	7.0
Malaysia	60.4	48.5	57.9	75.0	10.4
UK	85.4	84.0	72.5	46.6	38.6
USA	71.7	74.0	73.5	41.4	66.0

they are also characterized by intra-industry trade. In other words, many countries simultaneously export and import very similar goods and services; intra-industry trade is trade within the same industry or sector. Germany, for example, exports many cars to France and simultaneously imports many cars from France. Why does Germany do this? Intra-industry trade is measured using the Grubel-Lloyd index, which ranges from zero (if a country only imports or only exports a particular good) to one (if a country's exports of a good are exactly as high as its imports of that good). Table 2 summarizes the extent of intra-industry trade in 1995 for a selection of countries.

Take the United States as an example. Averaged over all countries, no less than 71.7 percent of U.S. trade can be categorized as intra-industry trade. This trade, however, is unevenly distributed. U.S. intra-industry trade with the Asian newly industrialized countries (41.4 percent intra-industry trade) and with Latin America (66 percent intra-industry trade) is lower than its intra-industry trade with the countries of the North American Free Trade Agreement (NAFTA) (73.5 percent) or the OECD countries (74 percent). Similarly, underlying the high overall level of intra-industry trade for France (83.5 percent) is a low level of intra-industry trade with Latin America (22.9 percent) and Southeast Asia (38.7 percent) and a high level of intra-industry trade with NAFTA countries (62.7 percent) and OECD countries (86.7 percent). Table 2 also illustrates low intra-industry trade levels for developing nations (for example, 10 percent for Bangladesh). All of this leads to the conclusion that intra-industry trade is more prevalent among developed nations and that similar developed nations are largely engaged in trading similar types of goods with each other.

Obviously, the goods and services produced by firms in the same industry are not, in fact, identical. Everyone acknowledges that a Volkswagen Golf is not the same as a Peugeot 206. They are similar products delivering similar services, produced using similar technologies, such that they are classified in the same industry, but they are not the same. That is, one must distinguish between goods and services that are imperfect substitutes, as consumers demand many different varieties of similar, but not identical, products in the same industry. In addition, one must explain why the domestic industry does not provide an arbitrarily large number of varieties to cater to the preferences of consumers. Going back to the Germany-France car example, it is clear that Volkswagen has the ability and technology available to produce a car virtually identical to the Peugeot 206, and is thus able to fulfill demand for that type of product. Large initial investment costs, spread over several years, would be required, however, before such a new type of car could be designed, developed, tested, and produced. These large investment costs, giving rise to increasing returns to scale, are the primary reason for Volkswagen, or other German car manufacturers, to produce only a limited number of different varieties. This example also implies

that a car manufacturer, being the only producer of a particular variety, has considerable market power, which it takes into consideration when maximizing profits. In short, intra-industry trade flows occur because of: (1) consumer preferences, that is, the demand for different varieties of similar products; (2) increasing returns to scale in production, which limit the diversity in production that the market can provide; and (3) a market structure of imperfect competition consistent with the phenomenon of increasing returns to scale. These aspects, and their interaction, also explain why proximity of demander and supplier is important and why clustering of economic activity is so prevalent.

Proximity and Clustering

Economic activity is clearly not randomly distributed across space. Clustering of people and firms, at various levels of aggregation (continents, countries, regions, cities, and even neighborhoods or sections within cities), is the rule and not the exception. Clustering certainly holds for industrial or manufacturing production, also for specific industries. Examples are the car-manufacturing cluster around Detroit, the film industry in Hollywood, the tapestry industry in Belgium, the financial district in London, or the fashion industry in Paris. The question arises as to why location matters. Basically, two answers exist. The first answer is that natural advantages account for the clustering phenomenon. This answer is essentially based on (geographic) technology advantages and factor abundance, as explained above. Special circumstances—such as whether a region is landlocked or near a coast—can also influence the productivity of the factors of production. To a large extent, these natural advantages and disadvantages are givens, that is, they are not manmade. The second and somewhat more complicated explanation for the clustering phenomenon is that it is caused by the interactions between economic agents. More specifically, clustering arises as a result of positive external economies of scale that lower a single firm's average costs of production if the industry-wide output increases.

The nineteenth-century British economist Alfred Marshall gave three examples of external economies of scale: (1) an increase in industry-output increases the stock of knowledge for every single firm, lowering the costs and increasing the output of the individual firm; (2) a large industry-wide output supports the existence of a local market for specialized inputs; and (3) a large local market makes labor-market pooling possible. These positive externalities imply that firms (in an industry) want to be located close together; therefore, there is a supply-side concentration force. But because of the costs of transporting goods and services, for example, firms also want to be located close to a large market; therefore, there is a demand-side clustering force. Both types of clustering forces are "endogenous," that is, determined by the economic interaction between consumers, workers, and firms. The exact location is then not so important and could be largely determined by chance or historical accident. New York City, for example, was initially an attractive location for business activity because of its natural harbor. However, for the past 150 years or so, it has been an attractive location in which to establish a firm or to which to migrate simply because it is a large agglomeration that provides all possible intermediate goods and services, a well-connected large market, and all sorts of specialized (labor) inputs.

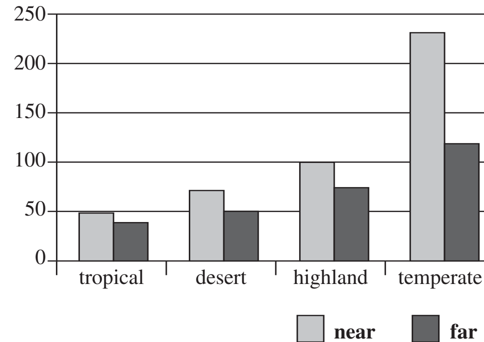
Interaction

Although it is useful to identify the two main reasons for economic clustering (natural advantages and external economies of scale), the distinction between them is not razor-sharp; the determinants are not independent of each other. There is one main difference between them, however: Natural advantage or disadvan-

tage predetermine a location's production structure, which is not the case with external economies of scale. It was not destined that Seattle or Silicon Valley should become home to a relatively large part of the U.S. aircraft or computer industry, respectively. A small initial advantage can be enough to set in motion a process of self-reinforcing economies of scale. Industrial location is then historically determined, or path-dependent. Only a large shock (like Boeing's decision to relocate its headquarters) or a substantial change in transportation costs (due to globalization or economic integration at large) could lead firms to decide to relocate and thereby bring about a change in the spatial distribution of economic activity.

Natural advantage is a very strong determinant, and in many cases the predominant force. A landlocked country will, on average, be engaged in less trade than a country that has coastal areas. Since trade constitutes a vital transmission mechanism for information or knowledge spillovers, firms will find that their competitiveness is hurt when they locate in a landlocked country. Empirical research estimates, for example, that almost 20 percent of the concentration of U.S. industries can be explained by natural advantages. The impact of natural forces is aptly illustrated in Figure 6, which measures GDP according to four climate zones (tropical, desert, highland, and temperate) and distance to a coastal area (near = less than 100 km from the coast; far = more than 100 km from the coast). The figure shows not only that different climate zones lead to different per capita income levels, but also that within each climate zone a landlocked region is disadvantaged relative to a region along the coast.

Figure 6: Impact of Geography on Income Level



Source: J. D. Sachs, A. D. Mellinger, and J. L. Gallup, "The Geography of Poverty and Wealth," *Scientific American,* March 2001, 62–67.

Economics literature that emphasizes geographical forces in determining a consistent framework for how firms make industrial location decisions is referred to as "geographical economics." (See, for example, the work of Paul Krugman.) This branch of economics focuses attention on whether or not the ongoing process of globalization, measured as a decrease in the costs of interaction (transport costs, trade restrictions, cultural barriers, technological change, and so on), tends to reinforce a core-periphery pattern in location.

To benefit from external economies of scale and to minimize interaction costs, manufacturing firms have an incentive to locate where demand is relatively high or where the supply of their inputs is abundant, that is, they want to locate where other firms and workers have chosen to locate. A core-periphery pattern is, however, not inevitable. If the costs of interaction are either very low or very high, an equal spatial distribution (spreading) of manufacturing activity results. For an intermediate range of interaction costs, a core-periphery pattern results. The geographical economics literature therefore strongly suggests that the ongoing process of globalization will initially favor the establishment of core-periphery patterns in industrial location, as illustrated in Figure 6. As the globalization process continues, however, and the costs of interaction fall below some critical level, firms will start to relocate from the core to the periphery as the advantage of being close to large markets dwindles. This return to a spreading pattern of industrial location would lead to more rapid increases in real income in the disadvantaged locations.

Since, on a global scale from the late nine-

teenth century onward, the actual changes in the distribution of economic activity among countries and in the degree of economic integration match the predictions of the geographical economics literature quite well, this may be good news for the future of the currently disadvantaged climate zones and landlocked regions; however, the time frame within which these positive changes may occur is more likely to be measured in centuries than in decades.

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See Also Foreign Direct Investment and Cross-Border Transactions; International Joint Ventures; National Government Policies

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Inequality

In general usage, "inequality" refers to the uneven distribution of social and economic resources among different groups of people. It is commonly used to describe the imbalances in economic opportunities, benefits, or results between rich and poor, skilled and unskilled workers, women and men, whites and minorities, or developed and developing countries. Beyond this simple definition, however, it is an incredibly complex term that has given rise to multiple meanings depending on the context and who is using the term. There is much debate over exactly what constitutes equality/inequality, how to measure it, and how it has developed over time.

Concepts of equality and inequality are usually treated as relational: That is, either concept is analyzed in terms of how the lives of one group or individual compare to other groups and individuals during the same time period. Although it is true that the poor in the modern world are better off compared to the economically disadvantaged of 500 years ago, most economists believe it is more useful to compare the relative positions of rich and poor in the same historical context. Following from this, there is ample evidence that inequality within and among nations is a chronic feature of the modern world. In recent decades, the internationalization of trade, rapid technological innovation, the reorganization of work, and shifting political policies at the national and international level have all contributed to the deepening of inequalities in many areas of social and economic life.

Equality/Inequality: A Brief History of a Contested Concept

American political philosopher Ronald Dworkin has recently argued, "Equality is the endangered species of political ideals" (Dworkin 2001, 172–177). Nowadays, many politicians have rejected the ideal that citizens should share equally in their nation's wealth and resources. For most of the past two centuries, however, concepts of equality constituted a core value in the dominant trends of political thought. Notions of equality first emerged in the modern world from the series of great political struggles against the hierarchical monarchies of the old order in Europe. In the American and French revolutions of the eighteenth century, for example, successful mass movements and political forces rallied around the concepts of *liberty, equality,* and *fraternity* in contrast to the traditionally accepted idea that only certain people (kings and aristocrats) could rule based on tradition or supposedly God-given right. In this epoch, equality was loosely defined as government by consent of the people, or democracy. What constituted the *people* and *democracy* in this vision, however, was highly limited: Political equality was gradually granted to white men with property, whereas slaves, workers, women, and colonized peoples had few political rights. Nevertheless, from this time forward the notion that human beings were political subjects solely by virtue of their humanity was central to political thought and the development of democratic

government. In the past two centuries, political struggles have determined what kind of political equality is desirable and to whom it should be applied.

Just as the political revolutions of the eighteenth century were implementing concepts of political equality, so too were the economic transformations of the period prompting critiques of social and economic inequality. In the eighteenth century, the economic system of capitalism—production for profit on the basis of wage labor—developed in Europe, and in the next century it spread around the world. Capitalism revolutionized production and transformed many aspects of economic and social life. Wealth was created on a scale never before seen, but this revolutionary economic system also brought great disparities between the tiny minority who controlled the means of production (capitalists) and the vast majority whose only resource was their labor (workers). Soon many political thinkers, economists, and social movements began to raise demands for equality in the economic sphere. These struggles would eventually center on the extent to which the state should establish equitable social and economic conditions through the redistribution of income and social policies.

Broadly speaking, three distinct intellectual currents in relation to social and economic equality developed in the eighteenth and nineteenth centuries, and to a greater or lesser extent these still dominate discussion today. Classical economic theorists in the neoclassical or utilitarian tradition and their modern-day supporters hold up the unregulated market as the essence of freedom and reject broader notions of relational equality. They believe that economic inequities are natural results of the business cycle and are even valuable for the market and society in the long run as they improve efficiency in production and labor markets. Proponents of classical economics (generally known today as neoliberals and/or libertarians) also view inequalities as a reflection of individuals' free choices over the use of their talents and resources. Differences in wealth and income are not regarded as problems that need to be solved by political intervention. Indeed, these thinkers maintain that state interference in the natural workings of the market cause inequalities themselves. Contemporary proponents of this view have had great influence on governments in North America and Britain since the 1980s.

Liberal egalitarian theorists, in contrast, reject the idea that inequality is a natural and desirable state of affairs, believing that some sort of economic equality is socially just and essential for social stability and political democracy. Modern egalitarian liberals, including many theorists in the social democratic tradition, aim to reconcile political liberty and economic equality. The most influential theorists in this school of thought, such as John Rawls and Ronald Dworkin, believe that it is impossible to attain justice without at least some measure of equality. Egalitarian liberals accept the capitalist market economy, arguing that it is compatible with both individual freedom and adequate equality if there is sufficient state regulation to balance the two ideals. Therefore, they support redistribution of income to even out standards of living. In general, such thinking is behind the more or less interventionist government policies (industrial policies, monetary and market regulation, social policies, and progressive taxation) of most democratic countries.

Radical or Marxist thinkers constitute the final dominant tradition of thinking on equality. Radical thought originated in critiques of the unrealized equality promised by the French and American revolutions and was most clearly developed by Karl Marx in the second half of the nineteenth century. Marxists uphold the principles of justice and freedom of egalitarian liberalism but maintain that they cannot be genuinely attained within capitalism. According to Marxist analysis, disparities of income, wealth, and power are not side issues that can be made compatible with the market economy. Workers enjoy legal and political freedoms, but their effective lack of economic power inherently puts them at a disadvantage

with the capitalists who control production. As the early twentieth-century Marxist Rosa Luxemburg argued, "The hard core of social inequality and lack of freedom [is] hidden under the sweet shell of formal equality and freedom." Social and economic equality can thus only be achieved in a socialist society where production for profit is abolished. Marxist thinking on equality informed many of the socialist revolutions and radical movements of the twentieth century.

Political and economic thinkers also diverge considerably on the question of "Equality of What?" *Simple equality* refers to everyone having the same level of goods and services and is generally rejected by most thinkers, since human beings are recognized as incredibly diverse. Treating people equally in one area, for instance, may lead to considerable inequalities in other areas. For example, equal treatment of nations with considerable differences in economic and political power may result in preferential treatment to those countries that are better able to take advantage of a particular policy. The dominant trend in contemporary thinking among academics and policymakers, therefore, focuses on some sort of *substantive equality,* which takes into consideration the vast differences among social groups and the larger economic, social, cultural, and political context.

Measuring Inequality

Given the contested nature of equality/inequality, it comes as little surprise that the measurement of these concepts is also highly debated. Most studies of inequality rely on official government statistics that measure concrete economic variables such as income or gross domestic product per capita. However, the scope and precision of such numbers has varied over time and by country, and the actual variables and units of analysis being measured may result in different measurements of inequality. Income, for instance, refers strictly to the money that comes from employment, whereas wealth includes income as well as ownership of savings, stocks, and property. Studying the incomes or wealth of individuals, families, or households may lead to different conclusions about inequality because familial arrangements differ from one region or country to the next and fluctuate over time and place.

Poverty lines that measure those families, households, or individuals who fall below a predetermined amount of income per year also vary widely. Until recently, the U.S. Census Bureau used a limited definition of poverty that only included cash income and expenses based on national averages. Recently this agency has experimented with alternative measures that include most potential sources of cash and government transfers as well as adjustments for regional differences in housing and medical costs. Many European countries employ the following standard: Families are in poverty if their income is less than 50 percent of the national median income. In any case, academic institutes, national governments, and international institutions such as the Organisation for Economic Co-operation and Development (OECD) utilize a variety of different methods, all of which have disadvantages and advantages depending on the particular question being explored.

Probably the two most common measurements used nowadays are: (1) the ratio between the richest and poorest in a country; and (2) the Gini index. The Gini index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy differ from a perfectly equal distribution. The numbers are meaningless on their own and only make sense in terms of comparisons over time or comparisons of two societies at a particular time. A Gini index of 0 would represent perfect equality, and an index of 100 would reflect perfect inequality. Those countries with numbers closer to 0 are therefore considered more equal, as Table 1 exhibits. A simpler but in some ways more effective measure is the ratio between rich and poor. Usually the richest 10 or 20 per-

cent are compared to the poorest 10 or 20 percent to show the difference between the most affluent and disadvantaged in a society.

The most common measurements of poverty still only use strict economic variables. In 1990, however, the United Nations introduced a broader measure, called the index of human development. This is an important innovation that attempts to measure not only income or wealth but also various "quality of life" indicators such as literacy, health care, education, and access to technology. Similarly, the UN's gender empowerment measure is a pioneering attempt to measure women's participation in the political and economic arenas.

Social and Economic Inequality on a World Scale

In general, most developed and developing countries saw increases in the standard of living from the 1940s to the 1970s. In the advanced capitalist countries, this period was characterized by growing international trade, rapid industrial development, full employment, and an expanding welfare state. Developing countries in Asia, Africa, and Latin America also enjoyed growth, but at a pace and scale much below the economic powerhouses of Japan, North America, and Western Europe.

Yet in the past two decades of the twentieth century, a period of expanded international trade, researchers have noted that by almost any measure, the gap between rich and poor has grown substantially on a world scale. According to the 1999 United Nations Human Development Report (UNHDR), the ratio of the income of the richest fifth of the world's population to that of the poorest fifth increased from 30 to 1 in 1960 to 60 to 1 in 1990. By 1997, it was 74 to 1. The 2003 UNHDR observed that the richest 1 percent of the world's population (around 60 million people) earned as much income as the poorest 57 percent, while the income of the richest 25 million Americans was equal to that of 2 billion of the world's poorest people. The wealthiest billionaires in the world in 1996—Microsoft chief Bill Gates; the Walton family, who control Wal-Mart; and the Sultan of Brunei—had incomes worth more than thirty-six of the least developed nations put together.

Much of this disparity results from the gap in wealth and income between the advanced Western countries and developing nations. To give some idea of the extent of the change over time, the 2003 UNHDR report notes that in 1820, the per capita income of Western Europe was three times that of Africa; by the 1990s, it had risen to thirteen times as high. The UN study documents fifty-four countries whose per capita income dropped from 1990 to 2001 owing to a deadly mix of famine, HIV/AIDS, wars, and failed economic policies. The majority were in African countries, but there were also numerous representatives from the former Communist countries of Eastern Europe, such as the Russian Federation and the Ukraine; traditionally oil-rich nations such as Saudi Arabia and Kuwait; Latin American nations, including Nicaragua, Paraguay, and Ecuador; and Haiti and Jamaica in the Caribbean. Overall, there are more than 1.3 billion people in the world who live under the UN's poverty line index.

There were some success stories in the 1990s. There was a drop from 30 percent to 23 percent in the number of people worldwide living on less than a dollar a day, largely as a result of income increases in China and India, the world's two most populous countries. Some African countries, such as Benin, Ghana, Mauritius, Rwanda, Senegal, and Uganda, improved their position in the rankings, as did Bangladesh, China, Laos, Malaysia, Nepal, and Thailand. Brazil, Bolivia, and Peru also bettered their situation as a result of social policy initiatives. Although there has been some progress in some developing countries over the past decade, the gap in wealth and incomes between the developed and developing world remains high and has not changed substantially. Table 1 shows some of the contrasts between what the UN labels high-, medium-, and low-development nations.

Table 1: Various Measurements of Social and Economic Inequality between and within Selected Nations

Country and UN Human Development Rank	*Survey Year*	*Ratio of Richest 20% to Poorest 20%*	*Gini Index*	*Life Expectancy at Birth in 2001*	*Education Index*	*Highest Gross Domestic Product Per Capita 1975–2001 ($US)*	*Year of Highest Gross Domestic Product Per Capita*
High Human Development Countries							
1 Norway	1995	3.7	25.8	78.7	0.99	29,620	2001
3 Sweden	1995	3.8	25.0	79.9	0.99	24,180	2001
4 Australia	1994	7.0	35.2	79.0	0.99	25,370	2001
5 Netherlands	1994	5.5	32.6	78.2	0.99	27,190	2001
7 United States	1997	9.0	40.8	76.9	0.97	34,592	2000
8 Canada	1997	5.4	31.5	79.2	0.97	27,130	2001
13 United Kingdom	1995	7.1	36.0	77.9	0.99	24,160	2001
17 France	1995	5.6	32.7	78.7	0.96	23,990	2001
18 Germany	1998	7.9	38.2	78.0	0.96	25,350	2001
55 Mexico	1998	17.0	51.9	73.1	0.86	8,581	2000
Medium Human Development Countries							
63 Russian Federation	2000	10.5	45.6	66.6	0.93	10,326	1989
65 Brazil	1998	29.7	60.7	67.8	0.90	7,360	2001
69 Venezuela	1998	17.7	49.5	73.5	0.84	7,619	1977
74 Thailand	2000	8.3	43.2	68.9	0.88	6,763	1996
75 Ukraine	1999	4.3	29.0	69.2	0.93	9,303	1989
78 Jamaica	2000	6.9	37.9	75.5	0.83	4,174	1975
99 Sri Lanka	1995	5.3	34.4	72.3	0.82	3,273	2000
104 China	1998	8.0	40.3	70.6	0.79	4,020	2001
111 South Africa	1995	33.6	59.3	50.9	0.83	13,510	1981
127 India	1997	5.7	37.8	63.3	0.57	2,840	2001
Low Human Development Countries							
144 Pakistan	1998–1999	4.8	33.0	60.4	0.41	1,890	2001
145 Zimbabwe	1995	12.0	56.8	35.4	0.79	2,780	1998
146 Kenya	1997	9.1	44.5	46.4	0.73	1,079	1990
152 Nigeria	1996–1997	12.8	50.6	51.8	0.59	1,084	1977
156 Senegal	1995	7.5	41.3	52.3	0.38	1,525	1976
158 Rwanda	1983–1985	4.0	28.9	38.2	0.63	1,643	1983
160 Tanzania	1993	6.7	38.2	44.0	0.61	520	2001
169 Ethiopia	2000	24.8	57.2	45.7	0.38	811	1983
170 Mozambique	1996–1997	7.2	39.6	39.2	0.43	1,140	2001
175 Sierra Leone	1989	57.6	62.9	34.5	0.41	1,070	1982

Source: Adapted from United Nations Development Programme, *Human Development Report 2003* (New York: United Nations, 2003).

Social and Economic Inequality within Countries

Inequality is not simply a global problem *between* so-called First and Third World nations. Income disparities *within* many countries have also escalated. The transition to market capitalism in the former Soviet Union has seen some of the most rapid increases in inequality ever. In the Russian Federation, the income share of the richest 20 percent is eleven times that of the poorest. Between 1987–1988 and 1993–1995, the Gini index rose from 0.24 to an astonishing 0.48. Developing countries in Southeast Asia (Bangladesh, Bhutan, North Korea, India, Myanmar, Nepal, and Sri Lanka) have witnessed economic growth in the past decade, but it too has been unevenly distributed. More than a third of the population of India lives below the country's own national poverty line, while in Bangladesh and Nepal close to half the population is classified as poor.

Even in the richest countries, income inequality has been growing. Incomes have risen rapidly for the top 20 percent of the population in most of the developed countries in the past three decades. Although there is much debate over what has happened to the middle-income groups in the population, it is clear that their share of income has declined in relation to the very rich. For the bottom 20 percent of the population, poverty rates, as measured by subsistence on family income amounting to 50 percent of the national median, remained the same or rose slightly in most European and North American countries during the 1980s and 1990s. Overall absolute income has been rising, so it is possible that some of the poor have seen real income increases in the past two decades. Yet there is evidence from many developed countries that a large proportion of the poor have become even poorer in recent decades, including those who rely on social assistance or poorly paid jobs, live in state housing, or are recent immigrants. Much of this disparity is related to changes in work and employment: There are consistently high levels of unemployment and underemployment and fewer well-paid jobs with decent benefits and stability. As Michael Storper summarized, there has been a "combination of decline and stagnation at the bottom, moderate growth and relative loss in the middle and big growth at the top" (Storper 2000).

There has been some variation in the developed countries: The most unequal countries in terms of income and wealth are the United States, Israel, Australia, Italy, Portugal, and Greece. In the middle are Canada, the United Kingdom, and most continental European countries. The least amount of income inequality occurs in Japan, Belgium, and the Scandinavian countries. The 1989 Luxemburg Income Study (http://www.lisproject.org), which measured the distribution of income and poverty in twelve developed countries, and a follow-up study conducted by the OECD, found Sweden to have the lowest level of poverty and income inequality and the United States to have the highest. The 2003 UNHDR confirms that these two countries still occupy the top and bottom positions among developed countries.

Adequate educational levels, health care, and literacy may mitigate measurements of income and wealth. Although incomes may be relatively inequitable in Australia, for example, the country is still ranked as the fourth best country on the 2003 UNHDR. The United States consistently ranks among the top countries in the world in terms of gross domestic product per capita, but the high concentration of wealth at the top of society skews average figures, putting it in eighth place on the UN human development rankings. Table 1 illustrates some of these processes for selected nations.

All countries also demonstrate variations between men and women and dominant ethnic groups and minorities. In addition to noneconomic forms of discrimination, there is overwhelming evidence of economic disparities in most variables in both developed and developing countries between the majority group and many indigenous, immigrant, eth-

nic, or linguistic minorities. Native peoples in all North and South American countries are desperately poor in relation to the dominant ethic group. Many depressed economic regions, such as the Maritime Provinces of Canada, several southern U.S. states, and the northeastern states of Brazil, exhibit substantially lower incomes than the economically successful regions of these countries. Globally, more than 70 percent of the poor population is female, and in virtually every nation women make substantially less than men for the same work.

The United States: A Case Study in Inequality

In the post–World War II economic boom, the United States consolidated its position as the richest and most influential country in the world. By the mid-1960s, the country peaked in terms of income equality measured by the Gini index even though it remained a highly polarized society in many other aspects. However, from the late 1960s onward, an upward trend toward more income inequality has occurred. In fact, the United States is more unequal now than at any time since World War II.

Without a doubt, the strong economy of the 1990s benefited the richest Americans, but the middle and lower income groups enjoyed little or no growth in incomes. The richest 5 percent made ten times as much income as the poorest 5 percent in 1979. By 1995, the ratio was 25 to 1. Another interesting measure is to compare the distribution of income between the average corporate executive and the average worker. In 1965, corporate executives made twenty times more than the average production worker; by 1989, the ratio had almost tripled to 56 to 1. By 1997, the figure was 116 to 1. Between 1989 and 1997, the salary, bonus, and stock plans of the average executive grew by 100 percent. Needless to say, the middle-income sections of the population did not keep pace, and low-income earners suffered, at best, stagnation, and, at worst, a decline in their economic positions. On average, real wages for American workers were only slightly higher in 1993 than in 1973, and this can probably be accounted for by the increase in two-income families. Although there may have been some improvement since the late 1990s, many ordinary Americans are just trying to catch up from the losses of the 1980s and 1990s, a process reflected in the fact that the average American now works one and a half weeks more than they did thirty years ago. Finally, many of today's poor—disproportionately single mothers, blacks, Hispanics, and public housing residents—are relatively poorer now than twenty years ago owing to the widening of the overall income disparity and reductions in social services.

Interestingly, black households have improved their relative position since the 1980s as a result of income gains and corresponding declines for many white workers. The gap nevertheless remains substantial. The black poverty rate is at an all-time low, but black household incomes still remain an abysmal 63 percent of white households. By the same token, women have improved their position vis-à-vis men. Average incomes for all women were 54 percent of men's in 1996, a considerable increase over the 39 percent figure in 1985. In addition to entrenched discrimination, part of the reason for women's lower incomes is that fewer women work, and among those who do, fewer work full time for the whole year. Domestic work in the home, which women do much more than men, is also not paid. The narrowing of the income gap has much to do with the overall decrease in men's incomes.

Globalization and Inequality

The term "globalization" is almost as fiercely disputed as "equality." Nicola Yeates offered a useful definition, writing that globalization is "the emergence of an extensive network of economic, cultural, social and political interconnections and processes which routinely tran-

scend national boundaries" (Yeates 2001). There is intense debate among researchers about the actual consequences of globalization. Economists and politicians in the neoliberal tradition are ardent supporters of globalization, arguing that the long-term benefits of increased internationalization of trade, finance, and politics outweigh any potential negative consequences. They maintain that the new global order rules out any attempt to regulate the system through state intervention because companies will simply move their operations to a more profitable part of the world. Any inequalities that do exist are explained as a result of individual differences: The wealthy benefit from having skills that are highly valued, whereas the majority suffer from their lack of marketable talents.

Liberal and radical critics of inequality also disagree over the effects of the global integration of economics and politics. The most pessimistic commentators, known as the hyperglobalists, claim that globalization has created a more open world economy with stiff competition within industries and among countries and growing overall sensitivity to international economic fluctuations. Formerly state-owned and/or managed sectors have been privatized or substantially deregulated, leaving them open to the pressure of market forces. In the pessimistic view, global financial markets have grown so powerful that banks and financial institutions exert a decisive influence on the monetary and social policies of governments, forcing states to reduce social investment. In this climate, multinational companies have been able to negotiate positive investment, production, and taxation benefits from states as well as to force through extensive changes in the organization of work. The resulting shift in labor-market, macroeconomic, and industrial policies has effectively led to the end of full employment and put downward pressures on wages, working conditions, and benefits. Manufacturing jobs that traditionally offered high wages and benefits have restructured, leading to contracting out of production and services to low-wage companies or sometimes even the transfer of production to other countries with lower wages and benefits. The jobs that have been created have tended to be in low-paid, insecure positions, often in the services sector, that offer few opportunities for long-term advancement. The same process has seen unions lose much of their power so that they have been unable to challenge reforms to labor rights that weaken the bargaining position of workers. Above all, hyperglobalists argue that the traditional nation-state has become largely obsolete owing to the growing power of multinational corporations and international financial bodies such as the International Monetary Fund and the World Bank.

Critics of the pessimistic account rarely dispute the fact that global economic integration has accelerated or that inequalities have increased, yet they do not believe that it is globalization of trade and finance per se that is responsible. Some researchers emphasize technological change, such as the automation of production, and organizational changes in the labor process, which have created a wage and benefits gap between a relatively small sector of highly skilled workers and a larger sector of semiskilled labor whose living standards have not kept up with economic growth. In this account, the reorganization of work probably accounts for much of the growing inequality between rich and poor. Low unemployment used to offset the gap between rich and poor. In the new economy of the twenty-first century, however, this is no longer the case. Having a full-time job no longer necessarily means a secure existence.

Others argue that an increase in inequality has resulted chiefly from shifting political strategies that have been determined by national domestic concerns. They argue that a strong ideological transformation among economists, political parties, and policymakers in favor of the corporate agenda and the weakening of traditional social movements and trade unions has occurred, prompting governments to actively reduce social protections. Ac-

cording to this argument, governments have shifted their ideological and political priorities and now accept the existence of income inequality and high unemployment, reject structural causes of poverty, and promote a more or less socially conservative social policy agenda that stresses individual morality. Globalization is regarded more as a consequence of this political shift than the cause.

The Future of Inequality

The 2003 UNHDR observes that there have been some improvements in a number of poor countries, especially in the area of social programs, but many more countries declined in the 1990s than in previous decades. The overall trend indicates that social and economic inequalities will increase because of immense changes in work, trade, finances, and politics that favor rich countries on a global scale and the already affluent within nations. The exact outcomes will nonetheless be determined by national and international political struggles over the real and perceived gains and losses of globalization.

Sean Purdy

See Also Labor Markets and Wage Effects; National Government Policies; Bank for Reconstruction and Development (World Bank); International Monetary Fund (IMF)

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International Financial Markets

Global financial market activity consists of the transactions and financial flows that occur within bond, equity, derivatives, banking, and exchange rate markets around the world. The importance of the globalization of financial markets lies in the fact that the financing process is an integral part of both commercial and non-profit-making activities. In addition, the finance process is affected by other sectors, such as economic activity, politics, and differing country cultures. The surge in financial market activity during recent years may be attributed to deregulation and technological improvements, which now allow access to worldwide markets at reasonable transaction and information costs. The trading activity taking place on organized exchanges and over-the-counter (OTC) markets is undertaken by participants who differ in terms of their foreseen investment horizons, return objectives, and tolerance to risk.

Globalization of financial markets has brought about higher efficiency and competition, yet one should not overlook the fact that the potential for the spreading of financial crises is higher in a global marketplace. It is therefore important to ensure that adequate systems are in place to deal with such eventualities, both at international and national levels as well as in individual organizations. Other concerns about the globalization of financial market activity center on whether the current system is in fact channeling long-term funds to finance real business activities, especially in the case of less developed countries.

A General Overview

Over the past few decades, financial market activity around the world has been stimulated by a combination of improved technology, deregulation, and financial innovation. This has resulted in the integration of different financial markets across the globe—the globalization of financial markets. In a wider context, this process has been coupled with corresponding patterns in trade, labor, and political and cultural ideas. For the purpose of this discussion, examples and illustrations are largely drawn from bond, equity, and derivatives markets, given that financial services and exchange rate activities are being treated in separate sections of this book.

Traditionally, investors tended to shy away from holding foreign financial assets owing to inherent country and exchange rate risks as well as exchange controls. Gradually, private investors started to delegate the management of their portfolios to financial institutions, such as through participation in collective investment schemes. This helped to overcome the barriers of risk management, as investments were more likely to be backed by technical knowledge, and the higher amounts of managed funds implied a wider scope for diversification benefits. Countries started to realize that controls on financial flows were becoming less effective—and indeed these had to be gradually dismantled if new financial investment was to be attracted. This resulted in a deregulation process in several countries, especially in

the 1980s, which furthered the scope of cross-border financial flows and the resulting globalization of financial markets.

Advances in communications and transaction-processing technologies led to a shift away from physical trading floors to computerized trading systems. This resulted in controlled transaction costs, given that automated execution systems, such as electronic communication networks (ECNs), reduce the required interaction between counterparties as well as execution time. Technology has also led to a higher degree of information accessibility and to more efficient computation of elaborate calculations that are necessary in the assessment of risk and in the pricing of some products, such as derivatives. The value of the latter instruments depends on the price of an underlying asset such as a basket of stocks, a financial variable such as an interest rate, or a physical commodity such as oil.

In this way, globalization is the integration of domestic activity with that of other countries. Local transactions have to be viewed in the context of a larger global market that is present irrespective of whether transactions with foreign economies occur.

Global Market Participants

Trading participants in financial markets are spread across the world, and these differ in terms of their home currencies, transaction costs, risk-management policies, and time zones. Market participants are likely to have different objectives; some portfolio investors may have set long-term investment horizons, whereas day traders aim to profit from the price differentials of a financial asset prevailing during different times of the day. Trading on securities, derivatives, and currency markets takes place on organized exchanges or OTC. In the latter case, the counterparty is typically a bank or a financial institution. In addition, trades also differ according to whether they are spot transactions, which are settled immediately, or transactions settled at a future date agreed upon in advance, such as derivative contracts.

One of the major impacts of globalization of financial markets is that it offers financial managers a higher degree of flexibility in obtaining funds for their companies. For example, a company may issue securities overseas, or it may borrow on the home markets, if it would like to exploit its local goodwill, and then "swap" the debt into another currency if it prefers to do so. Swaps are derivative contracts that enable financial managers to control risks by altering their exposure to changes in interest rates, exchange rates, or other variables.

Trading on Global Financial Markets

During the 1980s, governments and large companies started to take a more active approach to financing their activities by emphasizing the issuing of quoted securities rather than borrowing money from banks. This disintermediation trend was partly fueled by the fact that banks had to limit the expansion of their loan portfolios in order to comply with new capital adequacy requirements.

Large bond issues became more common, with London becoming the major venue for international bond issues. Such bonds were issued either with short-term maturities or with longer maturities, such as twenty-five years. In this way, banks diversified their roles in the company financing process—from direct lenders to underwriters and/or guarantors. In their underwriting role, banks undertake to purchase any portions of the security issue that remain unsubscribed, whereas when acting as guarantors, banks agree to compensate the bond holders in case the borrower defaults on its obligations.

Stocks and bonds are traded around the world almost twenty-four hours a day on dif-

ferent exchanges; trading begins in London within a couple of hours of the closing of exchanges in Tokyo, and trading activity in New York commences prior to the closing in London. Equity holding has become more widespread among households, whereas traditionally this was mainly restricted to wealthy individuals and institutions. One possible reason for this is that households are becoming aware of the importance of saving up for their retirement.

The increased number of companies raising funds through public offerings means that it is important for these financial instruments to be accessible to a wide variety of investors. Therefore, large companies and multinationals often list their equity on different exchanges or tap overseas sources of funds by floating primary issues on foreign exchanges.

Derivative contracts are intended for the usage of larger companies and portfolio managers in controlling financial risks, such as exchange rate and interest rate risk. Despite this, the reputation of derivatives has been tarnished because they can also be used for heavy speculative activities. Indeed, in some cases derivatives were (partly) responsible for large losses incurred by financial institutions such as Britain's Barings Bank in 1995. Apart from OTC contracts, a number of standardized derivatives are traded on various exchanges. These include interest rate futures of various maturities, which are traded on exchanges such as the Chicago Mercantile Exchange and the Singapore International Monetary Exchange; bond futures, where the underlying instruments are typically government bonds; and futures on commodities such as agricultural products, petroleum, and precious metals, which are traded on various exchanges, including the Chicago Board of Trade.

In contending with this new business, exchanges sought to modernize their trading systems, partly because they had to compete with other trading mechanisms, such as OTC markets and electronic trading systems (Island and Instinet, for example). Overall, there was a tendency to shift from physical trading floors in favor of electronic systems. Exchanges also sought to lengthen their period of activity through after-hours sessions.

Exchanges modified their roles in this changing environment as well, and today they are trading a wide variety of products. One example of a new market developed by exchanges is the trading of derivatives that have quoted securities or stock price indices as their underlying asset. Exchanges are also involving themselves more actively in the clearing of transactions, that is, the process of settling transactions through the delivery of assets or cash after execution.

The competition between exchanges is often considered a mixed blessing. Competition instigates market reform, which can result in reduced transaction costs. However, there are concerns that, as trading splits among different exchanges, the liquidity associated with large volumes of transactions occurring at the same venue may dissipate away. Despite this, one should note that traders can make informed decisions about the optimal venue that will result in the best deal, and they can transact on the exchange that they choose at the touch of a button or a phone call. In this way, it might be misleading to think about different trading venues as completely separate entities—if liquidity moves away from one venue, traders may move accordingly.

A significant part of trading activity and cross-border business financing tends to be intermediated within definite areas called financial centers, such as New York, London, and Tokyo. In such centers one finds a concentration of financial institutions and exchanges as well as high volumes of trade in currencies, international securities, and derivatives.

The Effects of Globalization on Financial Market Structure

Globalization has radically reshaped the financial markets in terms of structure and relation-

ships between different players. As exchanges compete for business and borrowers seek finance, institutions often lay particular importance on establishing themselves in the United States, given that U.S. securities markets provide access to a large tap of funds. This may be due to the fact that issuing public securities was historically popular among U.S. businesses, whereas European and Japanese businesses relied more on bank finance. U.S. institutions have also emphasized the possibility of overseas expansion, as deregulation trends minimized barriers to entry. Such factors resulted in considerable merger and takeover activity. As financial institutions establish their presence overseas, there are potential benefits resulting from the transfer of innovative business and risk-management methods, even if such developments may prove to be difficult for those entities facing new competitors. The latter typically go through processes of modernizing their operations and revising the portfolio of the services they offer.

Another factor resulting from such trends is the likely increase in competition as the number of financial institutions in a country increases. This is particularly important in those countries where the financial services industry tended to operate as an oligopoly dominated by a few large firms. Overseas expansion should enhance competition, yet as institutions consolidate through merger activity, one should reassess the possibility of the global industry becoming dominated by a handful of major players. In addition, overcoming the cultural differences in cross-border merger activity may also prove to be a challenge.

A related concern associated with the industry becoming concentrated is that the failure of a large player may have excessive repercussions on the global industry, as this might compromise the repayment of obligations to a large number of counterparties. This is particularly possible in derivatives activity, where a significant portion of OTC contracts has clustered with the select major players.

Merger and acquisition activity among financial institutions has wider implications for management teams. In particular, when management policies are deemed unsatisfactory, the share price of the particular institution is likely to fall, making it a more attractive takeover possibility. In other words, mediocre management teams are more likely to be replaced. Similarly, in an increasingly efficient and globalized securities market, shareholders cannot be neglected; this explains why management teams emphasize the generation of shareholder wealth, which entails generating profits in order to boost the value of the company's shares, and the distribution of attractive dividends.

One might question the role of smaller institutions in such an environment. It was traditionally believed that small institutions could barely survive competition from larger ones. Gradually, the potential for smaller institutions to adapt quickly to change and their role in satisfying the needs of smaller markets (niche markets) became more apparent. However, these ideas conveyed a "large or small" philosophy with little role for medium-sized institutions. Nowadays it is being realized that mid-sized institutions can also survive, if they focus on their own strengths and formulate successful business strategies.

Such arguments also apply to the securities markets. Although these markets are dominated by the big names, such as the New York Stock Exchange, Nasdaq, and the London Stock Exchange, the role of smaller stock exchanges should not be overlooked. Smaller exchanges should serve as a means through which medium-sized companies can tap funds. Such businesses may find the marketing campaigns and the fees involved in listing on major exchanges to be prohibitive and therefore conclude that it might be more practical for them to list on smaller exchanges in their own region. Likewise, large companies are not likely to list on distant exchanges unless the additional liquidity and access to capital make it worth the effort and cost. Another important role of smaller exchanges is the gathering and

provisioning of market information. Such information is now required on a global basis, as fund managers increasingly diversify their portfolios and seek the best risk-return combinations.

Smaller exchanges are also targeting cross-listing possibilities from companies already listed on larger exchanges. Through the use of appropriate technology and infrastructure, the securities listed on smaller exchanges may be accessible internationally, and this may reduce the traditional disadvantages of remoteness from the major financial centers. In this respect, the infrastructure of exchanges (especially the smaller ones) should be able to interact with that of other exchanges. Compatibility between systems is gaining importance as exchanges seek to interconnect trading systems and develop a global market structure based on transparency. Smaller exchanges should also be on the alert to spot and to take advantage of opportunities when they come along. These opportunities may be in the form of proposed mergers or agreements aimed at closer cooperation.

Flexibility and Efficiency on International Financial Markets

The advantages of a global financial market include the efficient allocation of worldwide savings toward the best investment opportunities in terms of their return-risk combination. For any given level of risk, investors select the business opportunity with highest expected returns, whereas for any given level of expected return investors allocate their funds toward the lowest-risk projects. In an ideal market, the owners of financial capital select the best investment opportunities according to these criteria, irrespective of whether the funds are financing local or overseas activity. In this way, the companies having the most efficient business proposals would be the first to obtain funding.

This degree of flexibility is not only afforded to the owners of financial capital but also to borrowing companies. Large firms may borrow funds in whatever currency they require and then swap the debt to another denomination, as discussed above. Today, most companies face no regulatory impediment from seeking to obtain financial services from overseas institutions, and in this way there is greater flexibility in shopping around for the best deal—whether in the form of issuing securities or bank finance. Despite this, one should note that smaller businesses might still shy away from overseas funding sources on the grounds that information search costs might be high. In addition, different languages and business practices may compromise the success of some overseas transactions.

Another change in the structure of financial markets relates to the increased importance of institutional investors. Individual investors tend to entrust the management and investment of their savings to financial institutions on the grounds that they might not have the time and expertise to manage their portfolios themselves. Institutional investors therefore hold large portions of the financial assets of industrialized countries. Portfolio managers invest in international financial assets for diversification benefits, possible capital gains from exchange rate movements, and higher overseas growth rates. This enhanced role of institutional investors may be considered a positive feature, as long as these entities endeavor to allocate their clients' funds efficiently. Large fund-management companies may also realize transaction cost savings and exercise significant voting powers and management influence in the companies in which they have invested. Such advantages are not likely to be realized by the typical individual investor. The expectations of institutional investors have also instigated innovation in various areas, such as new risk-management products and more efficient trading systems.

Other Implications of Global Financial Markets

Information is an important component in the global financial system. The Internet gives investors access to the latest news, security trading prices, and financial announcements, in most cases in real time. Therefore, the overall level of information has increased. Yet, one may argue that asymmetric information still characterizes financial markets; for example, some market participants have access to insider knowledge, and scandals such as Enron and WorldCom in 2002 showed how published information may not always reveal the true financial standing of an entity. Information asymmetries may be even more pronounced in a global financial system, where funds typically pass through different institutions and markets while on their way from the owner to the ultimate borrower. This implies that financial institutions and investors may be indirectly exposed to counterparties whom they do not even know.

In this way, risk management becomes more important in a global financial market. Risk-management methodologies have become more sophisticated, and financial institutions typically manage their own risks and offer derivative products to help other firms in managing their risks. When financial institutions take on the risks of their clients, some of these risks might net out, given that they may be symmetrically opposite positions—say, having to pay interest in yen to one client, but receiving interest in yen from another client. Financial institutions also seek to reduce or hedge any remaining positions that they deem excessive. Exchanges that trade derivatives manage counterparty risk by asking customers to deposit money in margin accounts. Risk management may actually turn out to be a complex activity, because extreme events that impact on the value of financial assets are difficult to forecast. In addition, risk-management techniques are far from perfect; for example, most of them are based on the assumption that liquidity is available on the markets, and this might not hold in times of market stress, such as the U.S. stock market crash of October 1987.

Globalization of financial market activity is also relevant to other aspects of economic activity. For example, countries should strive to attract financial investment, which is a precondition if the economy is to develop at a faster rate, especially if direct foreign investment is lacking. In this respect, active and transparent financial markets are important for economic growth. Globalization is also likely to affect the monetary policy of the country. For example, in setting their interest rate targets, central banks need to take account of the rates offered in other countries, and similarly, if they target money supply growth, this is likely to affect the exchange rate, which impacts on cross-border investment prospects.

Financial Crises and Contagion

The potential for contagion of financial problems across businesses and financial institutions is higher in a global marketplace than when trade is limited to fewer trading partners or stays within regional boundaries. Financial crises emanating from one economy may spread to other countries, as witnessed in the Southeast Asian crisis originating in Thailand in 1997. This crisis spread to other regional economies and also to the United States through higher risk premiums on corporate debt. There are different explanations as to why financial crises can spread. For example, it may be the case that as a financial crisis appears in one country, international investors reassess their portfolio decisions about investments in a number of other countries that may be prone to similar problems. Following this, some investors withdraw their funds from such markets, causing liquidity problems. An alternative explanation is that countries experiencing a crisis may devalue their currencies in the hope

of improving their balance of payments position. When this happens, neighboring countries follow suit in order to avoid losing their competitiveness, and this results in a series of competitive devaluations. Such processes may be amplified through currency attacks by speculators.

As soon as the prospect of a financial crisis becomes evident, flows of funds to the countries that may be affected tend to reduce drastically, as investors rush to sell their financial assets in order to repatriate their money and invest it in less risky markets. This worsens the situation of borrowing economies, propagating the crisis. The process may go on as investors subsequently shy away from other financial systems, either because they tend to become more cautious, or because they may have to sell other financial assets in order to raise cash to make up for the money they lost elsewhere.

The extent to which different international markets are correlated, and the potential for contagion, are still debated issues. However, one may assume that the potential for contagion is higher in a globalized financial system than in an (unrealistic) situation where markets are insulated from one another.

When analyzing the potential causes of crises in the financial systems of developing economies, one may mention a variety of factors. In the case of the Latin American crisis of the 1980s, one may speak of a combination of shortcomings on the part of the borrowing and lending countries as well as a range of external factors. For example, the borrowing countries at times were inefficient in their use of funds. The lending banks might have been inattentive to the fact that they were highly exposed to this group of countries, or perhaps they took for granted official support from various institutions. In addition, a drop in the price of oil at the beginning of the 1980s, increasing interest rates, and an appreciating U.S. dollar worsened the prospects of less developed countries. In the case of the Asian financial crisis, one may mention factors such as insufficiently diversified economies, high exposure to foreign currency borrowing, and inadequate loan-management processes on the part of commercial banks. Although some of these factors have improved, other shortcomings may take longer to overcome, and the issue of adequate regulation and supervision of financial systems and institutions is always at the fore.

Reforming the International Financial System

Given that the global financial system may undergo problems when a crisis occurs, efforts are being directed at reforming the system. International institutions at the forefront of these developments include the IMF, the Basle Committee of Banking Supervisors, and the International Organization of Securities Commissions. In addition, countries also establish their own safety nets, such as the lender of last resort function of central banks and local regulatory and supervisory functions. The objectives of financial reform include strengthening the international monetary and financial systems as well as devising ways for them to operate with a higher degree of transparency and efficiency. Institutions such as the IMF have an important role in such developments; however, the stabilizing function of this institution is at times criticized on the grounds that funds are typically provided to countries in crisis only if they implement deficit-cutting polices, when an expansionary fiscal policy might be desirable to revitalize the economy. Yet it is important to note that often it is not easy to arrive at the "correct" solution to a problem, given that this is likely to involve a complex interlinking of various factors, including exchange rate management, regulatory policies, and negotiations with creditors.

In order to secure continued inflows of financial capital, less developed countries (and indeed all countries) must inspire confidence in their financial systems. This entails the pres-

ence of institutions whose roles include administration of sound monetary policy and supervision of the financial system. Other structural reforms might also be needed in a wider context to encourage competition, invest in education, and reevaluate country debt-management policies. Developed countries might also contribute to the expansion of less developed economies by promoting trade with these countries and, in some cases, by renegotiating or forgiving debts.

Some of the salient trends in the extensive area of financial reform include an emphasis on what governments, international organizations, and financial institutions can do to prevent problems from occurring. Some of the recommendations that economists have suggested include: monitoring the factors that may lead countries to a crisis, updating national regulatory and supervisory functions continuously, establishing sound risk-management processes for financial institutions, implementing international standards, and enhancing the degree of transparency within countries.

Other Challenges of Financial Market Globalization

The globalization of financial markets is at times questioned on account of the policies adopted in developed economies. One concern is whether business managers, in their quest to satisfy shareholders, are focusing on the generation of short-term profits to the detriment of long-term objectives. Indeed, the pressure to generate returns has, in extreme cases, led companies to inflate or invent profit figures, as witnessed in the scandals of Enron and WorldCom.

Another concern is that a large portion of the international flows of funds no longer represents the transfer of real resources for productive investment, but rather financial capital in search of quick profits, which tends to be volatile in nature. In particular, the rise in the activity of foreign exchange and securities markets was not matched by an equivalent increase in world output. Despite this, there is not much that countries can do to mitigate the hastiness with which fund managers reallocate their portfolios. Indeed, an understanding that investors will be able to withdraw funds quickly is a precondition for attracting financial capital. It is also argued that most of the daily transactions on securities markets represent investors or fund managers who are exchanging claims on the capital of companies, rather than investors wishing to finance business activity. One possible concern about such trends is that financial capital is diverted from long-term productive uses to speculation. Again, this highlights how important it is that countries and businesses continue to inspire investor confidence if they are to replace outflows of short-term financial investment with other inflows.

The increased number of day traders on the markets during recent years has led to concerns about whether such traders have increased volatility. For example, Internet stocks have often been the target of speculative trading, and this led to high volatility, excessive valuations, and ultimately a crash in the prices of these stocks in 2000. Volatility in the flows of financial capital may bring about uncertainty and instability in financial markets through the resulting shocks in variables such as interest rates and exchange rates. This would have further repercussions on real business activity as firms' costs of borrowing money and buying foreign goods change.

The financial crises experienced in recent decades have exposed the risks inherent in the globalization process. As capital flows become more volatile, these risks increase. In addition, less salient risks arise from the interaction of different cultures; at times, the less developed economies lag behind. The solution to such problems is not likely to be the reversal of the globalization trend, given that this would also

withdraw the inherent opportunities in the process. Yet, it is important to devise policies that lead to more resilient economies and financial systems as well as ensuring that the benefits of globalization are distributed in an equitable manner among nations.

Silvio John Camilleri

See Also Balance of Payments and Capital Inflows; Currency Crisis and Contagion; Dollarization; Exchange Rate Movements; Financial Services; International Monetary Fund (IMF)

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International Indebtedness

International indebtedness refers to money owed by governments on a global scale to private and public banks and international financial institutions such as the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (World Bank). Nations rely on bank loans to finance social and economic development projects as well national defense and military campaigns.

The advanced capitalist countries in North America, Europe, and Japan have substantial national debts, but their relatively strong economic and political position in the international economy has allowed them to weather the severe global economic and financial storms of recent years. In many poor nations, however, spiraling external debt has meant economic and social devastation. Beginning in the 1980s, heavily indebted countries in Africa, Latin America, and Asia found it increasingly difficult to pay off their debts owing to falling export prices for the products they sold in international markets, a decline in the value of their currencies in relation to the U.S. dollar, and economic mismanagement and corruption by national elites. The IMF and the World Bank, effectively controlled by the United States and its closest allies, negotiated "rescue" packages for many developing countries but dictated stringent conditions, such as the necessity of paying a high proportion of national income toward debt repayment, cutting state spending on social and economic programs, and further integrating their economies in the world market. This program has resulted in deepening poverty and inequality in much of the developing world. International debt is therefore not a simple economic fact; it is closely related to ideology and politics on an international level and needs to be viewed in the context of the rise of global integration in trade and finance in addition to shifting international political strategies by the dominant states.

Debt, National Governments, and the International Financial System in Historical Context

Until the twentieth century, national states had few debts. In the eighteenth and nineteenth centuries, governments in Europe and the United States did borrow from private banks to pay for wars, but usually the debts were small and short term. A glance at the ratio of U.S. government debt to gross domestic product (GDP) during that period shows moderate borrowing during wartime and almost complete repayment during peacetime. In the 1830s, U.S. President Andrew Jackson even paid off the entire national debt. Government borrowing was largely unregulated: State officials simply sought out the best deals with private domestic or international lenders for short-term loans.

As international trade and domestic industrialization increased in the late nineteenth and early twentieth centuries, however, the leading states began to more actively intervene in economic and social life to ensure prosperity and growth. Financial markets and credit blossomed as the growing profits from industrial

development were channeled through banks and other lending institutions. Gradually, nations began to use debt financing to partially or fully bankroll major state projects such as the building of highways, railroads, and power plants. The two world wars also saw a massive increase in state borrowing, and relatively high debt levels were maintained after hostilities ended in most developed nations. Yet sustained economic growth, a steady rise in taxes, and international financial regulation in the post–World War II period allowed governments in most developed countries to adequately manage their debt levels.

Much of the stability in world financial markets from the 1940s to the 1970s resulted from international regulation consciously established by the leading states after World War II. There was a generalized belief in policy circles in most Western countries that the postwar capitalist economy was likely to revert back into marked economic instability like that experienced in the 1930s unless significant steps were taken to control key aspects of the economy. In addition to social welfare spending and domestic economic regulation, the United States and Britain also wanted to construct an international monetary system that would favor the growth of international trade. Thus, the Bretton Woods international monetary system (named after the town in New Hampshire where the agreement was negotiated) and its key components, the IMF and the World Bank, were created in 1946.

The Bretton Woods system had two major objectives. The first was to provide stability in the price of international currencies, making it easier and less risky for businesses to conduct international trade. It accomplished this by fixing currencies to gold—a form of money separate from the currency of any nation. The price of the U.S. dollar, the most powerful currency, was fixed to gold, and other national currencies, such as the English pound, the French franc, and the German mark, set their currencies in relation to the U.S. dollar. No country was allowed to unilaterally change currency prices. The IMF was responsible for managing negotiations between countries in the changing of currency prices and for providing loans to member states that were having difficulties with imbalances between the products they exported and imported. The World Bank was established during the same period to provide member countries with economic reconstruction and development funds. A second major aim of Bretton Woods was to prevent private financial operators from freely moving money around the world in the search for speculative gains. Private banks were allowed to move funds to finance trade and productive investment, but states were given the right under this system to control the activities of financial institutions so that investment in goods and services was prioritized.

Critics of the massive debts owed by developing countries still use the term "Bretton Woods" to refer to the current international monetary system, and the IMF and the World Bank are certainly still key players in the global political economy. Yet the Bretton Woods system was transformed significantly by the early 1970s under pressure from growing multinational corporations and international banks as well as through conscious political changes initiated by the administration of U.S. President Richard Nixon in response to concerns about growing economic competition with Japan and European nations.

By the late 1960s, U.S. political and economic leaders increasingly asserted that the Bretton Woods arrangements were restricting their global economic and political interests. Massive military spending in the 1950s and 1960s during the Korean and Vietnam wars had created a structural deficit in external payments; that is, the United States was spending much more money than it had, forcing it to borrow from both domestic and international lenders. The states that were in surplus with the United States were demanding their right according to the Bretton Woods agreements to transfer their surplus dollars into gold. By the late 1960s, however, U.S. gold reserves were

quickly depleting. Moreover, powerful multinational companies and international banks resented the restrictions that prevented them from easily transferring money to other countries to make profits. Rather than taking the necessary steps to ensure the maintenance of the system, the U.S. government decided to break from Bretton Woods altogether and establish what Peter Gowan has aptly called the "Dollar–Wall Street regime."

In August 1971, the U.S. government unilaterally decided to withdraw from the gold standard and use the dollar itself as the world standard. The fixed exchange rates of Bretton Woods were abandoned, and a floating exchange rate system was introduced based on whatever values the U.S. government deemed appropriate. President Nixon also used the economic and political power of the United States in the Middle East to force the countries in the Organization of Petroleum Exporting Countries (OPEC) to quadruple oil prices in 1973, which harmed the main competitors of the United States in Japan and Europe, who depended on oil from the region. This move also produced windfall profits for oil producers that were subsequently deposited in private U.S. banks. Finally, the restrictions on the flow of finance capital were substantially reduced in several key areas, allowing banks and other financial institutions to shift money across national borders with fewer obstructions. Part and parcel of this latter process was the increased involvement of the IMF and the World Bank in new and broader types of lending to developing countries.

The general significance of the Dollar–Wall Street regime in relation to international indebtedness may be summarized as follows:

1. The U.S. government could now effectively control the direction of world monetary policy by unilateral changes to the value of the dollar. The floating exchange rate set up was a useful tool that allowed the United States to avoid the adjustments that would have otherwise been required by the country's status as a debtor nation. If the United States had continued under the fixed exchange rate system, it would have had to pay for its indebtedness through unpopular domestic austerity measures, as many heavily indebted, poor nations were forced to do in the 1980s and 1990s.
2. Since the dollar became the dominant world currency, most nations and businesses in the world turned to U.S. banks and lending institutions centered on New York's Wall Street to finance investment. The great bulk of international financial market activity continues to occur on Wall Street and its satellite, the City of London.
3. As the main source of the world's credit, the U.S. financial system could now play an even more central role in world trade. A large proportion of the goods bought and sold in world markets are sold in dollars. U.S. companies importing or exporting are far less affected by changes in the value of the dollar than other countries, especially developing nations.
4. The successive reduction of state regulations in international and national financial markets since the 1970s has allowed the big commercial banks to lend money to whatever country or business they want with few restrictions. In 1970, 90 percent of international financial transactions were related to investment in trade and long-term development; by 1995, 95 percent of such transactions were purely short-term, speculative ventures unrelated to the production of goods and services.
5. The role of the IMF and the World Bank has shifted in this new international financial regime. They became auxiliary players responsible for "policing" countries suffering financial troubles and organizing "bailouts" of countries unable to pay their debts. As Gowan argued, when a U.S. bank faces default in the do-

> mestic economy, it is rescued by U.S. taxpayers, who foot the bill for government bailouts. When a U.S. bank has trouble collecting abroad, however, the population of the borrowing country ends up bailing out the bank through austerity programs enforced by the IMF and World Bank.

The dollar and Wall Street do not have a complete monopoly in global financial markets. Other currencies, such as the British pound, the German mark, and the Japanese yen, have also been significant, as have non-U.S. banking centers, but the dollar and U.S. commercial banks have dominated international financial markets since the 1970s. By 1995, over 75 percent of all international bank loans were negotiated in the U.S. dollar, and it served as the currency in half of all world trade.

Rich Nations and International Debt

Contrary to popular belief, the accumulated debt of a handful of rich nations absolutely dwarfs the money owed by developing nations. In 1999, for example, the debt of developing countries (including the former Eastern bloc) was estimated at $2.32 trillion, or about 7 percent of total world debt. At the same time, the public debt of Canada was $600 billion, that of France was $750 billion, and Japan weighed in with a national debt of $2 trillion. The most heavily indebted nation was the United States, at $5 trillion, representing over half the country's GDP. Yet this represented only slightly more than the 47 percent of GDP in debts that the United States had in 1939. Belgium enjoys one of the most successful economies in the world, yet its accumulated debt equaled 130 percent of GDP in 1995.

Unlike the developing countries, the rich countries have not experienced social and economic devastation. This is understandable given that in the first instance the rules have been largely orchestrated in favor of the United States and its allies. Moreover, the developed countries have relatively healthy economies and have maintained respectable rates of economic growth through the postrecession 1990s. Consequently, their credit rating is high, enabling them to borrow money at relatively low interest rates. Until recently there was actually a general assumption in the international financial community that debt was a healthy feature of strong economies and that it contributed positively to economic development. In fact, there is no automatic link between economic success and the state of the national debt.

Nevertheless, the 1980s and 1990s witnessed a concerted campaign among supporters of neoliberal economics in the developed countries to pay down the annual deficit and the accumulated debt. (The "deficit" is the shortfall between government revenues and expenses in any given year; the sum total of the deficits up to the present become the "accumulated debt.") It was argued that high deficits and debts were a drain on economic resources and affected international competitiveness. Most rich countries regularly run deficits; the United States, for instance, has had a budget deficit every year since 1970. Couched in technical arguments about the economic necessity of cutting deficits, the debate was really about the appropriate role of the federal government in the economy and society. There is little convincing evidence that the high debt levels of any developed country really affect their creditworthiness or international economic competitiveness. In domestic politics, however, the campaign against deficits and debts has been quite successful in the Anglo-Saxon countries in eroding popular support for the notion that the government should actively maintain high levels of internal social and economic investment. Consequently, social programs such as welfare, education, and health care have been significantly reduced, resulting in increasing socioeconomic inequality within many wealthy countries.

Poor Nations and International Debt: The Borrowing Years

Governments in most poor countries shared in the widespread international optimism of the post–World War II years that growing international trade would bring rising national incomes and improvements in social and economic structures. They believed that what was needed first and foremost was heavy capital investment to overcome the structural obstacles of underdevelopment and colonialism, such as poor infrastructure in communications, power and water supplies, urban facilities, health care, and education. Lacking internal sources of finance, developing nations looked to the banks of the Western world to finance development. From the lenders' point of view, the poor countries appeared to be safe risks with substantial opportunities for profit: From the 1950s to the 1970s, commodity prices were high, contributing to economic growth in many developing countries. By and large, incomes grew and economic development occurred during these years. In addition to Western aid and loans from the IMF and World Bank, African, Latin American, and some Asian nations enthusiastically sought loans from private banks to finance ambitious development projects. In 1970, the total external debt load of developing countries was US$62 billion; by 1980, it had multiplied by seven times, to US$481 billion. By 1996, the figure stood at US$2 trillion, more than thirty-two times the 1970 level. Western lenders eagerly maintained, in the words of Citicorp chairman Walter Kriston, that unlike individuals, "A country does not go bankrupt."

It is crucial to emphasize that international banks and Western governments saw development loans and aid as both economically and politically profitable. Economically, the rise in oil prices sparked by the OPEC crisis of 1973 provided Western banks with huge quantities of money that they were keen to expand by lending to poor countries at low interest rates with generous payment provisions. Demand for credit was low during this period in the industrial nations, forcing commercial banks to seek borrowers in the developing world. Politically, development aid by Western governments and World Bank loans were consciously regarded as tools to counter potential radical social challenges from the poor "South," a strategy Walden Bello in 1999 called "containment liberalism." World Bank lending rose from an average of US$2.7 billion a year in the early 1970s to US$12 billion by 1981. Antipoverty programs funded by the loans formed part of an economic modernization scheme to develop poor countries while leaving in place authoritarian governments friendly to Western interests. It comes as little surprise that the largest recipients of World Bank loans were Indonesia, the Philippines, and Brazil, all ruled by military dictatorships during this era. As Karin Lissakers puts it, foreign loans were "the glue that held together fragile political coalitions of urban workers, a growing middle class of mostly public sector employees, and the military. . . . Foreign money enabled governments to survive without resolving fundamental political and economic inequities in their countries" (Lissakers 1991).

Poor Nations and International Debt: The Crisis Years

In the 1980s and 1990s, most developing countries in Latin America, Eastern Europe, Africa, and Asia became trapped by escalating debt levels and came to depend on the IMF and World Bank to reschedule their debts and maintain lines of commercial credit. The price they paid for the support of these international institutions was austerity programs that forced governments to slash already low levels of social security, shift their production to one or more export cash crops to sell on the international market, and devote a large percentage of their export earnings to debt repayment. By any measure, social and economic inequality has deepened considerably in the developing world. In Africa, in particular, high debt levels,

in combination with economic restructuring, natural disasters, and the HIV/AIDS pandemic, have led to an unparalleled human tragedy.

There were some "success" stories in the economic development of poor countries during the early part of the 1970s. Sustained economic growth was experienced in several Latin American countries, such as Brazil, and in numerous sub-Saharan African nations, including Kenya, that compared favorably with growth rates in the rest of the world. Much of this growth was what Giovanni Arrighi in 2002 termed "perverse": fragile, short term, and unequally distributed among the population. Yet it disproves the prominent argument that "character flaws" among certain peoples in the Third World were responsible for underdevelopment.

Still, the tables turned in the 1980s against those countries that had borrowed heavily from Western banks. As recession in the industrial countries began in the early 1980s, the prices of raw materials from developing countries sunk to their lowest level since the 1930s. Many poor countries were dependent on one or two commodities to gain foreign exchange, so the steep decline in prices hampered their ability to pay off not only the debt itself, but also the mounting interest rate charges. In addition, many developing countries were harmed by technological advances in the West, such as artificial substitutes for sugar, which undercut the export products that they relied on. Since many of the loans had variable interest rates and were pegged to the U.S. dollar, the steady increase in interest rates and the value of the U.S. dollar struck a hard blow against the borrowing nations, which found themselves in the unenviable position of negotiating new loans to pay off old ones.

The debt crisis was severely exacerbated by mismanagement and outright theft by government officials in some developing countries, many of whom were not elected and ruled only with the military and financial support of Western nations. Loan and aid money was stolen to personally enrich economic and military elites, who frequently transferred the wealth abroad. This "capital flight" occurred regularly in the weeks and months preceding the financial crises of the 1980s and 1990s. In 1980–1982, capital flight reached 70 percent of borrowing for eight leading debtor states. According to the World Bank, capital flight in Venezuela exceeded its foreign debt by 40 percent in 1987. Similar capital flights were repeated in Mexico in 1994 and Brazil in 1998. According to Susan George, more than US$418 billion of funds borrowed by Third World countries flowed back to the rich countries in the 1980s (George 1977). Between 1997 and 2002, this figure reached US$700 billion. Thus, the population as a whole in the developing world became responsible for paying back mounting debts and interest costs that they never benefited from in the first place.

By the mid-1980s, more than seventy debtor nations in the Third World were forced to renegotiate their loans to private and state banks under the sponsorship of the IMF and World Bank. In the 1990s and early 2000s, countries facing financial crises because of their inability to pay back their loans, including Mexico, Brazil, Indonesia, South Korea, Malaysia, Russia, and Argentina, were also subjected to a variety of new loans, loan repayment schemes, (reduced) aid proposals, and bailout packages (collectively referred to as structural adjustment programs, or SAPs) that were intended not only to guarantee repayment to the lenders but also to restructure economies to further integrate them into the new global economy dominated by Western countries. The SAPs came with strict conditions, such as: (1) radical reductions in government social and infrastructure spending; (2) wage cuts to reduce inflation and make export products cheaper and more competitive; (3) liberalization of imports from the rich countries and incentives to encourage more export production for the world market; (4) removal of restriction on foreign investment in industry and financial services; (5) the devaluing of local currencies in relation to the dollar to

make exports more competitive; and (6) the wholesale privatization of state companies and deregulation of key economic sectors. In addition to acceptance of these conditions, poor countries also had to agree to monitoring and enforcement by the IMF and World Bank, which had the power to withhold loans if the economic policies of the borrowing nations went off track.

In terms of ensuring the repayment of loans, the new loan arrangements have been successful. Western lenders have seen a steady flow of funds from repayment. These repayments have scarcely dented the overall level of the debts, however, because the amounts are so large in relation to the economic activity occurring in most poor nations. Taking on new loans to pay for old ones has contributed to a "debt spiral" in which countries get deeper and deeper into debt. Most countries barely manage to pay the debt service and interest charges, let alone the debt principal. In the sixteen countries of sub-Saharan Africa, the US $200 billion debt amounted to 110 percent of national income in 1994. Debt servicing alone was $10 billion per year, which was about 20 percent of export earnings, or 7 percent of national income. The average citizen in Tanzania or Zambia, for instance, owed external creditors twice what they earned in 1994. In Uganda, full debt service charges were equivalent in the same year to seven times the value of annual export earnings. In 1996, Nicaragua paid over half its national revenue just to service the debt. Overall, the developing world now spends US$13 on debt repayment for every US$1 it receives in grants. In combination with the negative consequences of SAPs, debt repayment continues to be an unmanageable drain on the ability of poor countries to invest in productive and social services and build healthy, environmentally sustainable economies. Table 1 presents the most recent figures available, which clearly illustrate the crushing burden of debt in relation to economic activity in many of the most heavily indebted poor countries.

Proposed Solutions to the Debt Crisis

The destitute state of many poor debtor nations provoked concerted protest both within the Third World and in the West by the 1990s. Even Western politicians and former World Bank economists, such as Joseph Stiglitz, have harshly criticized the human tragedies caused by debt repayment, assigning blame in particular to the SAPs created by the IMF, the World Bank, and the Western nations that control them. Three main solutions have been proposed. First, some governments and IMF reports have recommended rescheduling of the debts, that is, changing the terms of repayment and allowing more time to pay. This proposal has largely been rejected because many countries are still unable to generate the type of economic recovery required for long-term repayment. The Heavily In-debt Poor Countries (HIPC) initiative launched by the rich nations through the IMF and the World Bank in 1996 called for the voluntary write-off of debt by lending institutions. Aimed at the poorest nations whose debt averaged more than four times their annual export earnings, it has been heavily criticized for abolishing parts of the national debt of some countries in order to ensure repayment of the largest portion. Furthermore, it does not aim to help countries develop their economies to reach a stage where they may actually repay their debts.

The third solution proposed for the debt crisis is debt forgiveness. Supported by many charities, churches, and social movements, such as Jubilee 2000, it has even gained the support of some Western politicians, such as British Deputy Prime Minister Gordon Brown. The debt-forgiveness movement points out that the levels of Third World debt are insignificant compared to the economic resources of the rich nations and that debt forgiveness is the only rational and just solution to the crisis. They argue that there are historical precedents: In the chaotic years of the Great Depression of the 1930s, for example, Britain, France, and Italy actually defaulted on loans to the U.S. gov-

Table 1: Key External Debt Returns for Selected Developing Countries (average percentages, 1999–2001)

Country	*Total External Debt (EDT) to Exports of Goods and Services (XGS)*	*EDT as % of Gross National Income*	*Total Debt Service as % of XGS*	*Interest Service as % of XGS*
Argentina	375	50	67	30
Bangladesh	178	33	8	2
Bolivia	327	59	38	11
Brazil	337	43	81	24
Central African Republic	766	84	12	4
Chad	462	73	10	2
Chile	164	55	28	8
Democratic Republic of Congo	1,121	257	2	2
Ecuador	198	102	22	10
Egypt	140	30	9	4
Ethiopia	598	91	19	6
Gambia	415	120	9	1
Honduras	210	88	14	3
Hungary	93	64	42	14
India	131	21	12	5
Indonesia	205	99	23	9
Malaysia	41	56	6	2
Mexico	89	29	27	7
Mozambique	569	125	11	1
Nicaragua	702	306	37	6
Paraguay	86	37	11	4
Peru	284	53	23	14
Philippines	114	67	17	7
Poland	129	39	32	5
Russian Federation	140	63	16	7
Sierra Leone	1,100	178	89	12
Sudan	710	156	3	0
Tanzania	500	75	11	3
Turkey	207	65	40	11
Uruguay	227	49	35	15
Venezuela	113	30	25	9
Yugoslavia	379	123	4	2
Zambia	626	178	14	4

Source: World Bank, *Global Development Finance* (Washington, DC: World Bank, 2003).

ernment, but Washington "forgave or (forgot)," as the *Wall Street Journal* noted at the time. In any case, how the debt crisis plays out in the future will depend on the outcomes of the social and political struggles both within and among rich and poor countries over trade, finance, and economic development strategies.

Sean Purdy

See Also Currency Crisis and Contagion; International Monetary Fund (IMF); Foreign Aid

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International Joint Ventures

An international joint venture (IJV) is formed when a parent company located abroad establishes an affiliate firm in a host country with a local firm as a partner. The joint venture is established when both the parent and the host firm are able to benefit from their strategic positions and comparative advantages. IJVs are a relatively recent feature of foreign direct investment (FDI). This form of industrial organization flourished after World War II. Recent experience, however, has shown that the mutual advantages of the partners may often erode over time, leading to termination of the relationship. In many cases, the affiliate firm may end up being wholly owned by the parent company.

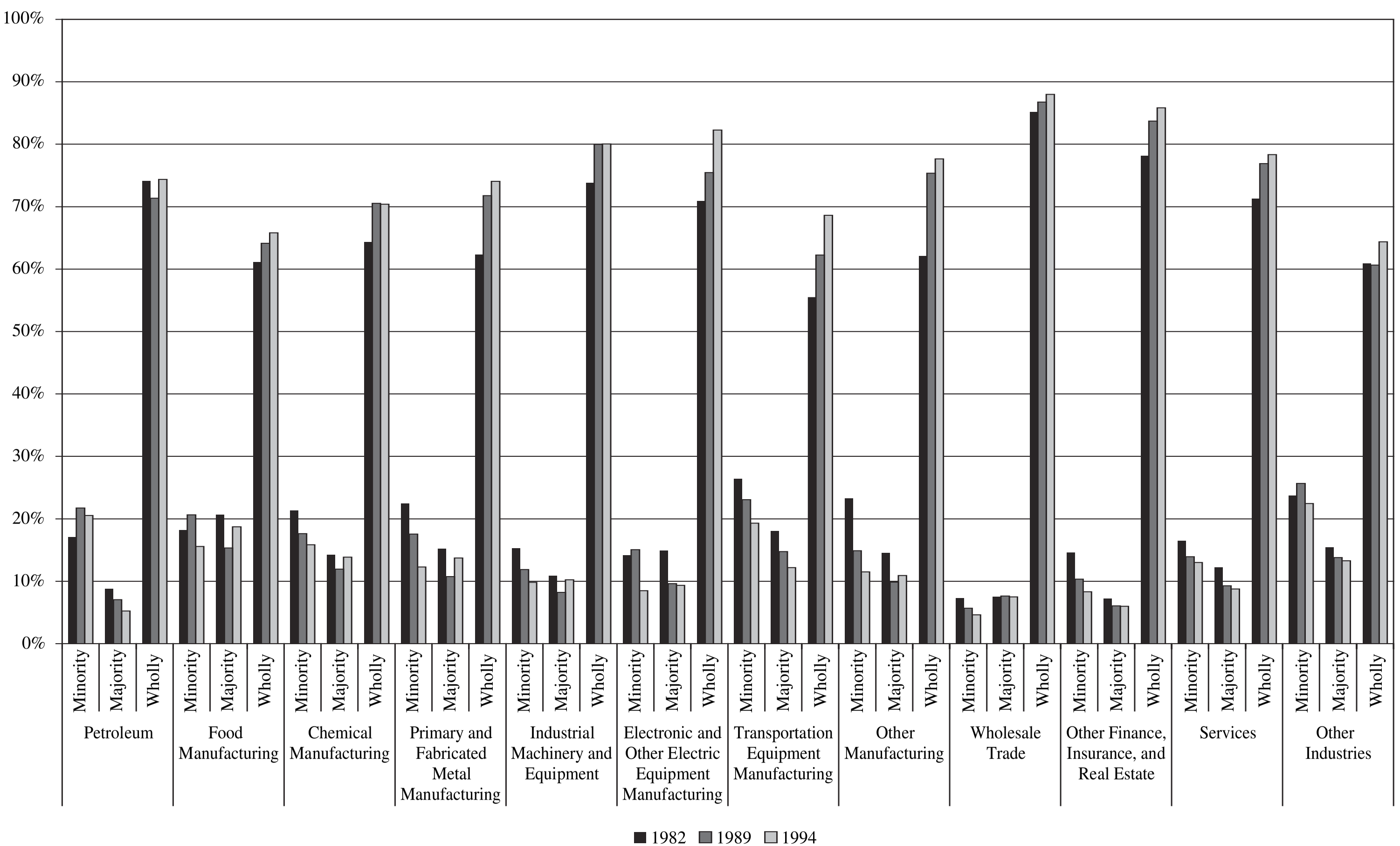
In the less developed countries such as China, the nations of Eastern Europe, and Russia, a very large volume of FDI is still in the form of IJVs. China, which has the highest number of joint ventures in the world, encouraged this form of industrial organization right after it began implementing its liberalization policies in 1978. Eastern Europe and Russia have also subsequently encouraged joint ventures with limited success. Large firms such as General Electric, General Motors, Ford, Toyota, Unilever, Coca-Cola, and others have used IJVs as a major part of their global corporate strategy. In the more developed world there are several noteworthy joint ventures as well: Coca-Cola and Nestle have a joint venture in Japan; Proctor and Gamble and Fater have joint productions in Italy; and Whirlpool and Philips have jointly owned affiliates in Europe.

International joint ventures did exist in the nineteenth and early twentieth centuries, but they were not very popular forms of foreign direct investment at the time. IJVs evolved primarily in the post–World War II era as many newly independent countries adopted policies that protected domestic firms ("infant industries") from international competition. As these state and privately owned firms grew in size and started taking advantage of scale economies and efficiencies arising from learning-by-doing, it was clear that these "infants" needed some help in order to grow up: Substantial transfer of technology from abroad was necessary. Consequently, under the watchful eye of the host governments, these firms started forming alliances with globally recognized foreign firms. Multinational companies also realized that, given market saturation in the more developed countries and the protective nature of many developing country markets, joint ventures were a viable area for future growth.

Firm-Specific Advantages

Joint ventures should be seen in the context of transactions cost and contract theory/property rights literature. This literature demonstrates that fundamental imperfections in market conditions may induce certain forms of collusion. There are benefits and costs to both parties when they collude. On the benefits side, a joint venture seeks to reduce the underlying high transaction costs that both firms must bear if they invested independently. However,

Figure 1: The Use of Ownership Forms by Industry, 1982, 1989, 1994



Note: The bars represent the share of affiliates with minority, majority, and whole ownership by U.S. parents by industry for 1982, 1989, and 1994.
Source: Mihir A. Desai, C. Fritz Foley, and James R. Hines, Jr., "International Joint Ventures and the Boundaries of the Firm," NBER Working Paper, 2002.

this form of industrial organization also gives rise to "moral hazard" and other strategic problems that joint ownership entails. In other words, a joint venture is formed if both the parent and the local partner firm perceive a need to have a mutually beneficial affiliate that unleashes the forces of synergy and mutual complementarity that more than offset the increased costs associated with shared control of the affiliate firm.

More specifically, IJVs are established when certain local firms have ownership-specific advantages with respect to local inputs and are more efficient (compared to the foreign firms) in carrying out day-to-day operations in the local area. The local firms have an advantage in gathering relevant information at all stages of planning, production, and distribution. In many cases, the local firms possess better knowledge of local laws, are able to train the local workers better, and almost certainly have better access to political sources that help them overcome formidable legal hurdles and bureaucratic roadblocks in the host country. Investments are thus more secure and high yielding if channeled through the local firms. For the local firm, an international alliance creates the possibility of acquiring superior process and product technologies and managerial know-how, and it provides access to larger financial resources abroad. The local firms also benefit from skilled-worker training programs and facilities of the parent firm and the international distribution networks that the parent firm may share with the affiliate. The local firm is sometimes able to "co-brand" its products to benefit from the reputation of the multinational enterprise.

In addition, both the parent firm and the local partner benefit from internalization of production: In some cases, input coordination may be better between jointly owned firms than between separately owned firms. IJVs also have a better ability to price-discriminate in various markets and are able to reduce import tariffs on intermediate goods. Some economists have attempted to classify these factors under three categories: ownership-specific advantages, location-specific advantages, and hierarchical or internalization-specific advantages.

Role of the Government and the Market Environment

Historically, domestic content laws and legal ownership limitations have been one of the most important reasons behind IJV formation. The governments of China and India, for example, specifically prohibited 100 percent foreign ownership in many sectors. Given these laws, many multinational firms found that a joint venture with a local firm was the only way of getting a foothold in the local market.

There are at least three important extra-firm exogenous factors that may encourage formation of joint ventures. First, political risk is considered to be one of the most important considerations behind IJV. Historically, some governments in less developed countries have nationalized a number of wholly owned multinational affiliate firms. IJV reduces political risks associated with asset nationalization. A host country is less likely to threaten asset nationalization if some of the assets are owned locally. A joint venture thus serves as an *insurance* against possible takeover attempts by a future government.

Second, IJVs may be formed simply to avert stiff competition. If a local firm in a near-monopoly market teams up with a foreign firm, both firms avoid a possible fallout from a duopolistic market-share rivalry, and they also create an entry-deterrence for a third international firm that is contemplating entry into the local market. When a monopolistic input-seller forms a joint venture with a monopsonistic input-buyer, possible problems of bilateral monopoly are also avoided.

Third, the local government may not be a neutral player in the IJV game: There is evidence that governments sometimes create import tariff barriers, foreign ownership limits,

Table 1: Hazard Rates of Manufacturing Joint Ventures Located in the United States (Based on a Survey of 92 U.S. Firms)

	Age							
	1	*2*	*3*	*4*	*5*	*6*	*7*	*>7*
Total terminations	5.4	9.2	15.2	10.4	13.3	11.8	16.6	35
Dissolution	4.3	3.4	3.8	4.5	6.7	5.9	7.1	12
Acquisition	1.1	5.7	11.4	6.0	6.7	5.9	9.5	22
Number at risk	92	87	79	67	60	51	42	31

Notes: Hazard rate is the ratio of terminated joint ventures surviving to that age. Rates are computed relative to numbers at risk in the relevant age group and will not sum to one horizontally. The last row shows the number of initial joint ventures minus previous terminations and those still alive but younger than column age.

Source: Bruce Kogut, "The Stability of Joint Ventures: Reciprocity and Competitive Rivalry," *Journal of Industrial Economics* 38, no. 2 (1989): 183–198.

and domestic content laws to encourage or discourage formation of IJVs. Import tariffs discourage exports from abroad and encourage domestic production but create well-known deadweight losses. If domestic production is carried out by foreign capital, deadweight loss from import tariffs may be offset by the surpluses from capital flow and productivity gains for the domestic firm. A government may increase import tariffs to maximize such gains.

Joint Ventures and National Welfare

Since a joint venture reduces cost (from technology transfer) but increases market power (from collusion), the net welfare effect on the host country is ambiguous. Consider a sector that historically enjoyed near-perfect competition. A collusive joint venture in this sector would probably increase price because of collusion, but it would also decrease costs. The net welfare effect is positive if the cost-reducing effect offsets the market-concentration effect and the new producer surplus plus consumer surplus exceeds the consumer surplus prior to formation of the joint venture.

From the global perspective, the overall welfare effects are also predictable. If joint ventures are established in the host country to avoid high tariffs on importables, much of new investment may be investment-diverting and not investment-creating. The investment-creating effect must outweigh the investment-diverting effects for world welfare to rise.

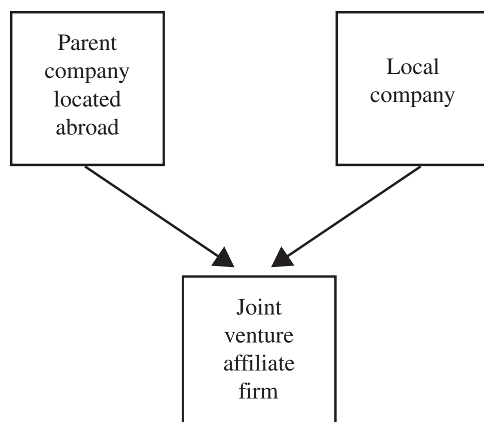
Future of Joint Ventures

There is some doubt whether phenomenal growth of joint ventures would continue in the long run. In an integrated world, with better-coordinated government policies and fewer policy distortions, joint ventures would be set up based mainly on firm-specific organizational advantages, and not on government-dictated domestic control laws and tariff structures. If IJV synergy is based on organizational learning for both the parent and the local firm, it is possible that after a few years both firms will exhaust all avenues of learning from each other, and one firm may start free riding on the other's contribution. Since the inputs provided by both firms have "intangible" qualities (how does one quantify the value of local political connections and knowledge of local cultures?), one party may not be able to verify the quality of the other's input. This may lead to a phenomenon known as moral hazard: the risk that an IJV will break down if both the partners cannot monitor each other's input quality. Indeed, many IJVs have collapsed after a few years. As Table 1 shows, joint ventures located in the United States have displayed a propen-

sity to break down within a short period of time.

An International Finance Corporation study (Miller et al. 1996) corroborated this view. The study showed that parent firms and their affiliates often develop serious disagreements about input valuation. This, of course, is the flip side of intangible qualities of their respective contributions. How does the parent firm value the affiliate's reputation, access to the local political power base, and appropriateness of technology? How does the affiliate decide the optimal equity structure, debt-equity ratio, dividend policy, future investments, and many other fundamental issues if the partners' contributions are hard to assess? Should an IJV export goods to a third-country market where the parent firm has a wholly owned subsidiary? Moreover, since an IJV is an independent entity, the shareholders of both the parent and the local firm must deal with an additional layer of complexity: Shareholders of the parent firm and the shareholders of the affiliate may develop contradictory interests. For example, the local firm may lose profit if the foreign firm uses transfer pricing techniques. Essentially, the problem is that of having two masters. A divided loyalty of the affiliate may harm both the local and foreign firms.

Figure 2: Formation of Joint Venture



As a result of these problems, Mihir A. Desai et al. (2002) have noted that the trend now is an increasing ownership of the affiliate firm by the parent firm. In all twelve industries studied, the authors showed that wholly owned affiliates have become more popular over time (see Figure 2). At the same time, there was also a distinct shift away from minority or even majority ownership patterns. Wholly owned subsidiaries are apparently becoming more popular once again. A rapid pace of globalization may actually decrease the extent of firm-level international alliances. Would a local and a global firm play cooperative or noncooperative games in the long run? In a world with fewer cross-border restrictions, the future of joint ventures is as unpredictable as the future of collusion in uncontrolled oligopolistic markets.

Dipankar Purkayastha

See Also Foreign Direct Investment and Cross-Border Transactions; Industrial Location and Competitiveness; Strategic Alliances

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International Migration

International migration defines a change of residence—temporary or permanent, legal or illegal—that crosses national boundaries. Sociocultural practices and political and economic structures in migration receiving countries often differ substantially from a migrant's country of origin. Further, the increased scope and scale of international migration during the latter half of the twentieth century has served as a driving force fueling economic globalization and socioeconomic change. As compared to historical experience, more recent patterns of international migration exhibit far greater variety in the sources and destinations of human movement. These highly visible and sometimes massive movements of people have long been the subject of academic scrutiny, and this interdisciplinary research addresses the myriad and often interrelated aspects of international migration: types of migration (location choice, length of stay), push and pull factors, migration policies, remittances, and the domestic effects of international migration.

Scope and Scale of International Migration

Between 1965 and the end of the twentieth century, world population nearly doubled, rising from 3.3 billion to more than 6 billion people (Table 1). In the same period, the volume of international migrants rose from 75 million to 175 million, an increase of 133 percent. As a percentage of world population, international migrants increased gradually through the latter half of the century to 2.9 percent owing to a reduction in global population growth rates and renewed acceleration of international migration.

Between 1970 and 1995, Mexico was the largest source of international migration, sending more than 6 million people, primarily to the United States (Table 2). Mexican emigration has been motivated by economic factors, whereas other major labor-sending countries have had additional catalysts for emigration, such as revolution and civil war. These include

Table 1: Migrants and World Population, 1965–2050 (in millions of people)

Year	*World Population*	*No. of Migrants*	*%*
1965	3,333	75	2.3
1975	4,066	84	2.1
1985	4,825	105	2.2
2000	6,057	175	2.9
2050	9,000	230	2.6

Source: United Nations, *Statistical Yearbook 2001* (Geneva: United Nations Population Data Unit, Population and Geographic Data Section, 2002).

Table 2: Top Migration-Sending Countries, 1975–1995 (in millions of people)

Country	*Net Number of Emigrants*
Mexico	6.0
Bangladesh	4.1
Afghanistan	4.1
Philippines	2.9
Kazakhstan	2.6
Vietnam	2.0
Rwanda	1.7
Sri Lanka	1.5
Colombia	1.3
Bosnia and Herzegovina	1.2

Source: United Nations, *Statistical Yearbook 2001* (Geneva: United Nations Population Data Unit, Population and Geographic Data Section, 2002).

Table 3: Top Migration Destination Countries, 1970–1995 (in millions of people)

Country	*Net Number of Immigrants*
United States	16.7
Russian Federation	4.1
Saudi Arabia	3.4
India	3.3
Canada	3.3
Germany	2.7
France	1.4
Australia	1.4
Turkey	1.3
United Arab Emirates	1.3

Source: United Nations, *Statistical Yearbook 2001* (Geneva: United Nations Population Data Unit, Population and Geographic Data Section, 2002).

Afghanistan (4.1 million), Kazakhstan (2.6 million), and Rwanda (1.7 million).

The United States is the most common destination for international migrants, having taken in 16.7 million migrants between 1970 and 1995, as much as the next five largest migration host countries combined (Table 3). Although Western industrialized countries dominate the list of top migration destinations, Saudi Arabia, India, Turkey, and the United Arab Emirates are also important recipients of international labor, hosting a total of 9.3 million migrants between 1970 and 1995.

Measuring international migrants as a percentage of total population brings forth a substantially different list of countries (Table 4). Middle Eastern countries, small in population and wealthy in valued natural resource endowments, attract relatively large quantities of international workers to fulfill the needs of service, retail, and manufacturing sectors. These predominantly Muslim countries also experience substantial migration within the region. Nearly three-fourths of the population of the United Arab Emirates is foreign born, followed by 57.9 percent in Kuwait and 39.6 percent in Jordan. Approximately one-fourth of the populations of Estonia and Latvia are immigrants, primarily from the Russian Federation and the former Soviet Union.

Table 4: Top Countries, Migrants as a Percentage of Total Population, 2000

Country	*Percent*
United Arab Emirates	73.8
Kuwait	57.9
Jordan	39.6
Israel	37.4
Singapore	33.6
Oman	26.9
Estonia	26.2
Saudi Arabia	25.8
Latvia	25.3
Switzerland	25.1

Source: United Nations, *Statistical Yearbook 2001* (Geneva: United Nations Population Data Unit, Population and Geographic Data Section, 2002).

Historical Overview

Although not exhaustive of the motivations or reasons for international migration, the history of international migration can be divided into four distinct types or phases: mercantile migration, forced migration, industrialization mi-

gration, and postindustrial migration (Hirschman et al. 1999; IOM 2003; Massey et al. 1998).

Mercantile Migration

The colonial expansion of European powers between 1500 and 1800 dominated global immigration flows. The nascent colonial powers, primarily in Western Europe, sought new sources of productive inputs to fuel expanding commercialism and consumption by a growing middle class and thus undertook to make use of vast and seemingly unused resources, particularly in Asia, Africa, and the Americas. The global volume of European migrants to colonized areas is unknown; however, their numbers were sufficient to transform the socioeconomic structures of the colonized areas, imparting European culture, language, religion, and institutional infrastructure. These expansions primarily include the British influence in North America, Africa, and South Asia; the Iberian presence in Central and South America; and the French colonization of West Africa and the Caribbean. On a smaller scale, German colonization efforts focused on North America, Africa, and the Pacific Islands, whereas Dutch colonies were scattered in North and South America, Africa, and East Asia.

International migrants were of three general varieties. The most significant in number were settlers seeking to escape religious or ethnic discrimination or depressed economic conditions in Europe. Particularly in Britain and France, migration was employed as a method to alleviate poverty by conscripting paupers and wards of the state to migrate as settlers to colonized areas. In order to maintain colonial authority, an important, although relatively small, number of public administrators and military officials also inhabited colonized areas. However, of greatest economic significance were the entrepreneurial migrants who sought to capitalize on the trade potential between the colonies and the home country. These migrants promoted large-scale exports of agricultural products and natural resources via plantation production systems that absorbed large quantities of land and minimized production costs through economies of scale and, in some cases, the use of indentured or slave labor. Such plantations were common and most successful in India, East Africa, and the Americas.

Forced International Migration

Forced international migration involves the involuntary dislocation of people across national boundaries. Although forced migrations occur for numerous reasons, such displacements of people have most commonly occurred in the context of slave trade and colonialism, with the most significant levels of activity during the seventeenth, eighteenth, and early nineteenth centuries. The large acquisitions of capital, in the form of land and natural resources in colonized areas, generated an immediate labor shortage, since the technological capacity of the time required substantial labor input in the productive process.

The importation of slaves to colonized areas provided a cost-effective means of solving a labor-shortage problem without disrupting the social hierarchy of the colonial power. Much of the work associated with the establishment of colonies was physically demanding and required relatively low skills; it was thus considered socially inappropriate for many of the early colonizers to perform it. The slave trade, particularly to the Americas, constituted an expansion of the active slave trade among warring African nations. Upon the arrival of Europeans, many African chiefs found it lucrative to sell or trade enemy slaves. Global population in 1800 was approximately 1 billion people; in all, nearly 12 million African slaves were brought to the New World between the sixteenth and nineteenth centuries.

From a social perspective, slaves made up a separate lower class in the receiving country. Indeed, as pieces of property, slaves were afforded few rights, and issues of the integration or assimilation of these immigrants—common issues today—were not relevant. Until the abolition of slavery (in approximately the mid–nineteenth century), these groups re-

mained officially apart from the host country society.

The economic role of slaves, however, was of major importance. The slave system classified those individuals as property, much like land or equipment, and they had value arising from their direct labor power. Land tended to be abundant in colonized areas, often given freely by the colonial authority, such that it held little value as an asset. As the scarce resource in the productive process, slaves had a relatively high value in comparison to other inputs, and they were often used as collateral in the extension of credit. Slave prices were thus highly monitored, and the property rights of owners over slaves were clear and enforced.

Industrialization Migration

The advent of the Industrial Revolution sparked a wave of migration that began in the early nineteenth century and lasted until the Great Depression, with a substantial reduction of migration flows during World War I. The Industrial Revolution marks the beginning of unprecedented increases in productive capacity resulting from the widespread application of new technology, primarily in Western Europe and its former New World colonies. The majority of these "industrial" migrants were skilled Europeans seeking to take advantage of the new and expanding job opportunities.

Demographically, the period of the Industrial Revolution is typified by a large surge in urbanization as production facilities organized around resource and distribution channels, thus attracting labor to available jobs in growing urban centers. The attraction of labor—or any productive resource—is, however, a general concept; thus migration during industrialization occurs both internally and internationally and, in either, case, primarily to urban destinations. Population growth also accelerated in the nineteenth century as birth rates rose and death rates fell owing to improvements in medical technology.

The period of industrialization is also characterized by nationalism and revolution. For example, the Ottoman and Russian empires collapsed during this period, splitting into distinct, ethnically defined nations and motivating minority groups within the new nations to emigrate to escape nationalistic discrimination. During the early part of the twentieth century, Eastern European Jews, in particular, constituted over 70 percent of all international migrants to the United States.

Most European migration occurred from southern countries to the more industrialized north. The experience of the United States during this time period is unique. On the path of industrialization, the United States attracted a large share of immigrants to its urban centers, primarily on the East Coast, and many neighborhoods emerged in large cities where ethnically similar immigrants would cluster. However, with a large western expanse, the United States offered substantial opportunities for frontier and farm community settlement. The country thus not only attracted international migrants but also saw major flows of east-to-west internal migration within the United States itself.

International migration during industrialization tended to be permanent household migration. Most migrants left their countries of origin without a strong expectation of returning in the near future, and migration often occurred as a family unit. One notable exception to the pattern was the migration of Chinese men to the western United States. Leaving their families behind, these immigrants provided labor during the Gold Rush and western railroad expansion. Socially, migrants clustered together in the destination country, retaining many of their cultural practices and traditions, but direct ties to the home country were typically weak.

Government attempts to limit immigration appeared in the United States and elsewhere in the 1880s. Recent large waves of migrants from, for example, Eastern Europe had brought many people to U.S. shores who had ethnic and religious backgrounds different from the mainstream Euro-American culture, and they were

predominantly low-skilled workers. In 1882 alone, more than 780,000 immigrants entered the United States. Anti-immigrant sentiments were escalating. Congress thus passed several pieces of legislation barring entrance to political offenders and "lunatics" (1882), polygamists and those "afflicted with dangerous diseases" (1891), and Asians and illiterates (1917), the latter by overriding a presidential veto. Australia and the major countries of Western Europe enacted similar restrictions during this time period.

Postindustrial Migration

After World War II and during a new wave of industrialization, especially in the 1960s, worldwide migration began a period of acceleration; however, the patterns and characteristics of this period of migration, which persisted into the twenty-first century, differ substantially from those of earlier episodes. With the advent and growth of the commercial travel industry, the feasible range of source and destination countries for international migration expanded such that, by the end of the twentieth century, foreign enclaves and influences were common in nearly every part of the world.

There has been a turnaround in both the sources and destinations of migration in the postindustrial era. The countries of the Western Hemisphere, with the exception of the United States, and other formerly colonized nations worldwide have experienced surges of emigration. But whereas migrants in the nineteenth century were seeking economic opportunities in rapidly industrializing countries, the push-pull factors in more recent years have centered on political realities. Even 150 years after independence from colonial rule, many countries remain unable to establish political, institutional, or economic stability, and government corruption has often been identified as a key motivator for emigration. Many international migrants from such countries as Afghanistan, Burundi, El Salvador, Iraq, and Somalia have been refugees fleeing from revolution, civil war, or totalitarian regimes. More generally, countries with relatively low levels of per capita gross domestic product (GDP) exhibit greater income inequality than wealthier countries, suggesting a socioeconomic structure for poorer countries whereby the owners of productive capital constitute a wealthy minority with political power, and the bulk of the population supplies labor at relatively low wages. This lack of social or economic mobility for large portions of a country's population provides a strong "push" factor for international migration as workers search abroad for more highly valued uses for their labor power.

The postindustrial period is also characterized by strong "pull" factors to France, Germany, England, Spain—former migration-sending countries—and especially the United States. Countries that successfully adopted the technological advances of the Industrial Revolution experienced growth in living standards unprecedented in human history. This economic revolution and its widespread social consequences initiated a persistent and growing worldwide gap in real income and living levels. As a result, Alfred Sauvy's (1952) concept of First, Second, and Third World countries remains intuitively understood, even in the absence of a specific context. Taken together, the forces repelling people from their home countries and the relative abundance of opportunities in foreign locations offer a broad macroeconomic context for postindustrial international migration.

The growth of industrialization in Western countries provided opportunities for low-skilled immigrants in the agricultural, service, and industrial sectors of the economy. The typical migrant in the postindustrial period arrives in the destination country with lower skill levels than earlier migrants. Migrants today also have lower literacy rates. Although most migrants continue to be young men, beginning in the 1970s a marked feminization of migration has occurred as women began to explore the global labor market, filling many jobs in the entertainment, service, agricultural, and industrial sectors. In 2000, female international mi-

grants numbered approximately 80 million, nearly half of the total.

Migrants in the twenty-first century enter receiving countries that have begun to manifest the social and economic effects of previous migration. Migrants tend to arrive into a network of ethnically similar communities, and often they obtain employment and a place to live through these networks. The networks reduce the transaction costs associated with international migration and, for some, improve the probability of economic success in the host country.

The existence of transnational migration networks has also stimulated the growth of temporary or seasonal migration. Transnational migrants are those able to maintain active participation in two geographically distinct cultures, a near impossibility when migration is undertaken on a permanent basis. As exemplified by patterns of Mexican emigration, many migrants engaged in agricultural work annually flock to the United States during the harvesting season and return home in autumn, often having accumulated enough income to sustain their extended families for several months. Among other similar examples, Turkish immigrants to Germany also tend to engage in medium-term temporary migration, often staying as many as seven years in Germany before returning.

Other countries, such as the Philippines and Indonesia, have more formalized temporary migration programs whereby the issuance of international visas is expedited and job placement in the host country is facilitated. Despite the growth of such programs, unofficial outmigration from those countries has continued to grow.

Issues in International Migration

Why Does International Migration Occur?

Despite the relatively low cost of travel and the existence of transnational migration networks, the personal, social, and national upheaval associated with international migration remains large, begging a deeper understanding of the motivations behind migration. Further, as countries seek to manage their migration flows, a consistent and coherent analytical framework is necessary for the implementation of appropriate policies. Although there is no "grand theory" of international migration, the conclusions from several perspectives yield a rich set of analytical tools (Djajiae 2001; Taylor 1996).

The Dual Economy Approach. Economic development through industrialization requires substantial labor power, which is typically abundantly available from the declining traditional agricultural sector, according to analyses based on the concept of the dual economy by, for example, W. Arthur Lewis (1954). The traditional sector is oversupplied with labor such that the marginal productivity of any individual is very low; thus, any person's labor could be redirected to the modern industrial sector without affecting total production in the traditional sector, highlighting the importance of migration. Wages remain low, and thus profits become high, in the modern sector, while chronic underemployment in the traditional sector is reduced. The result is mutually beneficial, as the modern sector expands while not harming output in the traditional sector, making better use of labor resources. Although not explicitly a model of international migration, the dual-economy perspective explains the basic impetus of the industrial migration waves.

The Neoclassical Approach. Pioneered by Gustav Ranis and John C. H. Fei (1961), studies based in the neoclassical tradition typically conceive of aggregate quantities of individuals as factors of production in the process of generating national output. International migration thus shares many of the characteristics associated with international capital flows. In the theory's purest sense, differences in the price of labor between countries motivate international migration. Such disparities represent disequilibrium in the international labor market, and

migration is the natural adjustment tool. The outflow of labor from the sending country creates relative scarcity, and the price of labor rises. Similarly, the host country experiences an inflow of labor and commensurate downward pressure on the price of labor. The net effect represents one of the most basic results of economic theory: The allocation of resources to their most valued use equalizes rates of return. Migration thus promotes productive efficiency in both the sending and host countries, and at the same time it enforces international wage parity.

Other neoclassical approaches focus on the individual as the primary agent in the decision to migrate (Todaro 1969). The potential migrant is postulated as a rational actor—maximizing his or her own well-being—who engages in a benefit-cost analysis, and for whom international migration constitutes one of a menu of "investment" options. Migration as investment is a natural association because it typically requires a substantial initial cost with the expectation of future gain. The migrant, or potential migrant, thus estimates his or her expected net return from migration as compared to remaining at home based on: (1) expected wage differentials between the home and host countries; (2) the probability differentials of obtaining employment between the home and host countries; (3) the probability of deportation, if migration would occur illegally; and (4) the cost of the migration itself. Migration then occurs when the expected net return is positive and outweighs that of other investment options.

Taken together, the macroscopic and individual approaches imply that migration would eventually cease as international wage parity emerges and individuals no longer have economic incentives to migrate.

Household Approaches. As an expansion of the neoclassical approach, household approaches posit that individuals make decisions in the context of a family unit or household that seeks to maximize and secure the well-being of all its members as measured by both the quantity of household income and its lack of variation (Hirschman et al. 1999). In developing economies, large portions of the population may have very few options for financial savings, and other methods of smoothing income streams over time against both cyclical and structural variations are required.

A common and successful solution has been for the household to incur the expense of sending a migrant abroad with the expectation that the migrant would regularly send remittance income to the nonmigrating household. Ideally, employment in the destination country, and thus the stream of remittances, would be countercyclical to income variations in the home country. Especially if international migration is to occur illegally, the cost of migration may be large—in the case of households in El Salvador, for example, sometimes as much as annual household income—and many households incur debt to finance international passage for a migrant. Further, the typical migrant is a young, economically active male, and the immediate loss of that income to the sending household is not trivial. While economically significant, the remittance income also confers a social obligation on the migrant that motivates the maintenance of ties to the home country.

International Remittances

International remittances—money sent to the country of origin by an international migrant—are an integral aspect of international migration (Djajiae 2001, IOM 2003). When international migration is undertaken as part of a household strategy to increase income and reduce income risk by diversifying the sources of income, remittances are not windfall income to the receiving household, but rather, the expected return on the household's migration investment. Remittances also play a key role in the formation and maintenance of transnational migrant networks, providing the migrant an avenue for remaining active in the home country while residing abroad.

Table 5: Top Remittance-Receiving Countries, 2000 (in thousands of U.S. dollars)

Country	*Remittances*
India	11,585,699
Mexico	6,572,599
Turkey	4,560,000
Egypt	3,747,000
Spain	3,414,414
Portugal	3,131,162
Morocco	2,160,999
Bangladesh	1,948,999
Jordan	1,845,133

Source: World Bank. *World Development Indicators* (Washington, DC: World Bank, 2004).

Table 6: Top Remittance-Receiving Countries, Percentage of GDP, 2000

Country	*% GDP*
Jordan	19.6
Cape Verde	16.1
Albania	14.4
Yemen Republic	13.7
El Salvador	13.3
Serbia and Montenegro	13.2
Bosnia and Herzegovina	12.3
Jamaica	10.6
Dominican Republic	8.6
Ecuador	8.3

Source: World Bank, *World Development Indicators* (Washington, DC: World Bank, 2004).

The volume of income generated by the cycle of migration and remittances has proven to be of major significance to many countries. Although India receives the largest amount of remittances (over $11.5 billion in 2000; Table 5), other countries experience a larger overall impact from remittances. Remittances in El Salvador—some $1.7 billion annually—amount to 12–15 percent of GDP (Table 6), surpassing the value of the country's primary export, coffee. They dictate the direction of the Salvadoran economy, providing funds for savings and investment, supplying a constant source of foreign exchange, and, most of all, supporting current consumption at the household level. Similar patterns are evidenced in many parts of the world, including Western Samoa, Jordan, the Philippines, and Sri Lanka.

Negative economic effects have also been registered as a result of migration and the large volume of remittance income it can generate. Most remittance income is sent in the currency of the migrant's host country; thus the remittance-receiving household must transact in the foreign exchange market to utilize it. This creates an artificial overvaluation of the receiving country's exchange rate, as a shortage of domestic currency is created by the excess supply of foreign currency. The overvalued exchange negatively impacts the country's export sector as its goods become relatively more expensive abroad.

Large sustained remittance flows have also caused "Dutch Disease" effects (Corden and Neary 1982). The increase in national income from remittances raises overall expenditures, but, for a small economy, only domestically produced goods and services increase in price, since small economies have almost no effect on the world prices of traded goods. Thus, as prices and profits rise in the domestic sector, investment and productive resources flock to it, leaving the traditional sector (typically agriculture) forced to pay higher wages and lacking in new investment. The resulting "Dutch Disease" is the unbalanced economic growth that occurs when the domestic sector booms while the traditional sector lags.

The success of international migration and remittances as a form of household investment has also had important social effects. For many Salvadoran households, remittance income more than doubles income from other sources, thus alleviating deep poverty, but also reducing incentives to augment productivity in the home country. Further, many young Salvadorans believe that emigration is the only avenue to achieve economic success, and the country has experienced a significant "brain drain" where young people, including many

professionals, choose to emigrate, further exacerbating the lack of skilled workers. The experience of other labor-sending countries suggests that the Salvadoran experience is not unusual.

The Feminization of International Migration

Although women have always been an integral part of international migration, traditionally migrating as part of a household unit, the independent migration of women has risen in recent decades. In 2000, the number of women migrants totaled approximately 80 million, nearly half of all international migrants worldwide. The gender mix of migrants varies by region: Migrants from Latin America remain predominantly male, for example, whereas the majority of Asian migrants are female. However, policies concerning immigration do not usually deal with the migration of women per se and instead focus most commonly on limiting the volume of immigration and designing effective border-control regimes. Even policies that address the rights and obligations of immigrants, whether legal or illegal, do not usually take account of issues related to gender.

Immigrants in general are hesitant to seek legal enforcement of their rights, but women abroad are more susceptible to human rights abuses because a significant percentage of female employment opportunities arise in unregulated manufacturing settings or the entertainment and sex industries. Female migration has nonetheless risen as women take advantage of the social and financial independence gained through migration, as well as the increased social status acquired in the home community via remittance income. In Sri Lanka, female migrants have become primary contributors to household income, sending over $600 million annually in remittances. Philippine and Moroccan migration and remittance patterns emulate the Sri Lankan case on a smaller scale. The female role in international migration has increased worldwide, however.

Impact of International Migration on the Receiving Country

Immigrants provide labor to the receiving economy and typically occupy positions of low status, performing predominantly physical labor requiring few specific skills. Low immigrant wages thus tend to reduce production costs in the agricultural, service, and industrial sectors of the receiving economy. At the same time, immigrants are participants in the receiving economy and contribute to consumption expenditures and, to a lesser extent, savings.

Immigrants also impose costs on the receiving country. Explicit costs occur primarily in the distribution of public resources (access to schools, health facilities, and other public services) to immigrants, many of whom, owing to illegal immigration, do not necessarily contribute to the source of public funds. In the United States, illegal immigrants are more likely to pay federal taxes than state or local taxes; however, most public benefits are provided by state funds. It is estimated that it cost approximately $17 billion to provide public services to illegal immigrants in the United States in 2000. Despite the passage of California's Proposition 187 in 1994 barring illegal immigrants from receiving public health or education services, California spent approximately $3 billion providing services to illegal immigrants in 2000.

Other countries have also found their public institutions strained by the influx of immigrants. Traditionally homogeneous in its ethnic composition and generous in its public assistance programs, Sweden experienced significant immigration from West Africa during the late twentieth century. Similar to migrants around the world, immigrants to Sweden had on average greater need for public assistance, largely owing to lower incomes and higher rates of fertility. By 2000, funds for public assistance had dwindled, and political tension was strong. More recently, like many countries with longer histories of multiethnic immigration, Sweden has embarked on assimilation and integration programs.

The implicit costs of immigration are a source of controversy. As immigrants enter a country in significant numbers, they are believed to compete with native workers for jobs, thus depressing wages and harming native incomes. Opponents to this view contend that immigrants are employed in low-status jobs that native workers would find unsuitable and that there is, therefore, no direct labor competition. Evidence is mixed. In the United States, immigration has not been found to be associated with higher unemployment rates overall, suggesting that broad economic growth has been able to absorb the influx of labor. Although there is no clear consensus on the effect of immigration on the wages of low-skilled native workers, the wages of high-skilled workers exhibit a slightly positive association with immigration. As the use of low-skilled labor rises, capital inputs must also rise in order to maintain the productivity of labor. High-skilled labor "manages" capital inputs and is therefore complementary to capital such that a rising demand for capital translates to increased wages for high-skilled labor.

International migration also changes the sociocultural structure of the receiving country. Immigrants bring religions, values, and cultural practices that may clash with the mainstream of the receiving society, and those differences have often led to discrimination, both formal and informal, against immigrants. Over time and in the aggregate, the degree and character of immigrant integration into the mainstream society is loosely tied to the economic success of the immigrant group. Although Latin Americans make up the vast majority of immigrants to the United States and collectively register a strong economic impact, most remain at the lower income levels, and their representation, for example, in higher education and political spheres remains disproportionately low. Similar situations exist worldwide, including, for example, West Africans in France and Indians in East Africa.

Impact on the Sending Country

Emigration from a developing country—typical of the postindustrial period—has been welcomed by governments as an effective method to reduce chronic unemployment or underemployment. Further, remittance income from migrants often serves to alleviate the most severe instances of poverty and, particularly when transnational migrant networks are strong, provides investment capital to the developing economy.

However, the costs of emigration are not trivial. In countries such as El Salvador and Western Samoa, where remittances are large as a percentage of GDP, the combined exchange rate and Dutch Disease effects transform the fundamental economic structure of the country. The traditional agro-export sector declines in economic importance in favor of services and industry, causing a realignment of labor usage and additional urbanization.

Urbanization and structural transformation, however, necessitate skilled labor that may be less available as a result of the brain drain associated with emigration. When artisans, craftsmen, and skilled professionals emigrate (often to jobs of lower status), the remaining skilled workers enjoy a wage premium because of their relative scarcity, but the aggregate effect is a reduction in productivity associated with less efficient management of capital resources and a slower adoption rate of new technology. This also depresses the return to capital and reduces the flow of investment.

The social effects of international migration on the sending country can be profound. Like public assistance benefits, remittance income is associated with economic dependency such that individuals elevate their reservation wage to account for external remittance income. The reservation wage is the minimum wage an individual must receive before being willing to enter the labor market. Migration and remittances are thus particularly associated with a reduction in the labor-force participation of young people as well as an increase in drug

use, teen pregnancy, and youth gangs. Within a particular community, income inequality also increases between households that receive remittances and those that do not. Households that receive remittances may substantially improve their daily quality of life as compared to their community as a whole. This "relative deprivation" may spark jealousy and animosity within the community, but it also motivates further out-migration from the community to correct obvious income imbalances.

Emigration necessarily involves some form of separation. Parents leave behind spouses and children, and emigration of a nuclear family leaves behind an extended family. Such costs are nonquantifiable but significant to the extent that nonmigrants, particularly children, benefit from the family unit in terms of psycho-emotional development and the inculcation of values and ethics. Similarly, the migrant incurs the psychological cost of separation such that the true value of economic gain from migration is reduced.

International Migration in the Twenty-First Century

Although international wage parity has not become a large-scale reality and the economic incentives to migrate internationally are no less than in the past, the age of global terrorism will affect patterns of international migration. Legal restrictions and barriers to immigration from predominantly Muslim countries into the United States and other Western countries have been enacted, slowing dramatically the outflow of migrants from those regions. Further, the use of active military force against terrorism suggests that such restrictions on migration will remain in force.

Beyond the explicit costs of more tightly controlling international migration flows, one of the major long-term costs will be reduced economic growth rates for developing countries. Although the brain drain out of developing countries is significant, it is also the case that migrants often participate in higher education abroad and return to their home countries to apply their acquired skills. This type of migration is an important mechanism for the transfer of technology from more developed to less developed regions. India, China, and Japan provide notable examples. To the extent that such transfers are diminished by the new restrictions, productivity growth in those and similar countries will be lessened. At the same time, China continues to liberalize its economy, and as it integrates more thoroughly into the world economy, Chinese migrants overall are expected to increase their presence in global migration flows.

Political and economic instability will continue to be major motivators for emigration. Afghanistan and the former Soviet republics will remain important labor-sending countries, as will several African countries, including Sudan, South Africa, and Congo. Latin Americans will continue to dominate migration to the United States; however, the flow may diminish. Immigration controls to the United States affect all immigrants, and the enforcement of anti-immigrant policies increases the risks associated with international migration. Finally, policymakers in Mexico, El Salvador, Western Samoa, the Philippines, and other countries are gradually adopting the belief that migration and remittances provide only a second-best, temporary solution to domestic problems. To the extent that such countries are able to improve the domestic opportunities for natives via transparent and credible policies that stimulate sustainable economic growth, migration outflows would be expected to diminish.

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See Also Labor Markets and Wage Effects; Population Growth

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International Productivity

Productivity, a key measure of economic performance, relates an increase in output to the rise of inputs. There are various concepts of productivity, ranging from physical labor productivity (for example, tons of steel produced per worker hour) to total factor productivity (for example, growth in real gross domestic product [GDP] over a composite input measure of labor and capital).

Applications

International comparisons of productivity have many analytical applications. At the macroeconomic level, productivity measures can be linked to improvements in the standard of living. For example, a measure for labor productivity (output per hour) can be reconciled with a per capita income measure (output per inhabitant) through the use of labor-market indicators reflecting the intensity of use of labor (hours worked, labor force participation, and the like). Macroeconomic measures of productivity estimates are also an important ingredient for quantifying the contribution of factor inputs (labor, capital, and so on), technology, and other variables to differences in growth or levels of GDP across countries. Finally, macro measures of productivity are an important input for the analysis of economic convergence between countries.

At the meso level, productivity studies focus on the comparative performance of sectors and industries. Such studies provide an important tool for analyzing the strengths and weaknesses of a country's industrial structure, assessing the competitive strength of individual industries and exploring the causal factors behind productivity gaps between and among countries. Industry measures of productivity are also used for comparisons of unit labor costs across countries. At the micro level, productivity is a measure of significant interest to examine firm dynamics—for example, how the entry and exit of firms impacts the productivity performance of a sector of the economy. Finally, productivity studies are also useful for individual firms and companies, particularly when such comparisons can be narrowed down to plants producing a comparable range of clearly specified products or services. This approach allows economists to determine benchmarks for the efficiency of particular projects or production processes within and among countries.

Productivity in the Short and Long Term

It is important to consider the time period over which productivity trends can be usefully analyzed. Productivity can behave quite differently in the short term versus the long term. In the short term, productivity measures may be volatile, as they are strongly related to the business cycle. Labor productivity typically behaves in a pro-cyclical manner, showing an acceleration in the upward phase of the cycle and a slowdown in the downward phase. Following a peak in GDP growth, the slowdown of growth

may not be immediately matched by declining employment, and capital may be left idle before it is discarded. When a recession occurs, productivity may increase again as firms begin to lay off workers and scrap capital. But this rise may be offset by a reduction in consumption by dismissed workers, so that GDP contracts further.

In an international comparative framework, the dynamics of output and input growth over the business cycle are very dependent on the flexibility of labor and capital markets. In the long term, the structural factors that affect productivity growth come more to the forefront. Policies to enhance productivity, either in the field of technology and innovation or in the field of market reforms or other institutional changes, only show effects in the longer term.

International Productivity Comparisons at the Macro Level

International comparisons of productivity have a long history. Perhaps the first international comparison was made by Samuel Pepys, a naval administrator in seventeenth-century England. In a diary entry for February 13, 1665, while en route between the Netherlands and England, he wrote: "And coming home, did go onboard Sir W. Petty's *Experiment*—which is a brave roomy vessel—and I Hope may do well. So went on shore to a Dutch house to drink some Rum, and there light upon some Dutchmen, with whom we had a good discourse touching Stoveing and making of cables. But to see how despicably they speak of us for our using so many hands more to do anything than they do, they closing a cable with 20 that we use 60 men upon" (Pepys 1665).

Various studies have documented the rise of productivity in eighteenth-century England since the times of the Industrial Revolution and the explosive growth of productivity in the New World, particularly in the United States during the late nineteenth century. These productivity growth spurts were linked to a rapid growth in capital intensity and an acceleration in technological change. The rise of electricity as a major general-purpose technology was an important source of productivity growth in many advanced countries during the early twentieth century. After World War II, a clear pattern of productivity catch-up was observed for Europe and Japan relative to the United States. This catch-up process was partly driven by the legacy of the two world wars, which had led Europe and Japan to fall seriously behind American performance. But the postwar period was conducive to international technology diffusion and institutional innovations, and both regions adopted and adapted to new technologies. For example, Japan, which had lagged behind in productivity during the prewar years, had one of the fastest productivity growth rates during the postwar period. The "golden age" of productivity catch-up vis-à-vis the United States had already halted for most advanced countries by the early 1970s.

From the late 1970s to the late 1980s, productivity growth in most countries, including the United States, was dismal. The slowdown was surprising in light of major changes in the technological paradigm of the twentieth century, which shifted the emphasis from electricity to information technology. The slow growth in productivity led Nobel Prize winner Robert Solow to coin the term "productivity paradox." He wrote: "You can see the computer age everywhere but in the productivity statistics" (Solow 1987). However, since the mid-1990s, the United States has experienced a substantial acceleration in productivity growth. These gains have often been attributed to the explosive growth of the production of information and communication technologies (ICT). In contrast, many other countries, in particular the nations of Europe, have experienced much slower productivity growth due to differences in industry structure and slower adoption of ICT relative to the United States.

Meanwhile, productivity growth in many countries that are not members of the Organisation for Economic Co-operation and Devel-

Table 1: Rate of Growth of GDP per Hour Worked, 1870–1950

	1870–1913	*1913–1950*
Western Europe	1.55	1.56
Austria	1.75	0.89
Belgium	1.24	1.42
Denmark	1.94	1.65
Finland	1.80	2.27
France	1.74	1.94
Germany	1.56	0.75
Italy	1.66	1.96
Netherlands	1.23	1.31
Norway	1.64	2.48
Sweden	1.75	2.76
Switzerland	1.80	2.71
United Kingdom	1.22	1.67
Australia	1.96	1.54
Canada	2.25	2.30
Japan	1.99	1.80
United States	1.92	2.48

opment (OECD) has remained relatively slow, with the most notable exception of many of the countries of East Asia. Even after the economic and financial crisis of the 1990s, many countries in the region—and nowadays China, in particular—have continued to show rapid productivity growth. Finally, under the impact of transition, many economies in Central and Eastern Europe have shown accelerated labor productivity growth during the 1990s.

Productivity at the Industry Level

One must take an industry perspective to output, input, and productivity performance in order to fully understand the comparative productivity of countries. For example, the slowdown in productivity growth in the original fifteen nations of the European Union since the mid-1990s reflects an adjustment process toward a new industrial structure. This adjustment has proceeded more slowly in Western Europe than in the United States. Similarly, the rapid productivity catch-up taking place in East Asian countries has been driven to a large extent by the manufacturing sector, and much less so by service industries. Productivity growth in agriculture has been an important source of structural change in many developing countries, but the underperformance in services, in particular in informal service industries, puts a drag on aggregate productivity growth. Thus, economists must go beyond an analysis of the aggregate numbers to ascertain the extent to which variations across countries may be explained by industry structure.

There are various approaches that may be taken in analyzing industry productivity growth. First, when a particular country realizes an improvement in productivity, it is important to pinpoint which industries have achieved superior performance and whether it is confined to only a few industries or the improvement is widespread across the economy. For example, some scholars have suggested that the improvement in U.S. productivity growth since the late 1990s has been confined to ICT-producing industries, such as computers, semiconductors, and software. Others have stressed the important productivity contributions of a small number of service sectors, in particular wholesale and retail trade and financial securities, which are intensive users of ICT. Similarly, one needs to understand whether the slowdown in EU productivity growth during the same period is due to a failure to match the United States in its best-performing industries, or due to problems in other industries.

Second, an industry analysis aids in understanding the forces underlying competitiveness. Under the influence of ongoing globalization in product, labor, and capital markets, the industry structures of open economies are under continuous pressure from competitive forces. Traditional protection mechanisms provided by national governments are less and less effective. As a result, firms in "old" industries are under strain to adjust or disappear altogether, whereas firms in "new" industries face an uphill struggle to open up new markets and develop capabilities to face off against compet-

Table 2: Rate of Growth of GDP per Hour Worked, 1950/1960–2003 (appromixately 100 countries)

	1950–1973	*1973–1995*	*1995–2003*
"OECD[1], of which"	3.9	2.0	1.9
"European Union-15[2], of which:"	4.6	2.6	1.5
France	5.0	2.7	2.1
Germany[3]	5.8	2.7	1.9
UK	2.8	2.3	2.0
USA	2.5	1.2	2.4
Japan	7.0	2.7	2.2
Central and East Europe[4]	3.8	1.2	3.9
(former) USSR[5]	3.4	-1.2	3.7
	1960–1973	*1973–1995*	*1995–2003*
Asia[6], of which	2.2	3.6	4.0
East Asia	5.5	4.7	3.6
China	1.3	4.2	6.1
Southeast Asia	3.2	3.0	0.7
South Asia	1.8	2.4	3.2
Latin America	2.8	0.9	0.1
Middle East	6.5	-0.8	0.8
Africa	2.5	0.1	1.2
World	3.2	1.1	1.6

Notes: For country coverage, see http://www.ggdc.net/dseries.shtml. Regional growth rates are weighted at gross domestic product (GDP) in purchasing power parity (PPP). In many cases, hours per person employed for low-income countries were assumed constant at 2,200 hours per year. In several Central and Eastern European countries, they were estimated at 2,000 hours per year.

[1] Organisation of Economic Co-operation and Development (OECD) figures are supplied as of pre-1994 membership.
[2] EU-15 data are calculated as of pre-2004 membership.
[3] Figures for Germany for 1990 onward include East Germany.
[4] Figures for Central and Eastern Europe from 1990 onward include Slovenia.
[5] Figures for the former Soviet Union since 1990 include Russia and the countries that were formerly part of the USSR.
[6] Figures for Asia exclude Japan.

Sources: Groningen Growth and Development Centre, http://www.ggdc.net/dseries/shtml; Maddison, Angus. 1995. *Monitoring the World Economy 1820–1992.* Paris: OECD (Organization for Economic Cooperation and Development): Maddison, Angus. 2001. *The World Economy:A Millennial Perspective.* Paris: OECD.

itive pressures of incumbents or other new entrants.

Finally, the upsurge of opportunities for new technological applications may have very different implications for industries. Indeed, the absorptive capacity for ICT differs greatly across industries and has very different impacts on output, employment, and productivity performance. For example, in most manufacturing industries, ICT has largely contributed to a rationalization of production processes, raising productivity through the use of fewer inputs, in particular unskilled labor. In many service industries, the introduction of ICT has had, in addition, an impact on "product" innovation, in turn implying increased use of high-technology inputs. Indeed, some service industries (in particular finance and some business services) are among the most intensive users of ICT in the economy. The impact of ICT on the

Table 3: Average Annual Growth of GDP per Hour Worked of ICT-Producing, ICT-Using, and Non-ICT Industries in the European Union, Japan, and the United States, 1979–1995 and 1995–2000

	1979–1995			*1995–2002*		
	EU-15	*Japan*	*U.S.*	*EU-15*	*Japan*	*U.S.*
Total Economy[1]	2.3	3.6	1.2	1.8	2.5	2.5
ICT-producing Industries	7.0	13.6	7.2	8.7	19.1	9.3
ICT-producing Manufacturing[2]	12.1	19.2	15.1	16.7	30.8	23.5
ICT-producing Services	4.4	6.4	2.4	5.9	6.2	2.7
ICT-using Industries	2.2	5.0	1.6	1.8	2.0	4.9
ICT-using Manufacturing	2.6	4.1	0.8	2.3	0.7	2.6
ICT-using Services	2.0	5.3	1.9	1.7	2.1	5.3
Non-ICT Industries	1.9	1.9	0.4	1.1	1.1	0.2
Non-ICT Manufacturing	3.2	3.3	2.3	2.1	1.4	1.2
Non-ICT Services[1]	0.8	0.9	-0.3	0.5	0.8	0.2
Non-ICT Other	3.4	2.4	1.4	2.1	1.5	0.4

Notes: Industry groupings into the ICT-producing category are from the Organisation for Economic Co-operation and Development (OECD). The distinction between ICT-using industries and less intensive ICT users is based on the share of ICT capital services in total capital services from nonresidential capital. See Ark, Bart van, Robert Inklaar, and Robert H. McGuckin. 2003. "Changing Gear: Productivity, ICT and Service Industries in Europe and the United States." Pp. 56–99 in J. F. Christensen and P. Maskell, eds., *The Industrial Dynamics of the New Digital Economy.* Cheltenham: Edward Elgar.

[1] "Total Economy" figures and "Non-ICT Services" data exclude real estate.
[2] The figures in this row are based on U.S. hedonic price deflators for ICT production (adjusted for national inflation rates) instead of actual national accounts deflators.

Source: Groningen Growth and Development Centre, "60-Industry Database," http://www.ggdc.net.

composition of labor in services is twofold. On the one hand, the rationalization of processes and the introduction of more knowledge-intensive services have strengthened the skill-bias of service innovation in favor of very highly skilled workers. On the other hand, adaptations to information technology since its introduction may also have facilitated the increased use of labor with lower skill levels. An industry-level analysis aids in understanding the impact of input use and technology adoption on productivity growth.

Productivity at the Firm Level

Compared to macroeconomic and industry-level studies, much less is known about the mechanisms underlying productivity development at individual firms or the differences between firms within sectors. In most productivity studies, differences among companies within a given industry are simply averaged out. Still, these differences can provide valuable information for the study of productivity. First, the world's most innovative and productive companies can be assumed to be at the technological frontier of the specific industry they are in. Knowledge about the productivity gap between the average firm (or each individual firm) and the most productive firm in an industry in a particular country or region may thus lead to insights about the potential for productivity advances, given the current state of technology. Second, the reallocation of resources (labor and capital) between high- and low-productivity firms and between entering and exiting firms in a particular industry can be an important source of productivity growth. When high-productivity companies are successful in rapidly gaining market share at the expense of lower productivity companies, this

results in a higher average productivity within a particular industry.

Economists are beginning to better understand how firm dynamics contribute to productivity growth owing to greater availability of longitudinal firm-level data (Bartelsman and Doms 2000). For example, it appears that a large part of the productivity differential between American and European manufacturing firms during the 1990s can be explained by much faster productivity growth among the top quartile of firms with the highest productivity levels. These firms also exhibited much faster employment growth in the United States than in the European Union. In contrast, among the firms in the lowest quartile of productivity levels, the European firms appear to show faster employment growth than the American firms. Although there are large differences between countries, the evidence suggests that although the entry rate of new firms is not all that much larger in the United States than in Europe, the potential for new entrants to grow in terms of employment and output is much less in Europe. It is well known that larger firms tend to exhibit faster productivity growth due to large capital-intensity and scale advantages.

In addition to the index-number approach to productivity measurement described here, more studies are now making use of econometric methods, such as data-envelopment analysis or stochastic frontiers, to measure productivity and efficiency at the firm level (Coelli et al. 1998). Such approaches are particularly useful for benchmarking purposes.

Concepts of Productivity

The literature distinguishes many different measures and concepts of productivity, each of which has its own particular meaning and use. The first distinction is between physical productivity and volume productivity. Physical productivity is the quantity of output produced by one unit of production input in a unit of time. For example, when a laborer in the cement industry in Country A produces 100 tons of cement per year on average, compared to 200 tons per laborer in Country B, the physical labor productivity in the cement industry in Country A is half that of Country B. Nowadays, the use of physical units of output for productivity measurement is mostly restricted to analyses of the efficiency of particular production processes for specified products or for closely related groups of products over time. In comparisons of productivity at the firm or industry level, the heterogeneity of output and the large variety of products make physical units an anachronistic device. Moreover, it is often difficult to allocate inputs to a single output. In services, the use of physical units is often not possible at all.

In practice, economists are more likely to use figures on total values than quantities of outputs and inputs. For the construction of the growth rate of volume productivity, the change in values needs to be corrected for price changes. For example, a change in production values in the car industry needs to be adjusted for the increase in sales prices of cars to obtain a real output measure. Similarly, a real input measure for energy use must take account of changes in the value of energy inputs, that is, the rise in energy prices. International comparisons of productivity growth are very sensitive to the use of adequate deflators. For example, in comparing the growth of productivity in the computer industry, it is of crucial importance to use price deflators that are properly adjusted for rapid quality changes in that industry. For comparisons of productivity levels across space, value measures need to be corrected for differences among countries in relative prices. This correction can be made through the use of purchasing power parities (PPPs), which specify the ratio of the price for a good or service, or for a bundle of goods and services, between two countries.

Broadly speaking, productivity measures can be classified in two ways: as single-factor productivity measures (relating a measure of output to a single measure of input) or as total-

Table 4: Overview of the Main Productivity Measures from the OECD Productivity Manual

	Type of Input Measure			
	Single-factor productivity measures		*Total factor productivity (TFP) measures*	
Type of output measure	Labor	Capital	Capital and Labor	Capital, Labor, and Intermediate Inputs (energy, materials, services)
Gross output	Labor productivity (based on gross output)	Capital productivity (based on gross output)	Capital-labor MFP (based on gross output)	KLEMS total factor productivity
Value added	Labor productivity (based on value added)	Capital productivity (based on value added)	Capital-labor MFP (based on value added)	—

Note: See, for example, OECD (Organisation for Economic Co-operation and Development). 2001. *Measuring Productivity.* Paris: OECD and D. W. Jorgenson, F. M. Gollop, and B. Fraumeni, *Productivity and U.S. Economic Growth.* 1987. Cambridge: Harvard University Press, for an exposition in mathematical terms.

Source: OECD 2001, 13.

factor productivity (TFP) measures (relating a measure of output to a bundle of inputs). The specific measure used depends in the first instance on the focus and purpose of the comparison. Labor productivity, the most widely used measure, is mostly quantified in terms of value added over employed persons or value added over total working hours. TFP distinguishes between contributions to GDP from inputs and those from efficiency improvement. TFP can be measured as output relative to a capital-labor combination or output relative to a capital-labor-energy-materials-services combination of inputs (Table 4). The factor inputs can be measured either homogeneously (for example, total hours worked and total capital services), or with an adjustment for changes in composition of labor (gender, education level, and age) and capital (machinery and structures, ICT capital, non-ICT capital). In practice, these adjustments are quite important, in particular for capital. For example, the rapid rise of ICT capital has created large substitution effects between ICT capital and non-ICT capital and between ICT capital and low-skilled labor (that is, skill-biased technological change). A failure to identify these effects separately transfers those substitution effects to the TFP residual.

TFP growth is often interpreted as a rise in efficiency or technological change, but one must be cautious when making such assumptions. When the index-number approach is applied, TFP is quantified as a residual measure obtained from the growth output minus the growth rates of the weighted inputs. This is done on the assumption that each input gets paid its marginal product, so that the weights can be derived from the share of compensation of each input in total output. In the likely case that this assumption does not hold—for example, because labor markets do not pay a wage according to the productivity of the last worker added to the labor force—the identity of TFP, efficiency, and technical change breaks down. In practice, measured TFP then includes everything that is not otherwise measured, in-

cluding the growth of unmeasured intangible inputs (which positively affects measured TFP growth) and the effects of imperfect market competition that create mark-ups on prices beyond the "normal" returns to inputs (and therefore reduce measured TFP growth). There is a substantial literature that aims to interpret differences in TFP residuals across countries not only due to market imperfections but also due to differences in historical, institutional, or policy-related factors (Maddison 1989; Hulten et al. 2001).

Another distinction that is of particular relevance at the industry or firm level is that between productivity measures that relate gross output to one or several inputs and measures that use value added to capture movements in output (see Table 4). At the macroeconomic or industry level, value-added measures are more widely available, and, lacking information on intermediate inputs, most desirable, as they avoid double counting of output. But at the level of industries or firms, gross output is a preferred concept, as it allows a similar treatment of factor inputs and intermediate inputs and imposes fewer restrictions on substitutions between factor inputs and productivity.

Measurement Issues

The most comprehensive sources for productivity measurement, either at the level of the total economy or for individual industries, are the national accounts. National accounts include measures of value added at basic prices at both the aggregate and industry levels. These measures are constructed on the basis of international conventions concerning measurement of output and inputs laid down in the United Nations System of National Accounts (SNA). Unfortunately, in practice, the implementation of SNA conventions in national accounts statistics is not the same across countries. There are still differences between European countries and the United States concerning measures of nominal GDP (for example, as regards the treatment of military expenditures and financial intermediation services) and real GDP (for example, the use of appropriate deflators for ICT products). There are also differences among countries on whether aggregate GDP is primarily measured from the income or the output side. However, at the aggregate level, the impact of such differences on the GDP measure is small, and the effects in part offset each other. An assessment of past adjustments to real GDP growth rates suggests a margin of uncertainty of no more than plus or minus 0.1 percent (Van Ark 2004). To adequately handle the measurement of gross output (in addition to value added and intermediate inputs), an input-output framework is needed, but those input-output models are not yet available on a systematic basis for all countries.

Although national accounts cover the value of factor inputs, data on the volume of factor inputs (labor and capital) often need to be derived from other sources. Labor input estimates are mostly based on figures from labor-force survey or enterprise statistics. In particular, the measurement of working hours presents a major problem for international productivity comparisons. Information on labor quality is also mostly derived from labor-force surveys, but owing to comparability issues, it is usually not possible to make international comparisons for more than three skill categories (pre-primary, primary, and lower secondary education; upper secondary education; and tertiary education).

The contribution of capital to output growth needs to be estimated on the basis of the capital services that each asset produces. Measures of capital services are not directly available from the national accounts or any other official statistics. Series on capital formation by asset type can in principle be obtained from national accounts, and estimates of the gross and net capital stock can then be constructed by cumulating investments and by applying a retirement or depreciation profile. Although the exact shape of the depreciation profile is an important factor, the actual age of the asset has a much bigger impact on the esti-

mate of the growth rates and levels of capital. Differences in asset lives between countries are difficult to verify, and in most cases the statistical basis for the variation in asset lives and retirement patterns across countries is weak, since statistical offices collect such information only infrequently. To obtain a volume series of capital services, two additional steps need to be taken. First, the stock needs to be estimated in terms of "standard efficiency units" (the productive capital stock). This requires the use of a particular age-efficiency profile that reflects the fact that older assets are usually less efficient than newer ones. Second, the productive capital stock for different assets needs to be aggregated on the basis of an estimate of the user cost of capital, which reflects the rental price of a capital good.

It is difficult to precisely assess the accuracy (that is, the extent to which these measures describe reality) of all these variables. At the level of international comparison, informed guesstimates of accuracy are the best that can be achieved. Such guesses need to be based on assessments of the revisions that have been carried out in various countries, sampling errors of underlying survey statistics, and counterfactual experiments. In terms of comparisons of growth rates, it is unlikely that measurement errors affect labor productivity growth by more than 0.2 percent in either direction, and for TFP growth, by more than 0.25 percent either way. Users of such estimates should therefore be cautious in interpreting country rankings of productivity growth. Differences within the range of roughly 0.4 percent (for labor productivity growth) or 0.5 percent (for TFP growth) are insufficient for reaching conclusions on differences in productivity rankings. The level of uncertainty concerning productivity estimates and differences across countries is high, and it is likely to be higher for low-income countries (Ark 2004).

At the industry level, uncertainties about the quality of the productivity estimates may differ from the aggregate and will, for example, generally be larger for service industries than for manufacturing. For many advanced countries, one can observe a striking difference between higher growth rates of labor productivity in "measurable" sectors of the economy (agriculture, mining, manufacturing, transport and communication, and public utilities) and those in "unmeasurable" sectors (construction, trade, the financial sector, "other" market services, and government) over past decades. This may at least partly be related to larger measurement problems in services (Griliches 1994).

The current methodology of splitting the change in output value into a quantity component and a price component is difficult to apply to many service activities, as often no clear quantity component can be distinguished. In many service industries, information on inputs (such as labor income) has been used as a very imperfect proxy for output. Moreover, changes in the quality of services are difficult to measure. These problems are not new, but the increased use of ICT may have led to quality changes and higher productivity growth in services that previously were not envisaged. To measure those aspects of quality change, multiple dimensions of a service need to be taken into account, including, for example, the service concept, the client interface, and the service delivery system. This implies that the real output of a particular service cannot be measured on the basis of one exclusive quantity indicator. Some statistical offices have undertaken changes in measurement methods toward a range of volume measures (for example, in financial services, health services, and other government services). Even though such changes in measurement methods have not exclusively led to upward adjustments of real output, on balance the bias is probably toward an understatement of the growth in real service output.

Comparisons of Productivity Levels

Most of the work on productivity has focused on measurement, comparisons, and analysis of productivity *growth.* Only limited efforts have

Table 5: Level of GDP per Hour Worked, 1950/1960–2003, in 1990 U.S. Dollars

	1950	*1960*	*1973*	*1995*	*2003*
United States	100.0	100.0	100.0	100.0	100.0
European Union-15,[1] of which:	43.5	51.3	70.8	91.8	85.4
France	46.9	60.9	82.8	114.1	111.1
Germany[2]	36.3	54.7	77.6	91.8	88.3
UK	62.5	58.8	66.9	85.2	82.5
Japan	19.2	26.6	54.1	74.3	73.0
Central and Eastern Europe[3]	18.7	23.5	25.3	25.3	28.4
(former) USSR[4]	27.2	30.6	33.4	19.4	21.6
Asia[5], of which		6.1	5.8	9.7	11.1
East Asia		13.9	20.2	43.7	48.1
China		5.1	4.3	8.3	11.2
Southeast Asia		9.3	10.0	14.9	13.1
South Asia		6.0	5.5	7.1	7.6
Latin America		36.4	37.2	34.8	29.0
Middle East		24.9	41.6	26.3	23.2
Africa		7.7	7.6	6.0	5.4

Notes: For country coverage, see http://www.ggdc.net/dseries.shtml. Regional levels are weighted at gross domestic product (GDP) in 1990 purchasing power parity (PPP). In many cases, hours per person employed for low-income countries were assumed constant at 2,200 hours per year. In several Central and Eastern European countries, they were estimated at 2,000 hours per year.

[1] EU-15 data are calculated as of pre-2004 membership.
[2] Figures for Germany for 1990 onward include East Germany.
[3] Figures for Central and Eastern Europe from 1990 onward include Slovenia.
[4] Figures for the former Soviet Union since 1990 include Russia and the countries that were formerly part of the USSR.
[5] Figures for Asia exclude Japan.

Sources: Groningen Growth and Development Centre, http://www.ggdc.net/dseries/shtml; Maddison 1995, 2001.

been undertaken to measure comparative productivity *levels* between countries. This is mainly because level comparisons, unlike growth comparisons, need to be corrected for differences in relative price levels across countries. This requires the use of data on purchasing power parity, that is, the ratio of the price for a good or service, or for a bundle of goods and services, between two countries. PPP measurement is much more complex than measurement of a time series of prices. For the aggregate economy, PPPs are constructed on a regular basis by international agencies such as the OECD and Eurostat. They are also made available through the Penn World Tables published by the Center for International Comparisons at the University of Pennsylvania. Most studies of comparative productivity levels therefore focus on the aggregate economy.

Comparative measures of productivity levels are important for international economic analysis. They are an essential ingredient for testing catch-up and convergence hypotheses, for example, which, in their simplest version, suggest that a country with a low starting level of productivity, compared to a country at the productivity frontier, will exhibit relatively rapid productivity growth in the subsequent period. The follower country can raise productivity through the diffusion and exploitation of technological and institutional innovation from the country that is characterized by best practice. Productivity levels also shed light on the debate concerning comparative productivity performance among OECD countries. For example, labor productivity levels in several advanced European countries were higher than in the United States for most of the last two

decades of the twentieth century. However, such high productivity levels are related to a relatively low intensity of labor to capital in many European countries and therefore to lower comparative levels of per capita income.

Industry-of-origin comparisons, like productivity comparisons for the aggregate economy, aid economists in understanding the determinants of differences in economic performance across countries and regions. The relative productivity standings in agriculture, industry, and services are important for structural growth analysis. They also strengthen analyses of the locus of technical progress, especially when supplemented by micro-oriented investigations of variances in performance across industries and between average and best-practice firms. Finally, these studies shed further light on the relation between productivity and competitiveness at the industry level.

The measurement of productivity levels by industry requires industry-specific measures of relative prices. Since PPPs for the aggregate economy, as compiled by Eurostat and the OECD, are based on final expenditure components (consumption, investment, and government expenditure), they cannot be directly applied to output by industry. As there is considerably more specialization across countries in terms of production than in terms of expenditure, it is more difficult to find sufficient accurate product matches on the basis of which industry PPPs can be obtained. In addition, for productivity comparisons by industry, measures of PPPs for intermediate inputs, labor input, and capital input are also required. Two alternatives have been explored to arrive at producer output and input price relatives: (1) reallocating existing expenditure PPPs to industry groups and "peeling off" transport, distribution, and tax margins, or (2) calculating unit value ratios based on output values and quantities from business statistics. In practice, a mixed approach that makes use of both unit value ratios (mainly for agriculture, mining and manufacturing, and some service sectors, such as distribution and transportation and communication) and "peeled" expenditure PPPs (for most service industries) is considered the most practical and desirable method.

Future Directions

International comparisons of productivity have become considerably more sophisticated over time. At the macroeconomic and industry levels, the measurement of productivity has greatly improved through the availability of higher quality and more detailed data from national accounts and related statistical sources. Still, substantial problems, in particular concerning the measurement of service output, remain. Given the increased importance of services in the economies of advanced countries, these issues require urgent attention from economists and statisticians. Although labor productivity remains a straightforward performance measure that is useful in relation to labor-market indicators and per capita income measures, total factor productivity will be the workhorse for future international comparisons.

The improved measurement of intermediate and factor inputs to output growth, in particular ICT capital, has created more sensible measures of total factor productivity. Also, the number of countries for which TFP measures can be obtained is gradually increasing. Nevertheless, TFP growth is obtained as a residual by deducting the change in weighted factor inputs from output growth, and TFP residuals will be affected by the changes in unmeasured inputs. Various types of intangible capital inputs, such as research and development and organizational capital, form an important category of unmeasured inputs. TFP residuals will also be affected by deviations from the standard neoclassical assumptions concerning perfect markets and the like. The index-number approach to TFP measurement can be complemented by an econometric approach to relax some of these assumptions. Finally, even when TFP measures are fully cleaned up for unmeasured

inputs, the residual will only represent that part of technology that is costless and not embodied in any of the input measures.

In addition to international comparisons of productivity growth, studies on relative levels of productivity would help to shed further light on important issues, such as catch-up and convergence, structural change, and competitiveness. It will also be important to further develop adequate measures of relative price levels between countries by industry in order to obtain sensible measures of comparative productivity. Finally, important directions for future research include micro-measurements of productivity by firm, especially those supported by increased availability of longitudinal databases on outputs and inputs by firm.

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See Also Global Economic Growth; Labor Markets and Wage Effects; Technology and Technical Change

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Labor Markets and Wage Effects

Wages reflect labor-market trends, state policy, and union protection. These factors have significantly influenced the status of workers worldwide over the past thirty years. From the mid-1970s to the first decade of the new millennium, regional global labor markets have grown more integrated with the ascendancy of free-market policies. These neoliberal economic policies that support the deregulation of state functions have reduced wages through accelerating regional and global labor competition. Wages and employment have also been buffeted by the privatization of state property, government functions, and social responsibilities throughout the nations the world. No country that participates in the global economy is immune from deleterious effects of neoliberal policies that increase labor competition, and thus reduce wages. In the postwar era, from the 1940s through 1970, wages tended to grow steadily as a result of strong state regulation, more effective labor-market protection, and the larger and more robust unions that reflected the workers movements of the mid-twentieth century.

Labor Capital Competition

Labor markets are products of an ineluctable process of historical change in which capital is constantly seeking greater profits through technological change, economic restructuring of work, and geographic relocation to lower-cost areas. Capital accumulation is always at least a step ahead of labor movements, which must seek to preserve the gains of the past or call for new demands on economic systems in response to the lowering of wage and working standards. Therefore, evaluation of labor markets must presuppose a continual process in which capital constantly tries to restructure the economic terrain to enhance profitability, while organized labor (or the labor movement writ large) opposes changes that alter the old balance of power and reduce the standards of workers. Certainly, capital will always seek ways to expand profitability; one cannot presume, however, that labor will always successfully defend against new forms of economic activity that erode the power of workers.

To properly understand the vicissitudes of contemporary labor markets in the current age of global capitalism, one must take a historical approach that identifies the ways that work and labor are transformed over time. When economists recurrently invoke the term "new economy," they imply that national labor markets are being swept away by globalization. The idea that globalization is a new phenomenon that has suddenly appeared on the scene fails to account for the historical nature of capitalism, which has always expanded to new areas of the world in search of higher profits. What is termed "globalization" today in not a novel feature in the world economy, but a process that is rapidly accelerating at a faster pace than in the past. The recent expansion of global labor markets is part of a universal process that began centuries ago.

At the dawn of the twenty-first century, political economists began to call attention to the

emergence of a "new economy," as if the terms and conditions of the global economy were completely changing all at once. The global economy of the twenty-first century does break with a steadier and predictable past wherein nation-states controlled the flow of capital, industry, and labor, providing secure jobs and a modicum of income for all. But the global economy is not new. What is different is the expansion of economic interchange, which profoundly influences established labor markets throughout the world. The stylish formulation of "the new global economy" does not take into account the fact that capital continually seeks to expand profitability by restructuring itself and changing the balance of power with labor. Since the late eighteenth century, capital has ineluctably pressed forward for change, most often prevailing over labor's efforts to protect a more predictable past. In 1942, political economist Joseph Schumpeter coined the term "creative destruction" to portray the process of perpetual change under capitalism that undermines established labor markets to increase profitability.

So what many economists call new is in fact only an acceleration and expansion of the scope of capital mobility in a process that has profoundly altered the conditions of labor through most of the world. For much of the past century, workers and growing national labor movements called upon their governments to defend worker interests through regulation and enforcement of labor-management relations and provision of social-welfare programs. Unions could count on national labor laws to protect workers from employer abuse and guarantee them the right to join unions of their choice. Although the labor movements that emerged contrasted greatly, through much of the developed world they could count on standards to regulate wages and hours. The industrial unions that expanded so dramatically in Europe and North America during the twentieth century established wage and work standards in exchange for labor peace. However, employers always maintained control over the work process and determined how to invest profits. Though most workers in any part of the world did not have an easy time joining unions, democratic rights in the private workplace were significantly stronger during the mid- to late twentieth century than they are today.

The recent decline of state regulations protecting workers is not a new phenomenon growing out of globalization, but a gradual process that began in the late nineteenth and twentieth centuries. Global trade flows undermining workers' interests even continued during the heyday of labor power from the 1940s through the 1970s; however, the process accelerated over the next three decades and has now shifted labor and capital flows. The United States, once the leading manufacturer, is now the world's leading importer of fabricated goods, largely produced by the low-wage workers of the South, that is, the less developed nations of Asia, Latin America, and Africa.

The promotion and ascendancy of neoliberal capitalism on a global scale has significantly eroded worker rights and the ability of unions that are organized on a national basis to defend workers in their respective countries. Under neoliberal capitalism, the capacity of national governments to regulate the flow of capital, labor, and goods is reduced significantly in the global economy. To actively participate in trade, national governments must comply with new rules set out by international institutions that significantly compromise the power of labor in both the advanced economies of the North and the less developed ones of the South. These conditions that are imposed on national governments create significant uncertainties for workers around the world. As labor markets erode and unemployment rises in the North, new entrants that manufacture goods at lower cost appear in the South. While jobs are lost in the North, as a rule, the jobs that emerge in the South pay workers significantly lower wages, even in countries with much lower costs.

Globalization has significantly compromised wages, labor standards, and worker rights throughout the world; meanwhile,

unions have become increasingly unable to control capital flows across national boundaries, and their bargaining power with employers has been severely eroded. The twenty-first century brand of globalized deregulated capitalism provides legal protections for multinational corporations while threatening worker and environmental standards. In this context, state power to protect noncorporate interests is severely marginalized. As trade and tariff restrictions that once protected labor unions on a national basis are broken down by the rise of global and regional trade blocs, workers no longer have the same capacity to appeal to state leaders for protection and relief. Since worker rights are not adequately incorporated into these global and regional agreements, labor, in most cases, finds itself sitting outside the table.

National labor unions the world over now debate how best to participate in a more hostile global economy dominated by large corporations. Some argue that their nation-states must engage in protectionist policies, including trade restrictions and higher tariffs on goods, to protect workers in their home countries. However, the emerging position among union leaders throughout the world is that the rapid flow of capital to the low-cost South, made possible by new information and communication technologies that allow corporations to relocate industry and services to host countries, cannot be stopped. Most nations believe that opting out of the global system is not an option, since they depend on foreign trade and do not want isolation from the rest of the world. Nonetheless, the scope and intensity of the current round of globalization is giving rise to higher levels of unemployment, underemployment, and displacement and the proliferation of low-wage jobs.

Labor Markets and Global Trade

Most labor organizations representing workers across industrial sectors do not believe that the tangible benefits of global trade outweigh the huge costs to workers and their families. But since labor is not as strong as capital today, they must counter corporate-dominated globalization with demands for greater rights for workers. Labor unions have been formulating strategies on how best to address these issues, defend workers in their own nations, and increase labor standards throughout the world. This new labor approach takes a global perspective on labor rights, asserting that workers in all countries, rich and poor, must be paid decent wages and assured of a safe and healthy environment in which to work.

This objective of labor standards and rights is one that will take, at the very least, decades to attain—that is, if it can be attained. Since the global institutions that govern economic exchange do not take labor rights into account when determining terms of trade, a growing number of unions are debating how to pragmatically respond to the assault on workers' rights throughout the world. More and more, the labor movement is opposing the growing penetration of global trade organizations, since workers stand to gain little from more liberalized trade. Even in the best of worlds, if labor unions were allowed to actively participate in international organizations, they would be just one voice demanding labor standards in organizations dominated by exponents of corporate interests.

The lack of a role for defenders of labor interests in the more powerful global trade organizations significantly undermines labor rights. In the past three decades, the power of the World Trade Organization (WTO), the International Monetary Fund (IMF), the World Bank, and regional trade blocs have expanded dramatically, and, wittingly or not, these organizations have significant influence over labor flows across national boundaries and the conditions under which people work. National labor unions have declined as workers in unions have lost jobs that were relocated to lower-cost regions. As unions lose members, their influence over labor policy erodes significantly. The relaxation of trade policies is therefore inimical

to the interest of unions; in particular, unions have been impacted by the growth of regional trade blocs and free trade zones such as the North American Free Trade Agreement (NAFTA), Mercosur (the South American trade bloc), and the European Union. In the Western Hemisphere, negotiations are under way for the creation of the Free Trade Area of the Americas, a trade bloc that would encompass North and South America.

Unions are now pursuing strategies for building solidarity across borders by supporting labor movements across national boundaries, and a broader international labor movement is emerging that may be able to defend the interests of workers in the advanced northern countries as well as in the undeveloped world of the South. However, many national and international labor organizations no longer believe they can advance the interests of workers in the current globalized system of predatory capitalism typical of the late twentieth century. A growing number of labor activists believe that unions should opt out of the system and call for a new system of trade that protects workers, the poor, peasants, and the global environment.

Wages and the WTO (World Trade Organization)

The economic and political priorities of WTO member governments that are dominated by multinational corporations greatly outweigh any interest in reducing violations of core labor standards. Only governments can make formal complaints to the WTO; labor unions and human rights organizations can only encourage member states to do so. Since the WTO sanctions governments and not transnational corporations for labor rights violations, companies face few penalties and no real financial consequences.

A pressing question for labor movements in developed countries, according to Keith Ewing (2000), is how they can demand compliance with international labor standards when their governments have not ratified or complied with many of these conventions and are in breach of their provisions. Ewing argued that the most pressing need is to advance the rights of workers and the poor throughout the world, and that better labor standards must be achieved for workers in countries of both the North and the South. To raise standards, labor unions must understand how hostile global corporations regularly violate worker rights and freedoms. Moreover, social clauses for labor must both protect jobs in rich countries and promote economic development in poorer countries.

How effective have the efforts to build a labor rights movement that encompasses the needs of workers in the South been? In the wake of the formation of the WTO, an international campaign emerged to establish the importance of labor rights in clauses, agreements, and conventions. However, thus far, the efforts have not successfully defended the core labor standards undermined by global agreements. Absent international labor rights campaigns for development-related demands and increasing union and social movement involvement in the South, efforts to improve the conditions of workers in the South will likely fail. International labor solidarity is necessary to complement lobbying efforts, with increased membership mobilization and protest activity, if any progress is to be made in this area. Ewing argued further that, rather than exclusively focusing on low-wage countries, greater attention must be paid to violations of labor rights in the United States.

In the Third World countries of Africa, Asia, and Latin America, although most trade unionists support the notion of labor rights as human rights, efforts to incorporate standards into the WTO, which is controlled by transnational corporations in northern governments, have not been successful. Arbitrary WTO labor standards have contributed to massive unemployment and would inevitably contribute to

protectionism. Thus, other mechanisms to advance worker rights and protections without the threat of trade sanctions must be advanced by supporters of equality.

Labor Markets and International and State Regulations

In the North and South, government regulations that protected workers for half a century have been eroded as corporations have restructured their operations to save costs. On the job, workers can no longer count on the government to enforce its own regulations covering wages, hours, and safety in their work environments. More and more, corporations are outsourcing work tasks to subcontractors that offer manufactured goods and services at significantly lower cost. The outsourcing of work is producing low-wage jobs that do not even pretend to provide for the basic living requirements of workers and their families. The changes in the nature of the job are taking place concurrently with the erosion of the state social safety nets that people have relied on in the past to provide unemployment insurance, income support, medical benefits, and social security.

The decline in government social services for working people has had profound implications for the capacity of corporations to more freely shift capital, industry, and labor the world over. Globalization has accelerated the transformation of once stable labor markets in countries throughout the world. More precisely, globalization has created transnational linkages between countries and regions and reduced the power of governments to maintain old labor markets.

The acceleration of the flow of goods, capital, industry, technology, information, and workers spurred by advances in telecommunications and transportation has undermined established laws that protected labor standards in nations where labor movements formerly defended workers and social safety nets. Thus, the regulatory capacity of labor markets by weaker states has declined as more powerful countries have permitted the erosion of regulatory standards that defended worker labor power. The rights of labor to organize are diminishing, as is welfare state protection through the social wage, the basket of government programs that defended workers from the effects of joblessness and poverty and that ensured reasonable levels of health care and education.

Corporate Economic Power and Wages

Government efforts to establish regional and international alliances and institutions, such as the North American Free Trade Agreement, the European Community, and the World Trade Organization, have been a major factor in globalization in recent decades. These efforts seek to break down trade barriers. But the growth of trade translates into a growing capacity and willingness among corporations to shift manufacturing industries from higher-wage to lower-wage countries as a means to expand profitability. Consequently, corporations once situated in one nation have become multinational firms with reduced loyalty to workers. The increased capital flows and the development of new industry in less developed and Third World countries that result from the establishment of multinational firms contribute to economic growth, but not necessarily to improved conditions for workers. For example, the massive shift of apparel firms from industrialized countries to less developed ones has created joblessness in advanced economies; it has also expanded the number of jobs in the less developed countries that are now the primary producers of garments, but the conditions for these workers have not necessarily improved, and these workers have few options, as job opportunities in older sectors of the economy have declined. The same trends can

be seen in steel, automobiles, electronics, and toys and trinkets.

Transnational Labor

Besides affecting the flow of capital to low-cost labor markets, globalization affects the growth of labor mobility. In the 1990s, the great demand for cheap labor to fill essential jobs in the North spurred the expansion of low-wage migration from the South. With globalization, however, the labor flows are no longer largely limited to low-wage labor. As the populations of the North age and the number of available workers declines, there is a growing demand for high-skilled labor that is spurring a new kind of international migration. Table 1 demonstrates the sizable growth of international migration.

Table 1: Foreign-Born Labor in Economically Advanced Countries

Foreign-Born Labor Force	*As Percentage of Labor Force 1990*	*1998*
Austria	7.4	9.9
Belgium	…	7.9
Denmark	…	3.1
France	6.2	6.1
Germany	7.1	9.1
Ireland	2.6	3.4
Italy	…	1.7
Japan	0.2	1.0
Luxembourg	45.2	55.0
Netherlands	3.1	2.9
Norway	2.3	2.8
Portugal	1.0	1.8
Spain	0.6	1.1
Sweden	5.4	5.2
Switzerland	18.9	17.5
United Kingdom	3.3	3.6
Australia	…	24.6
Canada	18.5	18.5
United States	9.4	10.8

Notes: Ellipses indicate that data is not available. Foreign labor force, data for other countries refer to noncitizens. Data relate to 1996.

Source: Organisation for Economic Co-operation and Development/SOPEMI, *Trends in International Migration* (Paris: OECD/SOPEMI, 1999).

Wages and Regional Labor Markets

Over the past thirty years, most nation-states have steadily withdrawn from labor-market intervention and the provision of social welfare, and unions have weakened in response to the erosion of trade protection. Thus, deregulation is the dominant trend of the past twenty years. The changes in regional labor markets reflect the overall trend of the shift in production and services from North to South.

North America

The North American Free Trade Agreement of 1994 between Canada, Mexico, and the United States sharply reduced trade barriers in the region and dramatically accelerated the flow of labor and capital, leading to significant labor-market changes. The agreement has accentuated the differences in wages and facilitated the transfer of manufacturing from the United States to Mexico. The loss of high-wage jobs in the United States to Mexico has reduced wage growth in the manufacturing sector. Unions have been able to restrain the decline in wages; however, the disappearance of jobs in manufacturing has sharply reduced the influence of organized labor, especially in the steel, machinery, and automobile industries.

The main labor-market trends are the growth of service-sector employment and the "casualization" of employment. Indeed, employment continued to grow in the United States during the economic expansion of the 1990s mainly as a result of the creation of jobs in the service sector. Most of the new job growth has been in health care, education, communications, high technology, and support services. Wage growth has been restrained by the expansion of low-wage jobs in the retail, food services, hospitality, and building service industries. Unions have targeted service-sector workers for organizing but, with the exception

of health care and education, have yet to gain a presence to significantly influence wages. For example, the growth of large all-purpose retail chain stores has put significant pressure on unionized workers in the supermarket industry. In Canada, unions remain significantly stronger than in the United States.

The growth of casual labor is a new phenomenon. Today, the notion of a job as a means of providing for one's essential needs is becoming obsolete for many workers. Casual labor refers to nonstandard jobs such as day labor, temporary work, seasonal work, part-time work, and the fundamental redefinition of norms established in the 1930s about the value of work. The lifetime job has become an anachronism, and corporations typically do not pay workers enough to meet basic living needs for themselves and their families. The restructuring of the economy has forced people to work extra hard and to rely on more people for income to maintain what is conventionally considered a middle-class lifestyle.

Latin America and the Caribbean

During the past two decades, dependence on the U.S. market has increased substantially in Latin America and the Caribbean. By the 1990s, much of Latin America had adopted neoliberal policies favored by the United States, opening financial and labor markets to international capital forces, and some of the countries—most notably Argentina—were considered by proponents of free markets as models for the developing world. But the region suffered major setbacks at the beginning of the twenty-first century as countries were unable to maintain a stable balance of trade. The financial crisis in Argentina led to the devaluation of that nation's currency and declines in employment security and living standards. Throughout the region, severe austerity programs have been imposed by governments in response to demands by the IMF, leading to the growth of unemployment and political unrest.

Brazil, with one of the highest global levels of wage inequality between rich and poor, has restrained its budget deficits and adhered to international financial strictures that have placed great strains on the majority of the population, which is living in poverty. In October 2002, Luiz Inácio Lula da Silva, leader of the Workers Party, was elected president of Brazil after promising to improve the conditions of the peasantry and working class. However, under pressure from international financial institutions, the government remains wedded to neoliberal policies that have benefited the affluent without improving the lives of the poor. Thus, although Brazil has not experienced a financial collapse equivalent to that of Argentina, and despite the rhetoric of helping the poor, poverty and inequality have not been stanched. The region as a whole suffers from the rise of poverty; wage jobs in the informal sectors do not provide the basic needs for workers and their families. Instead, new jobs paying poverty wages and unregulated by the state have increased over the past decade. High unemployment and underemployment among significant sectors of the population are a defining feature of the Latin American and Caribbean region.

Europe

Western and Northern European workers continue to have the most wage protections in the world stemming from their comprehensive social welfare policies. The protections include long-term unemployment benefits, worker retraining programs, and health benefits and pensions. The social safety net is in large part due to the strength of the labor unions in Europe. Unions continue to bargain on an industrial and labor-market basis, as opposed to enterprise-level bargaining, which is prominent in North America. Consequently, unionized workers have become accustomed to steady and equal wage growth. Since the early 1990s, private-sector corporations have sought to establish enterprise-level bargaining to gain competitive advantages. Although some erosion of industrial bargaining has occurred, on the whole the industry-level model remains the

norm. In the public sector, state governments have sought to curtail wages and benefits for public-sector employees. Despite several inroads, including cuts in wages and benefits, the trade unions in the region have successfully challenged most of these efforts to extract concessions from workers.

The continuing regional integration of the European Union and its labor market has resulted in growing interdependence and an enlarging of the trade bloc to include countries of Central and Eastern Europe. Continental Western European countries have eliminated their national currencies and replaced it with a common currency—the euro—that accentuates the labor-market wage differences in the region. The United Kingdom has retained the pound as its currency, however, and has not adopted the euro—reflecting the uneven integration of member states. EU member states are required to reduce budget deficits through curtailing spending, and most have initiated efforts to reduce social benefits to conform to the new policies. The EU has eliminated labor-market barriers that in the past prevented citizens from working in other countries of the region. Meanwhile, national immigration laws have limited the number of workers from outside the bloc who are permitted to work in the region.

Expansion of the European Union will further erode trade restrictions across the continent. Countries in Central and Eastern Europe seek to join the bloc in the hope of promoting trade and increasing living standards. However, the EU plans a gradual process of integration that will have the effect of reducing wages and benefits as workers in high-wage Western Europe come into greater competition with workers in lower-wage Eastern Europe. The gradual integration may have the effect of even further accentuating wage differences among member states.

East and Southeast Asia

In the post–World War II era, Japan, with its advanced and extensive industrial base, has maintained dominance in East Asia. Up until the 1980s, the Japanese economy, devastated by the war, benefited from government economic and technical support for industrial development and export promotion. In the 1980s, however, Japanese workers, guaranteed lifetime employment at relatively high wages, began to encounter intense regional competition from the export-promotion economies known as the four tigers: South Korea, Hong Kong, Singapore, and Taiwan, which produced goods at significantly lower cost. In subsequent years, production shifted to even cheaper labor markets in the Philippines, China, and Southwest Asia. Indeed, trade restrictions, tariffs, and even lower wages in the United States made it cheaper to shift production of durable manufacturing goods to North America.

The 1997 financial crisis in East Asia severely eroded the “economic miracle” in the countries of the Pacific Rim. Virtually every country in the East Asia region faced economic decline and currency devaluation, leading to growing unemployment and declining wages. In the ensuing five years, the region has only slowly recovered as national governments imposed structural adjustment policies that eroded living standards by reducing social benefits, demanding wage concessions from workers, and devaluing currencies.

In the 1990s, Indonesia, South Korea, Malaysia, and Thailand, considered models of economic growth, were under threat from nations in the region with even lower labor costs, including Cambodia, Myanmar, Vietnam, and of course China, where new foreign investment contributed to the growth in the garment and electronics industries. The typical garment worker is an adolescent girl or young woman employed at a wage below the local poverty line.

The most notable labor-market trend in East Asia is the growing competitiveness of China. Despite the fact that the government maintains its facade as a socialist state, since the mid-1970s public officials and economic leaders have begun a slow but sure shift from publicly owned enterprises toward privately

owned industries. Privatization in China accelerated in the last two decades of the twentieth century and the country is now seeking to compete in global consumer markets. Privatization and the opening of the economy to foreign investment have had profound economic effects on the country's population by exacerbating inequality between rich and poor. As the government focuses investment on industrial and commercial development, the standard of living in urban areas has increased substantially. However, the focus on urban development has dramatically increased poverty in the nation's rural regions. The growth of rural poverty has forced large segments of the population into urban areas; those who can find work are employed in marginal positions in the informal sector, when they can find work at all.

South Asia

The economies of South Asia, most notably India, Pakistan, and Bangladesh, are marked by the divide between urban and rural regions. Although most of the region is mired in poverty, the advance of new technology has spurred economic growth in major urban centers. Perhaps most notable is the development of Bangalore, India, as a technology and communications center. Advances in Internet technology have made it easier for work to be outsourced by corporations to employees paid a fraction of the wages in the global North. Not all new job growth is among high-skilled workers. Increasingly, transnational corporations are outsourcing communications to the region through the development of calling centers that service the needs of consumers in North America and Western Europe. Workers in the region suffer from high underemployment, poverty-wage jobs, and youth unemployment.

Middle East and North Africa

The dominant industry of the Middle East and North Africa is oil. However, the petroleum industry employs comparably few workers. Several industries related to oil have grown in importance, including tertiary service jobs in the building of infrastructure, transportation, and finance. The region is affected by significant problems, not least of which are the ongoing Palestine-Israel conflict and the growing U.S. military presence. Political instability and ongoing military involvement has created high levels of unemployment and underemployment, exacerbated by rapid population growth. In response, oil-producing countries are reducing their reliance on foreign guestworkers from the Arab world, intensifying unemployment in sending countries.

Africa

With few exceptions, the African continent has been mired in economic decline since the 1980s. Countries in the region suffer from severe balance of trade shortfalls and in many cases must comply with IMF restrictions that impose structural adjustment policies that necessitate reductions in essential social services (education, health care, and housing). Civil war and political turmoil have also limited economic growth—most notably in the Democratic Republic of the Congo, the Ivory Coast, Liberia, Rwanda, and Sierra Leone. Although the continent has some bright spots (for example, Ghana and Uganda), industrial production has on the whole declined. The falling value of natural resources on international commodity markets—traditionally a major staple of national economies—is intensifying the region's problems. The rising AIDS crisis has placed greater stress on national economies, as high death rates among workers during their most productive years diminishes the workforce and significantly increases health-care and child-care costs.

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See Also International Productivity; International Labor Organization (ILO); Labor Rights and Standards

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Money and Monetary Policy

"Globalization" is a broad term representing a wave of different phenomena. To understand the effect of globalization on a particular feature of an economy—in this case monetary policy—it is first necessary to identify what aspects of globalization are relevant to that feature. Globalization affects monetary policy because it increases the mobility of capital around the world, that is, the increased integration and sophistication of international financial markets are making it increasingly easier and less costly to sell assets in one country and buy assets in another, and this greater capital mobility influences the effectiveness of monetary policy. Although greater capital mobility also has the undisputed benefit of promoting a more efficient allocation of world capital by more deftly directing it where it will be most productive, it is the compromising effect that increased capital mobility has on monetary policy that is addressed here. To explain exactly why the degree of capital mobility matters, it is helpful to start with some basics about money and monetary policy.

Liquidity

Money is the medium of exchange that finances almost every purchase of a good or asset, and it is requisite for the operation of anything more than a primitive, barter economy. It circulates around an economy as people receive it (in exchange for some good, service, or asset) and then spend it. A meaningful measure of the quantity of the medium of exchange in an economy is the nominal money supply divided by the price level. This measure is referred to as the level of "real balances." The term "liquidity" is used to characterize the quantity of real balances in an economy. For example, either a greater nominal money supply or a lower price level increases real balances and, therefore, increases the level of liquidity.

Although an economy's real balances constitute the amount of the medium of exchange that actually exists, they do not necessarily equal the amount that is required in order for the economy to function at its peak, sustainable level of output. The given size and structure of the economy, as well as the tastes of the economic agents, determine a minimum amount of real balances that are necessary to accommodate the economic activity when all resources are efficiently employed at their maximum sustainable level, or "full-employment" level of output. Any level of liquidity less than the minimum level will hinder economic activity in general owing to the scarcity of the medium of exchange to carry out transactions. But it is interesting to note that the slower economy will put resources out of work that would be productive if the economy were at full employment, and the increase in unemployed resources will push input prices down, which in turn will lower output prices. The lower price level will increase the level of real balances. Therefore, too little liquidity in the economy will bring about equilibrating forces that increase real balances.

An excessive amount of liquidity in the system, that is, more real balances than are needed

to permit the economy to function at its full-employment level, will cause increased activity as the excess liquidity circulates around the economy like a hot potato. Not only can this stimulate output to rise above its long-run equilibrium level, but it will also generate inflation. Thus, a surplus of liquidity will cause prices to rise, which will bring the level of real balances down until the surplus disappears.

Although the optimal level of liquidity will eventually be attained owing to the equilibrating forces that drop prices when liquidity is too scarce and raise them when there is excess liquidity, the speed of the price adjustments is a subject of serious and important debate in economics. On one side of the debate are economists who believe that prices are "sticky" and move so slowly that changing the nominal money supply can accelerate the adjustment of real balances and the economy back to full employment. These economists advocate "activist" (or "discretionary") monetary policy, that is, they recommend changing the money supply to address, if not prevent, recessions and economic booms. On the other side of the debate are economists who think that prices are flexible and will adjust before talented human beings can perceive actual liquidity problems and appropriately adjust the nominal money supply. These economists do not advocate activist monetary policy but instead prefer to adhere to some predictable, long-term trend or rule in determining how much money to issue. Some of these economists even maintain that prices are "perfectly flexible" and adjust instantaneously and, therefore, that monetary policy has no effect on real balances or the real economy, that is, they maintain that money is "neutral." For example, classical and real-business-cycle theories assume price flexibility that assures money neutrality and aggregate output that does not deviate from its full-employment level. Any variations in output that appear, like a business cycle, are due to changes or shocks to the productivity of the underlying economy.

Monetary policy clearly influences prices and the rate of inflation regardless of the flexibility of prices. Although the rate of inflation can influence the level of real output (that is, money can fail to be "superneutral") even when prices are perfectly flexible, any such effects are small compared to the possible effects of monetary policy when prices are not perfectly flexible. The remaining discussion addresses the relationship between globalization and monetary policy assuming that prices are sticky.

Confidence

Given the importance of having a sufficient level of real balances to achieve full-employment output, it is evident that a major goal of monetary policy is to maintain that minimum level of liquidity. A second yet related concern of the monetary authority that determines a country's monetary policy is that people have confidence in the currency's future worth. As part of being an effective medium of exchange, money needs to be a dependable "store of value." After all, who would accept money in an exchange if they believed it could devalue before they had the opportunity to spend it? As uncertainty about the money's future worth increases, the less desirable it is to accept, which only handicaps its effectiveness as a medium of exchange. Perhaps more important, the price of bonds denominated in the questionable currency falls as promised future receipts in terms of the money are less valuable; reductions in confidence will raise interest rates.

A principal source of reduced confidence in money is expected inflation. Inflation is simply a reduction in the purchasing power of money; therefore, expected inflation makes receiving and holding money less appealing. Past experience has demonstrated that one of the more dependable indicators of coming inflation is current inflation. Monetary authorities have learned the effect that current inflation tends to have on expected inflation, and they are mindful that excess liquidity can increase inflation, which will spark fears of future inflation and hurt confidence in money.

In the discussion on liquidity above it was noted that increased liquidity raises bond prices and lowers interest rates. This is true if, as was implicitly assumed, the level of confidence in the money is not affected by the change. Here it is acknowledged that increased liquidity can lead to expected inflation, which will diminish people's confidence in the money and raise interest rates. The net effect of an increase in the money supply on interest rates depends on the relative strengths of the two influences.

If an economy were closed to any interaction with other economies, then confidence in its money would be buoyed by the mere lack of substitutes. The fact that any transaction beyond barter would require the currency, and that any asset would carry a market price in terms of the currency, helps assure people that the money will be worth something in the future. This is not to imply that confidence cannot be dented. High enough inflation would give people an incentive to avoid holding their wealth in cash and other forms of money and assets that do not keep pace with inflation. Interest rates would rise as bonds would become relatively less attractive compared to other assets such as equities, real estate, and commodities such as gold or antiques. In addition, the resources used to carry out cash-management practices that limit the time that wealth is held in money represent a cost to the economy (called "shoeleather costs"), since those resources are diverted from the production of other goods and services.

Confidence and Exchange Rates

The problems accompanying reduced confidence in a country's money are much worse for an open economy, where foreign assets serve as substitute instruments for maintaining people's wealth, than in a closed economy. In the case of the open economy, people can protect their wealth from inflation and the reduced purchasing power of the domestic currency by selling their domestic assets to purchase and hold foreign assets. The existence of different currencies leads to foreign exchange markets where the laws of supply and demand determine the relative prices of currency, which, of course, are known as exchange rates. Inflation in one of the currencies will cause its exchange rate to fall. There are two reasons for this correlation. First, inflation will make the country's goods relatively more expensive, thus making its exports more expensive and its imports relatively cheaper. The associated decrease in demand for the currency and increase in its supply causes its exchange rate to drop. It is not surprising that the loss in purchasing power of a currency due to inflation is matched by a fall in the currency's exchange rate.

Second, and more important, because domestic inflation will cause the exchange rate to fall for the reason just described, there will be an incentive for capital to move from assets denominated in the domestic currency to assets denominated to foreign currencies before the value of the domestic currency can fall. There is essentially a rush to sell the currency before it depreciates, but, of course, this capital flow increases the supply of the currency in the foreign exchange markets and assures that the exchange rate does fall. The greater the mobility of capital, the more rapidly this shift in assets can occur, and the faster and farther the exchange rate will fall.

This reveals the self-fulfilling nature of expectations regarding the exchange rate when capital is mobile. The mere belief or fear that a currency will depreciate will cause people to transfer their assets from that currency, and the associated increase in supply of the currency in the foreign exchange market causes the depreciation. Even simple rumors that manage to cast doubt on a currency's credibility can lower its exchange rate. As globalization reduces the costs and barriers to capital flows, the self-fulfilling reactions occur more dependably and rapidly.

The possible volatility of a "floating" or flexible exchange rate that is left free (by the gov-

ernment) to rise or fall in response to the forces of supply and demand for the currency engenders uncertainty about what the exchange rate will be at any particular future date. In other words, it reduces confidence in the currency. This uncertainty accompanying floating exchange rates is referred to as "exchange rate risk," which, like almost all forms of risk, will generally dissuade economic agents from going ahead with economic activity. Uncertainty will promote agents pausing and waiting for more information before acting, and therefore it often causes economic activity to slow. Perhaps the most tangible indicator of the reduced activity is a higher interest rate as investors require higher expected returns as premiums to compensate them for accepting the greater risk. Again, the higher interest rate reduces investment and consumption. Uncertainty about the future value of a particular currency can also discourage the formation of trade relationships with exporters or importers from that country.

The damaging nature of exchange rate risk under a floating exchange rate with respect to both international capital and trade flows has led to the concept that governments should intervene in foreign exchange markets to stabilize the exchange rate. Essentially, a government can try to improve confidence in its currency by following a policy whereby it augments the demand or supply of its currency, whichever is necessary to dampen, if not prevent, movements in the exchange rate. A "fixed" exchange rate is a policy in which the government agrees to honor a particular exchange rate, thus purchasing any excess supply or supplying any excess demand prevailing at that exchange rate from the private participants in the foreign exchange market. There are less extreme policies that governments might take that are designed to stabilize, if not rigidly fix, the exchange rate (for example, crawling pegs, wide bands, managed floats). One difficulty with fixing or stabilizing an exchange rate that would otherwise be depreciating is that the government must own sufficient foreign currency to purchase its own currency in the foreign exchange markets. A currency board is a monetary agency designed—and with sufficient foreign reserves—to honor the government's chosen fixed exchange rate.

The Tradeoff between Liquidity and Confidence

One might initially think from reading the above that the ideal amount of real balances in an economy is just the minimum necessary to meet the liquidity requirement for full employment, without any excess liquidity that would spur inflation and compromise confidence in the money. Unfortunately, it is not quite that simple. The problem is that the level of confidence depends on expectations of future conditions and not just on the current level of liquidity. Therefore, it is possible that people's confidence in a currency can become shaky because of uncertainty about the future, even though no excess liquidity currently exists. In this case, they will still want to protect their wealth and sell assets denominated in the seemingly shaky currency to buy assets denominated in a more trustworthy currency, which includes selling the questioned currency in the foreign exchange markets. Without government intervention, the increased supply of the suspected currency will cause the exchange rate to drop, which will validate the doubts that precipitated the capital outflow in the first place. This depreciation will only make the concept of exchange rate risk more salient to economic agents, and it could give the currency a lingering reputation of not meriting confidence.

If the government chooses to defend the credibility of its currency (and has accumulated sufficient foreign currencies, or "foreign reserves"), it will purchase its own currency in the foreign exchange markets to dampen or prevent the fall in the exchange rate. Although credibility might be saved by this policy, the purchasing of domestic currency in the foreign

exchange markets contracts the outstanding money supply and therefore reduces liquidity. It is possible (and some would argue it has occurred many times) that defending the reputation of currency by reducing liquidity will contract the economy along with the money supply. This analysis demonstrates how a country's exchange rate policy is inseparable from its monetary policy.

Monetary Policy and the Tradeoff between Liquidity and Confidence

The ongoing tradeoff facing those who conduct monetary policy is that increasing the money supply increases liquidity, but the increase can threaten higher inflation that will undermine confidence. The benefit of increased liquidity is a short-run boost to output. Even if an economy is already operating above its full employment level, added real balances can increase output even further (along with the greater inflation as the economy rebounds farther back to full employment). More practically, monetary policy is used to accelerate the return of output to its long-run equilibrium faster than price adjustments would accomplish it. Not only is expansionary monetary policy employed in recessions, but contractionary monetary policy is used to tame booms and prevent the associated increase in prices, which, as pointed out above, can reduce confidence in the currency. But even though most economists agree that changes in liquidity will have short-run consequences, mainstream economic theory maintains that it does not affect the long-run level of output.

The benefits of confidence, in contrast, contribute to the economy in both short-run and long-run ways. The perceived safety of the currency makes bonds denominated in the currency more desirable and increases their prices, that is, interest rates fall, promoting more investment and consumption over the short run. Confidence also benefits the underlying real economy more generally by maintaining a safe, less risky environment for economic actors that makes them more likely to invest, consume, work, and employ their resources. Thus, the economy will produce more than when a backdrop of uncertainty clouds the economic landscape and complicates people's economic decisions. By influencing the full-employment level of output, altering the degree of confidence will also affect short-run activity. But the combined short-run benefits of preserving confidence by contracting the money supply are often smaller than the harmful short-run effects of the lost liquidity. Still, many maintain that the short-term pain is worth the long-term gain from having a credible currency with a sound reputation. Thus, the tradeoff between liquidity and confidence can be cast as a tradeoff between short-run and long-run output.

Economists are inclined to favor the growth of long-run output and therefore tend to advocate monetary policy that preserves confidence in the currency. The cost of more variable short-run output that creates larger swings in the business cycle is obviously undesirable, but it is generally preferred by many economists to sacrificing growth. However, politicians and government leaders are more intent on keeping their supporters—and not economists—happy. There is much evidence to suggest that the recent short-run behavior of the economy has much to do with a politician's popularity and likelihood of reelection. Therefore, those people who are actually in charge of conducting monetary policy often prefer a monetary policy that focuses on liquidity, even though these same people may publicly pay homage to the importance of confidence and the short-run sacrifices that might be necessary to achieve greater long-run growth.

Thus, financial markets observe those who conduct monetary policy as if they were watching someone on a diet. The long-term benefits of a diet are known, and dieters will claim that the benefits are worth the short-run discomfort of not eating everything that is desired and easily available. But maintaining a diet takes a

great amount of discipline because it only takes one moment of weakness for the diet to be broken. Similarly, those who are conducting monetary policy when a recession occurs may be torn between maintaining the credibility of the currency, or increasing liquidity to help alleviate the short-run misery (and increase the probability of them staying in power). Choosing to preserve credibility requires repeatedly making the decision not to increase liquidity.

The degree of confidence in a currency depends on people's expectations regarding the *possible* future behavior of monetary policy officials, but, unfortunately, looking at their past behavior does not provide certainty regarding their future actions. Just as one may doubt the willpower of a successful dieter when a piece of chocolate cake is about to be put before him, there is often uncertainty about the monetary policymakers' commitment to credibility when a recession is seemingly on its way, if not already present. Argentina, plagued by this kind of problem, fixed its currency (the peso) to the dollar in 1990 and honored the same exchange rate for over ten years. But still by the ninth, tenth, and eleventh year confidence in the currency was clearly lacking.[1] Argentina dutifully sacrificed liquidity to honor the fixed exchange rate, but the economic hardship that existed, in part because of the low levels of liquidity, only fueled fears that the government would yield to political pressures, expand the money supply, and let the exchange rate drop. Thus, a kind of vicious cycle was in place: Reduced confidence in a currency with a fixed exchange rate led to reduced liquidity that harmed the economy, which then generated fears that the government would concede and increase the money supply (that is, a further loss of confidence). In Argentina's case, more than a decade of demonstrating its commitment to assuring the peso's value (relative to the dollar) was insufficient to establish confidence, as people still questioned the Argentine government's future resolve.[2]

Argentina's quandary led some economists to recommend a policy of dollarization, in which Argentina would retire its own peso and adopt the U.S. dollar as its only legal tender. This extreme policy would at least finally give Argentina a working money with credibility, but, of course, at the cost of permanently forfeiting the power to influence liquidity.[3]

The difficulty in constantly determining the appropriate monetary actions that is part of an activist monetary policy is compounded by the self-fulfilling nature of suspected exchange rate movements that are facilitated by capital mobility. Activist monetary policy itself generates uncertainty about how and when the monetary authorities anticipate or experience shocks to fundamentals, as well as uncertainty about how they perceive and then react to possible changes to the level of confidence in the currency. Uncertainty regarding what the monetary officials might do only makes asset owners more jittery and more ready to transfer their wealth to assets denominated in different currencies. The greater the ease of such transfers, the larger the wave of capital flows in reaction to concerns about potential monetary policy as well as to shocks of all other kinds. These larger waves have more dramatic effects on the exchange rate, which only heighten exchange rate risk, which in turn only makes wealth holders even more cautious.

Monetary Policy Options Given the Tradeoff

Globalization and the corresponding increase in capital mobility has essentially eliminated monetary policy as an effective countercyclical policy tool for many countries. For example, if a country were to increase the money supply hoping to counter a recession, then it risks engendering fears of a depreciation of the currency, and capital would flee the country. Not only would this movement in capital bring about the feared depreciation, it would also cause interest rates to rise (that is, domestic asset prices would fall now that they were less desirable), and this would have adverse effects on

investment as well as consumption activity. All in all, the costs of active monetary policy have grown to be much larger than the benefits for many countries.

There are serious concerns about the variability of exchange rates in general and the associated exchange rate risk. The volatility of exchange rates is not just because of monetary policy actions; other types of shocks and doubts afflicting assets denominated in a particular currency will also cause capital flight and self-fulfilling depreciations of the currency. Many economists have endorsed the idea of capital controls to impede the flow of capital and stabilize exchange rates.[4] They do not dispute that increased capital mobility allocates capital around the world more efficiently, but they believe that reducing exchange rate risk is worth the loss of this particular benefit. Examples of capital controls include taxes on exported factor income, required domestic deposits with foreign ownership of domestic capital, and even taxes on foreign exchange transactions (for example, the Tobin tax). Of course, one argument for capital controls is that they undo many of the effects of globalization and partially restore the usefulness of monetary policy: Altering liquidity has less of a deleterious impact on confidence when capital is prevented from fleeing the country.

An alternative policy to impeding capital flows is to join with other countries and share a currency in a monetary union. This is what many countries of Europe have done through the creation of the European Central Bank and the euro. As was pointed out above, a closed economy's currency would benefit from the lack of substitute currencies to hold wealth in. Therefore, knowing that all transactions will ultimately take place using that currency gives it an inherent degree of credibility. Similarly, larger, stronger economies provide a larger base of activity that employs their respective currencies and gives reason to believe the currency will be of value in the future. Confidence in the U.S. dollar is bolstered by the large amount of economic activity within the United States and around the world where payments are in dollars. Small countries do not have the same advantage in maintaining confidence in their currencies. However, a group of small countries can form a monetary union with a single currency that serves as the medium of exchange for all the economic activity of the member countries. Of course, sharing a currency means that the corresponding monetary policy must be shared as well. For example, since Germany and Ireland belong to the same monetary union, it is impossible to conduct expansionary monetary policy for Germany that does not also affect Ireland.

Conclusion

The central benefit of activist monetary policy—that is, the decision to add liquidity to promote more economic activity in the face of a slowdown—has remained relatively unaffected by the increased capital mobility that has accompanied globalization. However, the downside of activist monetary policy—that is, the self-fulfilling consequences of diminished confidence in a currency due to the mere possibility of future monetary policy–induced inflation and depreciation of the currency—has been exacerbated by greater capital mobility. Globalization has made confidence in a currency increasingly vulnerable when exchange rates are flexible, and if countries attempt to fix or stabilize their exchange rates, then the level of liquidity can be compromised.

The mutual exclusivity of activist monetary policy (which enables policymakers to effectively alter the level of liquidity), fixed exchange rates (which maintain the credibility of the currency), and capital mobility constitute the "inconsistent trinity." Any two of these highly desirable characteristics can coexist, but governments are forced to decide which of the three to sacrifice. It would seem that most governments of small countries claim—whether credibly or not—to be forgoing monetary policy/liquidity management. They do not dare

inhibit capital flows from increasing investment and assisting growth, and lost confidence in the currency will not only keep foreign savers from investing domestically, but domestic savers as well. However, a currency that serves a large amount of economic activity, such as the U.S. dollar, has an inherent advantage in maintaining confidence. Therefore, the U.S. government sacrifices less in terms of confidence by adjusting the level of liquidity and still benefits somewhat from activist monetary policy. This is one reason why many members of the European Union were willing to join a monetary union and replace their respective traditional currencies with the more widely accepted euro.

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See Also National Government Policies

Endnotes

1. Throughout these years the interest rates on U.S. dollar loans/deposits in Argentine financial institutions remained significantly lower than interest rates on Argentine peso loans/deposits.

2. This is not to imply that Argentina's problems did not have other causes, including questionable fiscal policies.

3. Another cost of dollarization would be the loss of *seigniorage* that the Argentine government would otherwise accrue from providing the domestic currency.

4. The fact that many top economists advocate some sort of capital controls is remarkable: The idea that raising transaction costs to impede market activity could raise social welfare runs completely counter to bedrock economic intuitions.

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Monopolies and Antitrust Legislation

Monopoly

The term "monopoly" refers to the artificial exclusive right or privilege to control, own, buy, or sell something. A monopoly is formed in expectation of enlarged profits, wages, or other benefits not possible in a market of free, unrestricted competition. Such rights and privileges of a monopoly serve as imitation property rights, which have been in existence from the beginning. An example is a free man's monopoly over his labor; another example is a slave master's monopoly over the slave's labor. People who own their own property can dictate when to buy, sell, work, and develop the land. A firm has a monopoly over what it produces and sells.

Firms that have a monopoly often exercise illegitimate control, that is, they assume the right to dictate production levels and prices independently of the market mechanism of supply and demand. Their power derives from either a grant by the state or from some other means of force. Such monopolies lead to artificially adjusted prices, inefficiencies in production, unsatisfied consumer demand, and a reduced division of labor; in a globalized market, these negative effects can have global effects. The monopolistic market works contrary to the motives of achieving economic growth and prosperity.

Monopolistic Market Structures

In a capitalist society, the microeconomic model of pure or perfect competition is the targeted ideal. The purely competitive market is characterized by easy entry into an industry. Many firms producing homogeneous goods (that is, goods that are identical or easily substituted) must compete with each other for business. Each controls a small, nearly equal share of the industry's market. The market's supply-and-demand mechanism, based on consumer preferences, production costs, and the like, drives the prices for goods. Firms that cannot keep up with the market's level of efficiency are eliminated; they may be unable to adjust their prices for fear of losing business. If an overambitious firm attempts to engage in "predatory pricing," driving prices down to force competition out of the market, it will be hurt in the long run. It cannot maintain prices below cost for long before it begins to suffer, too. Easy entry allows a new firm to purchase the capital of the dying firm, in order to compete with the suicidal firm.

In contrast to the purely competitive market, the monopolistic market is controlled by one monopolizing firm. It may gain market control from other firms because of superior levels of efficiency, exclusive access to important resources, or other means. This firm acts as the sole supplier of a good, unthreatened by the production of any close substitutes. In the absence of competition, the firm acts as a "price setter" rather than a "price taker." Prices are determined by the monopoly's profit-optimizing plans. This usually requires artificially limiting the supply by decreasing the levels of production or barring consumer access to goods. As a result, consumer demand remains unmet, since consumers are forced to pay too

much for too little compared to what the market would naturally permit.

The monopolist's success serves as a primary attraction to competition. Difficult or impossible entry into the market keeps rival firms from attempting to share in these artificially large profits. If another firm is able to enter the market to compete with the monopolistic firm, then the monopoly collapses, and output and prices return to the market levels. A purely monopolistic market is rare. More common are similar structures that are able to function much like a monopoly but contain more than one firm. These structures are the "oligopoly" and the "monopolistic competition" forms.

The oligopolistic market is characterized by a small number of dominant firms and large monopolistic-like barriers to entry. In the case of a balanced oligopoly, the market power is equal. Threat from competition discourages firms from price setting, just as in the purely competitive market. In the case of an unbalanced oligopoly, one firm is more dominant than the others and acts as a monopolistic price setter, and the other dominant firms must act as "price takers" in a competitive environment.

In monopolistic competition, a number of firms compete with each other but individually have more control over price than in a purely competitive situation. Product heterogeneity, real or imaginary differentiation, such as that through brand recognition, plays a large role in allowing the firms to control prices. For firms in both the oligopoly and the monopolistic competition structures, advertising is the crucial means for increasing market power.

Market Monopolizing Techniques

Attempts to increase market control in a competitive market structure rarely produce long-lasting success. A monopolizing firm can use various means to control prices and competitors, such as mergers. A vertical merger unites the firm to its own supplier. This sort of merger can reduce a firm's production costs, lowering the prices of goods. By gaining control over production resources, a firm can exclude competition from accessing these resources cheaply. Competitors are forced to raise their prices above the market rate and risk being thrown out of business.

Another merger type is the horizontal merger, a merger between two firms producing identical or substitute goods. Unlike the vertical merger, this one can potentially increase a firm's market share and result in price setting. Because mergers allow firms to share information, they can also lead to greater production efficiency and lower costs. The conglomerate merger can save a firm from competition. Merging with a firm in a different industry serves as insurance against cyclical recessions in the industry. However, the resulting product diversification can cause the firm to spread resources too thin, increasing inefficiencies in production.

In addition to merging, firms may attempt to act as a monopoly through collusion. The dominant firms in an oligopoly can negotiate prices to maximize their profits and act collectively as one price setter. Such agreements are unusually inadequate because of the game that results. Firms must predict each other's reactions to the monopolistic price-setting attempts. If one firm cheats on the cartel, the formal written agreement, the other firms are not protected by law and are subject to losses from artificially raising their prices.

Product differentiation arises naturally from differences in firms' methods of production. Market power is secured if a firm can increase the perceived product heterogeneity of goods produced by other firms. This is a central goal of a firm in a monopolistic competition structure. Through means of advertising and other nonpricing competitive methods, this real or imaginary product differentiation can influence consumers and establish more concrete price-setting allowances. If the firm cannot influence the consumers in this manner, monopolistic pricing attempts will fail. If product differentiation succeeds, there are positive results. The consumers gain greater satis-

faction because firms are able to meet their preferences perfectly with the large variety of goods available. The high profits encourage firms to enter the market, increasing competition and driving the prices back down.

Firms may also take three direct actions on prices: price discrimination, predatory pricing, and price maintenance. Price discrimination involves charging different prices to different consumers. This allows the monopolizing firm to increase its profits and satisfy the individual needs of its consumers. Predatory pricing, a suicidal technique in an easily entered market, involves selling below costs to force out competition. Price maintenance is an agreement with a firm's supplier that allows it to buy at a lower price than its rivals.

All of these monopolistic techniques can serve as positive mechanisms in the economy, increasing efficiency and lowering costs. They are unable to completely restrict competition in the long run. Because of this uncertainty, most monopolies can only find success by obtaining state consent to their operations and legal means to keep their competition at bay.

Nature of State Support

State-supported monopolies exist for many reasons. The government may wish to control an industry outright through "socialization" or "nationalization." It may wish to regulate an industry to avoid a privatized monopoly. It may also wish to save a failing domestic industry from foreign competition in hopes of boosting its own economy.

In the United States, examples of state-sanctioned monopolies include the Federal Reserve System's exclusive right to print currency and the U.S. Postal Service's exclusive right to deliver first-class mail. Another state-supported monopoly is created by the body of U.S. labor law that allows union activity. A craft or industrial union or other workers organization may create a market consisting of a single seller of labor and use legal means of barring nonaffiliated workers from participating in the labor market.

To enforce a particular monopoly, a state may exclude competition from entering the market. This is primarily done though licensure, which allows participation by those who meet a set of standards and refuses it to others. Licensure, which is required to participate in occupations such as medicine, is different from certification, which acknowledges proper training. Licensure restricts the number of individuals who are allowed to participate in an industry regardless of qualifications. Licensure artificially reduces the service labor force and the ability of firms to enter the markets.

A state may also regulate a patent registry, which constitutes another form of monopoly. Through the patent system, the government grants an individual or firm an exclusive right to manufacture and sell a particular innovation or technology. Although this law can sometimes ensure that the inventor reaps the benefits of new ideas, the patent laws discriminate against those who develop the innovation simultaneously yet were unable to register first. Similarly, copyright laws may promote research and development, but they are not cost effective for consumers because more efficient firms may be barred from entering the market.

To force out competition and increase market control, a state may impose restrictions that artificially change the prices of goods. Price caps prevent firms from increasing prices when costs are too high or supplies are too low. Such restrictions keep new firms from entering the market because the entrants would not be able to compete with the extreme levels of efficiency required to remain in the business and make a profit.

In the past, the state established fair-trade laws to protect small firms from the predatory pricing techniques of large firms. These survive in price floors imposed on certain industries, such as housing. These minimum prices allow firms to realize monopolistic profits independently of oligopolistic collusion. Proper resource allocation suffers because inefficient firms are able to remain in business, earning an artificially high profit.

Another type occurs in the case of a "natural monopoly." This refers to the monopolizing firm that can produce more goods because government subsidies enable it to produce at a loss. The state can choose which firms or industries to subsidize. Nonsubsidized firms are then forced out of the market, while others agree to sell at artificially low prices. New firms are barred from entry because they are not able to produce at a loss without state subsidies. Subsidized firms that remain in an unprofitable industry are inefficient because the market cannot correct for deficiencies. Surpluses and shortages are the results.

Besides preventing firms from entering a monopolized market, the state may restrict consumer access to goods, creating an unnaturally large demand to support monopolistic prices. An example is farming, where farmers are paid not to produce so that prices will not fall below subsistence level. Excess supply may be destroyed or left to waste rather than taken to market.

On an international scale, a state may attempt to create domestic monopolies. This is done by eliminating foreign competition through trade restrictions, including tariffs (taxes on imported goods), quotas (limits on amounts allowed), and embargoes (bans on foreign trade). The protective tariff artificially raises the price of foreign-made goods, allowing domestic firms to sell at above-competitive prices. This enables failing domestic firms to compete with more efficient foreign firms, securing domestic jobs in the short run but hurting consumers and the whole economy in the long run.

Costs of Monopolization

When the monopolistic firm, with or without the support of the state, attempts to override the market's supply-and-demand mechanism by artificially adjusting prices, only inefficiency can result. The monopoly can survive only because of the manipulation of state power and market regulation. Whereas a free market encourages efficient and cheap production, the monopoly encourages wastefulness. Whereas the free market promotes greater access to goods, the monopoly fails to satisfy consumer demand, producing too much or too little than the market dictates. The state may attempt to control trade to benefit its own economy, hurting it in the long run. Rather than promoting international trade as a benefit to society, an industry that advocates this approach acts as a victim.

When inefficient industries are protected from foreign competition, the market cannot dictate proper resource allocation, and the whole society loses. Workers are resources that are withheld from more productive industries when protected industries are not allowed to fail. Consumers are forced to pay high prices for goods. The countries involved cannot benefit from the increased levels of efficiency that accompany an international division of labor. Gains from one country's comparative or absolute advantages in production are lost in the regulations. Trade restriction leads to lower quality in goods and greater costs. All economic benefits are short term or mere delusions.

Antitrust Legislation

The term "antitrust legislation" refers to legislation against business practices that are regarded as unfair, unethical, or anticompetitive. A "trust" is a combination of firms or corporations for the purpose of reducing competition and controlling prices throughout a business or industry. Trusts are generally prohibited or restricted by antitrust legislation. The term "trust" came from the practice of collective shareholding that led to domination of an industry's firms. It now refers to monopolistic firms in general. Since monopolies are generally considered inefficient and hurtful to the economy, a state may enforce antitrust or antimonopolistic laws that promote competition in commerce by prosecuting a suspected monopolist alleged to be in violation of these laws. State-supported monopolies do not lie under

the jurisdiction of antitrust policies; a state is usually concerned about maintaining a balance of market power only in the private sector. Deregulation is the primary method used to abolish state-protected monopolies.

Although working to secure a competitive market, antitrust policies can be very inefficient and costly. Justice is not executed quickly, dragging out in long and involved court cases. Monopolistic practices transform with the times, and their original definitions may become meaningless and obsolete. Practices that are not explicitly identified in the purely competitive market model are automatically dismissed as anticompetitive even if the practices prove otherwise. In addition, much antitrust legislation is subject to judicial interpretation. There has been a continuous shift between a focus on monopolistic actions and a focus on the firm's size or market share.

Under antitrust policies, firms cannot explicitly behave in a monopolistic manner. Mergers are prohibited if the action would drastically widen their market shares. Oligopolies cannot legally collude on prices, nor are their cartels and other monopolistic contracts enforced by law. The strictest and most all-encompassing antitrust legislation policies are found in the United States. However, many other countries and global organizations have felt the need to include them in their legislation.

Antitrust in the United States

In colonial America, trusts and other informal agreements were not outlawed but remained unenforced by law. Provisions for trade and commerce were made through the individual colonial charters and private land grants from the kings of England. The Articles of Confederation, passed in 1777, declared in Section IV that the "people of each State . . . shall enjoy therein all the privileges of trade and commerce" without the earlier restrictions and taxes imposed on them.

After the American Revolution ended in 1783, politicians worked to reorganize the economic functions of the newly independent states. They desired a unifying law of commerce to facilitate trade between the states and with other countries. This opinion was expressed by statesman Alexander Hamilton in support for the Union:

> An unrestrained intercourse between the States themselves will advance the trade of each by an interchange of their respective productions, not only for the supply of reciprocal wants at home, but for exportation to foreign markets. The veins of commerce in every part will be replenished, and will acquire additional motion and vigor from a free circulation of the commodities of every part. Commercial enterprise will have much greater scope, from the diversity in the productions of different States. . . . The speculative trader . . . will acknowledge that the aggregate balance of the commerce of the United States would bid fair to be much more favorable than that of the thirteen States without union or with partial unions. (Hamilton 1787)

With the ratification of the Constitution of the United States in 1788, Section 8 of Article I gave Congress the authority to "regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes." This law did not affect monopolies until the case of *Gibbons v. Ogden* in 1824, a dispute concerning a state-granted monopoly on steamboat traffic. The U.S. Supreme Court ruled against state-licensed monopolies that conflicted with the provisions made in the Constitution, namely that states had a right to govern internal but not interstate commerce.

In the case of *Munn v. Illinois* in 1877, the Supreme Court endorsed state antimonopoly policies, deciding that the regulation of private property may be "necessary for the public good." This was an early decision against the monopolistic practices of private railroads. A later decision, in the case of *Wabash, St. Louis & Pacific Railroad Company v. Illinois* in 1886, further extended federal control over commerce.

In 1887, the Interstate Commerce Act was passed to regulate the railroad businesses. The act dealt with monopolistic practices such as unreasonable pricing, price discrimination, and collusions to divide market shares and established the Interstate Commerce Commission (ICC) to hear complaints against the unfair actions of the railroad companies and carry out the necessary investigations. Railroads were forced to report to the commission annually and were subject to fines for committing monopolistic offenses.

Congress passed the Sherman Anti-Trust Act in 1890, forbidding the formation of trusts and other collusive behavior in interstate commerce. Jurisdiction was given to the Anti-Trust Division of the U.S. Department of Justice. The act imposed fines and imprisonment for violators and allowed victims of monopolistic practices to sue for damages. An attempt to monopolize was made a felony, and trusts were forced to dissolve. Successful cases were brought against the Northern Securities Company (1904), the Standard Oil Company (1911), and the American Tobacco Company (1911). The principle of the "rule of reason" used in these and later cases required that the prosecution prove the firm used monopolistic power to eliminate competition. A large market share was considered inadequate proof, as was shown in later cases.

Although it served as a major breakthrough for federal antitrust legislation, the Sherman Anti-Trust Act was vague and subject to interpretation. The case of the *United States v. E. C. Knight Company* of 1895 affirmed that federal jurisdiction lay only with monopolies in commerce and not in manufacturing. The Clayton Anti-Trust Act of 1914 was far more direct in regulating monopolies in general. The act outlawed predatory pricing, price discrimination, exclusive deals, and stock ownership in competing firms. It also established rules regarding the firms' conduct toward labor unions.

Also passed in 1914, the Federal Trade Commission Act established an administrative watchdog for the economy. Like the ICC, the Federal Trade Commission (FTC) had the responsibility of investigating charges brought against firms for monopolistic practices. The FTC promoted written agreements from firms pledging not to violate antitrust laws.

The Webb-Pomerene Act of 1918 exempted exporting firms from the antitrust policies and penalties as long as monopolistic practices were not used against domestic competition. In 1936, the Robinson-Patman Act (also called the Anti-Chain-Store Act or Anti-Price Discrimination Act) prohibited predatory pricing, price maintenance, and price discrimination in the retail markets. It protected smaller retail stores from the monopolizing schemes of larger chain stores by forcing manufacturers to sell on equal terms.

Under the administration of President Franklin D. Roosevelt, the Agricultural Adjustment Act passed in 1933, forming the Agricultural Adjustment Agency (AAA) under the Department of Agriculture. This agency introduced subsidized farming and regulated crop production to decrease food production. Another agency, the Commodity Credit Corporation, made loans available to farmers and stored excess supplies of crops to artificially raise food prices. The act was repealed in 1936, but its work was carried on by later legislation and federal agencies.

Following the Robinson-Patman Act, another protective act for small retail stores was the Miller-Tydings Act of 1937. This act exempted fair-trade practices from the penalties of the Sherman Anti-Trust Act. This practice involved minimum price setting, designed to keep larger retailers from predatory pricing. Following this act was the Wheeler-Lea Act of 1938, which extended FTC authority against public deception, also called false advertising.

In 1945, the Supreme Court ruled against Alcoa in the *United States v. Aluminum Company of America* despite the fact that it was not found guilty of any monopolistic practices. This ruling began the era of the "per se" criterion, in which prosecuted firms were considered monopolies *per se* because of their size.

In 1950, Congress passed the Celler-Kefauver Merger Act (also called the Anti-Merger Act) to cover a loophole left open by the earlier Clayton Anti-Trust Act. The act prevented anticompetitive mergers that would enlarge market shares but continued to allow smaller firms to buy out competition.

In 1975, Congress passed the Consumer Goods Pricing Act. This act repealed the Miller-Tydings Act and barred firms from making price maintenance agreements with their suppliers. The Hart-Scoss-Rodino Anti-Trust Improvement Act of 1976 expanded federal authority to scrutinize corporate mergers. One result was that the American Telephone and Telegraph Company (AT&T) was dissolved in 1982.

The year 1982 also ended the long trial of the *United States v. IBM,* when the "rule of reason" triumphed over the "per se" criterion a second time. Although the International Business Machines (IBM) Corporation was accused of holding a monopolistic market share, no evidence of monopolistic practices was found.

In 2002, the final decision in the *United States v. Microsoft Corporation* found the company in violation of antitrust policies. This ruling brought about questions concerning the effectiveness of antitrust legislation and the apparent double standard used in prosecuting. As antitrust legislation continues to battle the problem of interpretation, policymakers must ask themselves a question that has important implications for antitrust law: When do "competitive" practices became "anticompetitive"?

Antitrust on a Global Scale

Free trade and competition bring long-term economic benefits to all economies. Trade increases income and living standards and stimulates growing economies. It also promotes efficiency, not only in production but also in the use of irreplaceable resources. In an effort to preserve domestic competition in their economies, countries such as Germany and the Netherlands have joined the United States in passing antitrust legislation.

In 1995, the U.S. Department of Justice and the FTC issued the "Anti-Trust Enforcement Guidelines for International Operations" for firms to apply to foreign commerce. These agencies have also formed agreements with individual countries such as Canada, Israel, and Mexico to standardize antitrust policies and preserve competition. These agreements allow the dissemination of knowledge and ease of investigation in antitrust cases.

Equal efforts have been made to preserve global competition. Many countries participate in agencies that were created to regulate global and regional trade and commerce. The General Agreement on Tariffs and Trade (GATT) was established in 1947 and reorganized as the World Trade Organization (WTO) in 1995. The purpose of the GATT was to promote unrestricted trade between countries by setting international regulations on protective barriers. It also authorizes the creation of free trade areas and customs unions that permit unrestricted trade among members only as a means of opening protectionist economies. Serving as a mediator, the WTO encourages countries to move away from monopolistic practices.

Antitrust regulation goes against a natural mercantilist instinct. Struggling economies desire to keep capital, jobs, and currency "in house" in hopes of a last chance at survival. Although global antitrust legislation may be seen as an invasion of state supremacy, the efforts of many countries have led to a promising battle against international cartels such as the Organization of Petroleum Exporting Countries (OPEC).

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See Also National Government Policies; National Tax Rules, and Sovereignty; Political Systems and Governance

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National Government Policies

National government policies are initiatives by governments that are attempting to exert leadership or intervene more subtly in their domestic affairs. In the realm of economics, it is commonly agreed that sovereign governments can take on three important tasks in their efforts to influence socioeconomic outcomes. Governments can, through the manipulation of a wide variety of policy instruments, (1) shape the allocation of a country's resources; (2) pursue macroeconomic stabilization; and (3) prioritize the distribution of a nation's wealth.

Despite general acknowledgment of governments' tremendous potential to affect the course of economic events, views on how and to what extent governments are expected to intervene in the economy tend to change in the minds of the political and economic elites across time. The global consensus on the normative role of the state as an advocate for economic development, in particular, is closely related to the prominent ideas upheld by the leading economies in the international system in distinct historical times. Joan E. Spero and Jeffrey A. Hart (2003), for example, have argued that after World War II three major international economic systems developed—periods in which assertions on the optimum role of the state also evolved. They are the Bretton Woods system (from World War II to 1971); the period of interdependence (from 1971 to 1989); and the contemporary era of globalization (from 1989 to the present).

Government Policies during the Bretton Woods System

Named after a vacation resort in New Hampshire, the Bretton Woods system was created by a United Nations monetary and financial conference that took place there in July 1944. Representatives of forty-four countries got together in an effort to establish a new economic order capable of promoting economic, political, and military stability in the international system (Spero and Hart 2003). At that time, world leaders believed that the absence of strong international institutions was one of the causes of World War II.

Two important organizations that were created during that conference include the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (IBRD, also known as the World Bank). The General Agreement on Tariffs and Trade (GATT, whose rules are today upheld by the World Trade Organization, WTO) was also signed during the occasion. All of those initiatives had the ultimate aim of establishing world order. The 1944 conference also addressed concerns with the reconstruction of Western Europe and Japan, which were badly damaged by the war. However, the conference had initially underestimated the damages in the warring countries. A few years later, the U.S. government realized the need to sponsor aid programs, in part with the goal of promoting capitalism and democratic regimes throughout

the world. The Marshall Plan, instituted in 1947, was one of these initiatives.

The Bretton Woods system affected the domestic policies of nations in many ways, particularly those not aligned with the Communist bloc, and it would also change the way in which they related with one another. In 1947, the U.S. dollar became the main currency used in international transactions. The dollar, in turn, had a fixed parity to the value of gold ($35 an ounce). Currencies of many states were fixed against the U.S. dollar, which thus served as the reference for exchange rate transactions. One of the purposes of this initiative was to encourage monetary stability as well as predictability by laying out a more practicable environment for international trade and financial transactions in general.

One of the primary participants of the Bretton Woods conference was the economist John Maynard Keynes, who led the UK delegation. At that time, this British economist's theories on macroeconomic policy enjoyed great influence in the United States. Keynes was very skeptical, in particular, of the ability of the market alone to solve socioeconomic problems such as unemployment. Many of his contemporaries, however, had defended the manipulation of interest rates as a means to facilitate the access of producers and financial investors to capital in times of economic hardship. Monetarist economists argued that the extra capital injected into the economy would serve as a suitable "fuel" to generate jobs. Keynes, however, believed that national governments could be more effective in solving the problem of unemployment if they also sponsored projects that created jobs—even at the cost of higher public spending. In many respects, the agreements signed at Bretton Woods reflected Keynes's economic views.

Overall, the post–World War II period can be characterized not only as a time in which the leading economies, especially the United States, were concerned with promoting international integration, but also as a period in which governments were expected to play an active role in the economic welfare of their domestic markets.

State-Led Development Strategies

The idea that a government should be at the forefront of a country's economic development was prominent among developing nations in the post–World War II era. It was during this period that most countries in East Asia, Latin America, and Africa embraced import-substitution industrialization (ISI) programs. As the name indicates, ISI was an attempt by developing countries to industrialize their economies through import substitution. To that end, governments offered a package of subsidies to their local industries, which oftentimes were government owned. The ISI policy prescriptions included: (1) high import tariffs on consumer goods; (2) low or negative tariffs on imports of machinery and intermediary inputs; (3) cheap credit (frequently at negative real interest rates) to industrial firms; (4) preferential exchange rates for industrial producers; and (5) public investment in infrastructure (for example, transportation and power) and in the so-called "basic industries" (for example, steel) (Weaver 1980).

Another trait of the ISI countries was their tendency to transfer income from agricultural exports in order to subsidize industrial development in urban areas. Economist Michael Lipton (1976) denounced this practice as the "urban bias" because the policies favored industrial producers and labor at the expense of farmers and workers in rural areas. ISI policies consisted of a tightly staged program aimed at speeding up the modernization of developing countries. A major source of the philosophical inspiration for ISI came from the "dependencist theory." This school of thought asserts that developing countries have been historically engaged in very unfavorable economic relations with the developed world. Dependencists believe that Third World countries run the risk of being deprived of imports from industrial

countries if they do not attempt to promote their local industries.

ISI policies became widely adopted in Third World countries for several reasons. First, past international crises (such as the Great Depression and major wars) had brought havoc to the developing world, which suddenly found itself deprived of imports from industrial nations. Dependencists believed that developing nations were predestined to experience balance of payments problems because of declining terms of trade; that is, their ability to use earnings from agricultural (or other primary) exports to pay for high value-added (mostly manufactured) imports from industrial nations would diminish (Hirschman 1971). Another source of inspiration for ISI was the economic success of the Soviet Union. Policymakers throughout the developing world—even those who were proponents of capitalism—were persuaded by the apparent efficacy of a centrally planned economy. Indeed, they were convinced of the important role of the state in leading the boom of industrialization that took place in the Soviet republics during the first few decades of the twentieth century.

Despite widespread enthusiasm over ISI policies, levels of economic success among governments that pursued those policies tended to vary across time, regions, and countries. Particularly, there existed a major distinction between the ISI policies adopted in Latin America (for example, Argentina, Brazil, and Mexico) and Africa (for example, Botswana, Gabon, and Kenya) and those adopted in East Asia (for example, South Korea and Taiwan). Whereas the Latin American and African governments tended to overtax their exporting sectors in order to finance urban industrialization, their East Asian counterparts understood from the beginning the importance of promoting exports as a means of obtaining foreign revenues as well as stimulating higher productivity in local industries. The result was that East Asian countries were able to enjoy sustainable economic growth for a longer period of time.

By the mid-1960s, ISI was already showing signs of exhaustion as an economic strategy. The unprecedented industrial growth that countries experienced as a result of import substitution could not solve the unemployment problem in those economies. If, on the one hand, industrialization created a demand for high-skilled labor, on the other hand the jobs that this economic strategy produced were not nearly plentiful enough to meet the needs of their labor markets. In fact, ISI marked the beginning of an extraordinary rural exodus in which people sought better job opportunities in the urban centers. As mentioned earlier, ISI policies did not address the economic problems of the rural population. Instead, they heavily penalized the rural sector in favor of high-capital-intensive industries. This phenomenon also spurred increasing levels of inequality within developing countries. The East Asian experience of economic development nevertheless proved to be very different from that of the Latin American and African nations.

One last important feature of ISI economies was that they tended to borrow heavily from international capital markets to finance the development of their industrial sector. The post–World War II period was indeed an era characterized by cheap money: Developing countries had access to foreign capital at very low interest rates. Those years of heavy borrowing would set the stage for what Spero and Hart (2003) identified as the period of global interdependence.

The Period of Interdependence

The 1960s and 1970s marked the beginning of a surge in capital mobility across national borders. This new world order was mostly a product of technological innovations, internationalization of production, and government policies. An important economic policy change in this period was the return to the flexible exchange rate system, motivated mostly by the

end of the U.S. dollar's pegged rate to gold. In response to a shortage in the U.S. gold stock, the administration of President Richard Nixon decided unilaterally to end the dollar convertibility to gold on August 15, 1971. The new international economic environment would have a major impact on national government policies in many countries, limiting the influence of those policies in this increasingly interdependent financial system.

What made the period of economic interdependence distinct from the first twenty-five years or so after the end of World War II was that the composition of capital flows became concentrated on portfolio investment, as opposed to foreign direct investment (FDI). This change had significant effects, especially on smaller economies, which became more vulnerable to sudden fluctuations in capital flows.

Technological innovations and the deregulation of financial markets were two of the fundamental novelties that allowed for increased capital mobility. Large amounts of money could be transferred from one country to another almost instantaneously, thanks to revolutionary advances in telecommunications, information processing, and computer technologies (Spero and Hart 2003). Financial markets in general thus became highly sophisticated. In addition, national governments started liberalizing their capital accounts, not only reducing restrictions on the entrance and exit of foreign capital but also creating policies that attracted international investors seeking higher rates of return on their financial investments. In many respects, the years of economic interdependence were a transitional phase between two very distinct eras, namely, (1) the post–World War II period, in which national governments were expected to have a strong hold on the country's economic matters; and (2) the era of globalization, when greater faith was placed in the efficiency of market forces as a source of development.

The liberalization of capital markets, along with the adoption of floating exchange rate systems, reduced governments' options in using fiscal and monetary policies to influence economic outcomes. In his elucidating study, Jeffrey A. Frieden (1991) explained this phenomenon by portraying the international economic system as "before capital mobility" (BCM) and "after capital mobility" (ACM). In the BCM world, if a government wanted to adopt expansionary policies (à la Keynes), the most frequent way to pursue them would be by reducing interest rates. Low interest rates would make access to capital easier for producers, who in turn would become likely to hire more workers, who would also contribute to the increased production of goods. Low interest rates can help the economy by stimulating consumption. Hence, the implementation of a particular monetary policy tool, the reduction of interest rates, was believed to be a useful instrument for governments to lead the country into a virtuous economic cycle.

However, in the ACM world, the composition of international financial flows has changed. Before capital mobility, countries could easily finance development projects, thanks to ample access to foreign loans at very low interest rates. In addition, multinational corporations (MNCs) played an important role in transferring large sums of capital across countries through FDI. In the ACM period, however, portfolio investment became the major source of foreign capital, and the stakes in attracting it have significantly increased.

One way to attract foreign investors is to award high returns on their capital. This means that countries are now expected to offer not only positive real interest rates but also internationally competitive ones. Otherwise, governments run the risk of seeing investments leave their countries in favor of more profitable financial markets elsewhere. As a result, the ability of governments to manipulate interest rates to promote expansionary policies has been somewhat diminished in the ACM world.

In countries with liberalized capital accounts—that is, with full capital mobility—

governments have the alternative option of using exchange rate policies to expand the money supply in their domestic markets. For example, if a government decreases the value of its domestic currency, it can both increase the competitiveness of the country's exports and stimulate internal consumption of goods produced domestically. Unfortunately, exchange rate devaluations have not always been successful in boosting economic activity.

The Mundell-Fleming model presents a heuristic way of understanding changes in policy preferences in an economic environment before and after capital mobility. The model basically predicts that a country can enjoy only two of the following scenarios: a fixed exchange rate, monetary policy autonomy, and/or capital mobility. Suppose that a government chooses to have a fixed exchange rate system and an autonomous monetary policy, where interest rates are set according to its preferences. These policies can only be sustained by closing the country's capital account. Otherwise, foreign investors would immediately react to the government's setting of interest rates and its exchange rates policies, making the country susceptible to currency speculative attacks that could destabilize its exchange rate.

Although already highly interdependent, the international economic system had not appreciated the full extent of the effects of an ACM world until the late 1980s. Only after the end of the Cold War and the rise of the United States as the world's single superpower did the international system witness the victory of capitalism and the remarkable spread of its ideals and practices.

National Policies after Globalization

With the collapse of the Soviet Union and the subsequent transformation of the East European Communist bloc, a large pool of countries underwent market-based reforms. There already existed a consensus among most of the former Communist countries, also called "transitional economies," that communism had failed as an economic system. Since then, these countries have pursued thorough economic reforms with the goal of diminishing the control of states over the economy and making their societies more market friendly.

One characteristic of transitional societies was that economic liberalization reforms took place alongside political democratization. The end of Soviet rule also represented, in many states, a revival of the ideals of ethnic and national sovereignty. All in all, most of the former Communist states have undergone sweeping changes in their governments with new leadership taking control of their political and economic fates Therefore, when the transitional countries adopted capitalism, many had very high expectations that this new economic system would also lead to freer and more democratic societies. This optimistic environment certainly helped some of the newly empowered leaders in those states to execute comprehensive marked-based reforms at a very fast pace (Nelson 1995).

In contrast, Latin America—and to a certain extent Africa—did not enjoy the same initial broad public consensus for market reforms and economic liberalization. Specifically, the democratization of Latin America in the 1980s was not associated with the rejection of the state-led economic strategy. According to political economist Joan Nelson, there was a widespread belief among the newly elected civilian leadership in the mid-1980s that "Latin American economies were fundamentally sound but had been mismanaged" by former governments. Nelson argued that this was particularly true in some of the countries that had been under military dictatorship, such as Brazil, Bolivia, and Argentina (1995, 48).

Despite the initial reluctance of some developing economies to adopt economic liberalization, by the mid-1990s very few countries were not yet participating in this new global economic paradigm, as Table 1 indicates.

Table 1: Economic Liberalization Reforms

Developing Countries	*Start Date*	*Transitional Economies*	*Start Date*
Greece	1959	Hungary	03/1990
Portugal	1960	Slovenia	10/1991
Taiwan	1963	Poland	06/1989
Jordan	1965	Czechoslovakia	06/1990
Ireland	1966	Bulgaria	06/1990
South Korea	1968	Estonia	08/1991
Indonesia	1970	Latvia	08/1991
Chile	1973	Lithuania	08/1991
Botswana	1979	Albania	03/1991
Morocco	1984	Kyrgyzstan	10/1991
Bolivia	1985	Croatia	10/1991
Gambia	1985	Moldova	08/1991
Ghana	1985	Kazakhstan	12/1991
Costa Rica	1986	Macedonia	11/1991
Guinea	1986	Georgia	08/1991
Mexico	1986	Belarus	08/1991
Guinea-Bissau	1987	Ukraine	08/1991
Guatemala	1988	Uzbekistan	08/1991
Guyana	1988	Armenia	09/1991
Jamaica	1988	Azerbaijan	10/1991
Mali	1988	Russia	12/1991
Philippines	1988	Romania	05/1990
Uganda	1988	Tajikistan	09/1991
El Salvador	1989	Turkmenistan	10/1991
Paraguay	1989		
Tunisia	1989		
Turkey	1989		
Benin	1990		
Uruguay	1990		
Argentina	1991		
Brazil	1991		
Colombia	1991		
Ecuador	1991		
Honduras	1991		
Nepal	1991		
Nicaragua	1991		
Peru	1991		
South Africa	1991		
Sri Lanka	1991		
Cameron	1993		
Kenya	1993		
India	1994		

Source: Data for transitional economies are based on Joel S. Hellman, "Competitive Advantage: Political Competition and Economic Reform in Postcommunist Transitions" (San Francisco: American Political Science Association, 1996), and data for developing countries are based on Jeffrey D. Sachs and Andrew Warner, "Economic Reform and the Process of Global Integration," in *Brookings Papers on Economic Activity* (Washington, DC: Brookings Institution Press, 1995).

Policy Prescriptions

As alluded to earlier, the era of globalization (1989 to the present) will challenge the role of the state as the primary actor for advancing economic development. Greater reliance on market forces and free trade will constitute the two philosophical pillars of the new economic order. Trade liberalization is one of the market-based (or neoliberal) policies that has been greeted with enthusiasm, even among skeptics of this economic agenda. In essence, free trade entails the end of protectionism in all countries. Historically, both developed and developing nations have had records of practicing some form of trade protectionism.

The strongest theoretical motivation for free trade is that it improves the welfare of all nations that participate in it, regardless of their individual levels of economic development. Free trade allows countries to specialize in the production of goods in which they have comparative advantage. This means that countries will have an incentive to specialize in the production of goods in which they are relatively more productive than the rest of the world. In addition, trade liberalization promotes the free flow of international goods, greatly benefiting consumers everywhere because they will be able to have access to an enormous variety of internationally produced goods (something unthinkable in a closed economy) and will be able to pay for them at very competitive prices.

Unfortunately, the gains for producers and workers in countries that engage in free trade are not always clear-cut, nor are the predictions as to which societal groups will win and lose during a trade liberalization program. However, there are a few trade models in economics that attempt to answer exactly these questions. Two of the most famous ones are the Ricardo-Viner and the Stolper-Samuelson models, which predict that social cleavages against and for trade liberalization will occur through either sectoral or class interests, respectively.

For example, the sectoral model (Ricardo-Viner) asserts that social groups' alignment will reflect the interests of different industrial sectors. More specifically, support for or opposition to trade liberalization will occur, correspondingly, between export-oriented and trade-competing industries. Hence, the main prediction of the sectoral model is that producers and labor in specific industries will be politically aligned in the fight for the trade policy of their preference, according to whether those industries are internationally or domestically oriented.

The class model (Stolper-Samuelson) predicts that group coalitions will form on the basis of class interests. This means that labor and producers in the same industry, for instance, may share different policy preferences. In addition, the model predicts which group will support trade liberalization as a function of each country's factor endowments. That is, social groups that control an economic factor that is abundant in a country will tend to support free trade in the long run, as opposed to an interest group that utilizes a scarce economic factor in its production.

Take the United States as an example. This country is considered relatively abundant in both financial capital and human capital (that is, skilled labor). According to the Stolper-Samuelson model, capital owners and skilled labor will support free trade policies because they are very competitive internationally. Free trade is likely to make them wealthier. This is not true, though, for low-skilled laborers in the United States, who will be competing with workers of poorer countries. The fear among the believers in the Stolper-Samuelson model is that eventually there will be a "race to the bottom" among workers everywhere, and that employers will be forced (or willing) to reduce wages and other benefits in order to be more competitive in the international market, and thus ultimately will provide more jobs.

The predictions of both of these models with regard to the social consequences of trade liberalization are still highly disputed among scholars and policymakers. In fact, there has been international evidence in support of both

models. Therefore, the final word has yet to be declared on which model best predicts the effects of trade liberalization on income distribution. The distributional effects of trade liberalization explain in part why one does not see a completely integrated international economic system, with nations freely trading goods among one another. Governments do respond to societal pressures—even in nondemocratic environments—and the trade policies that they pursue take into account the interests of individuals or groups in the society.

Some of the most common tools through which governments can enact protectionist policies include import tariffs, quotas, licenses, and other nontariff barriers (NTBs). Notice that although the trade models mentioned above do not always predict the winners and losers of trade liberalization, protectionist policies, such as import tariffs and licenses, clearly benefit specific economic groups within a country. Using the United States as an example again, a high import tariff on steel will promptly protect the U.S. steel industries, including producers and labor, from foreign competition. Therefore, the incentives for groups to mobilize in favor of trade protectionism are enormous in practically every country, because the gains from trade protectionism tend to be high and very concentrated. The losses that consumers suffer from that particular policy, however, tend to be relatively small and highly dispersed. In the end, a country's welfare is damaged by trade protectionism. That is why proponents of economic globalization defend free trade as a means of improving the allocation of a country's resources and, ultimately, the allocation of the world's resources.

Neoliberals do acknowledge, though, that import tariffs are valuable as a source of revenue collection. They maintain that the ideal government approach would be to set low import tariffs, with a pattern of spread as close as possible to a flat tariff system across industries to reduce the chances for economic favoritism of one group over another.

Another government policy that affects trade performance is the exchange rate regime. Devaluation of a country's currency normally helps the exporting sector because the country's goods become cheaper in the international market. Thus, exporters win twice with a low exchange rate: They are both able to sell more of their products and to receive more domestic currency during exchange conversions. This policy preference also tends to benefit the import-competing sectors, because their products become cheaper than imports under a low level of exchange. However, importers and consumers in general will benefit from a strong, or overvalued, domestic currency because their purchasing power is strengthened at an international level.

Neoliberal economists argue that most countries will gain if they set their currency slightly below the real rate of exchange. This will help the exporting sector, which in turn can bring more foreign revenues to the country. Conversely, they caution that if the domestic currency is too undervalued, it can create inflationary pressures. In addition, a policy that promotes the weakening of the domestic currency is likely to become politically unpopular among consumers.

The Role of the State

Another set of policy prescriptions defended by the neoliberal school has to do with the spending priorities of the state. In this respect, the era of economic globalization is very distinct from the post–World War II period, and even more so from the economic strategies pursued by the ISI countries. Neoliberal economists have a propensity to be very skeptical of governments' motives, as well as competence, for leading a country's economic development. They argue that an all-encompassing state is likely to produce many distortions during policymaking, in addition to being very vulnerable to corruption. These are some of the reasons

why neoliberals defend that states should be "lean," so that they can concentrate on a few policies and, hopefully, execute them well.

John Williamson (1990) in his celebrated piece on the so-called "Washington Consensus," a term that he coined, explained that the role of government in the economy can be reduced in many ways. Deregulation of the domestic market (for example, through eliminating red tape), privatization of state-owned enterprises (SOEs), and reduction of public spending all lead to a smaller degree of government intervention in the economy. Nevertheless, neoliberals do acknowledge that there are policy areas in which the government should step in, given that the private sector has a poor record in taking care of them. Examples of selective areas where the state can perform well include basic health and education services. Neoliberals also favor state investment in a country's infrastructure, as private initiatives are not always forthcoming in this area.

Despite the supremacy of neoliberal ideals in the era of economic globalization, an increasing number of voices have questioned the efficacy of these policies in alleviating poverty around the world. Even more disturbing is the neoliberal record with regard to income inequality, which since the end of the Cold War has been increasing not only within developed and developing countries but also between developed and developing societies. One of the most ardent critics of the neoliberal strategy is Nobel laureate in economics Joseph Stiglitz, who has become internationally popular for his analyses on the competence of the IMF in fostering macroeconomic stability in the international system.

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See Also Antidumping and Countervailing Duties; Economic Sanctions; Fiscal Policy; Industrial Location and Competitiveness; Inequality; Monopolies and Antitrust Legislation; Subsidies; U.S. Trade laws

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National Tax Rules and Sovereignty

Introduction

It has become commonplace to observe that economic globalization has reduced the sovereignty of nations.[1] A particular aspect of this more general phenomenon is the question of how globalization reduces national sovereignty in taxation. This loss of sovereignty may take several forms, among them market-induced pressures to lower taxes and difficulty in applying existing tax rules. By making it difficult to sustain revenue yields without placing increased tax burdens on consumption and labor, such developments may lead to calls for limits on the activities of tax havens, new rules governing the taxation of international flows of income (generically, a "GATT for taxes"), or even a new institution (a "World Tax Organization") to enforce such rules, all of which, ironically, would also entail loss of national sovereignty.

The tax rules that have traditionally governed international economic relations were created for a world of relative autarky and were generally appropriate for that world. In the increasingly globalized world that exists at the beginning of the twenty-first century, however, the traditional tax rules have come under strain and national sovereignty in taxation has been eroded. Two initiatives are under way at the Organisation for Economic Co-operation and Development (OECD) to deal with the effects of globalization, but many economists have observed a need for new multilateral rules and institutions.

Limits on National Sovereignty

National sovereignty in taxation may be defined as the ability of a nation to pursue whatever tax policy it chooses, unfettered by external influences. Of course, complete sovereignty is impossible, except perhaps for a country that is totally isolated from external influences, such as Burma. Four general types of limitations on the exercise of national sovereignty in the taxation of income from capital exist.[2] They are market-induced voluntary limits; negotiated limits; externally imposed limits; and administrative limits.

Market-Induced Voluntary Limitations on Sovereignty

In a world where capital is highly mobile, market forces may limit a nation's choices in the taxation of income from capital in a number of ways. In other words, the nation voluntarily makes unilateral choices that it might not make in the absence of market-induced pressures on its tax system. These choices generally have to do with the location of economic activity or financial investment, the shifting of the tax base, the tax structure, and the relative immunity of destination-based sales taxes to tax competition.

Taxation and the Location of Economic Activity. Source-based taxes that are substantially heavier than the international norm may, all else being equal, discourage economic activity and investment.[3] As a result, a nation may choose

lighter taxation of income from capital than in the absence of such market-induced limitations on its sovereignty. Indeed, there may be convergence of taxation across nations. (Governments may also compete in offering tax incentives to attract investment, as has happened in countries in transition from socialism since the early 1990s. In that case, convergence would not occur.) For these purposes, the relevant tax rate is presumably the marginal effective tax rate (METR) on income from capital, the fraction by which taxation reduces the before-tax rate of return, rather than the statutory rate.[4] Thus, it can be said that tax competition imposes market-induced limitations on effective tax rates. In the extreme case, there could be a "race to the bottom" that eliminates taxation of income from capital.[5]

Taxation and the Location of Financial Investment. The "economic activity" that may be repelled by high taxation is not only "real" activity; financial investment may be repelled. Thus, for example, a nation enacting a withholding tax on interest not matched by similar taxes elsewhere may become an unattractive place to invest, unless it provides other benefits, such as bank secrecy. In short, there may be market-induced limitations on the taxation of financial investment.[6]

Taxation and the Shifting of the Tax Base. Even if constrained not to impose taxes on income from capital that creates a METR that dramatically exceeds the international norm, a nation might appear to retain substantial sovereignty, since different tax structures (combinations of statutory rates and other provisions) can produce the same METR. For example, an income tax with a comprehensive definition of income and a low statutory tax rate can produce the same METR for a given industry as an income tax with a higher statutory tax rate and generous investment incentives, such as accelerated depreciation and investment credits.

If, however, a nation's statutory tax rates are substantially higher than the international norm, multinational corporations may shift taxable income out of that nation and shift deductions into it, most commonly through the manipulation of transfer pricing and thin capitalization (and the choice of where to borrow). These shifts need not involve reallocation of economic activity and real investment; they may affect only where income is taxed (or not taxed). Thus, Canada's Technical Committee on Business Taxation concluded: "After the mid-1980s, when several countries, including the United States and the United Kingdom, reduced their corporate income taxes significantly below Canada's general corporate rate, multinationals tended to shift income out of, and deductions into, Canada for tax reasons."[7] To avoid loss of tax revenues, a nation may thus be forced to impose lower statutory rates on income from capital than otherwise; in other words, there may be market-induced limitations on statutory tax rates.

The Choice of Tax Structure. If a nation faces market-induced limitations on both the effective tax rates and the statutory tax rates that it can apply to income from capital, other decisions on tax policy may be constrained. For example, revenues from taxing capital income may be lower than in the absence of tax competition; the tax burden may be shifted from capital to labor; use of progressive taxation to achieve redistributional objectives may be abandoned (or at least curtailed); or greater reliance on schedular taxation may replace global taxation of income, as in the separation of the taxation of income from capital and the taxation of other income found in the dual income taxes imposed in the Nordic countries.[8] In short, there may be market-induced limitations on tax structure.[9]

The Relative Immunity of Destination-Based Sales Taxes to Tax Competition. Because sales taxes and excises commonly follow the destination principle (so that imports are taxed, but

exports are not), market-induced limitations on such taxation are relatively minor. If, contrary to fact, nations levied origin-based sales taxes (taxing exports, but not imports), there would be a market-induced pressure to reduce rates and provide exemptions to avoid reducing the competitive position of producers in the taxing nation.[10] This can be seen in the "tax wars" waged by the states of Brazil, which (on internal trade) have long imposed the world's only origin-based value-added tax (VAT).

This description of destination-based taxation depends on an assumption that is invalid in the special cases of cross-border shopping and sales of digital content by remote vendors—that taxes on imported goods can be collected at the border (or at the post office).[11] The OECD and the European Union have been investigating methods of taxing digital content on a destination basis to prevent both loss of revenue and unfair competition with local merchants selling competing goods.[12]

Negotiated Limitations on National Sovereignty

Not all voluntary limitations on national sovereignty in taxation are market induced; nations sometimes agree voluntarily to negotiated limits on their exercise of sovereignty. The General Agreement on Tariffs and Trade (GATT) is the most extensive system of negotiated limits on taxing power and the only important multinational tax agreement, aside from those between the EU member states. The GATT, which pertains primarily to import duties and export subsidies, demonstrates a key point that has analogous implications in other contexts: that the potential gains from free trade are so great—and the potential harm from widespread resort to "beggar-thy-neighbor" tariff policies and retaliation so enormous—that nations agree to forgo the national benefit that might result from unilateral departures from free trade.

Most developed countries have extensive networks of bilateral tax treaties with other countries. The purpose of these treaties, which generally apply only to taxes on income and capital, is to limit the double taxation of income, create greater certainty for investors, assure nondiscrimination (based on taxation of their investors by the treaty partner that is no less favorable than that accorded investors from the host country), and provide exchange of information between tax authorities that can be used to prevent tax evasion. As with the GATT, countries enter into tax treaties to gain these benefits, which they believe justify the acceptance of limitations on their taxing powers. Two features of almost all (non-EU) international tax agreements other than the GATT are worth noting: They are bilateral treaties, and they do not apply to VAT and other sales taxes or to excises.

Most tax treaties between developed countries are based on the OECD Model Tax Convention on Income and on Capital. (By comparison, treaties among developing countries generally follow the United Nations Model Convention.) Among the topics covered by the OECD Model are the primacy of source-country taxation of business profits (achieved via foreign tax credits or the exemption of foreign-source income allowed by the home country); the requirement of a permanent establishment for the imposition of source-country tax on business profits; the use of separate accounting and the arm's length approach for calculating the income of affiliated entities; the primacy of residence-country taxation of interest, dividends, and royalties; the withholding tax rates that source countries apply to interest, dividends, and royalties; exchange of information; and procedures for resolving disputes. Tax treaties ordinarily do not constrain the tax rates that can be levied on business profits or other aspects of calculating taxable income.

Tax treaties commonly do not cover sales taxes. This is understandable because a destination-based sales tax—by far the predominant type of sales tax—involves primarily transactions that occur within the taxing coun-

try: essentially production, distribution, and importation for domestic consumption and rebate of tax on exports; thus, there is no reason for other countries to get involved.[13] The difficulty of taxing direct sales of digitized content that cross national borders may require increased international cooperation in tax administration.

If origin-based taxation were the international norm, it is more likely that tax treaties would be required to regulate sales taxation. Treaties might be needed, for example, to specify the minimum conditions under which nonresident entities are obligated to collect tax and the calculation of transfer prices used to determine the division of value added between countries when products cross international borders. (Under an origin-based VAT, it is necessary to value the products that cross international borders because the exporting country taxes the value up to the point of export and the importing nation taxes only the value added after importation.)

Externally Imposed Limitations on Sovereignty

The limitations on taxing power considered to this point are induced by market forces or accepted in negotiations intended to provide mutual benefits to parties to treaties and other international agreements. The third type of limitation on sovereignty is not voluntary but imposed externally under threat of retaliatory action. Though there is little or no history of such limitations actually being imposed, they deserve examination because of the recent OECD project on harmful tax competition.[14]

Some corporations regularly divert income to tax havens in order to reduce taxes, as do some wealthy individuals. Tax havens, typically small countries with little other economic base, eagerly participate in this activity, as they gain modest amounts of employment and perhaps a small amount of revenue from doing so. Unlike normal tax competition, a tax haven does not merely cause the location of economic activity (or even the tax base) to shift; rather, it creates a "black hole" that can swallow part of the tax base of both source and residence countries. Income is shifted from source countries (or is exempt there), but is not taxed currently by residence countries because of deferral (in the case of corporations) or difficulties in gaining information (especially relevant for individuals). Besides causing a loss of tax base, revenue, and tax equity in non–tax haven countries, this "poaching" creates market-induced limitations on taxing powers of the type discussed above.

The OECD has recently undertaken an effort to identify the key characteristics of tax havens and examine the preferential tax regimes of OECD member countries in an effort to determine whether the latter could have similar harmful effects. The intent is to encourage offending countries to mend their ways. If that approach should fail to bring about results, the OECD apparently intends to propose that its members undertake joint efforts to put pressure on these countries to make needed changes.

Limitations on Administrative Independence

"Administrative independence," or what Sijbren Cnossen has called "operational independence," refers to the ability of a country to administer (or operate) its tax system with little or no assistance from the tax authorities of other countries.[15] Sovereignty in taxation is clearly greater the higher the level of administrative independence.

Traditionally, source countries (those where income is derived) have had greater administrative independence than residence countries, especially with regard to some forms of income. Thus, for example, residence countries may have difficulty imposing tax on the worldwide income of residents without obtaining information from source countries on interest payments. Tax havens take advantage of this fact by shielding interest flows from the tax au-

thorities of residence countries. By comparison, source countries can easily impose tax on such income.

The commercial development of the Internet has reduced the administrative independence of both source and residence countries imposing income taxes and of countries imposing destination-based sales taxes. It has become more difficult to impose both source-based income taxes and destination-based sales taxes; it has become easier to invest in tax havens; and it has become easier to manipulate the residence of corporations. Greater international cooperation may be required to offset the reduction in the administrative independence of individual countries.

Conflicts in Sovereignty

Exercise of sovereignty in taxation by one country or group of countries can constrain the sovereignty of others. First, a low-tax regime such as Ireland's, for example, can create pressures ("tax competition") that induce other countries to reduce their level of taxation (but see the qualification in note 3). Second, the shift to a comprehensive income tax with low statutory rates can create pressures on other countries to follow suit to avoid loss of tax base, as happened following the U.S. reduction in tax rates in 1986.[16] Third, the exercise of sovereignty by tax havens can limit the tax policy options of other countries. Conversely, if in an effort to defend their own sovereignty the OECD member countries force tax havens to change their laws, this will interfere with the sovereignty of tax havens.

Tax Rules

Over the years, the countries of the world have constructed a complex system of international agreements governing taxation. The most important components of this system are the GATT; bilateral treaties based primarily on the OECD Model; and the European Union's directives, which increasingly resemble agreements regulating taxation within a federation. (The Sixth Directive, which regulates the application of VAT within the Union, is especially important. There are also a few EU agreements on income taxation.) In addition, the tax laws of both source and residence countries apply to international income flows.

Indirect Taxation

For the reasons given above, there has not been much need for international agreements governing indirect taxation, aside from the GATT, which limits border tax adjustments to the amount of domestic indirect taxes (and prohibits them for direct taxes). (The EU member states have, however, agreed to coordinate indirect taxation in an effort to create a single market.) The advent of electronic commerce may create a need for greater international cooperation in this area.

Income Taxation

The situation is very different in the case of income taxation, where tax treaties are quite prevalent, especially among developed countries. The rules contained in tax treaties and domestic laws can be described in the following general terms, despite the many variations among treaties.[17]

Reconciling Source and Residence Taxation. In addition to taxing income arising within their borders, many countries tax the worldwide income of their residents. This creates the possibility for duplicative taxation of the same income by source and resident countries. To prevent double taxation, residence countries that tax worldwide income generally allow foreign tax credits for the income taxes paid to source countries.[18] Although some countries do this unilaterally, many do so only in the context of a tax treaty in order to gain reciprocal benefits, including exchange of information. By comparison, some countries rely almost entirely on source-based taxation, thus effectively

exempting foreign-source income. In either case, there is a need to determine the geographic source of income; this is necessary in the case of countries with worldwide taxation and foreign tax-credit regimes because foreign tax credits are normally limited to the domestic tax that would be paid on foreign-source income.

Residence. Both source and residence-based systems of taxation require rules for determining whether a country has taxing jurisdiction. Residence-based taxation requires knowledge of the place of residence of the entity receiving income. Article 4 of the OECD Model defines a resident as "any person who, under the laws of that State, is liable to tax therein by reason of his domicile, residence, place of management or any other criterion of a similar nature." Since a given entity might be deemed to be a resident under the laws of both states that are party to a treaty, the OECD Model provides a "tie-breaker" rule: The entity "shall be deemed to be a resident only of the State in which its place of effective management is situated."

Permanent Establishment. Under the OECD Model, the existence of a permanent establishment (PE) is the minimal connection required for source-based taxation of business profits. Article 5 of the OECD Model defines the term "permanent establishment" as "a fixed place of business through which the business of an enterprise is wholly or partly carried on." The OECD Model states that a PE includes a place of management, branch, office, factory, workshop, mine, oil or gas well, quarry, or any other place of extraction of natural resources. The OECD Model also excludes from the definition of a PE, inter alia, "the use of facilities solely for the purpose of storage, display or delivery of goods or merchandise belonging to the enterprise" and "the maintenance of a fixed place of business solely for the purpose of carrying on, for the enterprise, any other activity of a preparatory or auxiliary character." A PE exists where an agent (other than an independent agent) "is acting on behalf of an enterprise and has, and habitually exercises, . . . authority to conclude contracts in the name of the enterprise."

Business Profits/Transfer Pricing. Under Article 7 of the OECD Model, the profits to be attributed to a PE (and thus taxed in the source country) are "the profits which it might be expected to make if it were a distinct and separate enterprise engaged in the same or similar activities under the same or similar conditions." Implicit in these words, in conjunction with those of Article 9,[19] is the arm's length standard for determining transfer prices. The OECD's *Transfer Pricing Guidelines* elaborate on the application of the transfer pricing rules.[20] Traditionally, comparable uncontrolled prices, cost plus (a margin), resale value (minus a margin), and unspecified "other" methods have been used to examine transfer prices for individual transactions. More recently, analysis of the functions performed, risks undertaken, and assets employed have been examined.

Royalties. Article 12 of the OECD Model provides that, except where the property giving rise to royalties is "effectively connected" to a PE in the source country, royalties are to be taxed in the country of residence of the owner of the royalties. For this purpose, royalties are defined as "payments of any kind received as a consideration for the use of, or the right to use, any copyright of literary, artistic or scientific work including cinematograph films, any patent, trade mark, design or model, plan, secret formula or process, or for information concerning industrial, commercial or scientific experience."

Interest and Dividends. Articles 10 and 11 of the OECD Model govern the taxation of interest and dividends. Contrary to the situation with regard to business profits, the OECD Model accords primacy in taxation to the country of res-

idence of the recipient. Even so, the OECD Model provides for the source country to impose withholding taxes on these forms of income, which are not to exceed 5 percent on dividends on direct investment (direct ownership of 25 percent or more of the capital of the payer); 15 percent on other (portfolio) dividends; and 10 percent on interest.

Mutual Agreement Procedure. Where a taxpayer believes that taxation violates the terms of a relevant tax treaty, the taxpayer can initiate a mutual agreement procedure by appealing to the competent authority of his or her country of residence. According to Article 25 of the OECD Model, the competent authority "shall endeavour . . . to resolve the case by mutual agreement with the competent authority of the other Contracting State, with a view to the avoidance of taxation which is not in accordance with the Convention."

Exchange of Information. Article 26 of the OECD Model provides that the tax authorities of treaty partners may exchange the information required for the implementation of the treaty or the domestic tax laws of each country.

Deferral. When a parent corporation resident in a country that taxes worldwide income receives dividends from a foreign subsidiary, the parent includes the dividends in its income for tax purposes and generally takes credits for the corporate tax and withholding taxes the subsidiary has paid to the host country. Until the dividends are received, income taxation in the country in which the parent is resident is normally deferred.

Tax havens and CFC legislation. Deferral is one of the building blocks that make tax havens possible for corporate income. (Other building blocks include the use of thin capitalization and transfer pricing to shift income from source countries to entities resident in tax havens. Also, treaties do not require countries to provide information that is not obtainable under their laws or to supply information when doing so would be contrary to public policy. This exception creates a substantial loophole for countries whose laws provide for bank secrecy.) In an attempt to nullify the advantages of tax havens for corporations, more than twenty countries have unilaterally enacted "controlled foreign corporation" (CFC) legislation under which certain types of low-taxed income derived by foreign subsidiaries of resident corporations are treated as if distributed currently.[23]

Taxation in a World of Relative Autarky

Most of the existing tax rules were formulated in—and for—a world that no longer exists. Vito Tanzi wrote: "The tax systems of many countries came into existence or developed when trading among countries was greatly controlled and limited and large capital movements were almost non-existent."[22] Limitations on the exercise of national sovereignty in taxation were relatively minor and innocuous in that world.

The Way Things Were

At the risk of oversimplification, the post–World War II world, that is, circa 1950, for which existing tax rules were created can be described in the following general terms:[23]

- international trade consisted primarily of tangible products;
- most international trade occurred between unrelated entities;
- telecommunications services were provided either by a state monopoly or a regulated public utility—in either case, providers of telecommunications services operated only in one country;
- communications were relatively slow;
- a physical presence was generally required for the conduct of business, including the provision of almost all services;

- intangible assets were relatively unimportant;
- although international investment existed, capital was relatively immobile internationally;
- the country of residence of a given corporation was unambiguous;
- almost all investment occurred in the country of residence of the investor, and almost all investment in corporations was by those living in the entity's country of residence;
- interest and dividends were readily distinguishable;
- tax havens were, at most, a minor nuisance; and
- the United States was the undisputed economic and political leader of the (non-Communist) world. (The European Union had not yet been created; indeed, the countries of Europe and Japan were still recovering from the physical and economic devastation of World War II.)

Implications of the Way Things Were

These characteristics of the world economy had important implications for both the nature and adequacy of tax rules and the limitations on the taxing powers of countries. (Some of the terminology used here may not have been current in the 1950s.)

The GATT could reasonably cover only trade in goods; coverage of services and intangible products was hardly necessary. Indeed, it would not have seemed inappropriate to apply the origin principle to services, since telecommunications was the only important service that crossed international borders, and it was controlled by local monopolies.

It was also relatively straightforward in the postwar era to apply income tax rules to international transactions. A PE could be defined in a straightforward way, and the existence of a PE was a bright line test of a source country's jurisdiction to tax business profits. The arm's length standard provided a clear way to divide the income of affiliated entities. Transfer pricing was less important than now, except in a few industries (for example, oil), and transfer pricing methodologies were less sophisticated than they are now. "Comparable uncontrolled prices" was an adequate test of transfer prices in most cases, and either cost plus (a margin) or resale price (minus a margin) provided a satisfactory fallback test in many others; little resort to "other" methods of determining arm's length prices was needed. Because almost all financial investment occurred at home, there was little need for exchange of information. There was also little need for antiabuse legislation to deal with tax-haven investment.

It was a world in which countries could, for the most part, structure their taxes with only domestic considerations in mind; they could achieve substantial operational independence in taxation and were not much constrained by the fear of losing economic activity or their tax base to other countries with lower taxes, especially since the foreign tax credits allowed by the United States created an umbrella over rates below the U.S. rate. Tax havens were not much constrained in their attempts to sell their advantages; nor did they pose much threat to the revenues of other countries. Countries could exercise considerable sovereignty in taxation, although sovereignty was somewhat constrained—albeit voluntarily—by the GATT and tax treaties, of which there were still relatively few.

Taxation in a Globalized "Electronic" World

Globalization, epitomized by the advent of electronic commerce, has changed the world dramatically, placing strains on the present tax rules and creating new and significant limitations on taxing powers.

> The existing body of international tax rules, as reflected both in national law and in treaties, is based in large part on the supposition that international trade consists of the physical

shipment of tangible goods or the physical movement of persons to perform services at different locations. The challenge posed by the development of the Internet and related means of communication is that in many cases this is simply no longer true.[24]

The Way Things Are

The world economy differs significantly from the one described above. Today, the major characteristics are as follows:

- a substantial amount of international trade consists of services and intangible products;
- most international trade occurs between related entities;
- a physical presence may no longer be required for the conduct of business, especially trade in intangibles, digital content, and services that can be digitized;
- intangible assets are vital to the modern corporation—often there is no external market for their services;
- in many countries, telecommunications services are provided by privately owned and unregulated public utilities that operate across national boundaries;
- much communication is instantaneous;
- capital is highly mobile internationally;
- because of the development of financial derivatives, interest and dividends are no longer readily distinguishable;
- the country of residence of a given corporation can be ambiguous or easily changed;
- many investors invest outside their country of residence, and substantial investment in corporations comes from outside the entity's putative country of residence;
- tax havens pose a significant threat to tax revenues and to the equity and neutrality of the tax systems of non–tax haven countries;[25] and
- although the United States is the only remaining superpower, with the ascendance of the European Union, it is no longer the undisputed economic and political leader of the world.

Implications of Globalization and Electronic Commerce

Indirect Taxation. The implications of globalization and electronic commerce for indirect tax rules are relatively minor.[26] First, the GATT has been modified to apply to services. Second, efforts are under way in several venues (for example, the European Union) to convert the taxation of services to the destination principle.[27]

The implications for the administration of indirect taxes are somewhat more ominous, but still probably not extremely important.[28] The problems relate primarily to consumer purchases of digital content (for example, music, videos, books, and games). Since such products do not stop at the customs house or post office, it is impossible to use traditional methods to collect destination-based taxes on them. (Tangible products do still stop; thus, although the volume of taxable transactions crossing borders may increase, the nature of the administrative problem does not change.) This problem is aggravated by the possibility of using untraceable money to pay for digital content. Even so, the OECD has said that "end-to-end virtual transactions are currently a small part of e-commerce and a fractional non factor in commerce overall."[29] Of course, the problem will grow in magnitude as commerce in digitized products becomes more important.

The problems are likely to be even less serious in the case of business purchases of digital content. Under a credit-method VAT, registered traders are allowed a credit for the tax paid on their purchases. Thus, in principle, it does not matter (except for the timing of tax collection) whether tax is collected on imports, since the failure to collect tax simply reduces the amount of credits, with no effect on the amount of tax ultimately collected. Alternatively, the VAT can be "reverse-charged" (self-assessed) and remitted by registered business purchasers; this is the approach followed in the European Union for trade between member states.[30]

Income Taxation. Globalization and the advent of electronic commerce potentially have a much greater impact on income taxation. The range of issues under discussion extends from such fundamental issues as the long-standing primacy of source-based taxation of business profits to such minutia as whether a Web site constitutes a PE. The issues include such basic questions as the classification of the types of income, the conceptual foundation for determining jurisdiction to impose source-based taxation, the definition of a PE, the choice between the arm's length standard and formula apportionment, transfer pricing methodologies, identification of the residence of corporations, the problem of tax havens, and the need for greater international cooperation.

Source vs. residence taxation. In recognition of the undeniable difficulties involved in implementing source-based taxation, the U.S. Treasury Department has suggested that primacy in taxation should shift to residence countries: "The growth of new communications technologies and electronic commerce will likely require that principles of residence-based taxation assume even greater importance. In the world of cyberspace, it is often difficult, if not impossible, to apply traditional concepts to link an item of income with a specific geographical location. Therefore, source-based taxation could lose its rationale and be rendered obsolete by electronic commerce."[31]

According primacy to residence-based taxation would have the considerable advantage of reducing the importance of the distinctions between business profits, royalties, and income from services—distinctions that make little economic sense and are difficult to implement in a world of electronic commerce in digital content.[32] Some, however, have found the U.S. Treasury suggestion to be technically naive, as well as self-serving and politically unrealistic. Developed countries and developing countries have long disagreed on whether source or residence countries should have the primary right to tax international flows of income. Even some advanced countries may be unwilling to agree with a shift to the primacy of residence-based taxation of electronic commerce.

Residence is not the unambiguous and immutable concept the U.S. Treasury Department implies it is. The place of incorporation, the test used by the United States, can be changed. Most countries use the place of effective management, not the place of incorporation, as the test of residence. The place of effective management, however, may be quite ambiguous under certain circumstances and can be manipulated.[33] In short, as Richard L. Doernberg and Luc Hinnekens noted: "The same forces that question the permanent establishment concept, and other source-based taxation concepts, also call the adequacy of the residence concept into question—particularly the residence of a company. If the definition of residence is artificial and easily manipulated, granting exclusive authority to residence countries is not a good solution."[34] Deferral implies that residence countries do not tax foreign-source income until it is distributed. Given the tax advantages of deferral, this might be a long time, indeed; residence-based taxation might thus be tantamount to no taxation at all in many cases.

Tax havens further aggravate the problems of placing primary reliance on residence. In the absence of source-based taxation, the incentive to use tax havens to avoid or evade home-country taxes—and the need for antiabuse legislation, such as CFC rules, and other defensive measures—would be even greater.

PE as the test of source-based jurisdiction to tax. There are at least three ways one can justify the existence of a PE as the minimal requirement for jurisdiction to impose source-based taxation. First, the benefit principle has been offered as a rationale for the PE test; unless a company has a PE, it is not likely to benefit significantly from public services. At a conceptual level, however, the presence of a PE would not be required under the benefit or entitlement theories of taxation.[35] The advent of electronic commerce leads some, especially in countries providing markets for electronic

commerce, to suggest that the PE threshold may be too high—that some entities with less of a presence in the country should be subject to income tax. Even so, the second and older justification for the PE test must be confronted: It may not be administratively feasible to implement an income tax imposed on an entity that lacks a PE. Finally, even if the threshold for jurisdiction to tax were lowered, it seems unlikely that market countries would gain much revenue under standard transfer-pricing methodologies.[36]

Web sites and servers as PEs. In the past several years, considerable ink has been spilled over the question of whether Web sites and servers should constitute a PE. The OECD recently amended the commentary on Article 5 of its Model Treaty to clarify this issue:

Regarding web sites: The OECD states that a web site cannot, in itself, constitute a permanent establishment, . . . a web site hosting arrangement typically does not result in a permanent establishment for the enterprise that carries on business through that web site and . . . an ISP will not, except in very unusual circumstances, constitute a dependent agent of another enterprise so as to constitute a permanent establishment of that enterprise.

Regarding servers: The OECD states that in many cases, the issue of whether computer equipment at a given location constitutes a permanent establishment will depend on whether the functions performed through that equipment exceed the preparatory or auxiliary threshold, something that can only be decided on a case-by-case analysis.

Regarding human intervention: The OECD states that human intervention is not a requirement for the existence of a permanent establishment.[37]

Transfer prices. As noted earlier, the majority of international trade involves transactions between corporate affiliates, and many of the transactions are in intangible products. This means that implementation of the arm's length standard is far more important than before and that the traditional methods of valuing such transactions are much less reliable.[38] As a result, two additional methods of determining transfer prices have been added to the OECD *Transfer Pricing Guidelines:* "profit split" and "comparable profit." Electronic commerce further accentuates the problems of transfer pricing.[39] To reduce the possibility of nasty surprises (rejection of transfer prices and unexpected tax liabilities), the tax authorities of some countries have begun to enter into advance pricing arrangements (APAs) with taxpayers that specify the transfer pricing methodology that will be found acceptable.

Not only has it become more difficult to implement the OECD guidelines, but if different countries do not all accept the same determination, there is also a substantial risk that disagreement will cause double taxation. (Undertaxation is, of course, also a possibility.) The OECD Model provides for appeal to the competent authority, which is to "endeavour" to resolve problems. The competent authorities involved in a dispute, however, are under no obligation to reach a satisfactory and timely resolution.

Transfer pricing issues are probably the single most important source of conflicting claims to tax.[40] To deal with this problem, the OECD has created the mutual agreement procedure (MAP). Under a MAP APA, a taxpayer simultaneously enters into APAs with more than one taxing jurisdiction.[41] In theory, the APA approach should provide the taxpayer with greater certainty, avoid the risk of inconsistent rulings by the tax administrators of various countries, assure tax administrators that the taxpayer is not telling a different story in each country, and reduce costs for both taxpayers and tax authorities. The MAP, however, suffers from the same weaknesses as any approach that relies on competent authorities to "endeavour" to resolve issues—relief for the taxpayer is not guaranteed, since the procedure does not require the competent authorities to reach a settlement.[42] This has led to suggestions for binding arbitration.

Formula apportionment. Some observers believe that it would be advisable to abandon

separate accounting and the arm's length method and to shift to using formula apportionment to divide the income of multinational corporations among the countries in which they operate. This approach is used by the states of the United States and the provinces of Canada, and a profit split approach is employed to apportion profits from global trading. This is not the place for a detailed examination of formula apportionment or its advantages and disadvantages relative to separate accounting and arm's length pricing.[43] Suffice it to say that the only sensible way to implement formula apportionment would be on a worldwide basis; otherwise, problems of arm's length pricing would remain. (Indeed, if different apportionment formulas were applied to different industries, arm's length pricing would be required to divide the income of multinationals engaged in more than one industry.) Unless all countries adopted the same definitions and apportionment formulas, there would be considerable risk for over- and undertaxation, as well as considerable complexity. (This is not to say that there is not a substantial amount of over- and undertaxation and complexity today, owing to inconsistencies in the tax systems of various countries.) This degree of uniformity would require unparalleled international cooperation.

Taxation of interest. Interest expense incurred in the course of business is generally deductible. Thus, interest goes untaxed unless it is taxed by the creditor's country of residence.[44] For administrative reasons, residence countries have difficulty taxing international flows of interest income received by individuals, unless the residence countries have the assistance of source countries, which generally is not forthcoming.[45] As Joel Slemrod wrote, "Although it is not *desirable* to tax capital on a source basis, it is not administratively *feasible* to tax capital on a residence basis" (emphasis in original).[46] The difficulty in taxing interest income undermines the ability to tax other forms of capital income. Thus, Sijbren Cnossen wrote, "This weak spot in the CT [corporate tax] bucket can only be repaired by taxing interest on the basis of the source principle."[47] Similarly, a multilateral agreement to *require a minimum withholding tax on interest,* and perhaps on dividends, would constitute an important reform in the taxation of international capital flows because it would tax interest before it reaches the haven.[48] Although this would undermine tax havens, such an agreement is unlikely because it would represent a significant departure from the rules enshrined in the OECD and U.S. model tax conventions and numerous bilateral treaties.

In theory, evasion of residence-based taxation on interest income could be addressed through greater international cooperation in tax administration. As Tanzi wrote, however, "It seems naive to assume . . . that enhanced exchange of information among countries independent in their tax affairs is the instrument that will allow countries to cope with the exponential growth of foreign source income that accompanies the increasingly deeper integration of the world's economies."[49]

Taxation of dividends. At the end of World War II, most developed countries used the classical system for taxing corporate equity income; that is, they taxed corporate profits and then taxed dividends when received by the shareholders.[50] By 1980, most of these countries (but not the United States or the Netherlands) provided some kind of relief from the double taxation of dividends. In theory, an exemption for dividends paid, application of a lower rate on distributed corporate-source income (the split-rate system), and a shareholder credit for the corporate tax attributed to dividends (the imputation or withholding method) are economically equivalent ways of doing this. Although an exemption for dividends paid (or split-rate system) is administratively simpler than the shareholder credit, the latter was almost universally preferred because it allowed the benefits of dividend relief to be denied to foreign investors (and to tax-exempt organizations). In recent years, the European Court of Justice has found that an EU member state's denial of the benefits of divi-

dend relief to residents of other EU member states is inconsistent with the European Community (EC) Treaty. As a result, the EU member states are returning to the classical system. The implied double taxation of income from equity-financed corporate investments means that there will be an increased incentive to use debt finance and increased pressure on the taxation of interest.

OECD Coordination Efforts

The OECD recently assumed the leadership in international efforts to modify the tax rules applicable to international transactions. Among other issues, the OECD has taken steps to deal with harmful tax competition and the taxation of electronic commerce.

The European Union is also involved in various efforts to coordinate the tax policies of EU member states. In addition to harmful tax competition and the taxation of electronic commerce, the EU member states are studying the possibility of coordinating their corporate income taxes.[51] Besides being of interest in its own right, the EU experience may be relevant for what it reveals about the likelihood of various proposals gaining acceptance in the wider community of nations. (It should be noted that the EU adoption of tax measures requires unanimous agreement.) Space, however, prevents consideration of these activities, some of which, in any event, involve issues that resemble questions of fiscal federalism more than simply issues of international taxation.

Harmful Tax Competition

In order to combat harmful tax competition, the OECD has undertaken to "develop measures to counter the distorting effects of harmful tax competition on investment and financing decisions and the consequences for national tax bases."[52] It has concentrated on geographically mobile activities, such as financial and other service activities, including the provision of intangibles.

The OECD has noted: "Tax havens serve three main purposes: they provide a location for holding passive investments ('money boxes'); they provide a location where 'paper' profits can be booked; and they enable the affairs of taxpayers, particularly their bank accounts, to be effectively shielded from scrutiny by tax authorities of other countries."[53] Tax havens are especially attractive to certain highly mobile activities such as financial services. To remain competitive, some countries that would not generally be considered tax havens—including some OECD member countries—have created "preferential tax regimes" that resemble those found in tax havens to attract these activities. Tax havens and preferential tax regimes create what the OECD calls "harmful tax competition." As a result, other countries lose revenue and can exercise less sovereignty over taxation.

Among the adverse effects the OECD highlights are:

- distorting financial and, indirectly, real investment flows;
- undermining the integrity and fairness of tax structures;
- discouraging compliance by all taxpayers;
- reshaping the desired level and mix of taxes and public spending;
- causing undesired shifts of part of the tax burden to less mobile tax bases, such as labor, property, and consumption; and
- increasing the administrative costs for tax authorities and the compliance burdens of taxpayers.[54]

The legislation of a tax haven commonly provides more than merely little or no taxation. The OECD uses "four key factors" to identify a tax haven:

1. there is no tax or only a nominal tax on the relevant income;
2. there is no effective exchange of information with respect to the regime;

3. the jurisdiction's regime lacks transparency—for example, the details of the regime and/or its application are not apparent, or there is inadequate regulatory supervision or financial disclosure; and
4. the jurisdiction facilitates the establishment of foreign-owned entities without the need for a local substantive presence, or the jurisdiction prohibits these entities from having any commercial impact on the local economy.[55]

In the case of "harmful preferential tax regimes" found in the OECD member countries, the OECD has used essentially the same criteria, except that the fourth is replaced by the following: "The regime is 'ring-fenced'" from the domestic economy.[56] The OECD also indicates that the following "other factors" may be evidence of harmful preferential tax regimes: an artificial definition of the tax base, failure to adhere to international transfer-pricing principles, exemption of foreign-source income, negotiable tax rate or tax base, existence of secrecy provisions, access to a wide network of tax treaties, a regime promoted as a tax-minimization vehicle, and a regime that encourages purely tax-driven operations and arrangements.[57]

The OECD recognizes that the considerations facing tax havens are quite different from those facing OECD member countries with preferential regimes: "In the first case, the country has no interest in trying to curb the 'race to the bottom' with respect to income tax and is actively contributing to the erosion of income tax revenues in other countries. For that reason, these countries are unlikely to cooperate in curbing harmful tax competition. By contrast, in the second case, a country may have a significant amount of revenues which are at risk from the spread of harmful tax competition and it is therefore more likely to agree on concerted action."[58]

The OECD compiled a list of potentially harmful preferential tax regimes of the member countries, and the members agreed to both "standstill" and "rollback" provisions. Most potentially harmful tax regimes were eliminated by April 2003.[59] In addition, the OECD identified almost fifty countries that it categorized as tax havens.[60] Tax havens that did not agree to eliminate harmful practices were included in a "List of Uncooperative Tax Havens" published in 2004 and can now be subjected to common defensive measures by the OECD member countries.[61] Finally, nonmembers that are not tax havens now cooperate in efforts to eliminate potentially harmful tax regimes.[62]

At a meeting held in Barbados in January 2001, "OECD and Commonwealth countries . . . agreed on a way forward in efforts to achieve global co-operation on harmful tax practices through a dialogue based on shared support for the principles of transparency, non-discrimination and effective exchange of information on tax matters."[63] A Working Group created at the meeting was given the task of finding "a mutually acceptable political process by which these principles could be turned into commitments" that could "replace OECD's process in the context of its Memorandum of Understanding" and examine how to continue the dialogue begun in Barbados.

U.S. Treasury Secretary Paul O'Neill said in 2001 that he will "reevaluate" U.S. participation in the OECD's efforts to combat harmful tax competition. He seemed to believe that the OECD project is based on a suspicion of low tax rates, the notion that it is appropriate to interfere in the tax policy of other countries, and a perceived need to harmonize world tax systems and stifle tax competition.[64] In fact, there is little basis for any of these beliefs. The OECD has stated: "It is not intended explicitly or implicitly to suggest that there is some general minimum effective rate of tax to be imposed on income below which a country would be considered to be engaging in harmful tax competition."[65] The OECD has also stated that "the project . . . is not intended to promote the harmonisation of income taxes or tax structures generally within or outside the OECD, nor is it about dictating to any country what should be

the appropriate level of tax rates."[66] Most OECD member countries that have preferential systems that are "ring-fenced" seem to be willing to give them up in order to gain the benefits of eliminating tax havens. Many economists believe that it seems a bit far-fetched to say that this voluntary action of member countries involves external interference.

There is no doubt that the OECD initiative, if successful, would involve encroachment on the fiscal sovereignty of tax havens. This seems to be similar in nature to interference in sovereignty to accommodate money laundering and the drug traffic.

Economist Brian Arnold offered an appropriate appraisal of the harmful tax competition project: "There is no reason for governments to give up their corporate taxes just because multinational corporations operate globally. Governments must operate multilaterally on the same global basis. Such multilateral action in the tax area has historically been difficult, if not impossible. Governments have been reluctant to relinquish their sovereignty concerning tax policy. Globalization, however, has rendered this selfish attitude obsolete. International cooperation with respect to taxation is critical, and the harmful tax competition initiative is an important first step on a long journey."[67]

Taxation of Electronic Commerce

Following high-level multinational meetings in Turku, Finland, in 1997 and Ottawa, Canada, in 1998, the OECD created five Technical Advisory Groups (TAGs), composed of representatives of the OECD secretariat, member countries, and business, to investigate particular aspects of the taxation of electronic commerce.[68] Two of the TAGs have concentrated on consumption taxation, and two on income taxation; the fifth, on "professional data assessment," has dealt primarily with tax administration. The following are thumbnail sketches of the activities of the TAGs that are concerned with consumption taxes and income taxes.[69]

Consumption taxes. The Consumption Tax TAG has investigated implementation of the decision taken in Ottawa that taxation should occur at the place of consumption. In concentrating on the taxation of sales to households and unregistered traders, it has examined collection options.[70]

Technology. In an extension of the work of the Consumption Tax TAG, the Technology TAG has been involved in "examining the technological implications of the various collection models considered for collecting consumption taxes on cross-border electronic commerce transactions and the reliability of systems and trails for audit purposes."[71] Some of the approaches being examined may require international cooperation, and some may be stymied by existing nontax agreements—for example, those dealing with privacy.

Business profits. The Business Profits TAG has investigated the attribution of profits to a PE engaged in electronic commerce, especially whether servers and Web sites should be treated as PEs, and the suitability of "effective management" as the test of a PE in the world of electronic commerce. The TAG also plans to take a closer look at the conceptual foundation for using a PE as the test of jurisdiction to tax electronic commerce and to examine transfer pricing of electronic commerce transactions.[72]

Income characterization. The Income Characterization TAG has examined the distinctions between business profits and royalties, which are treated differently under the OECD Model.[73]

The OECD Initiatives Compared

The OECD initiative on harmful tax competition involves a clear conflict in the exercise of fiscal sovereignty by tax-haven countries and by other countries; the latter group wishes to impose limits on the fiscal sovereignty of the former group in order to avoid market-induced

restrictions on their own fiscal sovereignty. In addition, the OECD member countries with preferential tax regimes appear to be willing to accept limitations on the exercise of their own sovereignty in order to gain the benefits expected to result from a multilateral effort to prevent harmful tax competition.

The OECD initiative on the taxation of electronic commerce is quite different. To the extent that it involves income taxation, it seeks to determine whether the provisions of the OECD Model are adequate to deal with electronic commerce and how the provisions or their interpretation need to be modified. In other words, it would provide the background for negotiated constraints on tax sovereignty. In the case of consumption taxes, the thrust is to examine how best to implement consumption taxes on digitized products. There is, of course, no model treaty on consumption taxes, and only a few treaties deal with consumption taxes.

Are New International Tax Institutions Needed?

Vito Tanzi, Jack Mintz, and others have raised the possibility of a "GATT for taxes," or General Agreement on Taxes (GATaxes), which has been described as "a multilateral agreement on the ground rules for the taxation of international flows of income from business and capital."[74] A World Tax Organization (WTaxO), analogous to the World Trade Organization, would perhaps be needed to oversee the implementation of such an agreement. Tanzi, former head of the Fiscal Affairs Department of the International Monetary Fund, wrote: "There is no world institution with the responsibility to establish desirable rules for taxation and with enough clout to induce countries to follow those rules. Perhaps the time has come to establish one."[75] Mintz wrote: "For the development of a 'globalized corporate income tax,' it would be useful to create a formal body such as a World Tax Organization or provide powers to an existing international organization that would facilitate mutual co-operation for developed and developing countries."[76]

The coverage of a GATaxes and the mandate of a WTaxO might be either quite broad—involving substantial harmonization of world tax systems—or quite limited—to cover only the international aspects of taxation or only the "tax haven" problem.[77] The implications of these options for national sovereignty are quite different.

A General Agreement on Taxes/ World Tax Organization

Regarding the function of an international tax organization, Mintz has suggested that "the purpose of the co-ordinating body would not be to collect taxes but instead put a mechanism in place to achieve global co-operation in tax policy," and one of the responsibilities he would assign to the organization would be to "develop a code for a 'model' corporation income tax."[78] There are, however, serious conceptual caveats, as well as overwhelming political obstacles, to the creation of a GATaxes and a WTaxO with broad powers. First, as Tanzi noted: "Unlike trade, for which the obvious reference point is free trade, it would be very difficult to agree on the instructions to give such an agency."[79] Some tax policy experts might advocate international adoption of a comprehensive income tax patterned after the Schanz-Haig-Simons model. Others, however, might prefer an international consensus to employ another standard, such as some type of cash-flow tax or the "comprehensive business income tax" examined by the U.S. Department of the Treasury in 1992, which would implement source-based taxation of interest by allowing no deduction for interest expense.[80]

Second, there is little reason to believe that countries will soon engage in the massive surrender of national sovereignty over tax policy implied by this option. (If they did, the most likely result would be a system that looked, in the words of the old joke, like a camel, "a horse

designed by committee.") U.S. Treasury Secretary O'Neill's stance against the OECD initiative on harmful tax competition, though wide of the mark, suggests that there would be vigorous American opposition to such an agreement. Finally, if ever there were international agreement on a particular system, the tyranny of the status quo would likely take over, and further change would proceed at a glacial pace, if at all. Once made, mistakes would plague the international world of finance forever.

An Agreement on International Taxation

Even limited narrowly to international flows of income, a GATaxes/WTaxO arrangement would entail substantial surrender of national sovereignty over taxation, as well as vexing conceptual questions. Given the ever-widening network of treaties, however, most of which conform substantially to the OECD Model, multilateral adoption of a system based on that model might involve less surrender of sovereignty than it would seem at first glance, at least for those countries that already participate in the treaty network. But would the rich countries that make up the OECD want to share power to revise the OECD Model with poor nations? (The UN Model Convention and the OECD Model, while generally similar, are not identical; the former accords more taxing power to source countries.) The many developing countries and countries in transition that do not now have extensive treaty networks might not wish to participate in such an organization if it meant accepting the terms of the OECD Model. In any event, the lack of success in harmonizing direct taxes within the European Union suggests that multilateral agreement even in this limited sphere is not likely to come quickly.

Combating Tax Havens

It appears that the current OECD initiative on harmful tax competition strikes a reasonable balance between a laissez-faire attitude, under which tax havens could thrive and continue to undermine national tax policies, and an overly harmonized system, in which all countries would lose substantial amounts of fiscal sovereignty.

Concluding Remarks

Globalization and the advent of electronic commerce have increased the power of market forces, the difficulty of administering a tax system without assistance from other countries, and the potential for sheltering income in tax havens. These developments have thus reduced the sovereignty that countries can exercise over tax policy. It seems almost certain that part of the response will be increased international cooperation in administering income taxes and perhaps in combating tax havens. Much of this may be facilitated by the OECD. It does not, however, seem likely that this cooperation will extend to the creation of either a "GATT for taxes" or a World Tax Organization.

The author has benefited substantially from comments on an earlier draft, especially by Joann Weiner.

Charles E. McLure, Jr.

See Also Fiscal Policy; Monopolies and Antitrust Legislation; U.S. Trade laws

Endnotes

1. In *The Lexus and the Olive Tree* (New York: Random House, 1999), 104, Thomas L. Friedman wrote: "When your country recognizes . . . the rules of the free market in today's global economy, and decides to abide by them, it puts on what I call the Golden Straitjacket. . . . If your country has not been fitted to one, it soon will." He went on (p. 105) to list the characteristics of the Golden Straitjacket. Interestingly, he did not list limits on the power to tax.

2. Globalization also limits national sovereignty in the taxation of labor income. Given the substantially greater international mobility of capital and the correspondingly greater potential for loss of sovereignty, this article focuses on the limitations on sovereignty in the taxation of capital.

3. The issue is substantially more complicated than this paragraph suggests. Even if the description is accu-

rate for a world of pure source-based taxation—and it probably is not—it need not accurately describe a world in which residence countries tax the worldwide income of potential investors and allow foreign tax credits for taxes paid to source countries, since source-based taxation may be largely absorbed by foreign tax credits. But excess foreign tax credits and the deferral of tax on income of foreign subsidiaries of domestic corporations until it is repatriated (unless countered by defensive measures, such as accrual taxation of controlled foreign corporations) imply that tax systems based on worldwide taxation with foreign tax credits may actually function more like source-based systems. See the section on "Tax Rules" in this entry for more information, and for an excellent explanation of the above, see Joel Slemrod, "Tax Policy toward Foreign Direct Investment in Developing Countries in Light of Recent International Tax Changes," in Anwar Shah, ed., *Fiscal Incentives for Investment and Innovation* (New York: Oxford University Press, for the World Bank, 1995), 289.

4. The meaning and methodology of METR calculations are explained in Mervyn A. King and Don Fullerton, eds., *The Taxation of Income from Capital* (Chicago: University of Chicago Press, 1984). Ironically, the King-Fullerton analysis, which has spawned a vast literature, does not treat the issues that arise in an open economy satisfactorily; for that, see Robin M. Boadway, Neil Bruce, and Jack M. Mintz, "Taxation, Inflation and the Effective Marginal Tax Rate on Capital in Canada," *Canadian Journal of Economics* 17, no. 1 (1984): 62.

5. See Roger H. Gordon, "Can Capital Income Taxes Survive in Open Economies?" *Journal of Finance* 47, no. 3 (1992): 1159.

6. The Ruding Committee concluded: "Recent experience suggests that any attempt by the EC to impose withholding taxes on cross-border interest flows could result in a flight of financial capital to non-EC countries." Commission of the European Communities, *Report of the Committee of Independent Experts on Company Taxation* (Luxembourg: Commission of the European Communities, 1992), 201. Even so, in 1998, the Commission of the European Communities proposed the "coexistence model," under which the member states could opt for either transmission of information on interest payments or a withholding tax on such payments. See *Proposal for a Council Directive to ensure a minimum effective taxation of savings income in the form of interest payments within the Community,* COM (1998) 295 final. More recently, the EU member states agreed to exchange information instead of adopting withholding taxes. See "Conclusions of the European Council," Santa Maria Da Feira, June 19–20, 2000, Para. 42 and Annex IV, available at www.google.com/search?hl=en&safe=off&q=ecofin+brussels+November+2000&spell=1.

7. *Report of the Technical Committee on Business Taxation* (Ottawa: Technical Committee on Business Taxation, 1998), 1.9.

8. See Peter Birch Sorensen, "From the Global Income Tax to the Dual Income Tax: Recent Tax Reforms in the Nordic Countries," *International Tax and Public Finance* 1, no. 1 (1994): 57.

9. Tanzi wrote: "It is conceivable that they [trends he has identified] will make it difficult for countries to maintain their present levels and structures of taxation. For example, in a highly integrated world, where capital will be able to move freely between countries, it will become increasingly difficult to maintain high tax rates on capital income. Such rates would simply stimulate capital to emigrate from the high-tax to the low-tax countries." Vito Tanzi, "Forces That Shape Tax Policy," in Herbert Stein, ed., *Tax Policy in the Twenty-First Century* (New York: John Wiley, 1988), 277.

10. A well-known theorem states that, if generally applied, origin- and destination-principle taxes are equivalent, except for the equilibrium exchange rate. The theorem, however, is not very helpful as a guide to tax policy or to the understanding of political economy. First, the conditions required for its validity may not hold. See, for example, Martin Feldstein and Paul Krugman, "International Trade Effects of Value-Added Taxation," in Assaf Razin and Joel Slemrod, eds., *Taxation in a Global Economy* (Chicago: University of Chicago Press, 1990), 263. More important for present purposes, domestic producers competing with untaxed foreigners in both foreign and domestic markets are not likely to be persuaded by the theorem; they are likely to prefer destination-based taxation, which obviously puts them on a level playing field vis-à-vis competitors in both markets. See Watanabe Satoshi, "Indirect Taxes and Electronic Commerce," *State Tax Notes* 19, (December 11, 2000), p. 1575.

11. Until recently, telecommunications, like other services in the European Union, were taxed wherever the provider had its place of business. This, in effect, created origin-based taxation.

12. See the following reports: OECD, "Consumption Tax Aspects of Electronic Commerce," in *Taxation and Electronic Commerce: Implementing the Ottawa Framework Conditions* (Paris: OECD, 2001), 17; Report by the Consumption Tax Technical Advisory Group (TAG), December 2000, available at www.oecd.org/daf/fa/e_com/ec_7_CT_TAG_Eng.pdf (hereafter "OECD, Consumption Tax TAG"); and Report by the Technology Technical Advisory Group (TAG), December 2000, available at www.oecd.org/daf/fa/e_com/ec_8_TECH_TAG_Eng.pdf (hereafter "OECD, Technology TAG"). See also Commission of the European Communities, *Proposal for a Regulation of the European Parliament and of the Council amending Regulation* (EEC) No. 218/92 on administrative cooperation in the field of indirect taxation (VAT), COM (2000) 394 final.

13. An exception is the need to specify that (1) the tax applied to imports cannot exceed the tax on domestic products; (2) rebates of tax on exports cannot exceed the

tax actually collected at the prior stages in the production/distribution process; and (3) such border tax adjustments are allowed only for indirect taxes. Since the GATT includes these specifications, there is no need for bilateral treaties in this area.

14. Two other externally imposed limitations on sovereignty deserve mention. First, if the existence of a tax treaty is seen as a "seal of approval," developing countries may conclude treaties that might not otherwise be desirable, giving away benefits in exchange for little other than the existence of the treaty. (This might better be classified as a market-induced limit on sovereignty.) Second, limitations on the availability of foreign tax credits may limit the policy options of other countries. For example, in the mid-1990s, when the United States refused to indicate that a consumption-based direct tax might be creditable, Bolivia was forced to abandon consideration of such a tax. For the case that foreign tax credits should be allowed for a cash-flow tax, see Charles E. McLure, Jr., and George R. Zodrow, "The Economic Case for Foreign Tax Credits for Cash Flow Taxes," *National Tax Journal* 51, no. 1 (March 1998): 1.

15. See Charles E. McLure, Jr., "Substituting Consumption-Based Direct Taxation for Income Taxes as the International Norm," *National Tax Journal* 45, no. 2 (June 1992): 145; and Sijbren Cnossen, "Company Taxes in the European Union: Criteria and Options for Reform, *Fiscal Studies* 17, no. 4 (November 1996): 67.

16. See the earlier quotation from the *Report of the Technical Committee on Business Taxation.* See also Vito Tanzi, "Tax Reform in Industrial Countries and the Impact of the U.S. Tax Reform Act of 1986," *Bulletin for International Fiscal Documentation* 42, no. 2 (1988): 51; Vito Tanzi, "The Response of Other Industrial Countries to the U.S. Tax Reform Act," *National Tax Journal* 40, no. 3 (September 1987): 339; and John Whalley, "Foreign Responses to U.S. Tax Reform," in Joel Slemrod, ed., *Do Taxes Matter: The Impact of the Tax Reform Act of 1986* (Cambridge: MIT Press, 1990), 286.

17. See OECD, Committee on Fiscal Affairs, *Model Tax Convention on Income and on Capital* (condensed version of April 29, 2000). Treaties commonly also provide for nondiscrimination (prohibiting the taxation of foreign persons that is more burdensome than that applied to nationals of the state) and cover capital taxes, but (in some instances, including, notably, treaties with the United States) do not cover subnational taxes.

18. Articles 23 A and 23 B of the OECD Model deal with the issues discussed in this paragraph. Bird and Mintz wrote, "The fundamental significance of treaties is that the countries involved admit that other countries are in some sense *entitled* to impose tax" (emphasis in original) and that "tax treaties can be seen as international agreements on how to allocate income among those jurisdictions with which the taxpayer arguably has a sufficiently strong connection for them to assert their right to tax." Richard M. Bird and Jack M. Mintz, "Sharing the International Tax Base in a Changing World," prepared for a CESIfo conference on Public Finance and Public Policy in the New Millennium, University of Munich, January 12–13, 2001.

19. The relevant part of Article 9 provides: "Where . . . conditions are made or imposed between the two enterprises in their commercial or financial relations which differ from those which would be made between independent enterprises, then any profits which would, but for those conditions, have accrued to one of the enterprises, but, by reason of those conditions, have not so accrued, may be included in the profits of that enterprise and taxed accordingly." Articles 11 (Interest) and 12 (Royalties) also contain provisions that specify the use of the arm's length approach.

20. OECD, *Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations* (Paris: OECD, 2001).

21. For a masterful discussion of CFC legislation and its relationship to the OECD initiative on harmful competition, see Brian J. Arnold, "Controlled Foreign Corporation Rules, Harmful Competition, and International Taxation," *Report of the Proceedings of the World Tax Conference: Taxes without Borders* (Toronto: Canadian Tax Foundation, 2000), 17:1.

22. Vito Tanzi, "The Impact of Economic Globalization on Taxation," *Bulletin for International Fiscal Documentation* 52, no. 8/9 (1998): 338, 339.

23. Since tax rules have evolved over time, it is difficult to pick a single date for a snapshot of "the way things were." The basic business practices and methods of taxation, if not the current form of the tax rules, were in place shortly after World War II; thus, 1950 seems to provide a reasonable time frame. The term "relatively" is used to describe the situation relative to now.

24. David R. Tillinghast, "The Impact of the Internet on the Taxation of International Transactions," *Bulletin for International Fiscal Documentation* 50, no. 11/12 (1996): 524.

25. Arnold, in "Controlled Foreign Corporation Rules," 17:4, wrote: "The increasing use of tax havens is one of the most important phenomena of the last half-century."

26. See generally OECD, *The Economic and Social Impact of Electronic Commerce: Preliminary Findings and Research Agenda* (Paris: OECD, 1999); and Charles E. McLure, Jr., "Taxation of Electronic Commerce: Economic Objectives, Technological Constraints, and Tax Law," *Tax Law Review* 52, no. 3 (Spring 1997): 269. The statement in the text is applicable primarily to sales tax systems that are conceptually sound, such as the VATs levied by the EU member states. Electronic commerce may have more important implications for subnational taxation in countries with flawed systems of sales taxation. The implications

for state corporate income taxes are discussed in Charles E. McLure, Jr., "Implementing State Corporate Income Taxes in the Digital Age," *National Tax Journal* 53, no. 4 (December 2000): 1287.

27. See Commission of the European Communities, Proposal for a Regulation of the European Parliament.

28. For a more detailed discussion, see Charles E. McLure, Jr., "Taxation of Electronic Commerce in Developing Countries," prepared for presentation at "Public Finance in Developing Countries: A Conference in Honor of Richard Bird," held in Stone Mountain, Georgia, April 5–6, 2001. For convenience, business purchasers that are not registered for VAT are lumped together with consumers.

29. OECD, Technology TAG, Para. 7.

30. OECD, "Consumption Tax Aspects of Electronic Commerce," 38. Substantial amounts of revenue from state sales taxes in the United States and provincial sales taxes in Canada are derived from sales to business. In principle, states and provinces should be able to employ audits to assure the payment of tax on taxable business purchases of digital content. (Most digital content is, however, exempt under the laws of many states and provinces, which apply primarily to tangible products.) Since out-of-state vendors are not responsible for collecting tax unless they have a physical presence in the state, this entails "direct pay," a procedure analogous to reverse charging under VAT.

31. U.S. Department of the Treasury, *Selected Tax Policy Implications of Global Electronic Commerce* (1996), available at www.ustreas.gov/taxpolicy/internet.html.

32. OECD, "Treaty Characterisation Issues Arising from E-Commerce," in *Taxation and Electronic Commerce: Implementing the Ottawa Framework Conditions* (Paris: OECD, 2001), 85. This report attempts to clarify these distinctions.

33. See OECD, Committee on Fiscal Affairs, "Impact of the Communications Revolution on the Application of 'Place of Effective Management' as a Tie Breaker Rule," in *Taxation and Electronic Commerce: Implementing the Ottawa Framework Conditions* (Paris: OECD, 2001), 143. For a more detailed discussion of the problems with residence-based taxation, see Reuven S. Avi-Yonah, "International Taxation of Electronic Commerce," *Tax Law Review* 52, no. 3 (Spring 1997): 507.

34. Richard L. Doernberg and Luc Hinnekens, *Electronic Commerce and International Commerce* (The Hague: Kluwer Law International, for the International Fiscal Association, 1999), 306.

35. Charles E. McLure, Jr., "Source-Based Taxation and Alternatives to the Concept of Permanent Establishment," *Report of the Proceedings of the World Tax Conference: Taxes without Borders* (Toronto: Canadian Tax Foundation, 2000), 6:1. On the history of the concept of "permanent establishment," see Michael J. Graetz and Michael M. O'Hear, "The 'Original Intent' of U.S. International Taxation," *Duke Law Review* 46, no. 5 (1997): 1021.

36. Regarding the attribution of profits to servers considered to be PEs, the OECD Business Attribution TAG concluded: "The activities of the permanent establishment are very unlikely to warrant it being attributed with a significant share of the profit associated with the distribution activities of the enterprise conducted through the server." OECD, "Attribution of Profit to a Permanent Establishment Involved in Electronic Commerce Transactions," Discussion Paper from the Technical Advisory Group on Monitoring the Application of Existing Treaty Norms for the Taxation of Business Profits, in *Taxation and Electronic Commerce: Implementing the Ottawa Framework Conditions* (Paris: OECD, 2001), 104.

37. OECD, "Clarification on the Application of the Permanent Establishment Definition in E-Commerce: Changes to the Commentary on the Model Tax Convention on Article 5," in *Taxation and Electronic Commerce: Implementing the Ottawa Framework Conditions* (Paris: OECD, 2001), 79.

38. See generally Charles E. McLure, Jr., "U.S. Federal Use of Formula Apportionment to Tax Income from Intangibles," *Tax Notes International* 14, no. 10 (March 10, 1997): 859; Peyton H. Robinson, "The Globally Integrated Multinational, the Arm's Length Standard, and the Continuum Price Problem," *Transfer Pricing* 9, no. 13 (November 1, 2000); and Stanley I. Langbein, "The Unitary Method and the Myth of Arm's Length," *Tax Notes,* February 17, 1986, 625.

39. For a provocative example of the problems that electronic commerce can cause, see Frances M. Horner and Jeffrey Owens, "Tax and the Web: New Technology, Old Problems," *Bulletin for International Fiscal Documentation* 50, no. 11/12 (1996): 516.

40. Robert E. Culbertson and Alexandre S. Drummond, "Is the Country That Developed the Advance Pricing Agreement Finally Ready to Take Arbitration Seriously?" *Report of the Proceedings of the World Tax Conference: Taxes without Borders* (Toronto: Canadian Tax Foundation, 2000), 13:2.

41. OECD, Committee on Fiscal Affairs, extract from the Annex: *Guidelines for Conducting Advance Pricing Arrangements under the Mutual Agreement Procedure (MAP APAs),* October 1999, available at http://www.oecd.org/daf/fa/tr_price/guidelines.pdf.

42. See, for example, Paras. 26 and 45 of the OECD Commentary on Art. 25 (mutual agreement procedure) of the OECD Model.

43. See, for example, Reuven S. Avi-Yonah, "Slicing the Shadow: A Proposal for Updating U.S. International Taxation," *Tax Notes,* March 15, 1993, 1511; Jerome R. Hellerstein, "Federal Income Taxation of Multinationals: Replacement of Separate Accounting with Formulary Apportionment," *Tax Notes,* August 23, 1993, 1131; Louis M. Kauder, "Intercompany Pricing and Section 482: A Proposal to Shift from Uncontrolled Comparables to For-

mulary Apportionment Now," *Tax Notes,* January 25, 1993, 485; Langbein, "The Unitary Method," 39; and Jack M. Mintz, "The Role of Allocation in a Globalized Corporate Income Tax," WP/98/134 (Washington, DC: International Monetary Fund, 1998); *Finanzarchiv* 56, no. 3/4 (1999): 389.

For a contrary view, see Eric J. Coffill, and Prentiss Willson, Jr., "Federal Formulary Apportionment as an Alternative to Arm's Length Pricing: From the Frying Pan to the Fire," *Tax Notes,* May 24, 1993, 1103. For an analysis of using formula apportionment as the international norm, see Joann M. Weiner, "Using the Experience in the U.S. States to Evaluate Issues in Implementing Formula Apportionment at the International Level," OTA Paper 83, U.S. Department of the Treasury, April 1999, available at www.ustreas.gov/ota/ota83.pdf. McLure, "U.S. Federal Use of Formula Apportionment," provides further references to the literature on both sides of this issue.

On the use of separate accounting and formula apportionment in the European Union, see Charles E. McLure, Jr., and Joann M. Weiner, "Deciding Whether the European Union Should Adopt Formula Apportionment of Company Income," in Sijbren Cnossen, ed., *Taxing Capital Income in the European Union: Issues and Options for Reform* (Oxford: Oxford University Press, 2000), 243; and Joann Weiner, "EU Corporate Tax Reform" (xerox, 2001). A system that might be appropriate for use in the European Union might not be suitable as the international standard.

44. Royalties are generally accorded the same tax treatment as interest in source countries, but individuals receive far smaller amounts of royalties than of interest. By comparison, dividends generally are not deductible.

45. See Vito Tanzi, *Taxation in an Integrating World* (Washington, DC: Brookings Institution, 1995), 84–89; and Bird and Mintz, "Sharing the International Tax Base."

46. Joel Slemrod, "Comments," in Tanzi, *Taxation in an Integrating World,* 144. See also Tanzi, 84–89.

47. Cnossen, "Company Taxes in the European Union," 80.

48. Charles E. McLure, Jr., "Tax Policies for the XXIst Century," in *Visions of the Tax Systems of the XXIst Century* (The Hague: Kluwer, 1997), 37.

49. Tanzi, *Taxation in an Integrating World,* 89.

50. See generally Mitsuo Sato and Richard M. Bird, "International Aspects of the Taxation of Corporations and Shareholders," *International Monetary Fund Staff Papers* 22, 384 (July 1975); Charles E. McLure, Jr., *Must Corporate Income Be Taxed Twice?* (Washington, DC: The Brookings Institution, 1979); U.S. Department of the Treasury, *Integration of the Individual and Corporate Tax Systems: Taxing Business Income Once* (Washington, DC: U.S. Government Printing Office, 1992); and Cnossen, "Company Taxes in the European Union."

51. See Weiner, "EU Corporate Tax Reform."

52. Ministerial Communique of May 1996, quoted in OECD, Committee on Fiscal Affairs, *Harmful Tax Competition: An Emerging Global Issue* (Paris: OECD, 1998), Foreword.

53. Ibid., Para. 49.

54. Ibid., Para. 30.

55. Ibid., Para. 52.

56. Ibid., Para. 59.

57. Ibid., Paras. 69–79.

58. Ibid., Para. 43. The OECD notes (Para. 80): "Governments may find themselves in a 'prisoners dilemma' where they collectively would be better off by not offering incentives but each feels compelled to offer the incentive to maintain a competitive business environment."

59. Ibid., Para. 140 and Box III. Both Luxembourg and Switzerland abstained on the approval of the report and the adoption of the recommendation; see ibid., Annex II.

60. OECD, Committee on Fiscal Affairs, "Towards Global Tax Co-operation: Progress in Identifying and Eliminating Harmful Tax Practices," Para. 16, Report to the 2000 Ministerial Council Meeting and Recommendations by the Committee on Fiscal Affairs, available at www.oecd.org/daf/fa/harm_tax/Report_En.pdf). In addition, a few tax-haven countries agreed to "advance commitments" to eliminate their harmful practices and thus were not included on the list of tax havens.

61. For the possible defensive measures being considered, see ibid., Para. 35.

62. Ibid., Para. 34.

63. OECD, "OECD, Commonwealth Agree to Work towards Global Co-operation on Harmful Tax Practices," press release dated January 10, 2001, available at www.oecd.org/media/release/nw01-03a.htm.

64. U.S. Treasury Department, press release of May 10, 2001.

65. OECD, *Harmful Tax Competition,* Para. 41.

66. OECD, "Towards Global Tax Co-operation."

67. Arnold, "Controlled Foreign Corporation Rules," 17:22–23.

68. For background to the Ottawa meeting, see OECD, Committee on Fiscal Affairs, "Electronic Commerce: Taxation Framework Conditions," Report by the Committee on Fiscal Affairs, as presented to Ministers at the OECD Ministerial Conference, "A Borderless World: Realising the Potential of Electronic Commerce," Ottawa, October 8, 1998, in *Taxation and Electronic Commerce: Implementing the Ottawa Framework Conditions,* 227.

69. See *Taxation and Electronic Commerce: Implementing the Ottawa Framework Conditions,* including summaries of the reports of the TAGs. The work of the TAGs is described and discussed more fully in McLure, "Taxation of Electronic Commerce in Developing Countries."

70. See OECD, "Consumption Tax Aspects of Electronic Commerce," and OECD, Technology TAG.

71. See "Main Findings of the Technology Technical Advisory Group (TAG), in *Taxation and Electronic Commerce: Implementing the Ottawa Framework Conditions,* 188.

72. See generally OECD, Committee on Fiscal Affairs, "Report by the Technical Advisory Group on Monitoring the Application of Existing Treaty Norms for the Taxation of Business Profits (Business Profits TAG)," December 2000, available at www.oecd.org/daf/fa/e_com/ec_5_BP_TAG_Eng.pdf; OECD, "Clarification on the Application of the Permanent Establishment Definition in E-Commerce"; and OECD, "Attribution of Profit to a Permanent Establishment Involved in Electronic Commerce Transactions," 102.

73. See OECD, "Treaty Characterisation Issues Arising from E-Commerce."

74. McLure, "Tax Policies for the XXIst Century," 36.

75. Tanzi, *Taxation in an Integrating World,* 140.

76. Mintz, "The Role of Allocation in a Globalized Corporate Income Tax," WP/98/134, 36.

77. Tanzi suggested the possibility of creating an International Revenue Service "to collect taxes that could not be collected by separate governments. . . . Such an international institution might also collect information on taxpayers for the benefit of the member tax administrations." See Tanzi, "Forces That Shape Tax Policy," 277. This proposal is not likely to gain popularity soon.

78. Mintz, "The Role of Allocation in a Globalized Corporate Income Tax," WP/98/134, 36.

79. Tanzi, *Taxation in an Integrating World,* 9. Tanzi (p. 66) also quoted Hinnekens: "In the disarray of this 'fin de siècle,' tax policymakers turn for guidance to the tax theorists, but find that little thought has been given to the shape and form of a comprehensive tax system that is up to the challenge of the new regional and global scene." See Luc Hinnekens, "Territoriality-Based Taxation in an Increasingly Common Market and Globalization Economy: Nightmare and Challenge of International Taxation in the New Age," *EC Tax Review,* 1992, 157.

80. U.S. Department of the Treasury, *Integration of the Individual and Corporate Tax Systems.* These possibilities are examined in McLure, "Tax Policies for the XXIst Century.

Nontariff Barriers

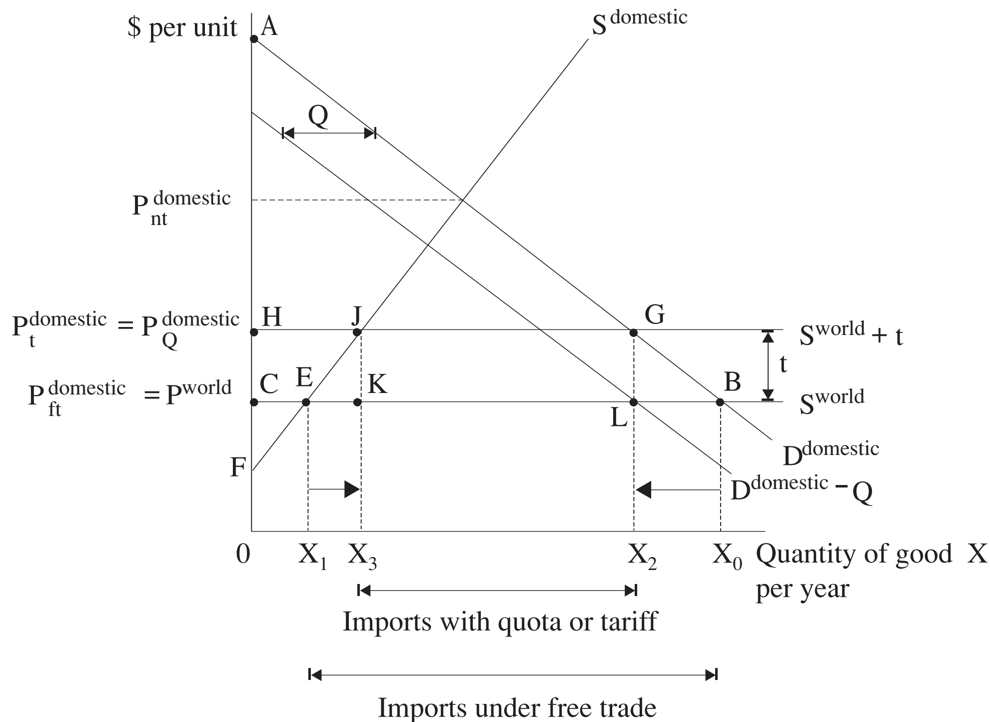
Nontariff barriers (NTBs) are restrictions on international trade, usually imposed by an importing country, that operate through means other than tariffs. The most common NTBs, quotas and voluntary export restraints (VERs), place a ceiling on the quantity or value of a good traded. The restriction makes the good artificially scarce, raises its domestic price to consumers, and allows domestic producers of the good (and any foreign exporters not covered by the restriction) to charge higher prices. Quotas are administered by the importing country; voluntary export restraints are administered by the exporting country. This difference affects which interest groups gain or lose from the two policies and by how much. Both types of policies harm import-country consumers, help import-country producers, and reduce total world welfare. Quotas and VERs are most prevalent in agricultural products, textiles, and apparel. The General Agreement on Tariffs and Trade (GATT) and its successor, the World Trade Organization (WTO), have discouraged members from using quotas and VERs. Despite this discouragement, use of VERs spread rapidly during the 1980s and 1990s. The 1994 Uruguay Round Agreement, however, did impose some discipline on WTO member countries' imposition of new VERs.

Quota Effects in a Small Country's Competitive Market

Consider the market for a small country's import good, good X. In Figure 1, the downward-sloping line $D^{domestic}$ represents the total quantity of good X that residents demand at each price. The upward-sloping line $S^{domestic}$ represents the quantity of good X that the country's X producers supply at each price. The horizontal line S^{world} represents the supply of good X produced in the rest of the world. This world supply curve is horizontal because the import country is small; this means that the country's residents can buy as much of good X as they want in world markets without affecting the world price, P^{world}. The world supply curve lies below the intersection of $D^{domestic}$ and $S^{domestic}$ because good X is the country's import good; that is, the world price of good X is less than the domestic price that would prevail with no trade, $P_{nt}^{domestic}$, reflecting the country's comparative *dis*advantage in good X. With no restrictions on trade, the country consumes X_0 units of good X, produces X_1 units, and imports $(X_0 - X_1)$ units. Consumers pay a domestic free-trade price, $P_{ft}^{domestic}$, equal to the world price, P^{world}.

The net benefits that import-country consumers get from their ability to participate in the market for good X is called "consumer surplus," measured by the area under the demand curve and above the price consumers pay for the good. With free trade, consumer surplus is area ABC. The net benefits that domestic producers get from their ability to participate in the market for good X is called "producer surplus," the area above the domestic supply curve and below the price that producers receive for the good. With free trade, domestic producer surplus is area CEF. Total surplus, the net bene-

Figure 1: Quota Imposed by a Small Country in a Competitive Market



Note: Under free trade, the country consumes X_0 units, produces X_1 units domestically, and imports $(X_0 - X_1)$ at a price of $P_{ft}^{domestic} = P^{world}$. Total domestic surplus equals (ABC + CEF). Under an import quota set at Q, the country consumes X_2 units, produces X_3 units domestically, and imports $(X_2 - X_3)$ units; the domestic price is $P_Q^{domestic}$. Area JGLK represents the quota rents, which may go to foreign firms, domestic importers, or the government or be exhausted by rent-seeking activities, depending on how the quota is administered. Total domestic surplus is at least (JKE + GBL) less than under free trade, and may be as much as (JKE + GBL + JGLK) less if the quota rents go to foreign firms or are lost in rent seeking. Under an equivalent tariff set at t, the country consumes X_2 units, produces X_3 units domestically, and imports $(X_2 - X_3)$ units; the domestic price is $P_t^{domestic}$. Total surplus is (JKE + GBL) less than under free trade.

fits all domestic participants receive from the X market, equals the sum of consumer and producer surpluses, or (ABC + CEF).

Let the import-country government impose a quota on X imports: No more than Q units per year can enter the country, and $Q < (X_0 - X_1)$, which makes the quota binding. The total demand facing domestic firms at each price, represented by the line $D^{domestic} - Q$, equals the total quantity domestic consumers demand minus quantity of imports (the quota, Q). Consumption falls to X_2, domestic production rises to X_3, and the country imports $X_2 - X_3 = Q$ units. The new domestic price with the quota is $P_Q^{domestic}$. Consumer surplus falls to area AGH, and domestic producer surplus rises to area HJF.

Who gains and who loses from the quota? Domestic consumers lose area HGBC of consumer surplus, which can be divided into four parts: (1) Domestic producers of X gain area HJEC of producer surplus; (2) area JKE is a deadweight loss caused by the fact that the quota causes units X_1 through X_3 to be produced domestically (at an opportunity cost represented by the height of $S^{domestic}$ for each unit) when those units could have been produced abroad at lower opportunity cost (repre-

sented by the height of S^{world}); (3) area GBL is a deadweight loss caused by the fact that the quota, by raising the domestic price of good X, causes consumers to cut consumption from X_0 to X_2 units, even though each unit between X_2 and X_0 would provide more benefit to the consumer (measured by the height of the $D^{domestic}$ curve for each unit) than the opportunity cost of production (represented by the height of S^{world}); (4) area JGLK represents the quota rents, or the difference between the new domestic price and the world price ($P_Q^{domestic} – P^{world}$) multiplied by the quantity of imports.

Who captures the quota rents depends on how the government administers the quota. To restrict imports to the quota limit, the government must establish a system of import licensing. If the government auctions the licenses to import good X, firms will willingly pay up to JGLK for those licenses, and the rents go to the government. If licenses are allocated on a first-come, first-served basis and importers are free to buy good X for P^{world} on the world market, import it, and sell it at $P_Q^{domestic}$, the quota rents go to importers. If firms in exporting countries receive the licenses to sell Q units of good X in the domestic market, those foreign firms capture the rents. If the government allocates the import licenses through a political lobbying process, firms may expend economic resources to capture the rents, thereby turning them into additional deadweight losses (Krueger 1974). The quota's effects on the importing country's welfare include a loss for consumers (HGBC), a smaller gain for domestic producers (HJEC), deadweight losses because of the distorted production and consumption decisions (JKE and GBL), plus the effects generated by the allocation of the quota rents (JGLK), which depend on the license-allocation system.

Governments can define quotas in terms that limit either the volume (quantity) or the value (price times quantity) of imports. Volume quotas are easier to administer, since they do not require tracking import prices. But volume quotas can have an additional detrimental effect on consumers. When applied to goods available in a range of qualities and prices (for example, automobiles or apparel), volume quotas give exporters an incentive to cut back most on exports of lower-quality, lower-priced goods. This puts additional upward pressure on price and harms consumers, especially low-income individuals who would buy lower-quality, lower-priced versions of the good.

Governments that impose a quota can also choose between global and country-specific quotas. Global quotas impose a single ceiling on imports, regardless of source. Country-specific quotas discriminate between exporting countries by assigning individual exporting countries or groups of exporting countries specific ceilings, often based on the countries' historical market shares. By influencing the sources of imports, this choice can affect who receives the quota rents.

Quotas, like other import restrictions, create an incentive for smuggling of the restricted goods, because smugglers can capture part of the quota rents. The welfare effects of smuggling are ambiguous. To the extent that the illegal activity voids the harmful effects of the quota by making available more of the imported good, smuggling eliminates the quota's deadweight losses. But illegal activities such as smuggling use up real resources, contribute to corruption, and erode the public's support for law, all of which reduce welfare.

Comparison of Quota with Tariff

In a competitive market, for any import quota there is an import tariff (that is, a tax on imports) that generates the identical effect on price, consumption, domestic production, and imports. This result is known as "the equivalence of tariffs and quotas" (Bhagwati 1965). In Figure 1, imposition of an import tariff of t per unit shifts the world supply curve up by the amount of the tariff. Domestic consumers must pay $P_t^{domestic}$, which equals the world price plus the tariff, for each unit they import. A tariff of t reduces consumer surplus by

HGBC, raises domestic producer surplus by HJEC, and causes deadweight losses of JKE and GBL, just as the quota does. The difference between the tariff and the quota lies in area JGLK. In the case of the quota, this area represents the rents generated, and which groups capture the rents depends on how import licenses are allocated. In the case of the tariff, area JGLK represents the revenue raised by the tax, which goes to the domestic government.

The equivalence of tariffs and quotas provides a useful benchmark, but once dynamic market conditions and different market structures are taken into account, many additional differences in the two policies' effects appear. These fall into four main categories. First, if domestic demand increases or domestic supply decreases, price rises more under a quota than under an "equivalent" tariff (a result called "dynamic nonequivalence"). This occurs because the quota is the more restrictive policy: A tariff allows consumers to import more in response to changed market conditions, as long as they pay the tariff, whereas a quota prohibits additional imports regardless of market conditions. So domestic producers seeking protection from foreign competition may prefer a quota if they anticipate worsening comparative disadvantage, but quotas cause larger welfare losses, both for the imposing country and for the world, than tariffs.

Second, with a single or only a few domestic producers, a quota, unlike a tariff, facilitates the firm or firms acting as a monopolist or cartel. A tariff limits domestic firms' ability to raise price to a ceiling of the world price plus the tariff. Under a quota, domestic firms' ability to raise price faces no such constraint, because imports cannot rise no matter what price domestic firms charge.

Third, the quota allows any one of several groups to capture its rents, depending on how the government administers the quota or allocates the import licenses. These groups have incentives to engage in lobbying or rent-seeking activity to convince the government to allocate in their favor. Such activities can both alter who captures the quota rents and lead to additional deadweight losses if interest groups use up real resources in rent seeking.

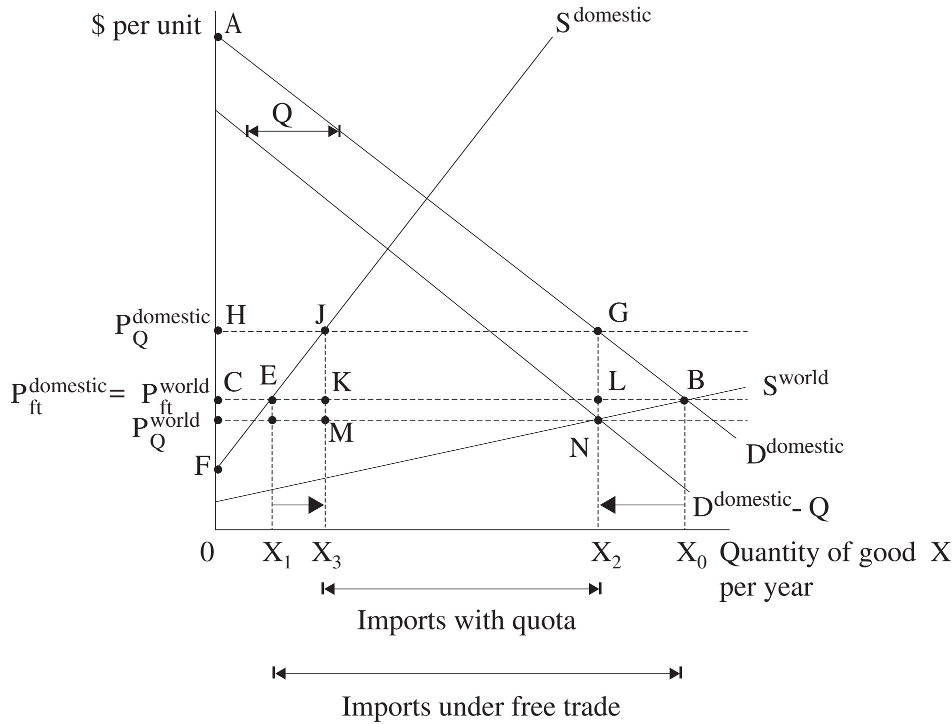
Finally, quotas are more likely than tariffs to be applied to only some trading partners, thereby discriminating among alternative sources of supply. If low-cost-producer trading partners are subject to quotas, the restriction can shift production to higher-cost foreign producers.

In addition to being applied separately, as alternative means to protect a domestic industry, quotas and tariffs can be used together. If a country imposes a quota and also a tariff, the tariff can allow the import-country government to capture the quota rents. Another way of pairing the two policies is a "tariff-rate quota." Under this system, imports up to a certain level or quota face a low (or zero) tariff, and imports above the specified level face a much higher (often prohibitive) tariff.

Quota Effects in a Large Country's Competitive Market

Figure 2 depicts the effects of an import quota of Q imposed by a large country; that is, a country important enough in the market for good X that the country's trade policies affect the world price. The import country's large size implies that the world supply curve is upward sloping. The quota's effects match those of the small-country case with one addition: The quota reduces the world price of good X. In other words, the large importing country, by imposing the quota, can force foreign suppliers to accept a lower price for the good, P_Q^{world}. Out of total quota rents of area JGNM, part (area KLNM) come from foreign producers. This introduces the possibility that the quota-imposing country may gain in net welfare from the quota if: (1) a domestic interest group captures the rents, and (2) area KLNM is larger than the quota's deadweight welfare loss (area JKE + GBL). All the importing country's gains (KLNM) come at the expense of the exporting

Figure 2: Quota Imposed by a Large Country in a Competitive Market



Note: Under free trade, the country consumes X_0 units, produces X_1 units domestically, and imports $(X_0 – X_1)$ at a price of $P_{ft}^{domestic} = P_{ft}^{world}$. Under an import quota set at Q, the country consumes X_2 units, produces X_3 units domestically, and imports $(X_2 – X_3)$ units; the domestic price is $P_Q^{domestic}$. Area JGNM represents the total quota rents, which may go to foreign firms, domestic importers, the government, or be exhausted by rent-seeking activities, depending on how the quota is administered. The portion of the rents represented by JGLK is paid by domestic consumers of good X; the portion represented by KLNM is paid by foreign producers who must accept the lower world price, P_Q^{world}, for their product. The quota's effect on total domestic surplus depends on which group captures the quota rents and on how the size of the rents paid by foreign producers (KLNM) compares with the size of the two deadweight losses (JKE + GBL).

country; thus, the quota's net effect on world welfare is negative even when the quota-imposing country is large.

Voluntary Export Restraints

Under a voluntary export restraint, one or more exporting countries agree to restrict "voluntarily" their exports of a product to another country. In effect, a VER is a quota administered by the exporting country. The restricted country usually agrees to a VER only under threat of a more severe restriction on its exports (for example, a quota or a high tariff) should it fail to agree. VERs typically are negotiated on a bilateral basis, and GATT/WTO discipline against such measures has been less than completely effective. Among the industries most affected by VERs are textiles and apparel, automobiles, steel, and consumer electronics products.

VER agreements (often called "orderly marketing agreements") may be negotiated between governments, between the import and export countries' industries, or between the import-country government and the export-country industry. The agreements often are kept secret because of their illegality under the GATT/WTO (in the case of government-to-

government enforced agreements) and their ambiguous status under countries' antitrust and anticollusion laws (in the case of firm- or industry-enforced agreements). For example, if private foreign firms collude to restrict exports to the United States, the firms can be liable to either criminal prosecution or civil treble-damage suits under U.S. law (Jackson 1997, 204); the United States therefore typically negotiates export-restraint agreements with foreign governments to avoid falling under these laws. Because many VER agreements have not been reported to the GATT/WTO (although the 1994 Uruguay Round Agreement on Safeguards now requires such reporting), it has been difficult even to estimate the prevalence of the restraints. This secrecy, lack of transparency, lack of legal scrutiny, discrimination among suppliers, and tendency to facilitate collusive behavior places VERs near the top of most economists' lists of harmful trade policies.

The main effect of a VER system is to grant quota rents to foreign firms. In Figure 1, the foreign government is made responsible for ensuring that no more than $(X_2 – X_3)$ units of good X are exported. The government allocates export licenses to firms, who can then produce the good at a cost equal to the world price and export it to the VER-imposing country where the good can be sold for the higher price $P_Q^{domestic}$. The export-license scheme effectively prevents competition among exporting firms because no firm could export more than its allocated quantity even if it cut its price; exporting firms thus capture the quota rents of area JGLK. Exporting firms are definitely better off under a VER, in which case they earn the quota rents, than under a quota, in which case they do not. This is why export countries often agree to VERs. In fact, in the competitive case, exporting firms may end up better off with the VER than under free trade, if the restraint is loose enough that the quota rents foreign firms gain more than offset the lost opportunity to export more than the amount allowed under the VER, and if no unrestrained exporters exist to fill the void left by the restrained exports. If the exporting firm is a monopolist, a VER cannot make the firm better off, because even under free trade the firm would restrict exports to the level that maximizes its profit. Note that any shift of quota rents from import-country consumer surplus to export-country producer surplus as a result of a VER is just a transfer; VERs have negative welfare effects for the world as a whole, even if market conditions are such that exporting firms gain.

Use of VERs grew rapidly during the 1980s and 1990s, a trend that started with agreements negotiated by the United States and spread to other developed and, later, developing countries. The restrictions were never technically legal under the GATT. But export countries, if threatened with trade restrictions that would harm them even more than a VER (usually either a quota or a high tariff in the form of an antidumping duty or countervailing duty), had little reason either to resist agreeing to a VER or to file a complaint with the GATT.

In the United States, quotas other than those in dairy products historically have been administered as VERs, so the quota rents go to foreign producers. This lessens the likelihood of retaliation by trading partners. For example, in the case of the 1981 U.S. VER on Japanese automobile exports, estimates suggest that Japanese auto firms felt little effect, since their quota rents offset the lost export volume. However, in comparison with a tariff that allows the same quantity of imports, a VER imposes a far larger loss of welfare on the import country owing to the loss of quota rents, which under a tariff would go to the import-country government as tariff revenue. For example, economists Gary Clyde Hufbauer and Kimberly Ann Elliott estimated that in 1990 the U.S. quota on machine tools cost U.S. consumers a total of $542 million, of which $385 million was a net loss to the United States in the form of lost quota rents and the deadweight losses caused by the quota. This translated into a cost to U.S. consumers of $348,000 for each job maintained in the U.S. machine-tool industry through the quota (Hufbauer and Elliott 1994, 9, 13).

Data and Measurement Issues

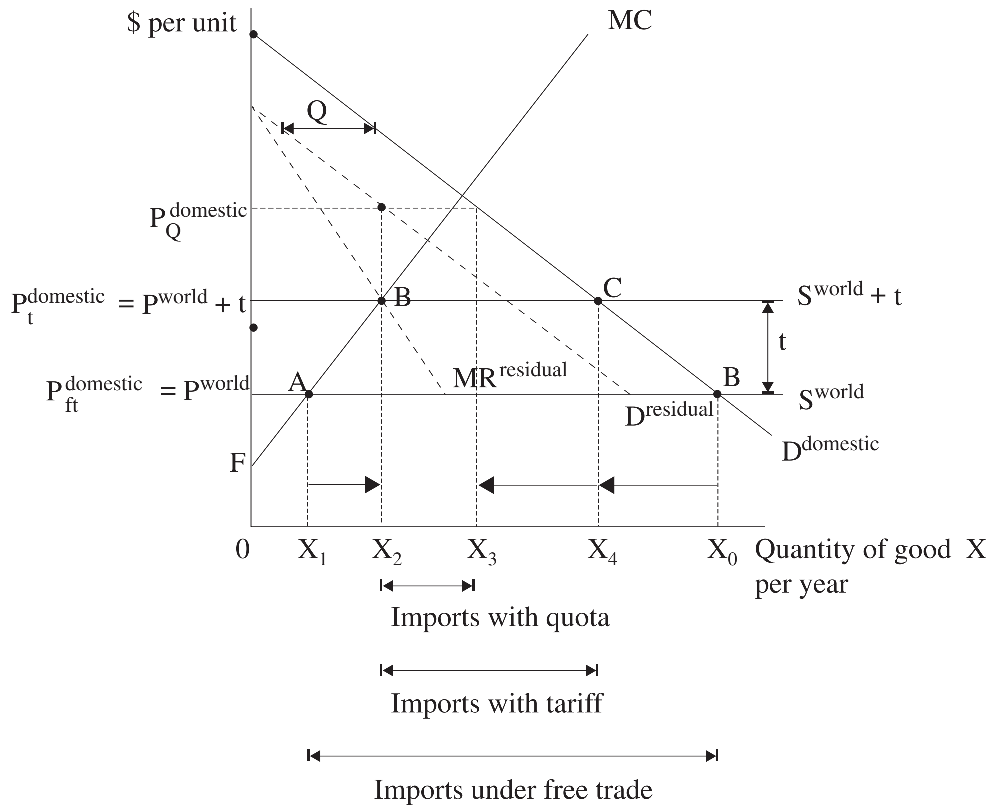
Nontariff barriers and their effects are harder to measure than are tariffs. The primary source of detailed information on nontariff barriers is the United Nations Conference on Trade and Development (UNCTAD) Database on Trade Control Measures. Information in the database is far from perfect, however; the NTB measures included are better suited for studying change over time in a single country's use of NTBs than for comparing different countries' uses of such policies. The difficulties in quantifying NTBs contribute to difficulties in international negotiations to lower them because measurement ambiguities allow countries to overstate others' NTBs while understating their own.

Most empirical measures of NTBs estimate either the frequency of their application in particular industries or the extent of trade covered by them. The two main measures for quotas and VERs are frequency ratios and coverage ratios. Both are calculated based on tariff lines, or the detailed classifications of goods that countries use to organize their trade statistics. Each tariff line refers to a specific good (for example, U.S. tariff line 8542.13 refers to metal oxide semiconductors). The frequency ratio calculates the percentage of a country's tariff lines affected by nontariff barriers. For example, if out of 8,800 tariff lines, 2,200 contain items covered by nontariff barriers, the frequency ratio is 2,200/8,800 = 0.25, or 25 percent. One disadvantage of the frequency ratio is that it fails to capture the relative importance of the different tariff lines in the country's trade. The coverage ratio corrects this problem by weighting the various tariff lines by the amount of imports, so that high-volume items affected by NTBs receive more weight in the calculation than do low-volume items.

The frequency ratio and the coverage ratio share important weaknesses. First, neither accounts for the restrictiveness of NTBs, but merely for their presence or absence. An import quota of ten cars per year enters the frequency ratio in the same way as a quota of 1 million cars per year, even though the former clearly has much more harmful welfare effects. The coverage ratio also suffers from this problem, because the tariff lines covered by the most restrictive NTBs have, by definition, the lowest levels of imports; therefore, those lines receive small weights in the coverage-ratio formula. Second, the coverage ratio can fall in response to a tightening of NTBs, giving a perverse indication that trade policy has become less rather than more restrictive. For example, suppose a country moves from a quota of 1 million automobiles to a prohibitive quota of zero autos. The weight attached to the tariff line for autos goes to zero as imports fall to zero, so the coverage ratio falls—despite the shift toward tighter protection. Calculating coverage ratios using domestic-production weights rather than import weights eliminates this perverse result, but the production-weighted measure still suffers from the weakness that the weights used are themselves affected by changes in NTBs.

Another measurement technique often applied to quotas is the tariff equivalent, or implicit tariff; this is the tariff rate that would have the same effects on price, consumption, production, and imports as does the quota. In the small-country case illustrated in Figure 1, both the domestic price with the quota in effect ($P_Q^{domestic}$) and the world price (P^{world}), which will remain the effective price in countries following free-trade policies, can be observed. The difference between these two prices measures the tariff equivalent of the quota, or the tariff rate that would generate the same effects. In the large-country case (Figure 2), the original world price is not observable once the quota is in effect, so calculating the tariff equivalent requires econometric techniques to estimate world prices using information about demand and supply elasticities. Using tariff equivalents to estimate quotas' effects will not produce reliable results if demand or supply conditions change during the period under study because, as noted earlier, market prices and quantities respond differently to changes in market conditions under tariffs and quotas.

Figure 3: Quota Imposed by a Large Country in a Monopoly Market



Note: Under free trade, the country consumes X_0 units, produces X_1 units domestically (at point A), and imports $(X_0 - X_1)$ at a price of $P_{ft}^{domestic} = P^{world}$. Under an import quota set at Q, the domestic monopoly firm faces the residual demand curve, $D^{residual}$, and its marginal revenue curve, $MR^{residual}$. The country consumes X3 units, produces X_2 units domestically (at point B), and imports $(X_3 - X_2)$ units; the domestic price is $P_Q^{domestic}$. Under a tariff set at t to generate the same level of domestic production as the quota, the country consumes X_4 units (at point C), produces X_2 units domestically, and imports $(X_4 - X_2)$ units; the domestic price is Ptdomestic, which equals the world price plus the tariff. The quota results in a higher price and lower consumption than does the tariff because the quota, by blocking all imports above the quota regardless of the price charged by the domestic firm, allows the domestic firm to exploit its monopoly power.

Quotas in Monopoly Industries

When the domestic industry in a small country consists of a single monopoly firm and the foreign industry is competitive, three results hold concerning imposition of an import quota: (1) A quota allows the domestic firm to exploit its monopoly power, whereas the firm would be forced to act competitively under free trade; (2) a quota may cause the domestic firm to produce either more or less output; and (3) a quota results in a higher domestic price than does a tariff designed to lead to the same level of domestic output. All three effects follow from the fact that the quota alters the shape of the demand curve facing the firm. The firm always maximizes profit by producing the output at which marginal cost (the change in total cost when the firm changes its output by a small amount) equals marginal revenue (the change in total revenue when the firm changes its output by a small amount). By altering the demand curve that the firm faces, an import quota changes the outcome of this profit-maximizing

process, allowing the firm to exploit its market power at consumers' expense.

Consider first how free trade disciplines a potential domestic monopoly firm from behaving as a monopolist. In Figure 3, the downward-sloping line $D^{domestic}$ represents the total quantity of good X that residents demand at each price. The upward-sloping line MC represents the domestic firm's marginal cost. The horizontal line S^{world} represents the supply of good X produced in the rest of the world. The small country's residents can buy as much good X as they want in the world market without affecting the world price, P^{world}, so any attempt by the domestic firm to charge a price above P^{world} would result in zero sales. In other words, with free trade the domestic firm must take its price as given and equal to the world price. The demand curve facing the domestic firm is *horizontal* at P^{world} out to the intersection with $D^{domestic}$ and then becomes coincident with the $D^{domestic}$ line. For a price-taking firm, P = MR, so throughout the range in which the firm must act as a price taker, MR = P^{world}. The profit-maximizing firm produces X_1 at point A, where MC = MR. Consumers buy X_0 units of good X, of which the domestic firm produces X_1 units and $(X_0 - X_1)$ units are imported. Consumers pay a domestic free-trade price, $P_{ft}^{domestic}$, equal to the world price, P^{world}. Under free trade, the domestic monopolist cannot exploit its monopoly power. It must act as a price taker, as if it were just one of many firms in a competitive domestic industry, because consumers have the alternative of buying imports.

An import quota allows the domestic monopolist to exploit its market power. With the quota in effect, consumers no longer can buy all the imports they want at the world price. Now the domestic firm faces a residual demand curve equal to consumers' overall demand for good X, $D^{domestic}$, minus the quota amount, Q; so, at each price above the world price, the residual demand curve, $D^{residual}$, lies Q units to the left of $D^{domestic}$. (For prices below the world price, $D^{residual} = D^{domestic}$, because consumers would not purchase imports at a price above that available on domestic X. This range of prices is not of interest because the point of the quota is to restrict imports consumers would otherwise buy.) Assuming that the firm must charge the same price for all units it sells, its marginal revenue curve is $MR^{residual}$. This marginal revenue curve lies below the residual demand curve because the firm must lower its price to sell an additional unit; therefore, the marginal revenue (change in total revenue) from selling another unit of output is less than the price for which that unit is sold. The firm maximizes profit by equating MC and MR at point B and charges the monopoly price, $P_Q^{domestic}$, from the residual demand curve. At that price, domestic consumers buy X_3 units of X, of which X_2 are produced by the domestic monopolist and $(X_3 - X_2)$ units are imported.

Figure 3 illustrates the case in which the quota causes the monopolist to increase its output relative to that under free trade ($X_2 > X_1$). However, domestic output under the quota (X_2) can be either greater or less than domestic output under free trade (X_1). This is true because the quota has two counteracting effects on the domestic firm's choice of output: The quota gives the domestic firms more of the market by limiting imports, but the quota also allows the firm to exploit its monopoly power by restricting output in order to raise price. Either effect can dominate. The fact that an import quota facilitates monopoly behavior by the domestic firm means that even a quota set at the free-trade level of imports (for example, $X_0 - X_1$ units in Figure 3) causes the domestic firm to reduce output and raise price above the free-trade level; even such a just-binding quota allows the potential monopolist to become an actual monopolist.

When the domestic industry consists of a potential monopolist, quotas have more restrictive effects than a tariff designed to generate the same level of domestic output. In Figure 3, the per-unit tariff that would cause the domestic firm to choose to produce X_2 is t. With a

tariff of t, domestic consumers would consume X_4 at point C and import $(X_4 - X_2)$; domestic price would be $P_t^{domestic}$. The quota causes a larger fall in consumption and allows the domestic firm to charge a higher price than does the tariff. This occurs because the tariff protects the domestic firm only to the extent of allowing it to charge a price higher than the world price by the amount of the tariff. The quota, in contrast, rules out imports in excess of Q regardless of the price charged by the domestic monopolist. The quota, therefore, causes a larger loss of welfare for the imposing country and for the world than would the tariff.

Treatment of Quotas and VERS in the GATT and WTO

There are strong economic arguments against use of import quotas: They facilitate monopoly behavior by severing the link between domestic and foreign prices; they often discriminate among trading partners; they cause markets not to respond to changing demand or cost conditions; they are opaque to consumers and voters; and the contest to capture the quota rents can lead to both rent seeking and corruption. These same characteristics that make quotas undesirable from the perspective of a country's overall economic welfare make them desirable from the perspective of the industry seeking protection.

Framers of the GATT envisioned the following approach to trade liberalization: Limit quotas and other NTBs, then negotiate tariff levels down over time. Import quotas had proliferated during the 1930s and were a widespread trade-policy practice during the early postwar years, so GATT rules written during those years prohibited use of quotas (GATT Article IX). In principle, GATT allowed only tariffs as means to restrict trade and ruled out other measures that countries could use to circumvent their promises to lower tariffs and move toward free trade. Nonetheless, governments continue to use quotas to protect domestic producers, especially in the agriculture, textiles and apparel, and steel sectors. And GATT largely exempted developing countries from the quota prohibitions.

GATT rules prohibited quotas by developed countries with three major exceptions. First, quotas were allowed in markets for agricultural commodities in which governments used price-support programs, as long as the imposing country also took steps to restrict domestic production. A major loophole opened in 1955 when the United States won a GATT waiver from this rule for Section 22 of the U.S. Agricultural Adjustment Act. The waiver allowed the United States to use quotas on agricultural goods, such as dairy products, peanuts, and sugar, for which the country used price supports and no domestic-production limits. In 1990, U.S. import quotas on dairy products, peanuts, and sugar cost U.S. consumers an estimated \$498,000 for each job retained in the dairy-product industry, \$136,000 for each job maintained in the peanut industry, and \$600,000 for each job kept in the U.S. sugar industry (Hufbauer and Elliott 1994, 13).

Second, GATT rules allowed quotas for balance-of-payments (BOP) purposes; that is, to lower a country's imports to a level consistent with its exports (GATT Articles XII, XIII, and XIV). In this case, rules required nondiscriminatory application, but in practice countries often applied country-specific quotas based on exporters' historical market shares. Developing countries continued to use the BOP exception as justification for long-term import quotas even after the international monetary system shifted to more flexible exchange rates in the early 1970s, removing the economic rationale for BOP-motivated quotas.

Third, GATT member countries could impose nondiscriminatory import quotas under the safeguard or escape-clause provision, which allows a country temporarily to suspend its GATT obligations if imports increase to an extent to cause or threaten serious injury to the domestic industry (GATT Article XIX). In practice, few countries used this particular

protectionist route for two reasons: Industries seeking protection often wanted discriminatory protection directed against certain trading partners, and GATT rules required a country that imposed a quota for safeguard reasons to compensate the exporting countries harmed by the policy (for example, by lowering tariffs on other products). To achieve protection that was discriminatory and avoid the GATT requirement to pay compensation to trading partners, governments negotiated VERs.

The 1994 Uruguay Round Agreement transformed the GATT into the WTO and introduced further discipline on members' use of quotas and VERs. In agriculture, the agreement prohibits new quotas, requires existing quotas to be replaced with tariffs (a process called "tariffication"), and requires countries to commit to a schedule of future tariff reductions on agricultural products (Uruguay Round Agreement on Agriculture). A country claiming a need to restrict imports for balance of payments reasons now must report the move to the WTO and publish a timetable for the removal of the restrictions; and quotas may be used only with a rationale for why other less-trade-distorting measures, such as tariffs, are not feasible (Uruguay Round Understanding on the Balance-of-Payments Provisions of the General Agreement on Tariffs and Trade 1994). Under post-1994 WTO safeguard rules (Uruguay Round Agreement on Safeguards), if a quota is imposed as a safeguard measure (that is, for temporary relief when increased imports harm or threaten a domestic industry), the quota cannot reduce imports below the average level for the previous three years and may not last more than four years (or a maximum of eight years, if nondiscriminatory and if extended on the basis that injury continues and the domestic industry is adjusting). Exporting countries may not demand compensation for the first three years of a safeguard-motivated import quota. Safeguards in a given industry cannot be reintroduced within two years, or for the life of the earlier safeguard measure, whichever is longer; this limits the potential for long-term protection in the guise of temporary safeguard actions. The agreement also prohibits VERs as safeguard measures, although a footnote that permits export-country-administered quotas when all parties agree provides a significant loophole for countries to continue to use VERs.

Nontariff Barriers in Textile and Apparel Products

Like agriculture, the textile and apparel industries have existed largely outside GATT discipline on NTBs. Developing countries began to demonstrate comparative advantage in labor-intensive and low-technology basic textile and apparel products during the late 1950s. Developed-country textile and apparel industries responded to the increased competition by demanding protection. The first restraint was a Japanese VER on cotton textile exports to the United States, negotiated in 1955. Quotas imposed only on developing-country exporters violated GATT rules against discrimination, so developed countries asked for and received a GATT exemption for their protectionist policies in textiles and apparel. Over the next forty years, a global web of bilateral quotas and VERs was negotiated that severely restricted textile and apparel exports from developing countries to developed ones. The protection gradually became tighter, covered a growing range of products (cotton fabric, wool, synthetic fibers, vegetable fibers, and silk blends), and was extended to cover more exporting countries. In 1974, the growing protectionist system was named the Multi-Fiber Agreement (MFA); it operated as an umbrella framework within which individual import-country/export-country pairs negotiated bilateral quotas and VERs. By the early 1990s, the fourth Multifiber Agreement encompassed the United States, members of the European Union, and Canada, plus five other developed-country importers and thirty-seven developing-country exporters.

Within developed countries, the burden of this textile and apparel protection was borne disproportionately by low-income consumers because the volume-based import restrictions caused exporters to cut exports of low-quality, low-priced products most. Economists Hufbauer and Elliot estimated that each U.S. apparel job saved by the MFA cost domestic consumers $138,000, and each textile job cost consumers $202,000 (Hufbauer and Elliott 1994, 13). The main pressure for change, however, came from export countries who demanded phasing out of the MFA in return for concessions on other items to be included on the Uruguay Round trade-negotiation agenda. The Uruguay Round Agreement on Textiles and Clothing (ATC) replaced the Multi-Fiber Agreement. The ATC requires that trade in the textile and apparel sectors gradually be brought under WTO rules. In particular, new quotas and VERs no longer are permitted, and existing ones must be phased out after a ten-year transition period (1995–2004); high tariffs, however, will remain in place for many textile and apparel products. The rule changes apply only to WTO members; member countries may continue to apply ATC-noncompliant policies to exports by WTO nonmembers.

Import countries (for example, the United States and members of the European Union) will gain from elimination of the MFA, especially since its VERs allocate most quota rents to foreign exporters. Export countries with small quota allocations relative to their comparative-advantage-based abilities to export textiles and apparel (for example, China and Indonesia) also will gain. Export countries that enjoy large quotas relative to their comparative advantage (for example, Korea, Taiwan, and Hong Kong) may lose as they face competition for newly allowed exports from lower-cost producers, as may some exporters not restricted under the MFA (for example, in sub-Saharan Africa) who filled the gaps left by restricted exporters. Import countries that did not restrict imports under the MFA (for example, Japan) may also lose from its elimination because they have enjoyed low-priced imports as a result of the blockage of MFA-restricted import markets for those products.

Export Quotas

An export quota restricts the quantity of a good that can be exported within a set period of time. VERs are, in effect, export quotas that a country implements at the insistence of its importing trade partners rather than for its own policy purposes. To ensure compliance, the export-country government will need to impose an export-licensing system. As with import quotas, who captures the rents from an export quota depends on how it is administered. Licenses may be allocated on a first-come first-served basis, auctioned, or allocated on the basis of historical export market shares or on political criteria. In a simple, static, competitive-market context, export quotas and export tariffs are equivalent; but as in the case of import quotas, equivalence disappears if market conditions change or if markets are not competitive.

An export quota reduces the exporting country's domestic producer surplus, increases domestic consumer surplus, causes deadweight losses by interfering with efficient production and consumption decisions, and generates quota rents. The net welfare effect of an export quota on a small country is negative. Except for VERs, imposed at the instigation of importers, the primary reasons for export quotas include: (1) national-security or other similar reasons to prevent a particular good (for example, weapons or supercomputers) from becoming available in other countries; (2) political pressure from domestic consumers for lower prices on a particular good (for example, food or oil); or (3) political pressure for lower prices from firms that use a good as an input (for example, raw materials such as logs, oil seeds, or raw hides). If the exporting country is large, an export quota may allow the country to gain by forcing up the world price, which trans-

fers income from foreign consumers to domestic firms or export-license holders (the International Coffee Agreement provides one example). However, regardless of the exporting country's size, an export quota lowers welfare for the world as a whole because it leads to inefficient levels of production and consumption; any gain for a large exporter comes entirely at the trading partners' expense.

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See Also Agriculture; Clothing, Textiles, and Apparel; Dumping and Countervailing Duties; Protectionism; Tariffs; Technical Barriers to Trade; Transport Manufacturing: Aircraft/Automobiles/Shipbuilding; U.S. Trade Laws; World Trade Organization (WTO); U.S. Trade laws

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Protectionism

"Protectionism" refers to the imposition of barriers to international trade by government entities. These barriers usually involve either taxes on imports—that is, tariffs—or quantitative restrictions limiting the volume of legally allowable imports of particular goods—or quotas—to achieve various economic and political targets.

Historical Overview

Mercantilism may have been the earliest economic theory to advocate protectionism. According to J. Overbeek (1999), mercantilist views and practices prevailed among European writers and statesmen between the end of the seventeenth century and the late eighteenth century. As argued by Charles Wilson (1971, 8), the two major aims of mercantilism were the pursuit of power and the accumulation of treasure. The accumulation of treasure made power possible, and power led to more wealth. The most important and desirable form of wealth was treasure, or precious metals. This preoccupation with gold and silver led to a particular kind of trade policy. Countries that had no gold or silver mines, and that were deprived of colonies where precious metals could be found, had no option other than to acquire bullion through trade. A country therefore had to strive for a favorable, or positive, balance of trade (BOP). To achieve a positive BOP, many trade policies were designed to stimulate exports and hamper imports. From discouraging imports to protectionism is but one step; thus import prohibitions, quotas, tariffs, and other protectionist measures became part of the stock and trade of mercantilist policy and recommendations.

The nineteenth century was characterized by an increasing spread of nationalism. Overbeek has held that protectionism and nationalism tend to go hand in hand, as the writings of protectionist authors clearly show. Indeed, nationalism, which promotes a state of mind whereby individuals feel that their supreme secular loyalty belongs to the nation-state, and mercantilism were closely associated. However, during the nineteenth century new dimensions were added to mercantilism. From about 1800 to 1848, nationalism was a movement of national emancipation and constitutional rights. After 1848, however, hostile, sinister, despotic characteristics of nationalism became more apparent. Economic nationalism, a body of economic theories and policies aimed at making the nation as independent of foreign economic influences as possible, emphasizes self-sufficiency. It loosens the ties between the economic processes taking place within a nation and those occurring beyond that nation's boundaries. And according to Overbeek, mercantilism is essentially a regime of economic nationalism.

Both the old mercantilism of the pre-1750 period and the new mercantilism of the nineteenth century explained and justified the right of the state to control, regulate, and restrict internal and international economic activities. This right included the ability to implement protectionist measures such as tariffs, quotas, and export subsidies. By the early nineteenth century, mercantilism seemed to be a thing of

the past—a historical curiosity even—but with the return of political nationalism a number of mercantilist ideas and policies returned. Proponents were able to prolong them well into the twentieth century. History has shown that the free trade period of the nineteenth century was to last only a few decades; free trade as a principle was unable to defend itself successfully against the attack of nationalist and statist ideas, which once again aimed at the subordination of the individual to the state and government interference in economic life. The nationalist neomercantilism of the nineteenth century differed from the old mercantilism in its principal aim of generating an influx of precious metals. However, in many other ways the two mercantilisms resembled each other. Both postulated a conflict of national interests; both sought greater self-sufficiency; both tended toward protectionism and colonial expansion. Moreover, the state had to be powerful in both the old and the new mercantilism.

In the interwar period, ideas of hegemony, domination, nationalism, collectivism, and oppression began to prevail in an extreme form in the Soviet Union, Italy, and Germany. In other countries, these ideas existed in less drastic varieties. Some degree of economic autarky was always part of these conceptions. In the world as a whole, protectionism continued to hold the upper hand until World War II. The total level of international trade shrank dramatically between 1930 and 1939.

During the first two decades following World War II, protectionism stayed silently on the sidelines, but the 1970s, as is well known, witnessed the rise of the so-called "new protectionism"—the rebirth of economic nationalism among typical welfare states. As Jan Tumlir (1985) pointed out, this neoprotectionism should be seen as a government's prime weapon against the threat posed by a relatively free world trade order. It did not develop in a vacuum. It was a symptom of the inherent contradiction between the interfering welfare state and an open trading system. Many other factors, however, did contribute to the rise of the new protectionism, such as the fact that some countries, including the United States and the members of the European Community, faced increased competition both domestically and abroad. Japan, among others, proved a formidable rival. Increased competitive pressure tended to evoke a protectionist response.

This neoprotectionism has resulted in a proliferation of voluntary export restraints, so-called orderly market agreements, antidumping levies, subsidies to domestic industries, and other nontariff trade barriers. At present, protectionists in wealthier countries, who are always on the lookout for new reasons to impose trade barriers, are using arguments related to labor and the environment to back up demands for additional trade impediments. They argue that low trade barriers, the spread of technology, and cheap labor in emerging economies will combine to enable poorer countries to overwhelm the rich countries with their low-cost products, wiping out jobs in countries with historically high wages. The usual conclusion is that high tariffs and quotas are needed. Trade policy activists also claim that it is difficult for the more developed nations, which often have rigid environmental controls, to compete with Third World countries that have lax environmental policies. The proponents of free trade face the challenge of fighting policy proposals for managed trade. Managed trade consists of policies to establish and strengthen comparative advantage through temporary trade protection in certain areas at the expense of foreigners. The tools usually involve a combination of domestic market protections and subsidies. Managed trade, therefore, is a newer form of economic nationalism.

Debate about Free Trade and Protection

For hundreds of years, at least since Adam Smith's publication of *The Wealth of Nations,* the majority of economists have been strong

supporters of free trade among nations. The original arguments for free trade began to supplant mercantilist views in the early to mid–eighteenth century. Many of these original ideas were based on simple exchange or production models that suggested that free trade would be in everyone's best interests, and surely in the national interest. During the nineteenth and twentieth centuries, however, a series of objections were raised suggesting that free trade was not in everyone's interest and perhaps not even in the national interest. The most prominent of these arguments included the infant-industry argument, the terms-of-trade argument, arguments concerning income redistribution, and, more recently, strategic trade policy arguments. Although each of these arguments might be thought of as weakening the case for free trade, each brought forth a series of counterarguments that have acted to reassert the position of free trade as a favored policy. The most important of these counterarguments focus on the theory of endogenous policy regime (Cheng et al. 2000a; Yang and Zhang 2000), the theory of endogenous comparative advantage (Yang 1994; Yang and Ng 1993), the likelihood of incomplete or imperfect information, and the presence of lobbying in a democratic system.

Research shows that the division of labor among countries helps to determine which trade policies governments choose. Tariff wars, tariff negotiations, and laissez faire regimes are all possible outcomes. When a high level of division of labor occurs, all countries prefer a tariff bargaining game that results in multilateral free trade. If a medium level of division of labor occurs, then it is possible for a unilateral protection tariff in a less developed country to coexist with unilateral laissez faire policies in a developed country. In any case, tariff negotiations are essential for achieving multilateral free trade. This research explains the policy transition of some European governments from mercantilism to free trade in the eighteenth and nineteenth centuries as well as policy changes in developing countries from protection tariff to tariff negotiation and trade liberalization (see Cheng et al. 2000a; Cheng et al. 2000; Yang and Zhang 2000).

What Forms Does Trade Protection Take?

Gains from trade may be generated by exogenous differences among countries in tastes, endowments, and technology. Gains can also be generated by increasing returns in the absence of such differences, especially through endogenous (or acquired) comparative advantage (Yang and Ng 1993; Yang 1994). Despite these advantages, trade protection is still common. It takes two main forms: tariffs and nontariff barriers.

Tariffs are a tax levied on imports to restrict their inflow by raising their price. Higher prices encourage domestic firms to expand production; thus, tariffs also serve as a domestic subsidy. Nontariff barriers include quotas, voluntary export restraints (VERs), and export subsidies. Quotas limit imports by specifying the maximum amount of foreign-produced goods that will be permitted into the country over a specified period of time. VERs are used in a similar fashion and involve an agreement by one country to limit exports to another. Like quotas, VERs restrict quantity, driving the price of the good upward. An export tax, for example, forces exporters to sell cheaply in the domestic market rather than incur the tax. Profits that would normally go to the importer would then go to the exporting country instead, causing competition for licensing in the exporting country. Richard Harris (1985), examining the VER against Japanese automobile exports to Europe and the United States in the 1980s, suggested that the term "voluntary" is often a misnomer. Such restraints are termed as such because exporting countries can theoretically modify or remove them at any time; however, VERs are often implemented in response to threats or pressures from the importing country (Jones 1994, 3).

Export subsidies allow exporters to expand overseas supply. This lowers the price paid overseas, increasing overseas demand, while raising the domestic price and lowering domestic demand. Welfare losses occur because the subsidies generate distorted impacts on consumer and producer behavior; however, the magnitude of these effects depends on the size of the country implementing the subsidy. The welfare losses of the subsidy are smaller for a small country than for a large one because a large country influences the price of its exports. A subsidy will raise the world supply of the exported commodity and lower the demand for it, thus worsening the terms of trade. This is an apparent paradox, since the worsening of the terms of trade actually promotes imports.

Comments on Protection Measurement

Despite the disadvantages associated with protection, governments continue to employ tariffs, quotas, and VERs. Reasons for doing so include assisting an infant industry, improving terms of trade, reducing unemployment, increasing fairness, ensuring income redistribution, retaliating against overseas protection, assisting a developing nation, promoting national security, and correcting for market failure (new protectionism).

Takumi Naito (2000) argued that industries take time to develop the necessary expertise and economies of scale to compete against established firms. Established firms typically enjoy advanced production techniques and better knowledge of market characteristics, and so they are able to earn profits even though their products are sold at lower prices. The high initial costs of establishing an enterprise may deter entrepreneurs from doing so at free trade prices. However, once that industry develops, the returns may be sufficiently high to compensate for any establishment costs. Consequently, a temporary shielding from foreign industries may reduce the initial costs sufficiently to permit infant-industry development. Protection allows developing firms to sell their products at an internationally competitive price. Other economists have pointed out flaws in this argument, saying it does not make sense because a competitive financial market can utilize the opportunity of investment in an infant industry. What is really needed for infant industry to develop is a free and competitive financial market, not protection. Protectionist tariffs reduce trading efficiency and deter industrialization and globalization; the equilibrium degree of industrialization is an increasing function of trading efficiency due to the tradeoff between increasing returns and transaction costs (Sachs and Yang 2002; Yang and Ng 1993).

The terms-of-trade argument in favor of protection was developed by R. Torrens (1844). Torrens argued that some countries have a large enough share of the world market to affect world prices and that a tariff imposed by a "price maker" will lower the price of imports and generate more favorable terms of trade. As a result, tariffs, quotas, and VERs may be used to improve the bargaining position of a country versus other countries (Krauss 1979, 11). According to Jeffrey Sachs, Xiaokai Yang, and Dingsheng Zhang (2000), however, deterioration of a country's terms of trade and increases in its gains from trade may occur simultaneously if productivity gains generated by an expanding network of division of labor more than compensate for the deteriorations. P. Sen (1998) provided empirical evidence for this phenomenon from Singapore data.

The balance of trade is argued to benefit from protection by curbing imports. This argument is dubious, however, since it ignores a host of negative impacts, including increases in transaction costs, which reduce the equilibrium level of the international division of labor and aggregate productivity (Cheng et al. 2000a; Yang and Zhang 2000), distortions leading to welfare losses, and higher input costs (if inputs were imported). Likewise, it is true that in the short term, protection may preserve jobs, but

this would occur at the cost of organization inefficiency, allocation inefficiency, higher prices to consumers, and a distortion of consumer choice. All of which accrue to lower welfare.

A frequently voiced counterargument to protection is the potential for retaliation. However, according to Wenli Cheng, Jeffrey Sachs, and Xiaokai Yang (2000a), as well as Yang and Zhang (2000), protectionism does not necessarily cause retaliation. They have shown that if the equilibrium level of division of labor is very high, a possible tariff war will generate Nash tariff negotiation, which will lead to a multilateral free trade regime similar to that which occurs under the WTO framework. If the equilibrium level of division of labor is high in the developed country, but low in the developing country, all gains from trade may go to the developed country. The developing country has an incentive to use tariffs to get a fairer division of gains from trade, whereas the developed country has no incentive to retaliate but prefers a unilateral free trade policy. Hence, unilateral protection in the developing country and unilateral free trade policy in the developed country may coexist. But these authors have shown that if the developing country can improve trading efficiency through institutional reforms and the development of better transportation infrastructure, it can get more gains from free trade than from tariffs.

M. B. Krauss (1979) recognized the income redistribution powers of trade protection; however, he argued that tariffs are often used to redistribute incomes when the government wants to hide income transfers. He wrote, "This kind of device is used when the redistribution has little to do with accepted standards of distributional equity in the economy, but amounts, more or less, to a 'payoff' to a particular group" (Krauss 1979, 9). Australian tariff protection for Toyota is an example. One may suggest that distributional equity does not require an increase in the real incomes of car manufacturers. Yet the government transfers income to Toyota by imposing import restrictions on foreign-produced cars. One could expect a transparent subsidy to Toyota from the government to raise the suspicions of taxpayers, who may question whether it is proper for Toyota to be treated as a welfare recipient.

The effect of protectionism relates to the Stopler-Samuelson (S-S) (1941) theorem, which states that tariffs can increase the relative price of labor-intensive goods and thereby increase wage rates relative to interest rates in the developed country importing the labor-intensive good. This theorem, however, has been proved wrong: Wages relative to interest rates may decrease, and the relative price of a labor-intensive good may increase at the same time, even if each country produces all goods (see Cheng et al. 2000b). Chang, Sachs, and Yang also showed that even if tariffs increase the relative price of a labor-intensive good and thereby increase wages relative to interest rates in the developed country, this will marginally decrease the level of international division of labor and thereby reduce wage rates inframarginally.

According to Yang and Zhang (1999), protection does not reduce inequality of income distribution, and the relationship between inequality of income distribution and international trade is not monotonic. As international trade increases, inequality of income distribution fluctuates. This prediction is verified by empirical evidence (Deininger and Squire 1996).

"Dumping" refers to the practice of exporting products at prices lower than domestic prices, production costs, or "fair" market values. A country may have an excess supply of a particular good that enterprises cannot sell domestically, and so they "dump" the product on the international market at an attractive price. The profits of other exporters are temporarily lowered. Free trade advocates sometimes suggest the term "dumping" is a misnomer, however. If foreign exporters are selling at a lower price, wealth is transferred from the producer to the consumer. Thus, foreign exporters are in fact making a gift to local consumers (Nieuwenhuysen 1989, 24). Furthermore, it is not always clear why overseas exporters are able to

lower prices. They may actually be engaging in rational profit-maximizing behavior through price discrimination. Despite these arguments, countries continue to employ antidumping protection. Dumping is difficult to identify, and as countries have been pressed to lower their tariffs, protectionists increasingly have been employing antidumping procedures to curb imports.

National security may be improved through protection to vital industries in times of war. If Japan relied on imports of food from Australia, for example, and a war were to prevent these imports, Japan could suffer considerably, depending on the state of its domestic food-production industries. Similarly, a country may exercise export restraints to prevent the accumulation of arms or high-technology goods in other countries. In addition to the allocative inefficiencies that arise from stockpiling and other distorted behavior, national security and defense arguments are problematic because it may be difficult to identify which goods pose a threat to health or defense.

Some economists say that tariffs can generate much-needed government revenue. This argument is particularly relevant to low-income developing nations. When a country's citizens are poor and the potential for generating taxation revenue from domestic workers is limited, tariffs become a desirable source of income to fund the provision of essential services, education, and public goods. Developing countries may also borrow funds to provide these services. During recessionary periods, countries that have not implemented trade barriers, however, may suffer from credit shortages. Protection is argued to shield developing countries from this sort of external exposure. However, J. N. Bhagwati (1987, 33) asserted that countries that did not engage in import-competing strategies during the postrecession years of the late 1970s and early 1980s recorded high rates of growth even as they slowed down with the rest of the world.

Another argument relevant to developing (and developed) nations is that protectionism attracts foreign investment. This view posits that industries will establish companies overseas rather than export to those same countries to avoid the loss of profits stemming from protectionist activities.

Markets, both domestic and international, are rarely perfect. The examination of market failures in the international market has generated a number of neoprotectionist arguments against free trade. D. Salvatore (1987, 1) refers to the new protectionist arguments as the revival of mercantilism; others compare these arguments to putting old wine in new wineskins (Bhagwati 1987, 31). The terms-of-trade argument discussed earlier demonstrated that protection in the presence of a market failure (monopoly power) could raise aggregate welfare in the economy. This argument can be extended to other international market failures, such as externalities, and the presence of imperfect information.

Externalities are costs or benefits to third parties (that is, other than the buyers or the sellers of a product) that are not reflected in the market price. Social and private interests diverge, and so private markets will not produce the socially optimal amount of an externality. Pollution is regarded as an externality because third parties are affected by decisions made between the polluter and the consumer of the polluter's output. A number of countries, including Australia, emit greenhouse gases from coal production at the expense of world welfare. A tariff on Australian exports of coal would raise the cost of producing coal in Australia and reduce the levels of production and pollution.

Conventional economic theory suggests that a monopoly will charge a price above marginal cost. Therefore, a country that imports a good produced by a monopoly is charged a monopoly rent. Taxation is commonly used to extract rents from domestic monopolists. J. A. Brander and B. J. Spencer (1987) extended this argument to suggest that tariffs are suitable for extracting rent from foreign monopolists. When a tariff is imposed on each unit of output

imported from the foreign monopolist, this reduces the revenue of the monopolist and generates tariff revenue for the protected country.

The tariff represents a rise in the marginal cost of production for the monopolist. This leads to a fall in production and an increase in prices, which inevitably reduces the consumption of imports in the protected country. This represents a loss of domestic welfare that must be offset against the revenue gains of the tariff. If the gains exceed the losses, domestic welfare is enhanced. However, higher prices are charged to all the clients (countries) of the monopolist, reducing world welfare. Furthermore, the benefit of policies that aim to protect the domestic economy at the expense of the monopolist's country will depend on the extent to which the residents of the monopolist's country own the monopolist (Dixit 1987, 185). Also, potential for retaliation exists when national welfare is increased at the expense of other countries.

Natural monopolies also present a case for protection. A natural monopoly is a firm that experiences economies of scale sufficiently large to make room for only one profitable firm in the industry. If another firm were to enter, both firms would incur losses. However, the firm that establishes its position as the natural monopolist can extract super-normal profits. A. K. Dixit and A. S. Kyle (1985) and P. R. Krugman (1987) illustrated how an international natural monopoly creates the potential for governments to intervene. In the absence of government intervention, if two firms are competing for the position of natural monopolist, the first firm to enter the industry will win, and the other firm will not enter the industry. This situation can be turned around through government intervention that boosts the credibility of the "loser's" threat to enter the industry and survive. A small government subsidy that allows the loser to enter the industry and break even will force uncompensated losses upon the "winner." These losses will force the winner below its break-even point, and the subsidy to the loser sends a signal that the situation is not likely to improve. Assuming there is no retaliation, the winner exits the industry and the loser gains supernormal profits well in excess of the initial government subsidy.

A counterargument to new protectionist trade policy is known as the "second-best theory" (Lipsey and Lancaster 1956). It suggests that because a number of government policies aimed at deriving optimal equilibrium conditions are impractical, "second-best" policies are implemented that may result in welfare losses but, in sum, produce a net gain. A tariff on a foreign exporter that produces a negative externality such as pollution, for example, may send the exporter a mixed signal. That is, the exporter may simply view the tariff as a tax to protect industry and jobs. First-best policies, such as marketable pollution permits, benchmarks, or property right assignments, would address the externality more directly. In this case, the tariff is a second-best policy for correcting pollution, developed because the first-best solution was considered impractical.

Krugman (1987) highlighted the empirical difficulties associated with market-failure models. Externalities affect third parties via nonmarket mechanisms, and values outside of the market can be difficult to estimate. Will production of coal by Australia lead to $50,000 of external costs, or $50 billion? The answer to such questions is often unknown. Furthermore, a unifying theory of imperfect competition does not exist. Imperfectly competitive firms may exhibit a variety of behaviors (limit pricing, entry deterrence, strategic signaling, and collusion, for example).

Cost of Protection

According to the National Center for Policy Analysis, political pressure for trade protection has grown during the current economic expansion. Similarly, the United States enacted the infamous Smoot-Hawley Tariff in 1930. It may be that economists have not done a very good

job of explaining either the benefits of free trade or the costs of protection.

A 1999 study from the Federal Reserve Bank of St. Louis estimates the cost of protectionism to the United States. St. Louis Fed economist Howard Wall calculated that U.S. exports would have been 26.2 percent higher in 1996 if other countries practiced free trade. He also found that U.S. protectionism hurt, costing consumers in the United States more than $100 billion. In a recent speech in Dallas, Federal Reserve Chairman Alan Greenspan said the ultimate cost of protection can be even higher if it blocks the flow of technology and new ideas that are the life's blood of economic progress.

Similarly, the benefits of free trade may not be as apparent as their perceived costs in terms of job displacement. However, the benefits are large. According to a new study by the Department of Foreign Affairs and Trade in Australia, a 50 percent reduction in world tariffs would increase the world economy by more than $400 billion per year, and complete elimination of tariffs would add $750 billion to the world economy annually.

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See Also Antidumping and Countervailing Duties; Nontariff Barriers; Subsidies; Tariffs; Technical Barriers to Trade; GATT; World Trade Organization (WTO); U.S. Trade Laws

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Strategic Alliances

Strategic alliances are cooperative agreements between firms. They range from formal joint ventures to various types of contractual agreements in which no equity ownership is involved. They may involve any stage of the value chain, for example, research and development, joint manufacturing, or distribution. Strategic alliances frequently involve cooperation between rivals in the same industry, but they have also been broadly defined to include supplier networks and other types of partnering arrangements between firms in different industries. They are distinguished from ordinary procurement relationships in that they are "strategic," that is, they are in some way significant to the long-term competitive position of the firm.

International strategic alliances are cooperative agreements between firms based in different nations. The rapid growth of strategic alliances since the late 1980s has been one of the most significant impacts of globalization on international business. As the number of strategic alliances has grown, trends in the types and purposes of these alliances have evolved as well.

Trends in International Strategic Alliance Formation

Traditionally, multinational corporations (MNCs) from developed countries sought to establish joint ventures with partners in developing countries as a means to increase volume by penetrating overseas markets. The developing country partner would benefit from technology transfer while providing access to and in-depth understanding of local markets.

Two driving forces have changed this traditional pattern of cooperation. The first is globalization, which necessitates obtaining both local and global partners if companies are to compete successfully in global industries. The opening up of centrally planned economies in Eastern Europe and China and the expansion of regional integration schemes, such as the North American Free Trade Agreement (NAFTA) and the European Union, are among the changes in the global environment that accelerated the pace of globalization. Lower cross-national barriers to cooperation have made it possible for MNCs to bring together inputs from alliance partners located in a large number of different nations for the manufacture of a single product. For example, the auto industry consists of strategic alliances in so many different countries that it is increasingly difficult to define a product's origin of manufacture.

The second driving force is rapid technological change. Few companies have all the capabilities needed to take advantage of the opportunities resulting from information technology. Even the largest MNCs must find partners in order to remain on the cutting edge. Moreover, first-mover advantages accrue to the firms that take the lead in establishing strong interenterprise networks: Those that lag may find that all the best global partners have already been taken. Increased technological uncertainty also puts pressure on firms to learn as much as pos-

sible from alliance partners, rather than solely relying on partners to balance a firm's own weaknesses (Doz and Hamel 1998).

The result of these forces has been a shift to new types of alliances. First, a greater proportion of alliances occur between firms from industrialized countries, as opposed to alliances between firms based in developed and less developed countries. Second, the focus of alliances has shifted from the mass distribution of existing products to the creation of new products and technologies. Third, alliances tend to be established in large numbers during industry transitions, when industry boundaries are in flux and the keys to competitive advantage are in the process of being redefined (Bartlett and Ghoshal 2000).

Global trends toward deregulation and privatization of state assets have stimulated the above types of critical turning points in many industries, such as telecommunications and airlines (Culpan 2002). Alliances sometimes serve as temporary, rather than permanent, structures for managing these industry transition points.

Strategic alliances provide an alternative to mergers and acquisitions as a means to rapidly obtaining the critical capabilities that a firm lacks. Acquisitions often require the firm to purchase more assets than it actually needs. As a result, unwanted divisions must be sold off, overlapping divisions must be merged, and excess personnel must be fired. Consequently, mergers are generally also costlier than alliances and frequently fail to achieve their objectives.

Another drawback of acquisitions is that the purchase itself may destroy the desired advantage that the acquired firm originally had. Close contacts with a particular foreign government, for example, may be lost if the local company in question is merged with a firm based elsewhere, whereas these contacts could be maintained in a strategic alliance. Key personnel are often lost in an acquisition: Individuals possessing skills in high demand will often find jobs elsewhere rather than stick with a newly acquired firm under new management. Such personnel are more apt to remain as shared assets in a strategic alliance (Doz and Hamel 1998).

Alliances involving collaboration between two firms become even more complex as multiple alliances are formed or alliances with multiple partners are created. Strategic alliance concepts then overlap with the concepts of "networking" and "enterprise groups." Firms involved in various types of long-term exchange relationships may be viewed as nodes in complex networks, and the intensity of the relationships between particular exchange partners in a network may be examined in order to better understand the structure and competitive positioning within an industry. The term "enterprise groups" refers to multiple partner alliances in which firms recognize membership in the group and are often linked by minority ownership. The forms these groups take are often affected by national political environments, which shape their form via antitrust laws and business-government relationships, and by the organization of capital markets in a particular nation or region. Asian-based enterprise groups, such as the Japanese *keiretsu* and overseas Chinese enterprise groups, predate the wave of strategic alliances in the United States and Western Europe (Richter 2000).

Theoretical Foundations

Theoretical frameworks from a number of disciplines have been used to explain the existence and growth of strategic alliances. These include the resource-based theory of the firm, theories of organizational learning, transaction cost economics, and social exchange theory.

The resource-based theory of the firm provides one of the most important foundations for understanding strategic alliances. According to the resource-based view, the firm is a unique bundle of resources, capabilities, and competences that form the basis for competi-

tive advantage. Resources may be tangible, such as physical and financial assets, or intangible, such as technology and reputation. They include human resources, which are characterized not only by expertise and training, but also by employee adaptability and commitment. Capabilities, such as research and development, manufacturing, marketing, and corporate management, build on a firm's resources. Distinctive competences are activities that a firm performs better than its competitors. Strategic alliances become necessary when no firm holds all the resources necessary to compete effectively. The alliances are therefore the means by which firms pool their resources and capabilities (Culpan 2002).

Theories of knowledge creation and organizational learning provide an important supplement to the resource-based approach by clarifying how firms in a strategic alliance learn from each other. Knowledge may be categorized as explicit or tacit. Explicit knowledge is easily documented and readily communicated. Tacit knowledge is less formal and is embedded in people's heads and in a firm's processes. Explicit knowledge may be easily transferred through market transactions. The transfer of tacit knowledge requires close working relationships and a high degree of trust.

Strategic alliances facilitate the transfer of tacit knowledge. Alliances expose people to new ideas from outside firms and may encourage them to challenge old programs in their own firms that are becoming obsolete. In some cases, certain types of knowledge may be available from only one source. If an acquisition is unfeasible, then a strategic alliance might be the only available means to obtain that tacit knowledge. One of the key challenges for firms involved in strategic alliances is ensuring that complex, tacit knowledge needed to develop critical new capabilities is absorbed from the alliance partner. Once individuals involved in an alliance learn these new capabilities, it is then essential that this knowledge is appropriately dispersed throughout the parent organization.

Transaction cost economics (TCE) also provides a foundation for understanding the nature and coordination of interfirm relationships. TCE posits that human beings are characterized by bounded rationality, and thus they cannot foresee all the possible consequences of a complex, long-term transaction. Since contracts cannot take all possible contingencies into account, there is a risk that a party to a transaction may act opportunistically, enhancing their own position at the expense of their partner's interest. It is thus in a firm's interest to carefully craft appropriate structures to govern complex transactions. Simple, one-shot transactions are most efficiently organized through markets. Transactions that involve investments in specialized assets, or that are characterized by high levels of uncertainty, require greater levels of safeguards to assure both parties that their interests are secure. At the extreme, a firm will internalize a transaction within the boundaries of its own hierarchy.

Strategic alliances represent a form of hybrid governance that falls in between the extremes of market and hierarchy. Technological changes, which have decreased the costs of communications, have lowered transaction costs and shifted preferences from complete internalization of transactions toward hybrid governance modes. In order to be successful, strategic alliances must be crafted in such a way that partners are confident that opportunism is not a threat and that trust is built up between alliance members. Transaction cost economics has been criticized in some contexts for emphasizing legal safeguards over interpersonal ties.

Social exchange theory provides a deeper understanding of the role and meaning of trust. The interpersonal relationships developed in an economic exchange may be of intrinsic value to the players, who may make decisions influenced by friendship rather than solely the self-interest of the organizations they represent. Trust may also be the outcome of habit, arising from repeated reliance on a particular partner, or from ignorance and gullibil-

ity, rather than calculated self-interest. It is thus important to distinguish between trust at the interpersonal and interorganizational levels. If an alliance depends solely on interpersonal relationships for its success, the loss of a few key personnel can cause alliance failure. Linkages need to be made between interpersonal trust developed between individuals working in firms in an alliance and interorganizational trust (Nooteboom1999).

When one firm trusts another to fulfill its role in an alliance, there are two key components: (1) competence—that is, the firm trusts that the partner is capable of completing obligations, and (2) intentions—that is, the firm trusts that the partner will act ethically and in good faith to hold up its end of the deal. If one partner's performance is poor, it is often difficult to distinguish whether failure was due to incompetence, to opportunism, or to circumstances outside the firm's control. In general, trust grows with positive experience. Those with bad alliance experiences in the past will approach a new alliance differently than those who have had good experiences (Nooteboom 1999).

Types of Alliances and Their Respective Advantages/Risks

Alliances may be generally categorized as "horizontal" or "vertical" alliances. Each type is characterized by different advantages and inherent risks.

Horizontal alliances, or alliances with firms in the same industry, take on many forms. They often involve joint manufacturing in one of the partners' home countries. In some cases, they may involve joint manufacturing in a third country. Alliances in research and development have become increasingly prevalent, as rapid technological change makes it impossible for even the largest companies to remain at the cutting edge without collaboration with other firms. When the boundaries separating industries break down—as, for example, those demarcating telecommunications, electronics, and entertainment—the imperative of establishing alliances becomes more intense if firms are to maintain viable competitive positions.

There are a number of distinct advantages to establishing alliances with rival firms. One is that an alliance can facilitate entry to a foreign market. A local partner can provide in-depth knowledge of its home market. It can advise a foreign partner how best to handle government requirements, and it can provide local contacts with suppliers, distributors, and government officials that substantially increase the odds of success of a new foreign entrant.

A second advantage is that alliance partners can share fixed costs and the risks of developing new technology. This is particularly important for smaller firms that may lack the resources to achieve economies of scale. The combination of globalization, entailing risks associated with political instability, economic downturns, and exchange rate fluctuations, with rapid technological change, involving huge investments in research and development that may not pay off, makes alliances that can help cope with the high costs of these uncertainties particularly desirable.

A third advantage of strategic alliances with rivals is that alliance partners can exchange complementary competencies. This goes beyond the concept of shared costs, where the need to invest in new technologies is lessened by relying on a partner to supply them. Organizational learning has become an increasingly central part of strategic alliances. Unlike market-based transactions, strategic alliances provide firms with the opportunity to acquire tacit knowledge from alliance partners that is not easily obtained from blueprints or other written documents. This knowledge, which is locked within people's heads or demonstrated by the processes they use, can become an important source of competitive advantage (Doz et al. 2001).

A fourth advantage of horizontal alliances is that they facilitate the establishment of global standards. As decades of research culminate in

a marketable product, firms seek to establish the specifications of their in-house developed products as global standards. The standards chosen for videotapes, floppy disks, DVDs, and mobile phone technologies have had major competitive implications for firms in those industries. If another firm's specifications are chosen instead of one's own, it can obtain first-mover advantages while competitors spend years of additional innovation to make their products conform with their rival's standard. Firms that set up alliances to establish technological standards have a greater chance of seeing their own specifications accepted as the global norm.

The advantages of strategic alliances must be balanced with their risks. The greatest risk is that a partner will leave the alliance as a much stronger and more formidable competitor. If one firm in an alliance learns its partner's core technologies and managerial competences while the other firm merely relies on its partner to lower costs, the firm that learns the most may eventually drive its partner out of business. U.S. firms, in particular, have been criticized for not being as adept at organizational learning as their Japanese partners. Moreover, a number of American firms that established manufacturing ventures in developing countries later found themselves in jeopardy, after their low-cost manufacturing partners began penetrating developed-country markets on their own.

Another risk is that a firm will invest heavily in an alliance without achieving its long-run objectives. Firms have less control over alliances than acquisitions, and partners' goals may not be identical. A firm may exit from an alliance no better off than it started, having failed to penetrate key markets or develop targeted technologies that the alliance was designed to achieve.

Firms in collaboration with rivals must also be aware that alliances often are transformed into acquisitions or mergers. Weaker firms frequently get swallowed up by stronger partners. Sometimes an outright sale of a corporate division brings more value to stockholders than an alliance that is converted to a sale. This does not mean that strategic alliances that are transformed into mergers are necessarily failures. In certain cases, a strategic alliance allows a potential acquirer to learn more about the value of a target division from its parent before buying it. In other cases, as circumstances change, the strategic direction of one of the parents shifts, thus making it in both partners' interests for one to take over the alliance. Caution is required, however, as rival firms enter into an alliance to ensure that an unintended merger is not the inevitable outcome of a new horizontal strategic alliance.

Vertical alliances consist of collaborative agreements with customers, distributors, and suppliers. Alliances with customers may provide in-depth knowledge about current and future market needs, whereas alliances with distributors may yield a deeper understanding about the features peculiar to market channels in a particular foreign country. Access to these types of specific local knowledge may not only facilitate adaptation to cultural preferences in one country, but may also provide multinational corporations with new ideas for differentiating themselves globally (Doz et al. 2001).

Global supplier networks have generally been set up as a means to lower costs or access distinctive inputs: Each component is manufactured in the country with the lowest costs or most productive resources for that particular stage of the value chain. Alliances with suppliers may also provide access to new knowledge. If structured appropriately, such alliances may enhance an MNC's capabilities by allowing access to new technologies.

Vertical alliances have been criticized for hollowing out firms through outsourcing all manufacturing abroad. There is a risk that a firm will outsource all its core competencies, so that instead of becoming an agile, virtual firm it instead loses its competitive advantage to the firms to which it has outsourced. There are, however, instances where competitive position has been substantially enhanced. For example, U.S. industrial electronics firms established

supply networks in East Asia, particularly Taiwan, during the 1990s in such a way that American computer firms significantly improved their relative position vis-à-vis Japanese electronics firms as compared to the previous decade (Borrus et al. 2000).

Building and Managing Strategic Alliances

Because of the risks involved in strategic alliances, considerable attention has been given to methods of structuring and managing alliances to increase the chances of success. The initial choice of a partner in a strategic alliance is particularly crucial.

Complementary capabilities are one of the most important features to be sought from a potential alliance partner. Overlapping capabilities minimize the opportunities for learning and thus decrease the value of a strategic alliance. Both partners need to be capable of contributing in significant ways toward meeting the goals of the alliance.

Self-deception must be avoided: Two weak companies, rather than saving each other through the advantage of greater size, often sink together if neither has the capabilities needed for competitive success. In cases where the partner firms' capabilities are not balanced, the stronger partner will most likely take over the weaker one. Even where complementary capabilities appear to be balanced at the outset of an alliance, consideration should be given to the relative importance of these capabilities in the long run. The strengths needed for competitive success change over time as the alliance evolves and global conditions change. If the partner's capabilities can be expected to take on greater importance as the alliance evolves, a firm risks a possible future sale of its stake in the alliance.

A second characteristic to be kept in mind when seeking a partner is that both parties need to share the same vision about the direction in which the alliance should progress and grow. MNCs with joint ventures in developing countries have frequently encountered this problem. If the local partner is interested in obtaining technology from the MNC in order to increase exports, while the MNC is interested in its partner's local knowledge in order to more deeply penetrate local markets, the alliance may eventually break down as neither party achieves its goals. Conflicts can also arise about the appropriate long-term scope for expansion once short-term goals have been successfully reached.

Another key to finding a good partner is to make sure that the potential partner has a reputation for fair play. Research concerning the firm's previous alliances, and direct input from people who have worked with the firm in the past, provide important insights as to whether an alliance is worth pursuing. An alliance in which trust is impossible has a slim chance of success.

One of the challenges in finding a compatible partner is that firms with complementary capabilities often have very different corporate cultures. Certain types of clashes, for example, are characteristic of strategic alliances between large and small firms. In research and development alliances, large firms often have resources that small entrepreneurial firms lack, whereas the smaller firms have a successful record of innovation in key fields where the large firms may be weak. Cooperation makes sense, but it can be difficult to implement owing to cultural differences. Large companies tend to have more formal decision-making processes and thus are viewed by small firms as slow and bureaucratic. Small firm decision-making tends to be rapid, unscheduled, and informal, and thus, large firms tend to view them as disorganized and sloppy (Doz and Hamel 1998). Corporate culture differences are further exacerbated in global alliances with differences in national culture. Conscious efforts must be taken to overcome these differences if an alliance is to succeed.

Partner selection becomes even more complex when a firm is involved in multiple al-

liances. If a firm is involved in alliances with firms that are direct rivals, each partner may be unwilling to share knowledge that it fears will be transferred without its consent to other alliance members. Care must be taken to avoid the potential for competitive conflict.

Once partners have been chosen, attention must be given to structuring an alliance to best assure that goals will be met while risks are minimized. One technique is to "wall off" sensitive technologies. This entails deciding upfront which technologies will be shared in an alliance and which represent key sources of competitive advantage that should not be leaked to a partner. Engineers working in these sensitive technologies should then not be included as alliance personnel, since knowledge is often diffused informally. Cross-licensing agreements are another technique for structuring an alliance to ensure that both partners benefit. Additional contractual safeguards may be used to minimize the risk of opportunistic behavior for both parties to an alliance. When partners make significant investments, in human capital as well as financially, in an alliance, it demonstrates credible commitment by both parties, thereby assuring both partners of each other's seriousness in achieving success (Hill 2000).

After the initial conditions of the alliance have been established, implementation issues remain: The alliance must be managed appropriately to ensure effective performance. Building trust between the partners over time is especially important. Successful implementation requires that each side bring in highly qualified team players who are a good fit with the needs of the alliance. No written contract can ensure that each partner will contribute its best people or that each side will be enthusiastic in pursuing alliance goals. Clearly, one of the worst breaches of good faith behavior would be to poach a partner's people from an alliance to work at one's own firm: Neither side would be willing to contribute the human assets needed for firm success if even this minimal level of trust were not achieved. Implementation generally is much smoother if those who are to take charge of alliance implementation are also involved in negotiations. Continuity of key personnel in an alliance should be sought, and mechanisms to ensure that the firms' understandings are maintained under turnover need to be in place (Lewis 1999).

Unlike the organization of activities within one hierarchy, where what the boss says goes, an alliance has joint leaders drawn from independent partners. When a problem arises, alliance partners must rely on trust, not authority, to solve it. Leaders designated by each partner must be carefully chosen, and a good working relationship between these joint leaders is highly beneficial to the alliance. In order to reinforce trust, alliance leaders need to be candid about the objectives they seek to achieve. Issues that both sides are unable to agree upon should not be hidden; rather, they mark the explicit boundaries of what the alliance is to accomplish (ibid.).

Attention must also be paid to organizational issues. When multiple units within one firm are all involved in the implementation of one alliance, it is important to make sure that all relevant internal units recognize the broader interests of the firm in their participation in the alliance, particularly when some units perceive that the alliance does not benefit all units equally. When two firms are involved in multiple alliances together, conflict-resolution mechanisms should be instituted at higher levels in each partner organization; otherwise, problems in one alliance could negatively affect other successful alliances. Partners with different organizational structures also need to pay attention to appropriate alignment in order to assure alliance success. For example, if two MNCs had an alliance in a country outside the national boundaries of both partners' headquarters, tensions could arise if one MNC were organized by country while the other MNC was organized by function or business line. While the MNC organized on a country-by-country basis might be extremely responsive to the alliance's needs, the MNC organized by function

might be highly centralized and slow to respond to demands from the alliance. The latter would need to make organizational changes, for example, decentralizing decision-making for the alliance, in order to avoid difficulties for both sides (ibid.).

Strategic alliance success also requires that both partners are able to continuously learn from each other. Favorable initial conditions increase the chances of developing a long-term positive learning cycle among partners. If the conditions for trust are initially met, then the odds are higher that successful learning will occur early in the alliance. When each side evaluates progress on the alliance, each will be more apt to look at performance in a positive light. Each side makes constructive adjustments, successful learning continues, and positive reevaluations further enhance trust. On the flip side, if the conditions for trust are not met at the outset, successful learning may not be achieved in the early stages of the alliance. Negative evaluations by each side make each partner more defensive and less apt to adjust to its partner's needs in a constructive way. This makes successful learning even more difficult to achieve, and the alliance spirals downward into failure (Doz and Hamel 1998).

Eventually, most strategic alliances come to an end. Alliances between rivals, in particular, tend to be of shorter duration than vertical alliances, because rapid changes in the industry environment often require new competitive responses. Negotiating termination agreements up-front can facilitate an orderly breakup of an alliance. Termination agreements are sometimes viewed as a sign of a lack of trust in one's future partner or a lack of confidence in the venture itself. This interpretation can vary by country: Americans tend to be more legalistic than other cultures. However, though some companies have successfully managed alliances with only a brief agreement of understanding, this tends to work best with those firms that had substantial business dealings before an alliance was created. No matter how much effort is invested during an alliance to develop trust, trust cannot be counted upon when the time comes to exit the alliance (Lewis 1999).

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See Also Foreign Direct Investment and Cross-Border Transactions; International Joint Ventures

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Subsidies

Government subsidies are grants given by governments to specific industries or enterprises for the purpose of keeping consumer prices at an acceptably low level or below the marginal cost of production. Unlike tariffs, which raise consumer prices, subsidies lower consumer prices; theoretically they can therefore be considered a type of negative tax, though they are not levied as such. They enable the government to subsidize the production of certain goods and/or services, usually food and energy, in order to make them affordable for consumers; to maintain the revenue level of the producers; or to favorize the export of such goods. Government subsidies thus fall into several categories, including production subsidies, consumer subsidies, export subsidies, and so on, and are financed mainly by tax revenues. In some cases, individuals may also offer such grants in order to promote religious, political, or social goals and ideas.

Subsidies are not always in the form of sums of money. The U.S. federal government, for example, subsidized private railway companies in the nineteenth century by allocating state-owned lands for their use, and in other cases publicly owned property has been designated for low-cost housing.

Subsidies maintain the price levels of the subsidized goods and services and are usually applied to common goods used on a large scale by all or most of the actors of the economy, consumers and producers alike. Often, an inflationary pressure would arise without the subsidies because demand for these common goods is always on a high level. The price elasticity of demand (that is, the change in demand that occurs in response to a price change) for a good or service can be represented by the following equation:

$$\varepsilon = \frac{\partial Q / Q}{\partial p / p}$$

The equation basically states that the price elasticity of demand is equal to the percent of change in quantity demanded divided by the percentage change in price. In the case of a subsidized good or service, the price elasticity is below 1, that is, the demand is inelastic. This elasticity may eventually become positive, as in the case of gasoline or in the case of a given good, such as bread or potatoes, if substitutes are not available.

Increases in price for these products will cause inflation or accelerate it because they make up a significant share of the consumer basket. The inflation rate can be calculated as a percentage variation in the price of some set of goods according to a commonly used index such as the Laspeyres index. In this index, the price of a "fixed basket," or "consumption bundle," whose overall size and composition are unchanged over time, is calculated for two time periods—for example, a base period in the past and the current period; the inflation rate is the rate of change over time. Formally then, we have:

$$L_p = \frac{\sum_i p_{1i} q_i}{\sum_i p_{0i} q_i}$$

The index measures the price change for a basket of goods over time. Inflation, especially high inflation, hits the economy as a whole; thus, subsidizing aimed at keeping prices low and stable can be viewed as an anti-inflationist measure and may form part of a general policy designed to fight inflation. But subsidizing on a large scale with huge sums of tax money can lead to increased taxation and subsequently to higher inflation. To counteract this, the state may fix prices, as former Soviet-type economies did, where price regulation led to repressed inflation. In the absence of profits, state companies could function only through regular subsidies. The same concept applied to consumers as well, and subsidies represented a major part of the state budget. The collapse of communism in Europe led to the abolition of planned economies of this type and yielded price liberalization. As a consequence, subsidies were reduced as shown in Table 1, inflation geared up, and state budgets became smaller. But the reduction in the state deficits did not last for long. Cost levels started to rise dramatically, fueling an upward-crawling spiral of inflation, and reducing inflation is now among the key policy objectives of these economies after fifteen years of transition.

The Methods and Sources of Subsidies

The simplest form that subsidies take involves the direct outlay of government funds to target groups of producers. In some cases, governments prefer emitting coupons, paper-based entitlements for the use of some raw material at a subsidized price. These coupons are sometimes nominal, allowing only the recipient to make use of it, thus ensuring that the subsidy goes directly to the target group. Subsidies financed directly from the federal budget from tax revenues appear as expenditures and therefore place a burden on the national budget that is clearly defined. Some subsidies are hidden, however, because they do not enter national accounting records. This happens, for example, if the government offers a low-interest-rate loan or a loan guarantee or imposes a protective tariff on some imports, which is equivalent to paying a subsidy to the home producers of

Table 1: Subsidies Paid for Producers and Consumers and Their Ppercentage in GDP in Hungary, 1987–1995

Year	*Producer Subsidies (billion HUF)*	*Consumer Subsidies (billion HUF)*	*Producer Subsidies of GDP*	*Consumer Subsidies of GDP*
1987	150.7	66.7	12.3	5.4
1988	143.8	44.5	10.0	3.1
1989	115.7	44.1	6.8	2.6
1990	98.2	36.8	4.7	1.8
1991	64.3	42.3	2.8	1.8
1992	74.8	19.2	2.9	0.7
1993	76.8	21.7	2.5	0.7
1994	132.6	27.0	3.4	0.7
1995	132.4	32.5	2.7	0.6

Notes: annual inflation rate based on CPI was 16.8–29.1% in the nineties in focus. HUF stands for Hungarian Forints, the national currency denomination.
Source: Statistical Yearbook of the Hungarian Statistical Office, Erdos p. 85.

these same goods. This kind of subsidy is paid directly by domestic consumers in the form of higher prices.

Some subsidies may appear as tax deductions, others as loan guarantees favoring individual borrowers. Many countries, in an effort to eliminate conflicts of interest and interest-group pressures, allow only public authorities, through state-owned banks, to manage credit. Others operate on the opposite assumption—that public provision of a private good can lead to inefficiency and corruption.

Subsidizing Agricultural Producers

Most subsidies target agricultural producers because the provision of food, though often not profitable, is essential for the whole society. Agricultural subsidies make up most of such governmental expenditures in the developed countries and may reach more than 50 percent of crop value. In fact they represent transfers from the industrial and service sectors to the agricultural sector, since through the taxation and subsidization systems part of the income of those employed in the first two sectors, or of consumers in general, goes to farmers.

In most developed countries direct outlays of cash are often given to larger producers, whereas for the small farmers the use of coupons is preferred. The latter receive such coupons for gasoline, fertilizer, insecticide, and other chemicals on the basis of their estimated average production costs, livestock or crop variety and output, or simply the amount of agricultural land they own or rent. For instance, in Romania, each farmer receives $60 for synthetic fertilizer purchases for each hectare of land farmed, but only up to 5 hectares; larger Romanian landowners or producers need no such aid, in the government's view. Consumption of the subsidized good is limited to the producers so as to prevent farmers from purchasing an unlimited amount of low-cost gasoline and reselling it at a higher price. The amount that each producer is entitled to is calculated on the basis of the average normative consumption for the necessary field operations. To counteract misuse, in some countries agricultural gasoline has a different color or scent to make it easily recognizable so that state controllers can discover unauthorized users and merchants. In other words, the consumption of subsidized goods such as agricultural gasoline is rationed, and if a farmer overuses machinery and his operating costs run high, he must bear the losses. Once he has used up his ration, he must buy gasoline at normal pump-station prices, which can also be seen as "taxing" his excess consumption. Thus the farmer's budget line will present a kink at the subsidized quantity limit.

Another type of subsidy rewards producers for the quantity of goods sold abroad. Export subsidies are aimed at keeping certain positions on relevant product markets, especially if the product forms a significant part of the country's gross domestic product (GDP), as with farm products in an agricultural country; in cases where the livelihood of many or most of the country's citizens depend on a product (for example, in countries relying on a cash crop, or a "banana republic," although this observation is also valid for countries with several main products but simple export structures); or in countries where there are strong pressure groups asking for export subsidies, as in the case of French farmers.

Special export subsidies may keep prices for some products lower on foreign markets than at home, since they are based only on the quantities sold abroad. This situation may lead to dumping on the target foreign market. Or the subsidized goods may be offered at the same price on the foreign market but of better quality than at home to give them a competitive advantage over the target country's producers. As a result, domestic consumers may begin to purchase more imported goods, which in turn may lead to bankruptcy for the home producers of similar goods. This is why antidumping measures and other trade barriers, such as tariffs, import quotas, and administrative barriers

(for example, food safety regulations), are imposed. The debate between the United States and the European Union on the issue of genetically modified food provides an example.

The United States and other large agricultural producers have long blamed the EU for causing high consumer prices in the Union by heavily subsidizing domestic agricultural production. European consumers cannot have access to cheaper food from the United States, where production is more efficient, because those products cannot penetrate the European markets in desired quantities, despite worldwide agreements on free trade such as the General Agreement on Tariffs and Trade (GATT). Similar complaints lodged by Third World countries, especially the banana republics, asserted that the EU's subsidies of banana production in its overseas territories hurt poor countries; although the poor countries had lower production costs, they could not get their products on the European market because they did not have the financial ability to subsidize them. Therefore, as a gesture, the EU accepted preferential treatment for these countries, offering them a competitive advantage against other major exporters such as the United States. This move annoyed banana producers from Florida to Central America even more, and they exerted a strong pressure on the World Trade Organization (WTO) to set special principles regarding this crop. In retaliation, the EU imposed a ban on the import of genetically modified crops, arguing that these products present health hazards and are implicitly subsidized through U.S. government support for biotechnology and genetic research. Thus, disagreements over subsidies have led to trade wars between the United States and the European Union.

Such disputes have arisen even inside trade blocs such as the Central European Free Trade Association. Moreover, for years, despite its obligations from the international association treaty, the Central European Free Trade Agreement in 1991, Romania imposed high tariff rates (up to 45 percent) on Hungarian meat and wheat flour imports under the pretext of protecting home producers of pork, poultry, and cereals. Romanian meat processors and bakeries were against these measures, pointing out that because they lacked sufficient domestic raw materials, domestic production could not meet home demand. Romanian officials, however, argued that the tariffs were necessary because Romania could not keep up with Hungary's subsidies: Whereas Hungary subsidized home production, Romania did not because of lack of funds. The trade gap was exacerbated by inefficiency on Romania's big state farms. The measure hit domestic consumers in Romania the most and allowed domestic producers to produce even more inefficiently than before and charge a monopoly-like price on the domestic market. This was clearly a policy failure: The government intervention created its own distortions of the market by failing to correct for existing market failure and even exacerbating it. Domestic meat processors and consumers alike exerted pressure on the government to change its policy, and in any case, the EU accession treaty made it compulsory to open up the market.

Subsidies in the Industry

Subsidies in the industrial sector tend to make it less expensive for producers to purchase raw materials or to maintain high levels of energy consumption. The most common method is direct subsidy via tax expenditures that allow producers to purchase materials or energy from suppliers at subsidized rates. The mining industry, for example, which is often in the public domain, is inherently inefficient: The revenue from sales of ore or coal is usually less than the cost of extracting and processing them. Many states cover the additional costs for the sake of maintaining the industry, whether for the sake of traditions, because of fear of social unrest, or simply to preserve a degree of industrial freedom by encouraging the maintenance of a home mining industry. The

same principles apply to other raw material and energy industries. Such policies allow a country to exert control in key industries relevant to national security, keep it from being overly dependent on imports, and enable it to be free from pressure from exporters of strategic raw materials, including those for energy production such as oil and gas. The industrial sector and the whole economy are less vulnerable to supply shortages, price fluctuations, and events that could cause world markets to tumble.

Maintaining a traditional industry through subsidies may in fact constitute a subsidy for culture, national self-esteem, or international image. Subsidizing an industry in order to avoid social unrest reflects the government's inability to perform needed structural changes in the economy. In some cases, such policies aim at keeping supporters and voters on board, especially in the case of socialist, social-democrat, democrat, and labor ruling parties—in general, left-wing parties and coalitions. These populist governments have nevertheless had to revise their attitude toward subsidies from time to time and decrease them if they are faced with huge budgetary deficits, high inflation, or recession due to high taxation burdens. Measures adopted under pressure by the International Monetary Fund (IMF) or the European Union have at times provoked industry-wide strikes in highly unionized sectors, which can in turn lead to early elections or attempts to overthrow the government. The latter occurred, for instance, in 1999, when miners in Romania, fueled mainly by drastic mine-closure decisions of the Romanian government, started an uprising.

Another method of subsidizing certain industries is to place huge state orders, as in the case of the Romanian truck company "Roman." In the absence of foreign or internal private demand, the government rescued the company by ordering some 500 trucks for the national army. This was enough to allow the company to avoid closure, restructuring, or privatization. Such practices are found worldwide, especially in the United States for weapon manufacturers, in Germany for the steel industry, in Europe for airplane manufacturers, and so on.

A more subtle way to subsidize industries or companies is to write off their debts toward the state, a method used on a large scale in the former Communist states. Most of the companies benefiting from this type of subsidy are large public ones, but many private companies also benefit. For example, their debt toward government-run national health insurance funds or social security funds may be written off from time to time. A less radical but not less efficient method involves the cancellation of penalty payments for delays of transfer for these fund contributions. Penalties may consist of fines or of a combination of fines and higher rates of interest on the sums forming the debt. Huge rescue packs for bankrupt state companies, consisting mostly of large transfers of cash into the accounts of heavily indebted companies—for example, national airlines such as Alitalia or Swissair—are a more direct way of subsidizing. These transfers are always associated with cancellation of debts. This also occurs with large state banks that fall into bankruptcy, such as Bancorex of Romania, which experienced a total loss of $3 billion. All these subsidies fuel inflation, however. Raising taxes is unpopular and also takes time, so the government that offers such remedies easily yields to printing money in order to cover the gaps.

Another method of subsidizing is to guarantee private credit or lending for investments of public interest, flagship companies of the economy, or infant industries. Small business development programs, for example, may ensure credit up to a certain limit for startup or development loans, which may also take the form of no-interest loans. Sometimes only a fraction of the "loan" has to be repaid, or the entrepreneur, which can be the state itself, has to contribute only a small fraction of the startup costs, usually between 10 and 50 percent, and the rest of the total investment value is provided for free by the state, an organization, the EU, or international banks. These are

run through certain programs that impose strict rules that must be obeyed in order to benefit from the subsidy. The Special Accession Program for Agricultural and Rural Development (SAPARD) of the EU is an example. In loan guarantees, the state guarantees that it will repay the loan contracted by the favored company if it fails to meet its repayment obligations. This approach is preferred by foreign investors engaging in a large joint venture with a domestic company and by foreign suppliers for importers of high-value goods on commercial credit agreements.

Cross-subsidization occurs when a company uses profits from one product to offset losses from another product. In this case, the profits are redirected to avoid having to raise price levels for the losing product, because demand for the losing product is low. Subsidization may consist of securing a minimum price level for some industrial outputs, but the result is to raise price levels above the competitive market level. This will lead to increased production of the commodity, which in turn can create unwanted surpluses and encourage resource waste.

Subsidies for Consumers

Consumer subsidies are provided to encourage the consumption of some goods or services by offering them at lower prices that are mainly controlled. The amount of the subsidy equals the difference between the market price and the subsidized price, if consumption is constrained to a certain amount; otherwise it is even larger. Such subsidies can lead to overconsumption and produces excess waste, and therefore may constitute an environmental hazard. Domestic demand will be larger than its private optimum, and higher consumption could lead to shortages. Overproduction caused by overconsumption leads to the depletion of resources, making sustainable development less likely. Excessive domestic demand may also decrease foreign exchange revenues from foregone exports and cause a trade balance deficit.

Consumer subsidies are usually given initially to protect consumer income levels and habits, but usually the main benefit is to the producers of the subsidized goods. Subsidized consumption comes at a price lower than the market rate; indeed, prices may not reflect all the costs of production and consumption. The producers themselves may also receive the consumer subsidies directly, if they consume subsidized products. It may happen that in the cost budgeting of such products, certain inputs or outputs have no price at all, which can be interpreted as a market failure, according to market economy principles. In efficient markets, private welfare is maximized when prices equal marginal private costs, and any deviation from this optimal level will lead to inefficiencies.

Some consumption subsidies are given for health care or education. Their forms are varied and range from direct subsidies to providers to tax deductions for consumers for their contributions to nonprofit organizations, for scholarship income, or for employee contributions to medical care or insurance programs. Some subsidies target specific age groups—for example, subsidized railway tickets, free admission to museums, or discounts on tickets to plays or other events for senior citizens or young people. Some subsidized services are rationed: For instance, youth or the elderly may be allowed a certain amount of free travel on a state railway system.

The consumption of subsidized goods may be unlimited in some cases—for example, when basic foods, such as bread, are subsidized for the poor. Even food rationing, however, may occur during wartime or periods of economic hardship. Direct subsidies such as food stamps in the United States, or food or meal tickets in other countries, are similar in that they are nontaxable. Buying subsidized import goods is beneficial for consumers even if it is the result of dumping, especially if it lasts indefinitely. Consumers may rightly consider this a case of foreign taxpayers contributing to their welfare,

and the foreign production as a consequence of the existing comparative advantage in that industry.

The Role of Subsidies

Policymakers have four main goals in enacting subsidies: protection of domestic producers and consumers; correction of externalities; transfer of income from certain groups to other, perhaps disadvantaged, ones; and limitation of inflation. The protection of domestic producers is carried out through many methods, but mostly through imposition of tariffs, import quotas, voluntary export restraints (VERs), countervailing duties, and direct subsidies. Almost all governments use subsidies alongside tariffs and nontariff barriers to protect their infant industries. An infant industry, that is, one just being developed, cannot be profitable and efficient at the same time, because efficiency requires the existence of large-scale production that can yield low unit costs. The existence of such economies of scale is a precondition for profitable investments, given the high fixed costs of research and investment in production facilities before actual production can start. Thus, a start-up industry in a developing country needs protection from the competition exerted by well-established industries in foreign countries. Otherwise, the latter, producing at lower costs and with a high volume of output, could squeeze out the domestic industry before the domestic industry could acquire even a small market share. The home industry, in competitive disadvantage, needs subsidies to match its rivals' prices. The renewable energy sector is another example: It needs protection not only against foreign but also from domestic competitors that produce energy using fossil fuels.

Another role of subsidies is to provide the home industry with the necessary support to develop into a big player on the global market. An example is found in aircraft building. The EU subsidized its Airbus firm to challenge U.S. supremacy in the industry, since Boeing already had the great advantage of being an older, established firm on the global market. The oligopoly setup is necessary if the new company is to make a profit, because the development and building costs are so high that very few firms can afford to enter the market. The market is not big enough to host many competitors, and in the case of perfect competition, profits would be driven down to zero or losses could occur. Subsidizing a future strong player pays the supporting state back many times over in the long run through increases in export revenues, the boost to domestic taxes, and emerging supplier networks. Such huge investments are useful for governments, and thus subsidies may play the role of tariffs, but without the risks of the latter in an atmosphere of free trade treaties and trade war dangers. The combination of subsidies with tariffs offers even better protection, as in the case of the Japanese victory over the U.S. entertainment electronics industry.

Externalities are the unwanted effects of one producer's activity on another producer's output levels. They are usually harmful (negative externalities) but sometimes beneficial (positive externalities). The most obvious example of a negative externality is that of a polluting firm that harms a neighboring firm's activity. The problem can be solved in economic terms by taxing the polluter and transferring these environmental tax revenues to the suffering producers in order to compensate them for their losses, in other words, by subsidizing them. Another remedy is to subsidize the polluting firm directly in order to reduce pollution levels. The cost of such subsidization is directly proportional to the level of pollution abatement reached; therefore, taxpayers may prefer the taxation alternative or the imposition of fines. This alternative is cheaper for the taxpayers compared to subsidization, but it does not reduce pollution levels significantly. Instead, it decreases output levels, making the products more expensive and the consumers worse off. Polluting firms gain little from pollution abate-

ment, because benefits accrue to the neighbors; therefore, they have little incentive to invest in it. The efficient level of pollution abatement investment is where the marginal social benefit from fighting pollution equals the marginal social costs. Firms are better off receiving subsidies for pollution abatement because this enables them to reach higher output levels and hence higher profits. If both alternatives are feasible, the system of fines results in a Pareto-efficient allocation, whereas the subsidy system alone usually does not. In any case, taxing a firm or imposing a fine on it allows the government to use that money to compensate other firms or persons suffering from that activity, or, in this example, hit by the pollution.

In case of negative externalities, too much is produced or with too much pollution; in the case of positive externalities, the production is usually less than desired. Governments therefore subsidize the latter as well as the consumption of commodities considered beneficial to society (public education and cultural activities, for example). The implementation of any subsidy scheme requires adequate research and constant monitoring by a public authority, since individuals attempting to engage in research or monitoring would face high costs to carry out such activities and polluters are not willing to announce their pollution output level.

The Effects of Subsidies

Besides its beneficial effects on consumer prices and producer protection, subsidizing is blamed for the misallocation of goods because it distorts prices and costs, leading to the perturbation of the competitive equilibrium in the economy. In the presence of subsidies, markets cannot clear in the usual manner and the price mechanism cannot lead to a Pareto-efficient allocation of resources. A Pareto-efficient allocation is that in which nobody can get better off without somebody getting worse off. Of course, such an allocation can be the result of the perfect textbook competition, which does not mean at all that such an allocation is socially just or equitable. Subsidies are designed to reduce the level of this social injustice created by the free-market mechanism.

Many governments and home producers consider foreign subsidies a major threat to their industries, whereas those granted by the home government are considered a normal method of support. Producers complaining of unfair competition caused by foreign subsidized goods may call for their government to create a level playing field, that is, conditions promoting fair trade. The governments may argue that they are unable to compete with the seemingly unlimited resources of the foreign governments. As a result, countervailing duties may be imposed, sometimes even if the foreign subsidies are smaller than the domestic ones or not large enough to distort competition. The United States is one country that resorts to this method. Finally, any kind of governmental support may be labeled as a subsidy, and indeed, there are many forms of thinly disguised barriers to trade.

The World Trade Organization's Agreement on Subsidies and Countervailing Measures enables the least developed countries to compete with developed ones on the global market. Under the agreement, the poorer countries receive trade concessions and benefit from special provisions. The use of subsidies is disciplined, and counteractions are regulated. A member country can use the special dispute-settlement procedure to seek the withdrawal of a subsidy or the removal of its adverse effects, or it can launch its own investigation and if necessary charge a countervailing duty on subsidized imports that have negative effects on domestic producers.

In an eight-year period (1995–2003), 169 countervailing duties were reported to the WTO. Of the affected exporting countries, India was in the forefront with 39, followed far behind by Italy and the Republic of Korea (South Korea) with 13 and the EU with 11. The most protected markets proved to be those of

the United States, the EU, and Canada, which reported in the same period having imposed 66, 42, and 12 such duties, respectively, against subsidized imports.

Alternatives to Subsidies

One alternative to subsidies would be direct income support. With this approach, the subsidy planner does not have to take existing consumption patterns into account. Granting subsidies without knowing the preferences of consumers, however, may result in the waste of resources. Another alternative would be heavier regulation of polluting industries. If this regulation is tough, then firms will spend more to comply; if it is loose, they will not comply. Under this approach, however, the government would not take proper account of firms' needs and obligations, which could be a drawback because technologies and managements differ. The regulation of pollution is a less efficient way to minimize it than subsidizing pollution-abatement activities, though it is less costly. In the case of regulation, there may be implementation problems and inadequate monitoring of each firm's polluting and pollution-abatement activity.

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See Also National Government Policies; Nontariff Barriers; Protectionism; Tariffs

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Tariffs

Governments often use instruments such as taxes, subsidies, quotas, and many other measures on international transactions. One such instrument is a tariff, or a tax on imported goods. It is sometimes referred to as an "import duty." There are two kinds of tariffs that are levied on imports: (1) specific tariffs, a fixed charge for each unit of goods imported (for example, $3 per barrel of oil, or $0.50 per pound of sugar); and (2) *ad valorem* tariffs, levied as a percentage or fraction of the value of the imported goods (for example, a 25 percent tariff on trucks, or a 10 percent tariff on steel).

Most economists feel that ad valorem tariffs are preferable to specific tariffs for a number of reasons. Specific tariffs are less transparent, as the impact of the tariff depends upon the unit value of the imported commodity. Specific tariffs have a greater impact on cheaper products falling under the same tariff line. Finally, when prices change, so does the effect of specific tariffs. For instance, when prices of traded goods fall, if the specific tariff rate is not reduced, the level of protection will increase.

Tariffs are the oldest form of trade policy. In the past they have been used as a source of government revenue, but more recently they have been used to protect domestic industries from import competition. When a tariff is imposed, there are costs and benefits that affect not only the impacted sector but the rest of the economy as well. The importance of tariffs has declined over time as other forms of protection have been used to protect domestic industries.

Tariff dispersion refers to the extent of tariff peaks and troughs within a country's tariff structure. If there is a wide dispersion in the tariff structure, then there are relatively higher levels of economic inefficiency in the tariff regime. Uniform tariffs are more transparent and easier to administer than widely dispersed tariffs. Furthermore, it is easier to reduce uniform tariffs and more difficult to increase them than for nonuniform tariffs. A useful way to measure tariff dispersion is the standard deviation from the mean. Tariff dispersion varies significantly across countries, as the data in Table 1 show. Tariff dispersion is caused by tariff differences between broad categories of products. In most developed countries, tariffs on textiles and apparel are higher than for other commodities, resulting in greater dispersion. Tariff dispersion also results when a country's tariff structure has tariff peaks. Tariff peaks are tariffs that exceed a given reference level. Economists distinguish between national peaks, in which the reference level is three times the national average, and international peaks, where the reference level is 15 percent higher than an international average. Table 1 shows tariff peaks for selected countries.

Costs and Benefits of Tariffs

A tariff raises the price of a good in the importing country and may lower it in the exporting country. When domestic prices rise as a result of a tariff, consumers are worse off, but the protected industry gains. In addition, the government imposing the tariff gains revenue. When tariffs are imposed by "small" countries, there is

Table 1: Bound Tariffs on Industrial Products: Scope of Bindings, Simple Averages, Standard Deviations, and Tariff Peaks

Import Markets	*Total Number of Tariff Lines*	*Share of Bound Tariff Lines*	*Share of Bound Duty-Free Tariff Lines*	*Share of Unbound Duty-Free Tariff Lines*	*Share of Non-Ad Volorem Tariff Lines*	*Simple Average Bound Tariff*	*Standard Deviation*	*Share of Tariff Lines with Duties More than 3 times the Average*	*Share of Tariff Lines with Duties about 15%*
North America									
Canada	6261	99.6	34.5	0.1	0.3	5.2	5.0	5.8	5.8
United States	7872	100.0	39.4	0.0	4.2	3.9	5.6	7.5	3.5
Latin America									
Argentina	10530	100.0	0.0	0.0	N.A	31.0	6.7	0.0	99.7
Brazil	10860	100.0	0.5	0.0	0.0	30.0	7.4	0.0	97.4
Chile	5055	100.0	0.0	0.0	0.1	25.0	0.5	0.0	99.9
Colombia	6145	100.0	0.0	0.0	0.2	35.5	3.3	0.0	100.0
Costa Rica	1546	100.0	0.0	0.0	N.A	44.6	5.5	0.0	99.8
El Salvador	4922	100.0	0.0	0.0	0.0	36.9	8.1	0.0	100.0
Jamaica	3097	100.0	0.0	0.0	0.0	50.0	0.9	0.0	100.0
Mexico	11255	100.0	0.0	0.0	0.0	34.8	3.4	0.0	99.3
Peru	4545	100.0	0.0	0.0	N.A	30.0	0.0	0.6	100.0
Venezuela	5974	100.0	0.0	0.0	0.0	33.9	3.7	0.0	99.2
Western Europe									
European Union	7635	100.0	26.9	0.0	0.5	4.1	4.0	2.6	1.5
Iceland	5689	93.2	41.6	2.9	0.0	9.7	11.9	9.2	28.1
Norway	5326	100.0	46.5	0.0	2.6	3.4	6.2	10.6	0.3
Switzerland	6217	98.9	17.2	0.0	82.8	1.8	4.6	8.7	0.3
Turkey	15479	36.3	1.4	0.8	0.1	42.6	36.7	3.5	73.9
Eastern Europe									
Czech Republic	4354	100.0	14.0	0.0	0.0	4.3	3.1	1.2	0.9
Hungary	5896	95.4	10.4	0.2	0.1	7.4	5.4	2.0	3.1
Poland	4354	95.8	2.2	0.0	0.0	10.4	5.2	1.2	13.3
Romania	4602	100.0	5.8	0.0	0.0	30.8	9.8	0.0	90.1
Slovak Republic	4354	100.0	14.0	0.0	0.0	4.3	3.1	1.2	0.9
Asia									
Australia	5520	95.9	17.7	0.2	0.8	14.2	14.7	6.3	25.3
Hong Kong, China	5110	23.5	23.5	76.5	0.0	0.0	0.0	0.0	0.0
India	4354	61.6	0.0	0.4	1.1	58.7	33.3	0.1	97.8
Indonesia	7735	93.2	0.0	1.2	0.0	38.9	12.3	0.3	97.2

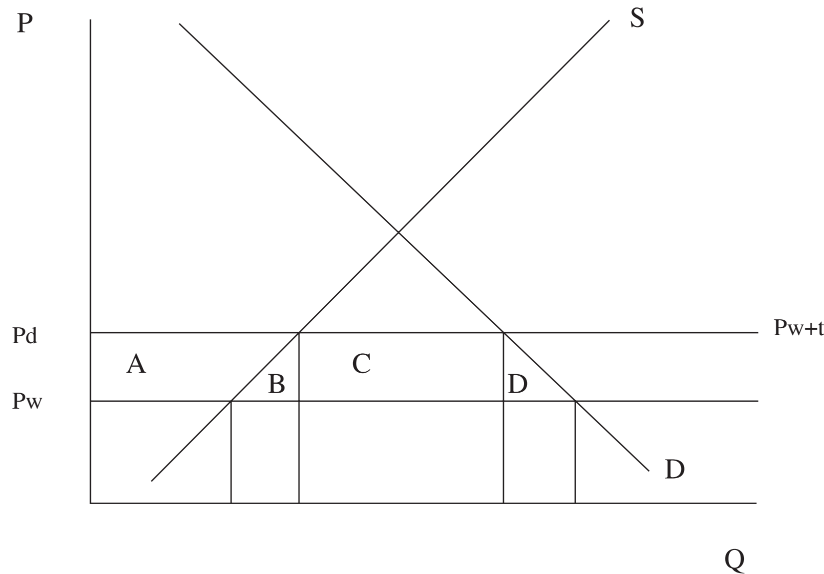
continues

Table 1 (*continued*)

Import Markets	*Total Number of Tariff Lines*	*Share of Bound Tariff Lines*	*Share of Bound Duty-Free Tariff Lines*	*Share of Unbound Duty-Free Tariff Lines*	*Share of Non-Ad Volorem Tariff Lines*	*Simple Average Bound Tariff*	*Standard Deviation*	*Share of Tariff Lines with Duties More than 3 times the Average*	*Share of Tariff Lines with Duties about 15%*
Japan	7339	99.2	47.4	0.4	3.5	3.5	6.0	5.2	1.8
Korea, Republic of	8882	90.4	11.6	0.0	0.2	11.7	9.6	1.4	19.1
Macau, China	5337	9.9	9.9	90.1	0.0	0.0	0.0	0.0	0.0
Malaysia	10832	61.8	1.6	2.8	3.2	17.2	13.4	0.4	58.3
New Zealand	5894	100.0	39.4	0.0	2.5	12.7	15.7	4.0	39.5
Philippines	5387	58.6	0.0	0.0	4.1	26.1	12.0	0.0	82.7
Singapore	4963	65.5	15.2	33.8	0.2	4.6	4.8	0.5	0.2
Sri Lanka	5933	8.0	0.1	1.4	22.4	28.1	24.1	0.2	52.0
Thailand	5244	67.9	0.0	1.2	19.7	27.5	10.6	0.1	87.1
Africa									
Cameroon	4721	0.1	0.0	0.0	0.0	17.6	9.4	0.0	45.8
Chad	4721	0.4	0.0	0.0	0.0	17.8	10.0	0.4	45.8
Gabon	4721	100.0	0.0	0.0	0.0	15.5	4.8	1.1	1.3
Senegal	2818	32.3	0.9	0.0	N.A	13.8	5.3	0.0	79.2
South Africa	11677	98.1	7.7	0.3	1.3	17.7	10.9	0.1	46.4
Tunisia	5087	46.3	0.0	1.0	0.0	34.0	15.0	0.0	98.4
Zimbabwe	1929	8.8	3.0	44.7	NA	11.3	13.0	9.3	44.1

Notes: The data in all columns exclude petroleum. In Column 2, "Share of Bound Tariff Lines," all shares are expressed as a percentage of the total number of industrial tariff lines.
Source: World Trade Organization, IDB (Integrated Database), Loose Leaf Schedule and national custom charts.

Figure 1: Effect of a Tariff: Small Country Case

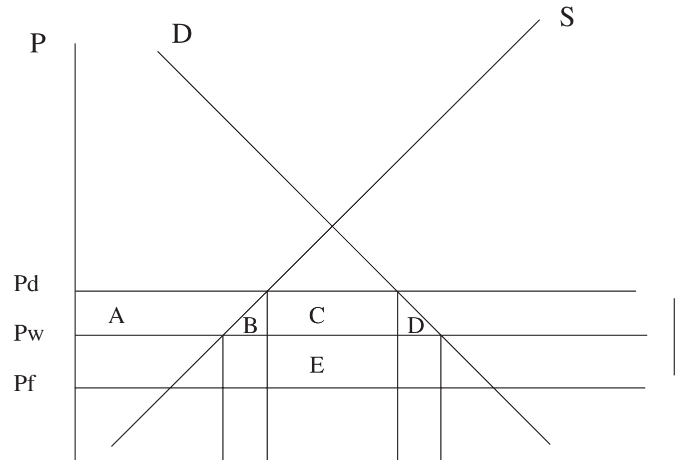


no effect on the foreign price of the good. This is because the country in question imports a very small share of the good so that its action has no effect on the world price of the good. However, when a tariff is imposed by a "large" country, one that can affect the quantity of the good traded, it causes the world price to fall.

Figure 1 illustrates the effect of a tariff on the industry or market being affected. When the country is small, the tariff raises the domestic price by the full amount of the tariff. The price of the domestic good rises from Pw to Pd, domestic production increases, and imports are reduced. The government receives tariff revenue. Consumers are worse off, since they are now paying a higher price and consuming less. Domestic producers are better off, since they are producing more at higher prices. Hence, the primary objective of the tariff is to protect domestic industries from import competition. In addition, the government receives tariff revenue. The overall effect of the tariff can be seen by evaluating the loss to consumers with the gains that accrue to domestic producers and the government. In Figure 1, the areas A + B + C + D denote the loss to consumers from paying higher prices and consuming less (also known as the loss in consumer surplus, the difference between what consumers were willing to pay and what they actually pay). Domestic producers gain in the amount equal to A (also known as the gain in producer surplus, the difference between what producers receive and the minimum price they are willing to supply the good for), whereas government tariff revenue is equal to the area C. The tariff unambiguously reduces welfare by the area B + D. From the imposing country's point of view, a tariff leads to welfare losses or net social losses. The consumer loss is too large to be offset by the gain to producers and to the government. The area B is called the "production distortion loss" because the tariff leads domestic producers to produce more of the good at a distorted higher price. There is inefficiency in production, since extra resources are being used in domestic production that should be used in the production of other goods. The area D is called the "consumption distortion loss" because the tariff leads consumers to consume too little of the good at the distorted higher price.

Figure 2 illustrates the effect of a tariff when the country imposing the tariff is large. Now the tariff raises the domestic price from Pw to

Figure 2: Effect of a Tariff: Large Country Case



Pd but lowers the foreign price from Pw to Pf. Domestic production rises, while domestic consumption falls. Once again, the costs and benefits of the tariff can be expressed as sums of the areas in the figure. Consumers lose the areas A + B + C + D, and domestic producers gain area A. The government, however, gains area C + E in the form of tariff revenue. This additional gain in revenue for the large country's government, the area E, is referred to as the "terms-of-trade gain." Thus, the overall welfare effect of the tariff is ambiguous, since it depends on whether the areas B + D are greater than or less than the area E. In the case of a large country, there is a possibility that a tariff can be welfare improving. The analysis ignores the possibility of tariff retaliation, which could negate any welfare-improving effects.

From an economy-wide perspective, tariffs reduce welfare because they restrict trade and competition, prevent the attainment of scale economies and specialization, and result in inefficiencies in resource allocation. Finally, tariffs on imports can eventually penalize a country's own exports via a pass-through effect. As tariffs cause imports to fall, less foreign exchange is used to purchase them, and hence the demand for foreign currency declines. This causes a relative increase in the importing country's currency in the foreign exchange market, making exports more expensive. Furthermore, since tariffs cause higher domestic prices, those prices are "passed on" to other nontraded goods and services in the economy, causing higher economy-wide prices.

The Effective Rate of Protection and Tariff Escalation

A tariff on an imported good enables domestic producers to raise their prices for similar goods. Thus, the principal objective of a tariff is to protect domestic producers from the impact of low world prices. Clearly, the higher the tariff on a good, the higher the protection enjoyed by the domestic firms. However, the degree or extent of protection enjoyed is not evident from the nominal tariff rate alone. Although the nominal tariff rate indicates the nominal rate of protection enjoyed by domestic firms, the effective rate of protection (ERP) provides a better measure of the degree of protection enjoyed by an industry. The effective rate of protection is simply the increase in the value added to the product resulting from the tariff. A simple example illustrates this concept.

If the world price of cotton textiles is $100 per unit, and the value of inputs used to produce the textiles is $80 per unit, then, in the ab-

sence of any tariffs, domestic textile producers receive $20 per unit in added value (the difference between $100 and $80). This amount is the profit margin enjoyed in the textile industry. If the country imposes a 10 percent tariff on cotton textiles, the domestic price of textiles increases to $110, and with no tax on inputs, the value added to textiles in the domestic textile industry is now $30. The value added to the product increased from $20 to $30, a 50 percent increase. A nominal protection rate of 10 percent led to an effective rate of protection equal to 50 percent. The ERP will be higher the higher the nominal tariff rate, and higher the value of inputs per unit of the output. The ERP will be lower if there is a tax on inputs.

When effective tariffs are much higher on finished goods than they are on raw materials, this is known as "tariff escalation." When tariffs escalate with the stage of processing, the ERP also increases. The wide disparities between nominal tariffs on raw materials and processed goods imply that many developing countries are at a disadvantage when trying to export manufactured goods to the industrial countries. Table 2 shows the extent of tariff escalation for a selected group of World Trade Organization (WTO) members. The data show that tariff escalation differs significantly across countries. In the United States, tariffs are higher for semimanufactured goods than for raw materials.

Most tariffs are undertaken to protect the income of particular interest groups. Figures 1 and 2 illustrate the gains to domestic producers that result from tariffs. However, other arguments have been proposed to justify the use of tariffs. One argument has to do with the fact that when a tariff is imposed by a large country, it could lead to lower world prices and hence a terms-of-trade benefit for the imposing country. Although this is theoretically possible for small tariffs, as tariff rates are increased the costs begin to outweigh the benefits. A second argument often made with respect to developing countries is that temporary tariffs are needed to allow infant industries to grow and compete with well-established manufacturing in developed countries. The infant-industry argument is plausible and has been used by many governments. Economists often point to the dangers of using this argument, however. In particular, they argue that it is often difficult and costly to predict which industries will have the best chance to compete globally. Second, protecting manufacturing is futile unless it makes the industries competitive. The evidence suggests that several developing countries have protected their domestic industries for long periods with little or no improvement in the competitiveness of the industry.

Thus, there is very little economic rationale for tariff protection. There is a growing body of literature on the role of political processes that result in protectionist pressures (Baldwin 1985; Bhagwati 1988; Grossman and Helpman 1994; Stern 1987). These studies illustrate how electoral competition and collective action can result in protection for certain industries. Tariff protection has been argued to stem the loss of jobs in certain industries, to protect certain strategic industries (agriculture and defense-related enterprises, for example), and even to counter unfair trade practices of other countries. However, the negotiations achieved through several rounds of talks within the General Agreement on Tariffs and Trade (GATT) resulted in a substantial lowering of tariff rates across member countries.

GATT Rounds and Tariff Reduction

From 1948 to 1994, the GATT provided the rules for much of world trade and presided over periods that saw some of the highest growth rates in international trade. The original intention was to create a third institution handling international economic cooperation to join the "Bretton Woods" institutions now known as the World Bank and the International Monetary Fund (IMF). The complete

Table 2: Bound Tariffs on Industrial Products: Simple Average Tariff and Standard Deviation by Stage of Processing

Import Markets	*Stage of Processing*	*Average Rate*	*Standard Deviation*
North America			
Canada	Raw materials	1.6	3.0
	Semi-manufactures	4.8	4.5
	Finished products	5.7	5.3
United States	Raw materials	0.8	2.2
	Semi-manufactures	4.1	4.2
	Finished products	4.1	6.5
Latin America			
Brazil	Raw materials	33.3	5.9
	Semi-manufactures	26.6	8.1
	Finished products	32.3	5.8
Chile	Raw materials	24.9	1.2
	Semi-manufactures	25.0	0.0
	Finished products	25.0	0.5
Colombia	Raw materials	35.1	1.1
	Semi-manufactures	35.0	0.8
	Finished products	35.8	4.3
El Salvador	Raw materials	38.8	6.6
	Semi-manufactures	35.9	7.9
	Finished products	37.3	8.2
Jamaica	Raw materials	50.0	0.0
	Semi-manufactures	50.0	0.0
	Finished products	50.0	1.1
Mexico	Raw materials	33.8	5.8
	Semi-manufactures	34.8	3.0
	Finished products	34.9	3.5
Venezuela	Raw materials	34.0	4.0
	Semi-manufactures	33.9	3.7
	Finished products	33.9	3.7
Western Europe			
European Union	Raw materials	5.1	6.7
	Semi-manufactures	4.0	3.2
	Finished products	4.0	4.0
Iceland	Raw materials	1.7	6.1
	Semi-manufactures	2.7	4.8
	Finished products	15.4	12.6
Norway	Raw materials	0.1	0.6
	Semi-manufactures	3.0	4.1
	Finished products	4.0	7.3
Switzerland	Raw materials	1.0	7.3
	Semi-manufactures	2.0	6.6
	Finished products	1.8	2.5
Turkey	Raw materials	20.9	13.8
	Semi-manufactures	40.4	36.2
	Finished products	46.9	37.9

continues

Table 2: Bound Tariffs on Industrial Products: Simple Average Tariff and Standard Deviation by Stage of Processing (*continued*)

Import Markets	*Stage of Processing*	*Average Rate*	*Standard Deviation*
Eastern Europe			
Czech Republic	Raw materials	0.9	2.9
	Semi-manufactures	4.2	2.5
	Finished products	4.9	3.2
Hungary	Raw materials	5.3	6.4
	Semi-manufactures	5.4	3.6
	Finished products	8.9	5.8
Poland	Raw materials	6.2	8.4
	Semi-manufactures	9.3	2.7
	Finished products	11.6	5.4
Romania	Raw materials	31.2	8.2
	Semi-manufactures	31.9	8.4
	Finished products	30.1	10.6
Slovak Republic	Raw materials	0.9	2.9
	Semi-manufactures	4.2	2.5
	Finished products	4.9	3.2
Asia			
Australia	Raw materials	1.5	3.7
	Semi-manufactures	12.3	11.3
	Finished products	16.7	16.4
Hong Kong, China	Raw materials	0.0	0.0
	Semi-manufactures	0.0	0.0
	Finished products	0.0	0.0
India	Raw materials	41.3	14.7
	Semi-manufactures	52.4	30.2
	Finished products	65.1	35.3
Indonesia	Raw materials	39.5	3.3
	Semi-manufactures	38.0	6.1
	Finished products	39.5	15.6
Japan	Raw materials	2.2	3.2
	Semi-manufactures	4.0	3.6
	Finished products	3.4	7.6
Korea, Republic of	Raw materials	8.7	7.2
	Semi-manufactures	8.0	5.4
	Finished products	14.3	11.0
Macau, China	Raw materials	0.0	0.0
	Semi-manufactures	0.0	0.0
	Finished products	0.0	0.0
Malaysia	Raw materials	16.6	8.1
	Semi-manufactures	16.9	10.7
	Finished products	17.8	16.9
New Zealand	Raw materials	1.6	4.3
	Semi-manufactures	6.8	8.9
	Finished products	17.3	17.7
Philippines	Raw materials	19.0	11.5
	Semi-manufactures	23.4	9.5
	Finished products	29.1	12.8
Sri Lanka	Raw materials	25.0	22.3
	Semi-manufactures	25.7	23.4
	Finished products	30.5	24.6
Singapore	Raw materials	4.7	5.0
	Semi-manufactures	4.6	4.1
	Finished products	4.5	5.1
Thailand	Raw materials	17.9	13.4
	Semi-manufactures	26.9	8.0
	Finished products	29.3	10.7

continues

Table 2: Bound Tariffs on Industrial Products: Simple Average Tariff and Standard Deviation by Stage of Processing (*continued*)

Import Markets	*Stage of Processing*	*Average Rate*	*Standard Deviation*
Africa			
Cameroon	Raw materials	17.1	9.1
	Semi-manufactures	14.5	7.7
	Finished products	19.7	9.9
Chad	Raw materials	17.0	17.0
	Semi-manufactures	14.4	14.4
	Finished products	20.0	20.0
Gabon	Raw materials	15.0	0.0
	Semi-manufactures	15.1	2.4
	Finished products	15.9	6.1
South Africa	Raw materials	7.8	16.6
	Semi-manufactures	16.1	7.6
	Finished products	19.8	12.1
Tunisia	Raw materials	29.1	16.2
	Semi-manufactures	32.5	15.4
	Finished products	32.5	14.4

Source: World Trade Organization, IDB (Integrated Database), Loose Leaf Schedule and national custom charts.

plan was to create an International Trade Organization (ITO) as a specialized agency of the United Nations. The draft ITO Charter extended beyond world trade disciplines to include rules on employment, commodity agreements, restrictive business practices, international investment, and services.

Even before the charter was finally approved, twenty-three of the fifty participants decided in 1946 to negotiate to reduce and bind customs tariffs. With World War II only recently ended, they wanted to give an early boost to trade liberalization and to begin to correct the large legacy of protectionist measures that remained in place from the early 1930s.

This first round of negotiations resulted in 45,000 tariff concessions affecting $10 billion of trade, about one-fifth of the world's total. The twenty-three countries also agreed that they should accept some of the trade rules of the draft ITO Charter. The combined package of trade rules and tariff concessions became known as the General Agreement on Tariffs and Trade. It entered into force in January 1948, while the ITO Charter was still being negotiated, and those same twenty-three countries became founding GATT members (officially, "contracting parties").

Although the ITO Charter was finally agreed upon at a UN Conference on Trade and Employment in Havana in March 1948, ratification in some national legislatures proved impossible. The most serious opposition was in the U.S. Congress, even though the U.S. government had been one of the driving forces. In 1950, the United States announced that it would not seek congressional ratification of the Havana Charter, and the ITO was effectively dead. Even though it was provisional, the GATT remained the only multilateral instrument governing international trade from 1948 until the WTO was established in 1995.

For almost half a century, the GATT's basic legal text remained much as it was in 1948. There were additions in the form of "plurilateral" agreements (that is, with voluntary membership), and efforts to further reduce tariffs continued. Much of this was achieved through a series of multilateral negotiations known as "trade rounds." The biggest leaps forward in international trade liberalization have come

Table 3: A Round-by-Round Analysis of Tariff Reductions

Name of Round	*Dates*	*Number of Participants*	*Tariff Cut (%)*	*Subject Covered*
Geneva	1947	23	73	Tariffs
Annecy, France	1949	13		Tariffs
Torquay, England	1951	38	73	Tariffs
Geneva	1956	26		Tariffs
Dillon Round, Geneva	1960–1961	26		Tariffs
Kennedy Round, Geneva	1964–1967	62	35	Tariffs and antidumping
Tokyo Round	1973–1979	102	33	Tariffs, nontariff measures
Uruguay Round	1986–1994	130	40	Tariffs, nontariff measures, rules, services, intellectual property, dispute settlement, textiles, agriculture, creation of WTO

through these rounds, which were held under GATT's auspices.

In the early years, the GATT trade rounds concentrated on reducing tariffs. Then, the Kennedy Round in the mid-1960s brought about a GATT Anti-Dumping Agreement. The Tokyo Round during the 1970s was the first major attempt to tackle trade barriers that did not take the form of tariffs, as well as to improve the system. The eighth, the Uruguay Round of 1986–1994, was the latest and most extensive of all. It led to the WTO and a new set of agreements.

The Tokyo Round lasted from 1973 to 1979, with 102 countries participating. It continued GATT's efforts to progressively reduce tariffs. The results included an average one-third cut in customs duties in the world's nine major industrial markets, which brought the average tariff on industrial products down to 4.7 percent. The tariff reductions, phased in over a period of eight years, involved an element of "harmonization"—the higher the tariff, the larger the cut, proportionally.

GATT was provisional, with a limited field of action, but its success over forty-seven years in promoting and securing the liberalization of much of world trade is incontestable. Continual reductions in tariffs alone helped spur very high rates of world trade growth during the 1950s and 1960s—around 8 percent a year on average. And the momentum of trade liberalization helped ensure that trade growth consistently outpaced production growth throughout the GATT era, a measure of countries' increasing ability to trade with each other and to reap the benefits of trade. The rush of new members during the Uruguay Round demonstrated that the multilateral trading system was recognized as an anchor for development and an instrument of economic and trade reform.

GATT's success in reducing tariffs to such a low level, combined with a series of economic recessions in the 1970s and early 1980s, drove governments to devise other forms of protection for sectors facing increased foreign competition. High rates of unemployment and constant factory closures led governments in Western Europe and North America to seek bilateral market-sharing arrangements with competitors and to embark on a subsidies race to maintain their holds on agricultural trade. Both these changes undermined GATT's credibility and effectiveness.

By the early 1980s, the General Agreement was no longer relevant to the realities of world

trade. Trade had become far more complex, international investment had expanded, and trade in services had grown significantly. Agricultural trade was not covered by GATT rules, and even in the textiles and clothing sector, an exception to GATT's normal disciplines was negotiated in the 1960s and early 1970s, leading to the Multifibre Arrangement. Even GATT's institutional structure and its dispute settlement system were giving cause for concern.

These and other factors convinced GATT members that a new effort to reinforce and extend the multilateral system should be attempted. That effort resulted in the Uruguay Round, the Marrakesh Declaration, and the creation of the WTO.

The WTO and Tariffs

At the Uruguay Round, approximately 130 countries made tariff concessions. A country makes a tariff concession by submitting to the WTO a schedule of commitments of bound rates. The commitment represents the member country's legal obligation not to impose a tariff on any listed product at a rate higher than the specified bound rate. Table 1 summarizes the increase in bindings and the tariff reductions that were expected from the Uruguay Round commitments. The data show that the share of post–Uruguay Round industrial tariffs covered by bindings is above 95 percent for most developed countries and transition economies. For developing countries, the share varies between 10 percent and 100 percent. The Uruguay Round led to an agreement by the industrial countries to cut their tariffs by 40 percent, in five equal steps of 8 percent each, beginning in 1995. The WTO maintains a database that includes national tariff schedules for most countries, based on submissions to the WTO at the conclusion of the Uruguay Round. In the WTO, when countries agree to open their markets for goods or services, they "bind" their commitments. For goods, these bindings amount to ceilings on customs tariff rates. Sometimes countries tax imports at rates that are lower than the bound rates. Frequently this is the case in developing countries. In developed countries the rates actually charged and the bound rates tend to be the same.

These official tariff rates cannot be raised unless a negotiated waiver is arranged. The duty that is actually applied to imported products, whether it is at the bound rate or at a lower rate, is called the "applied tariff rate." The applied tariff rate can change frequently depending upon the supply of the product, the demand for the product, and the political situation in the importing country. Some developing countries also apply a "ceiling binding," a single tariff rate for all agricultural products. Applied rates less than the ceiling binding may exist for specific items of interest to that country. Currently, the WTO has no mechanism requiring the notification of applied tariff rates. The members of Asia Pacific Economic Cooperation (APEC), including the United States, have agreed to maintain updated schedules of applied tariffs on the World Wide Web. The other members are Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, South Korea, Malaysia, Mexico, New Zealand, Papua–New Guinea, Philippines, Singapore, Taiwan, and Thailand. The site can be found at www.apectariff.org.

A country can change its bindings, but only after negotiating with its trading partners, which could mean compensating them for loss of trade. One of the achievements of the Uruguay Round of multilateral trade talks was to increase the amount of trade under binding commitments. In agriculture, 100 percent of products now have bound tariffs. The result of all this is a substantially higher degree of market security for traders and investors.

The fundamental results of the Uruguay Round have been the 22,500 pages listing individual countries' commitments on specific categories of goods and services. These include commitments to cut and "bind" their customs duty rates on imports of goods. In some cases, tariffs have been cut to zero—with zero rates

Table 4: Uruguay Round Tariff Concessions Given and Received

	Bindings (% of 1989 imports)		*Tariff Reductions*	*Depth of cut*
	Pre-UR	*Post-UR*	*% of Imports*	*(dT/(1+T)*
Tariff concessions given, all merchandise				
Developed economies	80	89	30	1.0
Developing economies	30	81	29	2.3
All	73	87	30	1.2
Tariff concessions received, all merchandise				
Developed economies	77	91	36	1.4
Developing economies	64	78	28	1.0
All	73	87	33	1.3
Tariff concessions given, industrial goods				
Developed economies	85	92	32	1.0
Developing economies	32	84	33	2.7
All	77	91	32	1.3
Tariff concessions received, industrial goods				
Developed economies	79	93	37	1.5
Developing economies	72	86	36	1.2
All	77	91	37	1.4

also committed in 1997 on information technology products. Developed countries' tariff cuts were for the most part phased in over five years beginning 1 January 1995. The result was a 40 percent cut in tariffs on industrial products, from an average of 6.3 percent to 3.8 percent. The value of imported industrial products that receive duty-free treatment in developed countries jumped from 20 percent to 44 percent. There are also fewer products charged high duty rates. The proportion of imports into developed countries from all sources facing tariff rates of more than 15 percent declined from 7 percent to 5 percent. The proportion of developing-country exports facing tariffs above 15 percent in industrial countries fell from 9 percent to 5 percent.

Developed countries increased the number of imports with bound tariff rates from 78 percent of product lines to 99 percent. For developing countries, the increase was considerable: from 21 percent to 73 percent. Economies in transition from central planning increased their bindings from 73 percent to 98 percent. Table 4 illustrates the tariff bindings for both developed and developing countries as a result of the Uruguay Round.

Table 5 shows the post–Uruguay Round averages of bound and applied rates. As the data show, developing countries agreed to larger cuts, but their tariffs, on average, are still considerably higher than those of developed countries.

A major accomplishment of the Uruguay Round was to negotiate an Agreement on Agriculture, which created a "tariffs-only" framework in which nontariff barriers were replaced by tariffs. Tariffs on all agricultural products are now bound. Almost all import restrictions that did not take the form of tariffs, such as quotas, have been converted to tariffs—a process known as "tariffication." About forty countries participated in this process, which covered twenty-two tariff lines. This has made markets substantially more predictable for agriculture. Previously, more than 30 percent of agricultural produce had faced quotas or import restrictions. At first, they were converted

Table 5: Post-Uruguay Round Tariff Rates, All Merchandise

	Bound Rate, Average Ad Valorem	*Post-UR Bound Rate above Applied Rate*	*Applied Rate, Average Ad Valorem*
Developed economies	3.5	19	2.6
Developing economies	25.2	37	13.3
All	6.5	22	4.3

Note: Column 2, "Post-UR Bound Rate above Applied Rate," shows percentage of 1989 imports.

Source: J. Michael Finger and Ludger Schuknecht. "Market Access Advances and Retreats: The Uruguay Round and Beyond," World Bank Working Paper 2232 (November 1999).

to tariffs that represented about the same level of protection as the previous restrictions, but over six years these tariffs have been gradually reduced. The market-access commitments on agriculture are being eliminated.Table 6 summarizes the Uruguay Round Agreement on Agriculture.

The Multi-Fiber Arrangement and an agreement to cut tariffs on textiles were other important accomplishments of the Uruguay Round. Most of the restrictions on textiles and apparel are being eliminated beginning in 2005. Although developed countries were expected to eliminate the restrictions in stages, most have postponed elimination until 2005. Developed countries' tariffs on textiles and clothing remain high when compared to other industrial goods.

Since the Uruguay Round, WTO members have agreed to further tariff reductions. The largest of these came under the Information Technology Agreement, signed in April 1997 by forty countries accounting for more than 92 percent of world trade in information technology (IT) products. The products it covered included computers, semiconductors, telecom equipment, software, and scientific instruments. Another post–Uruguay Round cut in tariffs was applied to pharmaceutical products and involved the United States, Canada, the European Union, and Japan. Other significant cuts in tariffs have been achieved through regional trade agreements such as the South Asian Association for Regional Cooperation (SAARC) and the Association of Southeast Asian Nations (ASEAN).

Though much progress has been made with respect to tariff reductions through multilateral negotiations, improving market access across countries may require additional measures to be implemented. For instance, although an exporting country may take the situation to the WTO and its dispute settlement process if a member country levies a tariff rate above the bound rate, WTO members have no specific mechanism to monitor the implementation of tariff commitments. High agricultural tariffs still need to be reduced, and special attention needs to be paid to tariff escalation. Tariff peaks feature prominently in many industrial countries, affecting, for example, imports of leather, clothing and footwear, and vehicles, as well as a range of agricultural raw materials and processed foodstuffs. Furthermore, average tariffs remain relatively high in most developing countries, and in some cases they have increased in recent years as quantitative trade restrictions have been replaced by welfare-superior tariffs. Future efforts will likely focus on seeking deeper reductions in tariffs, particularly in textiles and agriculture; greater percentages of bound tariffs; reductions in the gap between bound and applied rates; and limitations on the use of mechanisms allowed under WTO rules for temporarily raising rates in extraordinary circumstances.

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Table 6: Uruguay Round Agreement on Agriculture: Base Rates and Rates of Reduction

	Developed Countries		Developing Countries	
Pre–Uruguay Round Situation	*Base Rate*	*Reduction*	*Base Rate*	*Reduction*
Bound rate	Bound rate	36% unweighted average cut, with minimum 15% per tariff line	Bound rate	24% unweighted average cut, with minimum 10% per tariff line
Unbound rate	Applied rate in September 1986	36% unweighted average cut, with minimum 15% per tariff line	Ceiling binding	No reduction
Bound rate cum nontariff measures	Tariffication	36% unweighted average cut, with minimum 15% per tariff line	Tariffication	24% unweighted average cut, with minimum 10% per tariff line
Unbound rate cum nontariff measures	Tariffication	36% unweighted average cut, with minimum 15% per tariff line	Tariffication	24% unweighted average cut, with minimum 10% per tariff line *or*
			Ceiling binding	No reduction

Source: World Trade Organization, Market Access: *Unfinished Business. Post Uruguay Round Inventory and Issues* (Geneva: WTO, 2000).

See also Antidumping and countervailing duties; National Government Policies; Nontariff Barriers; Protectionism; Subsidies; GATT; World Trade Organization (WTO); U.S. Trade Laws

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Technical Barriers to Trade

Technical barriers to trade (TBTs) are regulations and standards imposed by individual countries on traded goods that may create obstacles to free multilateral trade. They include testing and certification procedures to assure, for example, high technical standards for particular types of equipment. These standards may make it difficult or more costly for firms to export to the country that has imposed the measures. Countries may have requirements for recycling certain materials (for example, components of refrigerator units or used cars) that may create extra costs for foreign firms. Most countries place restrictions on the quality of the ingredients used in food products, and many require the ingredients to be labeled on the product packaging. This type of barrier is relatively easy to overcome through compliance with the regulations, but other TBTs may be more difficult to surmount. Measures taken to protect the environment, for instance, may require technical expertise or preclude trade in certain items (for example, measures requiring automobiles to meet emissions standards, banning the use of certain materials, and so on). Although such restrictions may be justified in their own terms, the obstacles or barriers to trade that they create often come under sharp debate.

Main Types of Technical Barriers to Trade

Technical barriers to trade may be divided into a number of different types (WTO 2002a). First, and most important, are measures taken for the protection of human health and safety. These include standards for electrical equipment, regulations on the use of fire-retardant materials in the production of household furniture, and so on. They also involve regulations on food, drink, and tobacco products (such as requirements that harmful materials are not used, that labeling of contents is accurate, that weights and measures are correct, and so on). In the case of tobacco products, these restrictions include the statements printed on cigarette packages saying that cigarettes are damaging to human health. In addition, some countries require testing of products (for example, meat products) before imports are allowed into the country. These requirements are typically paid for by the importer and add to the costs of exporting for the foreign firm.

Second, measures can be taken for the protection of animal and plant life and health. For example, countries may have in place measures designed to protect an endangered species or certain rare plants. Thus, in some countries, products from various marine animals (for example, whales) are protected, and some fish may be protected if they are below a certain size. In many countries (especially developed countries), trade in specific animal products is banned (such as ivory, medical ingredients derived from endangered animals, and so on). Products made from plants or trees (for example, from the rainforests of South America) may also be banned.

Third, measures are frequently put in place to protect the environment. These include requirements on emissions from automobiles,

safety measures governing the transport of dangerous materials, and restrictions against products known to generate environmentally harmful substances such as chlorofluorocarbons (CFCs). Increasingly, advanced industrial countries are becoming more aware of the environmental hazards associated with waste products, as well as of the need to recycle, and measures taken to deal with these concerns have also led to increased costs to producers (which, arguably, fall more heavily on foreign than on domestic firms).

Finally, regulations may be put in place to protect the public against deceptive practices or to provide quality control. For example, controls on labeling, on weights and measures, and so on fall into this category.

Problems with Technical Barriers

Regulations on traded goods may create obstacles to trade for several reasons. First, they may put importers at a disadvantage or require them to modify their product to meet the standard. A domestic firm may be able to meet the standard more easily, or the importer may have to engage in costly modification of production equipment to meet the standard. In the latter case, the importer may find it more costly to produce the modified product because it has to sacrifice economies of scale in production, or it may have to engage in costly research activity before it can modify its product. This can be a major problem if different countries use different standards or regulations, in which case costs may be considerably higher to meet multiple sets of standards. Second, product testing of imported products to ensure that the standards are met may be also costly and time consuming. If the tests do not apply to domestic products, the importer may be at a considerable cost disadvantage (and, indeed, these measures might be designed to have this effect).

Third, importers may have to pay for translators and local agents to keep them up-to-date about new or changed regulations in the different countries in which they compete. Moreover, foreign firms have an even greater disadvantage when the disparity in regulations and standards between different countries is large. In some cases, foreign firms may conclude that the regulations are so complex that it is not worth exporting to some countries at all; in others, higher costs imply more limited trade than would otherwise be the case. In both cases, policy action may be required to overcome the barriers to trade that result from the regulations.

Policy Measures: The WTO Agreement

Though it was recognized early on that technical regulations could present barriers to trade just as more explicit barriers such as tariffs and quotas could, little progress was made in the early history of multilateral policy in this area. The 1947 General Agreement on Tariffs and Trade (GATT) only made passing reference to the problem, and no action was taken for a period of more than twenty years. At the end of the Tokyo Round of multilateral negotiations (1973–1979), however, thirty-two contracting parties signed an agreement on technical barriers to trade. The aim of this agreement was to provide for fair and unbiased treatment in the application of standards and testing, to encourage harmonization of standards where possible, and to remove any unnecessary barriers to trade.

Following the Uruguay Round of negotiations (1986–1994), which led to the establishment of the World Trade Organization (WTO), provisions on technical barriers to trade were clarified and extended. The Agreement on Technical Barriers to Trade (TBT Agreement) was one of the founding agreements of the WTO in 1995 and provided the basis of current world trade policy in this area.

Objectives of the Agreement

A number of objectives drove the TBT Agreement (WTO 2002a, 2002b; see also Qureshi

1996; Das 1999). First, although the agreement recognizes that countries have a right to set their own standards on human, animal, and plant life or health; protection of the environment; and protection of consumers, it requires contracting parties, where possible, to avoid unnecessary obstacles to trade. Second, it requires that signatories set standards that are fair and unbiased and to avoid creating standards and tests that discriminate against foreign firms. Third, the policy encourages the contracting parties to work toward the creation of international standards and regulations and to harmonize existing regulations. The policy also calls for transparency and information provision to make it clearer what standards and testing are required.

Provisions of the Agreement

The agreement is not mandatory but urges contracting parties, where possible, to reduce TBTs in the general interest of promoting multilateral trade. Article 1 states that the agreement applies to all products, including industrial and agricultural products, but excluding sanitary and phytosanitary standards. The agreement covers technical regulations, standards, and conformity assessment, where "technical regulations" refers to mandatory requirements of countries, "standards" refers to nonmandatory requirements, and "conformity assessment" refers to testing regulations and standards. Article 2 requires all member governments to treat imports fairly and equally with products of domestic origin and products from other countries. Members are also asked to ensure that regulations are not prepared with a view or effect of creating unnecessary obstacles to trade. Technical regulations should not be more restrictive of trade than is required to meet some other legitimate objective, and the risks associated with the achievement of that objective must be taken into account. The article also requires members to conform to relevant international standards if they exist and to participate in setting up international standards where they are not currently in place. Member countries are required to make information available on new regulations at an early stage to allow exporting members to adapt their products to conform with the new regulations.

Article 4 requires standardization bodies within countries to comply with a Code of Practice in line with the requirements noted above. Articles 5 and 6 require members to allow, where possible, testing of products in the foreign country to reduce the problem of multiple testing. Article 9 requires that international and regional arrangements comply, where possible, with articles 5 and 6.

Article 10 requires each member country to set up a "national enquiry point" within its territory to provide information to foreign enterprises on its technical regulations and standards. Article 11 deals with assistance for members (primarily developing countries) in the preparation of technical regulations, in setting up national standardization bodies, and in participating in international standardization bodies. Article 12 allows for differential and more favorable treatment of developing countries and time-limited exceptions to the agreement.

Article 13 sets up a Committee on Technical Barriers to Trade (TBT Committee), of which all signatories are members. It must meet at least once a year and acts as a forum for members to consult on aspects of the agreement. Article 14 covers consultation and settlement of disputes and allows for the creation of expert groups to help in the technical aspects of such matters. Article 15 requires the TBT Committee to undertake an annual review of the implementation of the agreement. It also sets up a triennial review with the power to recommend changes to the agreement or its implementation. Any recommended changes to the agreement are considered by the Council for Trade in Goods.

Policy Review

The first two triennial reviews of the implementation of the TBT Agreement were in 1997

and 2000. The First Triennial Review, published on November 13, 1997, raised a number of issues, including the need to establish national arrangements for administering the agreement, the need to set up national enquiry points, and problems of developing countries. The second review (WTO 2000), published on November 13, 2000, developed some of these themes further. At the time of this review, 77 members out of a total of 139 had notified the WTO of steps taken to implement the agreement, and 103 had notified the WTO that they had set up a national enquiry point. In most cases, members that had not made these arrangements were developing countries. In addition, rules introduced to provide notification of changes in standards had only been followed patchily, as had rules on mutual recognition in testing products. In the latter case, the committee had been notified of only twenty-nine agreements, although the actual number of agreements may be higher. The committee urged members to consider such mutual recognition schemes further and, where appropriate, to make more use of supplier declarations on testing products in order to limit multiple testing of products and the higher costs associated with testing products away from manufacturing sites.

The second review, like the first one, recognized the special problems of developing countries in implementing the agreement. Developing countries, for example, were underrepresented on international standard-setting bodies. This was put down to a lack of technical capacity, the location of secretariats and meetings, financial and human resource constraints, and lack of translation of standards into their own language. In the case of conformity assessment it was argued that exporters in developing countries, especially small and medium-sized enterprises (SMEs), sometimes find it difficult to meet requirements set by other countries. This is due to limited resources, high costs, legal difficulties in obtaining foreign accreditation, and the difficulty of establishing an internationally recognized accreditation body. The committee noted these issues and the need to establish methods of providing technical assistance to developing countries in this area. It noted also that some technical assistance was already taking place in training conformity assessment practitioners, in training these practitioners in the formation of accreditation bodies, and in the development of strategies to boost product quality to meet international standards.

Other Issues

Agricultural Products: Sanitary and Phytosanitary Measures

The TBT Agreement covers most products but does not cover food safety or animal and plant health regulations. These areas are covered by a separate agreement, the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), where “sanitary” implies human and animal health, and “phytosanitary” implies plant health. This SPS Agreement is administered separately from the TBT Agreement in the Agriculture and Commodities Division of the WTO.

The main issue in the SPS Agreement is to ensure that food is safe and animal and plant health is protected, but at the same time that safety standards are not being used to prevent trade and protect domestic producers. The aims and procedures are similar to those for the TBT Agreement (WTO 2002c; Swinbank 1999). Countries are allowed to set their own regulations and standards on SPS issues, but these must be based on science and should not arbitrarily or unjustifiably discriminate against the exports of other countries. Member countries are encouraged to use international standards where available and, similarly, to follow international guidelines and recommendations. Members are allowed to set higher standards than internationally recognized, but these must be supported by science or be based on a proper assessment of risks (that is, not set arbitrarily).

Governments are required to notify other countries of any new or changed sanitary and phytosanitary requirements and, as with the TBT Agreement, to establish national enquiry points to provide information to exporters to that country. The agreement also established an SPS Committee, which reviews compliance with the agreement and examines the impact of SPS measures on international trade. This body is a forum for discussion (all WTO countries can have representation on it) that meets three or four times a year.

The SPS Agreement differs from the TBT Agreement in that it recognizes that a number of international bodies already exist in the area of food safety and animal and plant health. For food safety, it recognizes the authority of the Codex Alimentaurius Commission established in 1962 by the UN Food and Agricultural Organization (FAO) and the World Health Organization (WHO), which set standards and guidelines for food additives, veterinary drugs, and pesticide residues. In addition, it recognizes the International Office of Epizootics concerning animal health and the International Plant Protection Convention concerning plant health. While not encroaching on the activities of any of these bodies, the agreement seeks to ensure that, as far as possible, measures that are supported by the findings of these organizations do not restrict trade.

There is concern that SPS measures will have a significant effect in reducing world trade—that is, that as tariffs and other explicit barriers to agricultural trade come down, countries will use sanitary and phytosanitary measures to protect their home products. Such measures can be used ostensibly to raise food standards to protect domestic consumers, to pursue environmental goals, to avoid cross-contamination of domestic crops with pests brought in by foreign goods, and so on. By using these arguments, governments may be able to protect domestic producers while nominally allowing free trade.

Evidence on this is provided by Donna Roberts (1999), who discusses a survey by the U.S. Department of Agriculture (USDA) in 1996. This study examined technical barriers to U.S. exports in the agriculture, forestry, and fisheries sectors. It identified 339 measures across 62 countries that were seen as restricting or blockading U.S. agricultural goods and that could not be justified by science or international agreements. These mainly related to the protection of animal and plant health (210 cases), food safety (76 cases), or protection of domestic product quality (39 cases); the main measures used were restrictions by process standards (126 cases), product standards (72 cases), and import bans (72 cases). The cost of these restrictions was put at $4.9 billion in 1996 in terms of lost exports, or 7.1 percent of actual exports that year. These figures, when scaled up to represent the reduction in world trade as a whole, suggest that negative effects of SPS restrictions may be quite high.

Developing Countries

As already noted, developing countries face particular problems in dealing with technical regulations, standards, and conformity assessment procedures (WTO 1999). Such difficulties arise because these countries often lack human and financial resources, scientific infrastructure for laboratory testing and certification, awareness of international obligations, and technical expertise to frame and develop necessary standards and conformity assessment procedures.

These problems were noted in the TBT Agreement. Article 11 of the agreement requires members to advise other members (especially developing countries) on the preparation of technical regulations (that is, to give technical assistance to such countries). This assistance is to cover the establishment of national standardization bodies and participation in international standardization bodies. It also extends to testing products in the exporting country and providing technical assistance in setting up appropriate institutions and a corresponding legal framework. Article 12 of the agreement requires members to give differ-

ent and more favorable treatment to developing countries in areas such as participation in international standardization bodies and technical assistance. The article also allows time-limited exceptions to the agreement for developing countries.

The First Triennial Review of the TBT Agreement raised a number of issues concerning developing countries and their participation in the agreement, and as a result a Workshop on Technical Assistance and Special and Differential Treatment in the Context of the TBT Agreement, organized by the WTO, was held on July 19–20, 2000 (WTO 2002d). The workshop identified four main areas of concern: implementation of the TBT Agreement, participation in international standard setting, conformity assessment procedures, and capacity building. Developing countries had problems in notifying the committee on the measures taken to implement the agreement because they lacked awareness of their TBT obligations, because they gave them relatively low priority, and because they lacked resources to implement the requirements. These problems also arose in dealing with notifications of other members of the agreement. Developing countries also had similar problems with establishing national enquiry points and in implementing the Code of Practice set out in the agreement.

Developing countries encountered problems with participating in international standardization bodies partly because of their lack of resources to attend meetings. They also argued that lack of technical expertise made it difficult for them to participate fully in such bodies and to have a significant impact on the proceedings. Developing countries often lack the physical and technical resources to engage in national conformity assessments, including accreditation. They have found it difficult to set up Mutual Recognition Agreements (MRAs) with other countries because their domestic testing procedures are often less developed than those used abroad, at least in developed countries. The implication here is that it is often necessary to engage in multiple tests of products (in the developing country and in the foreign country), that the testing increases costs, and that it delays the sale of goods. Finally, the workshop considered capacity building in developing countries, including provision of training, information dissemination, technology and infrastructure development, and efforts to raise awareness and participation.

Several important points emerged from the discussion. First, there is clearly an information problem, as well as a lack of resources and key skills, in developing countries, and these are areas in which technical assistance is currently being improved; but it may be that more assistance in this area is required. Second, in the case of international standard setting, it is probably desirable for developing countries to prioritize their activities, at least in the short term, by participating in areas of most relevance to them. Arguably, they could then take a larger role in other bodies when their technical expertise is further developed. Third, it is very important for developing countries to improve their products in line with the technical regulations of other (particularly, developed) countries so that they can more readily export to those countries. Again, technical assistance is likely to be important here.

Trade Blocs: NAFTA and the EU

Although the World Trade Organization is the principal world entity concerned with technical barriers to trade, some countries have formed regional bodies that are concerned with the same types of issues. Major world trade blocs have appeared, including the North American Free Trade Agreement (NAFTA), the European Union (EU), the Asia-Pacific Economic Cooperation (APEC) forum, and the Cairns Group. NAFTA, a free trade group formed on January 1, 1994, includes the United States, Canada, and Mexico. It is also considering allowing South American countries to join. The EU is a group of European nations that have formed a free trade area and consists of 25 full members, including France, Germany, the United Kingdom, and Spain, plus a number of

transition economies from former East European countries. APEC, formed in 1989, is a loosely based free trade group of countries bordering the Pacific Ocean. It currently has twenty-one members, including China, Russia, the United States, Japan, and Australia. Finally, the Cairns Group, formed in 1986, is a group of seventeen agricultural exporting countries in North and South America, Africa, and the Asia-Pacific region pressing for free trade in agricultural products.

NAFTA was formed slightly earlier than the WTO, but many of the rules governing the two agreements are similar because the Uruguay Round had been under way for a number of years when NAFTA was negotiated. The influence of the Uruguay Round on NAFTA is reflected in the relevant clauses in the agreement covering technical barriers to trade and SPS arrangements. Chapter 9 of NAFTA deals with technical barriers to trade. Like the WTO agreement, it gives its members the right to take any standards-related measure, including measures relating to safety; to the protection of human, animal, or plant life or health; to the environment; or to consumers. However, members are not permitted to discriminate against the products or service providers of any country, must not create unnecessary obstacles to free trade, and must use international standards, where appropriate, in setting technical regulations and standards. The agreement also requires, where possible, that members make their standards-related measures compatible with those of other nations, with a view to encouraging trade between member countries. The chapter also establishes a Committee on Standards Related Measures and requires each country to set up an enquiry point to provide information about standards to member countries. The committee is, among other things, able to set up subcommittees or working groups on particular issues, and four subcommittees were established under the agreement to deal with land transportation standards, telecommunications, automotive standards, and labeling of textile and apparel goods.

It is difficult to see any major differences between NAFTA and the WTO agreement, and indeed, all three NAFTA countries are signatories to that agreement. One major difference, however, is that Chapter 9 covers land transport services (that is, services provided by motor carriers or by rail) and telecommunication services, whereas the WTO agreement relates only to goods.

Chapter 7 (Section B) of NAFTA relates to sanitary and phytosanitary measures and, again, is very similar to the WTO SPS Agreement. Member countries have the right to set their own SPS standards but must not apply technical regulations or standards that are discriminatory or create unnecessary obstacles to trade. SPS standards must also have a basis in scientific principles. The member countries are required to use international standards as appropriate and to work toward developing common standards. A Committee on Sanitary and Phytosanitary Measures was also created under NAFTA, as was a national enquiry point.

The EU also has its own policy on technical regulations, standards, and conformity assessment procedures. These are laid down in its Communication on Community External Trade Policy in the Field of Standards and Conformity Assessment (European Commission 2002; see also European Commission 2001). The EU has two trade objectives in this area: first, to reduce technical trade barriers in external markets and prevent the creation of new ones; and second, to encourage trading partners to adopt standards and regulatory approaches consistent with international and European practice. In its 1996 communication, its policy is based on two assumptions: that the impact of product standards and conformity assessment is increasing, creating possible technical barriers to trade, and that completion of the single market (in 1992) enables the Union to adopt a more outward-looking trade policy in this area. Its strategy has been: (1) to rely on the WTO TBT Agreement; (2) to conclude bilateral agreements with other countries on MRAs for conformity assessment and certi-

fication (in particular, with its leading trade partners); (3) to provide technical assistance to ensure that other countries' regimes are transparent, and to develop infrastructure in the areas of certification and testing; and (4) to support international cooperation in international standards setting and the harmonization of technical standards and regulations (European Commission 2001).

Considerable interest now exists in forming MRAs with the aim of eliminating multiple testing and speeding up trade. The EU has developed frameworks of agreement with four leading trading partners: with the United States, which came into force on December 1, 1998; Canada, which came into force on November 1, 1998; and with Australia and New Zealand, which came into force on January 1, 1999. These agreements cover a number of different product areas. The APEC group, through its Osaka Action Agenda, has also supported the formation of bilateral and multilateral MRAs among its members. Areas recognized for such actions are food and food products, automotive products, telecommunications equipment, and electrical and electronic equipment.

The Transatlantic Economic Partnership (TEP), which arose out of the EU-U.S. summit in London on May 18, 1998, also seeks to extend MRAs between the United States and the European Union. This agreement calls for further alignment of standards and regulatory requirements, where possible, between the two groups.

Future Action

It is clear that the Uruguay Round and the formation of the WTO constituted a major step forward in dealing with technical barriers to trade. By incorporating the TBT Agreement into the set of agreements on which the WTO was based, member countries made it an integral part of the move toward freer trade. The actual requirements of the agreement provide a means of tackling obstacles to free trade that can arise as regulations and standards are extended to cover increasingly complex requirements for food safety, the protection of animal and plant life and health, protection of the environment, and protection of consumers. Policies adopted bilaterally (or multilaterally) such as MRAs also have a key role to play in preventing technical barriers to trade.

Standards and regulations tend to be developed mainly by developed countries, and this creates a continuing problem for developing countries attempting to meet the standards set. Developing countries lack the resources and the technical know-how to play a key role in the determination of international standards or in the formation of MRAs. There is a need to further develop technical assistance for developing countries so they can participate in and share the benefits of reducing TBTs.

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See also Antidumping and Countervailing Duties; Nontariff Barriers; Tariffs; World Trade Organization (WTO)

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Technology and Technical Change

In this period of adjustment to globalization, firms wanting to compete on world markets must aim at substantial improvement in their level of productivity. The influence of technological change on productivity, and consequently on the capacity of a country to keep pace with major industrialized countries, is now well recognized. The technological factor underpins the position of the national economies in the current international context.

Technology is not a commodity as any other. It is a body of knowledge that makes possible a certain rate of economic progress. That being the case, technology should not be confused with information; their respective characteristics are quite different. Information may be transmitted without prohibitive costs and may be assimilated relatively easily by the receiver; technology is altogether different. Technology is only partially a public good, which makes its transfer very difficult and costly, not to mention its assimilation. Investment in technology must take into account that technological development is both an ongoing and a cumulative process, which implies that what has been done in the past at the national and firm levels must serve as a basis for future investments.

Technology is increasingly recognized as being an important aspect of trade; competing internationally for market shares does not rely exclusively on price factors. Technology influences trade performance and therefore competitiveness and economic growth. However, the tacit nature of technology remains an important barrier to a global diffusion of technology. Therefore, to understand the dynamics of globalization, technological change provides an excellent viewpoint (Archibugi et al. 1999).

Some Notions Related to Technological Change

The first basic notion related to the nature of technology is that it is not an asset like others, that is, capable of being invested in, purchased, exchanged, or transferred in whole or in part in a straightforward manner, as is the case with a piece of equipment. An individual, a firm, or a country has distinctive technological capabilities enabling it to use certain technologies. At the same time, it can become locked into technologies presenting limited opportunities. To fully understand the nature of technology and to forecast technological opportunities requires looking backward to fully understand the present and assess the future possibilities. In this sense, an individual's, firm's, or country's technology "stock" is specific, idiosyncratic, and rarely reversible.

A second critical concept is that technology is integrally related to knowledge. Technology is more than blueprints; it is, above all, knowledge. Therefore, the process of the accumulation of technology is related to the embodiment of this knowledge in individuals and to the movement of individuals across occupations, industrial sectors, and countries. It takes place over time through learning-by-doing, by-using, and by interacting and can lead countries to be locked into some specialized activi-

ties. So, the accumulation of technology is not so much a matter of R&D investment, patenting activity, or having a certain type of machinery and equipment, but a rather more complicated process where knowledge and processes of learning lay at the core. Learning is therefore a core element of technological change. Linking technology to knowledge is a step toward better understanding the process underlying technological change. Recognizing this involves recognizing that skills, knowledge, and education are important and implies an increasing demand for high-skilled workers and a declining demand for less-skilled ones.

A third concept is that technological knowledge does not necessarily decrease when used. On the contrary, its use increases its value (Lundvall 1992). In economists' terms, there are "network effects" (Nye 2002) as a technology becomes more valuable once many people use it. This is the case with the Internet. However, not all technologies entirely share the characteristics of a public good and, therefore, not all can be appropriated unless a basis for understanding is present. To appropriate all the benefits of an investment in technological development, the investor must have exclusivity of knowledge. Against conventional wisdom among some economists, the nature of technology is not that of an international public good. Only firms and countries sharing some knowledge can eventually enjoy the returns and benefits of this investment. As will be seen later, it is hard to believe that all technology assets can flow freely across national borders.

Finally, the transfer of technology is an important notion, especially in the current global context. Such a transfer produces a knowledge spillover that the innovator firm or country developing technology cannot fully appropriate. The extent of the spillover is largely determined by the nature of the technology (tacit or codified) and the capacity of the initial investor, as well as competitors, to appropriate it. The most efficient transfer of technology occurs when the engineers involved in the development of a technology move from one firm to another or from one country to another.

A Variety of Technologies

Technologies are not all the same, nor do they rely on the same knowledge base. Some technologies are highly generic in the sense that they have major spillover effects on other industries. The information technologies are perhaps the best example, but there are many other technologies that can stimulate allied industries. Certain other technologies are complementary, in that combining them with other technologies helps improve production efficiency. For example, the combination of information and telecommunications technologies produced "telematics," and the merger of mechanics and electronics yielded "mechatronics."

The special nature of technology engenders great variety and diversity among firms, even those belonging to the same industry. The existence of such asymmetries among firms at the national level is not insignificant and has important consequences for the resource allocation process; special consideration must be given to the source of firms' technology, their transfer, and their means of appropriation in order to respond as effectively as possible to the true technological needs of the various industries.

Sources of Technology

As technologies differ tremendously, the sources of technological advance differ widely from one industry to another. For some industries, such as the chemical industry, science constitutes the main source feeding technological progress. Science, strictly speaking, arises out of activities occurring in different institutions such as universities, public institutes, and private laboratories.

The sources of innovation are numerous and cannot be limited strictly to expenditures

on research (either basic or applied) and development (R&D). There appear to be more differences from one industry to another in the same country than within the same industry in different countries. Technology trends take shape in different forms resulting in diverse sources of technologies across industries. Keith Pavitt's taxonomy (Pavitt 1984) identified trends that, though not universal, can provide some indication of the diverse sources of technologies for various industries.. Technological knowledge can be acquired through various learning processes, such as through "learning-by-doing," through design, through production engineering, and so on.

Although R&D is not the only source of technological knowledge, it is nevertheless an essential investment (to varying degrees) leading to the recognition and integration of the technological development of both domestic and foreign competitors.

Conditions to Accumulate Technological Change

Influenced by the theories of Joseph Schumpeter, researchers have been preoccupied by the influence on technology of factors such as company size and industry concentration without ever reaching a consensus. As a result, experts have begun to take an interest in the influence of national technological conditions as incentives to increased investment in the innovation process.

Technological opportunities and the appropriation capacity of companies are two interrelated conditions associated with the innovation process in market economies (Dosi 1988). Far from being homogeneous, these opportunities vary across sectors and over time. Simply put, the variety in technological opportunities may be explained by the fact that investment in R&D and in other sources of technological change increases the supply of knowledge and makes it possible to use this knowledge in other sectors of the economy. The greater the supply of knowledge and the more generic its applications, the greater will be the technological opportunities. Technological opportunities arise from a combination of factors, one being the nature of technology itself. Technology is constantly changing, and this impetus comes from new needs on the part of consumers (who then demand new products), from companies' efforts to remain competitive (that is, to produce efficiently), and from scientific and technological discoveries.

If these opportunities are to be converted into actual projects, companies must possess an appropriation capacity. This means that a number of mechanisms have to be put in place, either by government or in collaboration with government entities, in order to improve this appropriation capacity. Just as technological opportunities differ from one industry to another and from one industrial branch to another, conditions for appropriability vary considerably from industry to industry and from technology to technology. There are several sources of technological appropriation, including the tacit nature of technological capabilities in firms, the efficacy of the patent system, the degree of secrecy, lead times, and others.

Technological appropriation capacity is required because investment in technological change produces spillover effects. Spillovers refer to the idea that technological knowledge is created in one firm, sector, or country but inevitably spills over to another. This effect is sometimes unexpected and may also be an important source of technology for another firm, another sector of the economy, or other countries. However, the fact that a spillover effect occurs does not necessarily mean that firms in another industrial sector can automatically benefit from it. These companies must be in a position to appropriate the spinoffs of R&D, whether it was undertaken by the original firm or by another company with the necessary technological capacity. Two sets of conditions are required to develop technologies: technological opportunities and the development of a capacity to appropriate and take advantage of

Table 1: Internet Access by Region, 1999

	People Connected (millions)	*Global Percentage of People Connected*	*Percentage of Global Population*
Canada and the U.S.	97	56.6	5.1
Europe	40.1	23.4	13.7
Asia and the Pacific	27.0	15.8	6.2
Latin America	5.3	3.1	8.4
Africa	1.1	0.6	12.9
Middle East	0.9	0.5	3.6

Source: International Labour Office, *World Employment Report 2001: Life at Work in the Information Economy* (Geneva: ILO, 2001).

technological opportunities created abroad or in domestic industrial sectors.

Globalization and Technology

Globalization moves in tandem with the widespread use of new information and communications technologies (ICTs). By reducing the costs of communication, these technologies allow a rapid diffusion of information and codifiable knowledge. In this process, the Internet is the latest stage. If developed countries have, in general, easy access to the World Wide Web, many countries lag behind. As a result, there is a long way to go before ICTs can be globally diffused. Considerable distributional problems, in terms of the diffusion of ICTs' tangible equipment, such as personal computers or the number of Internet connections, arise among as well as within countries. A look at international indicators of connectivity shows that despite the profound transformation of people's private lives as well as of their work lives by ICTs, the diffusion of computers and Internet access is still quite concentrated in North America.

Technology has no national borders, and international scientific and technological influence represents a series of technological opportunities that governments tend to encourage rather than restrict. While encouraging technological opportunities, a national system of innovation must ensure that companies' adoption and appropriation capacity is equal to the task of capitalizing on these technological opportunities.

It may seem contradictory to introduce the concept of a national system of innovation when globalization and internationalization are the dominant trends now and in the foreseeable future. However, as is the case for the diffusion of ICTs, technological situations and industrial structures are still highly national and vary from country to country. The existence of a national system implies a series of national institutions and firms linked in a coherent network of financial, production, commercial, and technological relationships. It involves, first and foremost, the creation of a climate of cooperation promoting a sense of partnerships and of trust in the national research system. Technological accumulation also requires a steady investment in skills at the national level in order to build a technological capability that possesses the momentum to continue its movement forward. Despite the porosity of national borders, the accumulation of technology is still national, meaning that national institutions influence the way technology accumulates within national borders.

Future Technological Paradigm

Although the ICT paradigm has an important potential for globalization, it is not the only technological paradigm, that is, there is not just one unique set of possibilities that exist at a

given point in time with respect to technological development. The recent isolation of human embryonic stem cells will almost certainly lead to the next scientific/technological paradigm and will probably have the same magnitude as that offered by the ICTs (or still more). It is worth mentioning that technological paradigms are cumulative and complementary and not displacing or competitive. However, the emergence of an even spread of global innovative activities in both paradigms remains to be seen.

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See also Global Economic Growth; International Productivity; Computer Hardware and Electronics; Computer Software; Copyrights and Intellectual Property

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Transportation and Communication

The essence of globalization is that it changes spatial interactions, entailing increased levels of trade, capital, and information flows and mobility of individuals across borders. Changes in transportation and communications technologies alter the manner in which space and time are perceived for such interactions. Advances in these technologies have led to a space/time collapse supporting greater economic integration of production and distribution systems and thus globalization. It is not surprising, therefore, that periods of increased globalization are associated with technological innovations that reduce transportation and communication costs.

Integration through Transportation and Communications

Global integration involves more interactions across national borders around the globe, and both the transportation and communications industries are basically geared toward making this possible. M. Mussa (2000) pointed to three fundamental factors that have affected the process of economic globalization. First, improvements in the technology of transportation and communications have reduced the cost of transporting goods, services, and factors of production and of communicating economically useful knowledge and technology. Second, the tastes of individuals and societies have generally favored taking advantage of the opportunities provided by declining costs of transportation and communication through increasing economic integration. Third, public policies have significantly influenced the character and pace of economic integration, although not always in the direction of increasing it.

Clearly, these factors will continue to affect the process of globalization. Even though public policies (at each level of governance) are critical in determining the direction of global economic integration, advances in transportation and communication technologies act as major catalysts affecting the speed and magnitude of economic integration when public policy favors integration. Sometimes technological advances in communications can even counter restrictive public policies, as in the case of the Internet in China.

Decreasing Costs

Over the past two centuries there has been a dramatic decline in the cost of moving people, goods, and information across space. Broadly speaking, the changes can be divided into two periods. The first wave of globalization, which started roughly around 1820 and lasted until 1914, was largely associated with advances in transportation technologies. A second wave, which started from 1960 and has continued to the present, has been associated most significantly with advances in communications technologies (Baldwin and Martin 1999).

The world witnessed a rapid expansion of rail networks in the first half of the nineteenth century. Before the advent of railroads, land

Table 1: Real Costs of Ocean Shipping (1910 = 100)

Year	*Costs*	*Year*	*Costs*
1750	298	1910	100
1790	376	1930	107
1830	287	1960	47
1870	196	1990	51

Source: Nicholas Crafts and Anthony Venables, "Globalization in History: A Geographical Perspective." Paper prepared for NBER conference on Globalization in Historical Perspective.

transport was economically feasible only for goods with very high value-to-weight ratios. But with this new form of transport, vast tracts of land became potential markets for goods. The second half of the nineteenth century saw the widespread use of steam-driven ships for inland and oceanic routes (1840–1870). As a result, ocean-shipping costs saw substantial decreases between 1830 and 1910, revolutionizing ocean travel. In the 1830s, travel time from Liverpool to New York took about forty-eight days, but with the arrival of steamships the same journey could be completed in fourteen days. Costs also declined with the introduction of steel hulls in the 1870s that were lighter, stronger, and required less fuel (see Table 1).

The first transatlantic telegraph cable (1866) and the subsequent cabling of all the oceans revolutionized communications, lowering intercontinental communications times from weeks to minutes. Combined with low trade barriers, cheaper transport and faster communications spurred trade and investment, and the world witnessed a first wave of globalization between 1870 and 1914. However, protectionist barriers to trade, as well as the imposition of capital and migration controls, resurfaced with World War I, slowing down the integration process. The reductions in these technical and policy barriers to international transactions since 1960 led to a second wave of globalization that is still in progress. After World War II, new modes of transport by air became important, and by 1980 the real costs of airfreight had fallen to about a quarter of its level on the eve of World War II. The aviation sector's main contribution to the integration process has been the reduction in transit times and associated costs.

The costs of airfreight flattened out, however, in the 1980s, whereas the costs of communications continued to plunge. The second wave of globalization is therefore strongly associated with changes in the communications industry rather than in transportation. The cost of a three-minute call from New York to London has fallen from about $250 in 1930 to a few cents today (see Table 2). Furthermore, the capacity and speed of communications networks has increased enormously. In 1970, it would have cost $187 to transmit the *Encyclopaedia Britannica* as an electronic data file coast to coast in America because transmission speeds were slow and long-distance calls expensive. Nowadays the entire contents of the Library of Congress could be sent across America for just about $40. These advances have led to a revolutionary change in the way distance is perceived and have motivated proclamations of the "death of distance" (Cairncross 1997).

A distinct feature of the current globalization process is the ease with which ideas and information flow across the globe. The technological breakthroughs in the communications industry have taken services that used to be nontradable and made them internationally tradable. Economic integration today is the story of increased flows of goods, and more important, services and ideas, across the globe.

Table 2: Costs of Air Transportation and Telephone Calls (in 1990 U.S. dollars)

Year	*Average Air Transportation Revenue per Passenger Mile*	*Cost of a 3-Minute Call, New York to London*
1930	0.68	244.65
1940	0.46	188.51
1950	0.30	53.20
1960	0.24	45.86
1970	0.16	31.58
1980	0.10	4.80
1990	0.11	3.32

Source: International Monetary Fund, *World Economic Outlook: Globalization. Opportunities and Challenges* (Washington, DC: IMF, 1997).

Transportation in a Global Market

Over the past two decades, transportation costs and transit times have somewhat flattened out, unlike communications costs and speeds, which have dramatically declined. Yet the transport industry is being transformed by the global flow patterns and in turn affecting the globalization process. Globalization leads to reliance on outsourcing, customized production runs, flexibility of resource access (regardless of distance), just-in-time management of production and distribution, zero inventory, and information access and exchange. The transport industry has to facilitate reliable and synchronized movements across the globe, and it must cater to the demand for heavy volumes over longer distances for a global market. In general, transport demand is moving toward longer and more customized transport linkages with higher levels of sensitivity to the timing of connections, arrivals, and departures and heavier reliance on communications networks and information systems (Janelle and Beuthe 1997).

The changes in the transport industry are instigated by worldwide competitive forces to produce, transport, and distribute goods and services as efficiently as possible. Small variations in transport costs can have major impacts on the location of global production and export volumes if all other costs are similar. Thus, even though transport costs may constitute a small proportion of the total product price, competitive pressures at the global level are such that these differences can be exploited. For example, sub-Saharan Africa has been unable to make significant inroads into world trade, despite low wages, partly because of adverse transport costs (Yeats 1998). Advances in transportation technologies thus stimulate globalization. The converse is also true, that is, the transportation industry itself adapts to meet the increased pressures of globalization.

The nature and volume of transport demand at each location stimulates a unique set of responses; however, a few common trends are noticeable. Three major trends in transportation, in particular, draw attention because of their interlinkage to the globalization process. First, there is intermodalism, that is, the integration of transport across modes and the attempt to standardize transport system designs. The second trend is the transformation of the industry structure through strategic alliances at the global level. The third is a shift in the focus from the standard line haul operations to operations at terminals because of the high levels of activity at these terminals. The interesting aspect is that all three processes, namely intermodalism, mergers and alliances, and improvement in transport terminals, are strongly interlinked.

Intermodalism

Intermodalism refers to the integration of two or more modes of transportation in moving passengers or freight through seamless connections from origin to destination. It facilitates globalization, and its further growth is dependent on continuing movement toward more globalization. Proponents of intermodal transport say that efficient trade flows across large distances entail movement through a complex chain of modes and therefore seek to reduce transit times and costs across modes. Also loading, unloading, transshipping, and setting up cargoes is costly in terms of both resources and time. To avoid repeated transactions between origin and destination points, freight movements are increasingly integrated seamlessly with a standard unit of transport, the container. The first container ship crossed the Atlantic in 1966, and today containers account for about 60 percent of the world trade in terms of value. Between 1982 and 1995, container use in developing-country ports grew 15.5 percent per annum (Hummels 1999). Containerization is an important source of shipping efficiency both in and out of port. But containerization is only the first level of standardization for intermodal transport, and seamless intermodal movement requires standardization at various other levels.

There are many constraints to such standardization because the transport industry in each region has developed under different policy regimes and with varied access to technological advances. For example, rail clearances differ across countries, creating problems for large containers, and overhead electrical equipment for traction often constrains double-stack movement of containers on railroads. The size of containers is an issue of debate as well: The United States favors large containers, whereas Europe and Asia have serious reservations on grounds of rail clearances, boat sizes, and terminal infrastructure facilities. Complete standardization may not even be viable because any solution would involve major, expensive changes. The intermodal solution therefore has to work within the constraints of nonstandardized designs and requires rationalized transport linkages and coordinated investments. Such linkages and investments would only be possible with partnerships, long-term contracts, and/or mergers among transport service providers in different modes. Coordination of investments in transport infrastructure would also require bilateral or multilateral trade agreements between governments to provide the environment of certainty necessary for such investments specific to the trading relationship (Bond 1997).

Strategic Alliances

Strategic alliances are taking place within the transportation industry to meet the requirements of a global supply chain that emphasizes network connectivity, reliability, and high levels of synchronization. Consortium and cooperative ventures between shipping lines have been common for more than thirty years now because containerization of freight movements have typically involved consortium and partnership arrangements. With globalization, these alliances are now spread over a global scale rather than confined to individual routes.

According to an estimate by the *Containerization International Yearbook* (1996), a few major alliances control nearly one-third of the world's shipboard TEU (container size of twenty "feet equivalent units") capacity. The concentration of assets is especially noticeable on the three major East/West container routes (Europe–Far East, Europe–North America, and Far East–North America), where it is estimated that companies involved in four alliances control as much as 50 percent of the capacity (McCalla 1999). Through cargo sharing on vessels and slot chartering, shipping lines are able to offer more services both in terms of frequency and routes serviced. As a result of these developments, the twenty largest carriers now control around 56 percent of the world container fleet, and the top five lines own or operate more than 25 percent (see Table 3). A similar trend is

Table 3: Summary of Services of Major Carrier Alliances and Megacarriers

Alliance Group	*Participating Lines*	*Number of Sailings per Week*			*Slot Capacity (Number of Ships)*
		Transpacific	*Asia-Europe*	*Transatlantic*	
Grand Alliance	P&O Nedlloyd NYK Hapag-Lloyd OOCL	West Coast 6 East Coast 2	7	2	645,748 TEU (278)
Maersk Sea-Land		West Coast 5 East Coast 3	4	6	544,558 TEU (228)
New World Alliance	APL-NOL-MOL Hyundai	West Coast 9 East Coast 1	4	1	447,358 TEU (178)
United Alliance	Hanjin DSR-Senator Cho Yang UASC	West Coast 8 East Coast 2	5	2	342,566 TEU (152)
Cosco/K Line/Yangming		West Coast 7 East Coast 1	4	3	380,689 TEU (207)
Evergreen		West Coast 5 East Coast 2	3	1	311,951 TEU (132)

Source: United Nations Economic and Social Commission for Asia and the Pacific website, http://www.unescap.org.

evident with regard to airlines, especially passenger movements.

At the national level, governments are seeking to create competitive conditions in the railroad industry to improve efficiency and achieve reductions in costs. However, with increasing globalization, the main challenge for the railroad industry is to meet the overland transportation element of international trade. Since international trade is largely containerized, the interface between the railroads and the shipping industry at ports and at terminals near ports has become critical to the flow of goods. The trucking industry faces a similar challenge to meet overland transportation demand, sometimes competing with railroads and sometimes in a complementary role, catering to short lead traffic from rail terminals.

Terminals

Globalization and intermodal transportation have modified the economic and political environment in which transport terminals are evolving. Huge volumes of activity at terminals are highlighting space constraints, leading to changes in terminal operations technologies. Strategic alliances among service providers are also changing the relationship between terminals and users. The emphasis has therefore shifted from modes to terminals, since the real potential time savings are now at terminals and ports and, at the intra-urban scale, through synchronization of movements between transport terminals (Rodrigue 1999). Deregulation and privatization are creating conditions for integration between modes through terminals. The just-in-time inventory management environment reduces warehousing needs and increases the need for integration among elements of the production system. The transport industry's new role thus involves orchestrating inventory levels and adapting to constant fluctuations in demand from origin and destination clients. Achieving synchronization among transport terminals, regardless of the mode, necessitates an information exchange process supported by the information systems and by strategic alliances that include

information sharing. Strategic alliances, especially among maritime and air companies, have also enabled these companies to share their modes, terminals, and distribution networks and to improve the synchronization of their respective transport systems.

Communications

Communications technology plays a critical role in the linkages supported by the transport industry in the global supply chain. Advances in communication technologies have stimulated the dispersion of production, creating new demand for transport. Also, synchronization of traffic movements is achieved through information flows and networking. Transportation and communication industries are thus allies in the globalization process, feeding upon one another's technological advances and stimulating further integration.

Technological Advances

Over the past few decades, the communications industry has witnessed spectacular technological advances unparalleled in history. Analysts who attempt to understand the impact of these changes agree that the process has been rapid and exhibits many dimensions. The magnitude of the technological advances and their wide dissemination have led some to conclude that the globalization process is driven by communications technology. The digitization of information and the flow of ideas and information across national borders facilitated by the new technologies have even been viewed as weakening the authority of the sovereign state. This has raised concerns about imbalance in the communication flows between developed and developing nations. There is a large body of literature focusing on globalization and the effects of these flows. Basic features of these technological advances support a more integrated world and have affected the communications industry in unprecedented ways. Indeed, advances in mobile cellular technology, cable, satellite, broadband, fiberoptics, the Internet, and other digital interactive telecommunications platforms have blurred the distinction between mass communications and interactive interpersonal communications systems.

Digitization and Networks

Digitization translates every kind of information into a universal binary code so that any kind of communication can be handled by the same medium and transmitted through its infrastructure. With the digital revolution, streams of voice, data, and video can flow ever faster around the globe, and the basic units of information are packets routed from one destination to the next. With compression technologies, one bandwidth can be used to transfer far larger amounts of information than was previously possible in an analog world. Digitization allows for information transfer through different media to occur seamlessly, somewhat similar to intermodalism in transport, only it is much more effective. Since different types of information can be sent over the same network, users can migrate from dedicated networks to universal networks. This technological development is leading to the *convergence* of communications technologies, which creates ideal conditions for mergers and alliances across corporations operating in different media. Combined with this development is the increase in the speeds with which information is processed and transmitted, features that clearly support greater global integration.

Information processing speeds have been increasing faster than predicted by Moore's law (named after Gordon Moore, writing as early as 1965), which stated that the information processing power of microprocessors would double every eighteen months. Indeed, the transmission speeds have more than kept pace, tripling every twelve months (meeting the requirements of Gilder's law, named after its originator George Gilder). The network systems of the predigital era required centralized organi-

zational structures with networks controlled by the telephone or television company. However, the digital network, the Internet being a prime example, is built on a different paradigm (Mayer-Schonberger and Hurley 2000). The Internet, which evolved in a decentralized fashion, rests on standards such as TCP/IP—a convention that has been adopted globally. Thus four features of the new communication technology—digitization, processing power, network bandwidth, and globally standardized but decentralized communication architecture—are contributing to what is termed the "communication revolution." Global communication networks imply the decline of the importance of geographic proximity as a critical factor for transactions.

Digital networks caused global telecommunication network revenues to grow from US$600 billion in 1995 to $US1 trillion in 2002 (*World Telecommunication Indicators Database*). Within global communications, mobile telephony grew from about US$80 billion in 1995 to US$365 billion in 2002. Digital networks, with their capacity for permitting two-way communication, allow for a different model of production, namely, mass customization. In this system, concrete customer information is used to provide customized production meeting the buyer's specifications. Access to digital networks is becoming important in the new economy, and developing countries are moving faster into the information age than they have with other forms of technological advancement.

Convergence

On the one hand, the universal digital network permits decentralized communication architecture; on the other, the convergence of telecommunications, computing, and mass communications leads to consolidation efforts among media companies. For example, telecommunication services can be provided by TV cable networks, or TV signals can be carried by telecommunication operators. The technical convergence leads to institutional convergence. There is evidence of increased convergence and consolidation in communications, media, and entertainment sectors. The bigger corporations have been buying up successful smaller enterprises to manage the competitive environment. In 1999, 921 deals worth almost US$568.3 billion were announced, up from 681 deals worth US$295.4 billion the year before (KPMG Web site). Industry alliances over the past two decades include alliances between CGE (France) and ITT (United States), Sony (Japan) and AT&T (United States), Philips (the Netherlands) and Matshushita (Japan), and so on (Hamelink 1995).

Another factor contributing to the communication revolution is satellite technology and its impact on telephony, television, and meteorological functions. Satellites placed in geostationary orbit can cover one-third of the earth's surface with their footprint. They have contributed to the globalization process through the rise of global news channels such as CNN and BBC World, global music channels such as MTV, and global sports channels.

Globalization, digitization, and consolidation go hand in hand with deregulated environments for world communications industries. Digitization reinforces technological integration and institutional consolidation and thus promotes globalization. Global operations create global markets necessitating deregulated national markets. Technological change has also facilitated the privatization of telecommunications structures, as the natural monopoly argument associated with network industries was no longer a strong argument for state monopolies.

Production Sharing and Capital Flows

Globalization alters patterns of production, distribution, and trade as well as the nature of the services provided and the manner in which they are delivered. The transportation and communication sectors, and especially the latter, are at the center of some of these changes.

Transportation and communications provide critical inputs to three key areas of the global economy: production sharing/outsourcing in the commodity markets, integration of capital markets, and transactions in all markets through the electronic medium.

Improved communication links have led to the emergence of international production networks by facilitating coordination of geographically dispersed production processes. International service networks have also led to dispersion of employment in the services sector, which now makes use of transcription and calling centers. Frances Cairncross (1997) supplied anecdotal evidence of this process, describing an accountancy firm in southern England (Dyer Partnership) that acts as the finance department for a Ukrainian manufacturer of wind turbines, using the Internet; Dyer handles all the financial reporting, including profit and loss statements. The retailing revolution, which began in the 1980s with the emergence of large-scale discount stores such as Wal-Mart and Target in the United States, is based on extensive outsourcing to low-wage countries combined with new inventory methods and rapid communications (Feenstra 1998). None of these methods of conducting business would have been possible without excellent communication networks and reliable transportation means.

In the nineteenth century, the high cost of transmitting knowledge favored long-term capital investments. The telecommunications revolution of the late twentieth century, however, favors the rapid, almost frenetic movement of highly liquid assets. The spread of information technology has strengthened real and financial linkages across countries. Although it is difficult to document, the increased ease, reliability, and lower cost of telecommunicatons have undoubtedly promoted the explosion of foreign direct investment (FDI). This is especially true of FDI in the service sector, where foreign affiliates are often selling information or expertise. Overall, world FDI flows more than tripled between 1988 and 1998, from US$192 billion to US$610 billion, and the share of FDI to gross domestic product (GDP) is generally rising in both developed and developing countries. Developing countries received about a quarter of world FDI inflows in 1988–1998, on average. This is now the largest form of private capital inflow to developing countries (World Bank).

Communication technologies have also been critical in changing the manner by which transactions are conducted. Numerous transactions now take place across the world through the electronic medium of the Internet. It is predicted that worldwide business-to-business (B2B) e-commerce revenues will surpass US$1.4 trillion by the end of 2003. By 2004, worldwide e-commerce revenues totaled US$2.7 trillion and are expected to continue this trend in 2005 (Emarketer 2005).

Conclusion

The transportation and communication sectors are the sinews and nerves, respectively, of globalization. The effects of globalization on standards of living in various regions of the world, the developed and the underdeveloped, is part of a heated debate. However, strong technological advances in the communication sector are leading to a world where borders are becoming less significant. Advances in the transportation and communication sectors may create a world where seamless movement of people, goods, services, and ideas across borders are possible. The question is whether public policies would continue to support such movement and reap the benefits of these technologies.

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See also Transport Manufacturing: aircraft/automobiles/shipbuilding; Transport: Airlines/railroads/shipping

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PART TWO

Major Business and Economic Sectors

Agriculture

Primitive forms of agriculture existed thousands of years ago, involving the domestication of plants and animals. However, the application of scientific knowledge to agriculture dates back only about 200 years. The steel plow, the reaper, and the threshing machine were all patented in the early nineteenth century. In the developed part of the world, tractors did not replace horses until well into the twentieth century, and in many developing countries, animals are still used for power in agriculture today. About three-fourths of the world's population resides in developing countries where the most important source of employment is agriculture. So most of the world's poor are engaged in farming.

Global food production continues to outpace population growth (see Table 1), and food is now more available and more affordable to a larger share of the earth's population than ever before. Measured by calories per day, world per capita food supplies are about 25 percent higher than they were forty years ago, even though the global population has more than doubled over the same time period. As a result of the increased supply, real agricultural commodity prices have shown a gradual downward trend. Over the past century, there have been recurring periods of rising and then falling raw commodity food prices, but the overall trend has been down (see Figure 1), with prices declining by about 0.4 percent per year, on average.

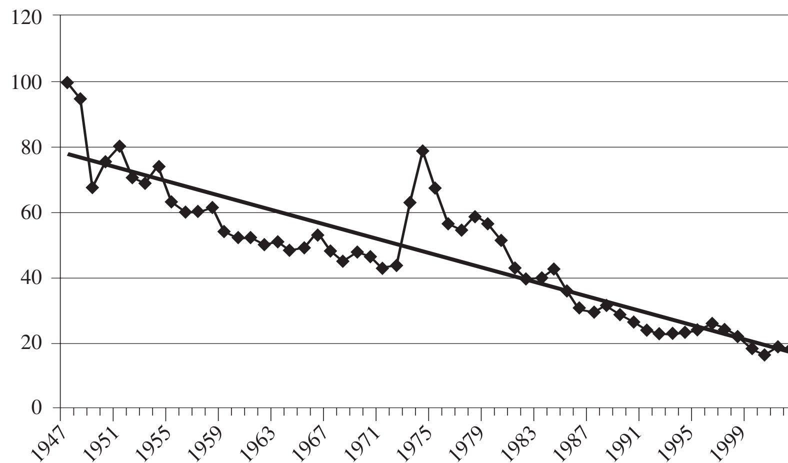
Approximately 10 to 15 percent of the world's population suffers from malnutrition today, and this figure has dropped spectacularly from over 50 percent in the early 1950s, according to the United Nations Food and Agriculture Organization. This success on the supply side of the food balance equation is due to large productivity gains associated with the intensification of agriculture and improvements in crop yields. Developing countries have been strong participants in this technological progress, as their per capita food supplies grew by about 40 percent over the past forty years, on average. However, the trend in increased supply has been uneven across continents. In Asia, the increase in per capita food supplies has exceeded the world average by a wide margin, whereas in sub-Saharan Africa

Table 1: Growth in Food Production and Production per Capita: average annual % change

Annual % production	*World*	*World per cap*	*Developing*	*Developing per cap*	*Developed*	*Developed per cap*	*Transition*	*Transition per cap*
1971–80	2.39	0.59	2.93	0.75	1.91	1.10	1.34	0.48
1981–90	2.29	0.57	3.50	1.44	0.99	0.29	1.77	1.01
1991–00	2.35	0.95	3.72	2.04	0.30	–0.14	–3.44	–3.40

Source: Food and Agriculture Organization, FAOSTAT, www.fao.org.

Figure 1. Real Price of Foodstuffs, 1947 to 2002 (1947=100)



Source: Commodity Research Bureau. Index includes spot price of butter, cocoa, corn, hogs, lard, soybean oil, steers, sugar, soft wheat, and hard wheat. CRB index was deflated by the U.S. CPI.

food availability per capita has fallen since 1960.

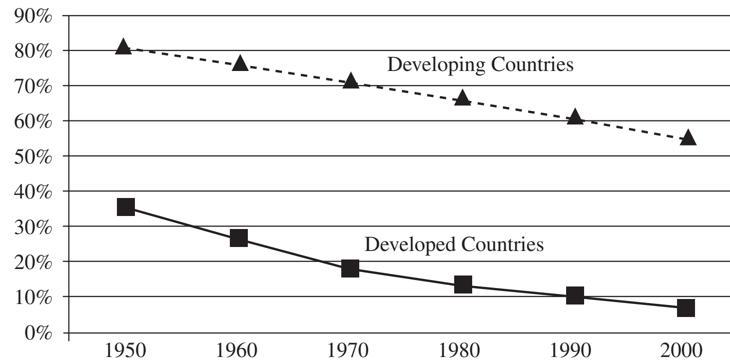
The future of agriculture holds the promise of large benefits through bioengineered crop varieties that will serve to further boost yields through better control of pests, diseases, and resistance to frost and drought. These new crops will require fewer chemicals and therefore are expected to be more environmentally friendly. Once produced, bioengineered foods should offer nutritional and medical benefits to consumers. Per capita food production will therefore most likely continue to improve in terms of quantity and quality, especially as world population growth is showing signs of slowing down.

As economies grow, the general rule is that agriculture shrinks as a share of overall economic activity. Statistics from various nations illustrate the effects of economic development on agriculture's role in national economies. Agriculture's share of the economy in South Korea fell from 24 percent in 1970 to 4 percent in 2000. At the same time, the percent of the labor force in agriculture declined from 50 percent to 10 percent, and the national per capita income per annum rose from $250 to $9,700. In the United States in 1800, 75 percent of the labor force was directly engaged in agricultural production. By 1900, this share had dropped to less than 40 percent, and today the figure is around 2 percent. The decline in farm employment is largely due to rapid productivity growth in agriculture, about double that in manufacturing (Jorgenson and Gollop 1992). Figure 2 shows the global trends in agricultural employment in developed versus developing countries.

Agriculture is arguably one of the world's most important industries because everyone has to eat. Its importance in the global economy is shrinking to the point where it now accounts for less than 5 percent of the world's gross domestic product (GDP), yet it continues to employ over 40 percent of the global labor force. The gap between the small percent of GDP accounted for by agriculture and agriculture's relatively large share of the labor force underscores the fact that in most of the populous developing world, agriculture still accounts for a relatively large share of the economy. For instance, in China the figure is around 50 percent, and in India it is about 60 percent.

China and India have about 250 million to 300 million farmers each, and their average per

Figure 2. Agricultural Employment as Percentage of Total Employment



capita incomes are less than $2 per day (World Bank 2001). In sub-Saharan Africa, about 75 to 80 percent of the labor force is engaged in agriculture, with the average wage being less than $2 per day. Of course, these average figures obscure the wide variability in the role that agriculture plays in various economies around the world. For instance, in Afghanistan, agriculture accounts for 60 percent of the GDP and employs 80 percent of the labor force. In contrast, in Japan, agriculture accounts for only 2 percent of the GDP and employs 5 percent of the labor force.

Improvements in agricultural productivity have been impressive despite the fact that agriculture stands out as an industry that has not fully participated in the recent globalization trend. Agricultural input and output markets are not well integrated across nations because most governments continue to intervene in agricultural markets through subsidies, trade barriers, state-trading, and the like. In particular, farmers in developed countries, especially the European Union, Japan, and the United States, are politically organized in a way that allows them to tilt agricultural policy in their favor, collect large subsidies, and isolate themselves from the disciplines of the world marketplace. In developing countries, the state also plays a significant role in agriculture, but unlike the developed part of there world, where farmers receive net subsidies, in the developing world the net effect is often to tax agriculture. Fortunately, there is political pressure for agricultural policy reform in both developed and developing countries, and if there is a breakthrough agriculture would become a more significant participant in globalization. Achieving this success could take a long time, however.

Agricultural Globalization: Historical Developments

Prior to the nineteenth century, nations were faced with recurring food shortages, and consequently, government food trade policies were highly protectionist. It wasn't until the 1840s, when the Industrial Revolution increased agricultural productivity (through mechanization), that the supply of food increased to the extent that international trade in food could be embraced. The repeal of the British Corn Laws in 1846 represents the beginning of modern agricultural trade. The complementary revolution in transportation at the time encouraged the growth of international agricultural commerce (McCalla 1969). The United Kingdom rapidly moved toward free trade during this period, whereas France and Germany chose to protect domestic landowners instead. These two influential continental nations continuously built up

protective mechanisms for their domestic agriculture. Their trade barriers increased significantly in the 1870s when grain and livestock from North America started to flow into Europe and depress prices. Britain, meanwhile, adhered to the doctrines of free trade.

In the early part of the twentieth century, the two world wars and the Great Depression between the wars brought major changes in agricultural trade and trade policy. Food shortages in many European countries during World War I meant that supply security became a major issue following the war. The United States, Australia, and Canada expanded production rapidly to meet wartime demand. After the war, these abundant food supplies resulted in lower prices. Both Australia and Canada set up government agencies to market international wheat sales during the war period. Government control over grain also replaced the free market system in the United States in 1917 and 1918. The United States, Germany, and France all stepped up agricultural protection in the 1920s.

There were also major structural changes that took place in the world grain markets following World War I. For instance, prior to the war, Russia was the world's largest exporter of wheat, accounting for about 25 percent of the market. After the war, Canada, the United States, Australia, and Argentina came to dominate the market, and Russian exports were no longer of any significance. Interestingly, in the early part of the twenty-first century, Russia and the Ukraine once again emerged as large wheat exporters.

The New York stock market crash in 1929, which signaled the beginning of the Great Depression, also marked a period of rapid decline in agricultural commodity prices and the introduction of several new government policies to support farm incomes. The export price of Canadian wheat, which set the world standard at the time, fell from $1.75 per bushel in the summer of 1929 to below $1.00 the following June. By December 1930, the price declined to $0.55 and then hit rock bottom at $0.40 in December 1932.

The United States introduced a system of supporting farm incomes with the passage of the Agricultural Adjustment Act in 1933. Even the free trading nation of Britain introduced agricultural import restrictions in the 1930s. It was the depressed price levels in the world markets that led to increased protectionism. The percentage of traded agricultural commodities subject to domestic market regulation increased from 5 percent in 1929 to about 55 percent in 1935.

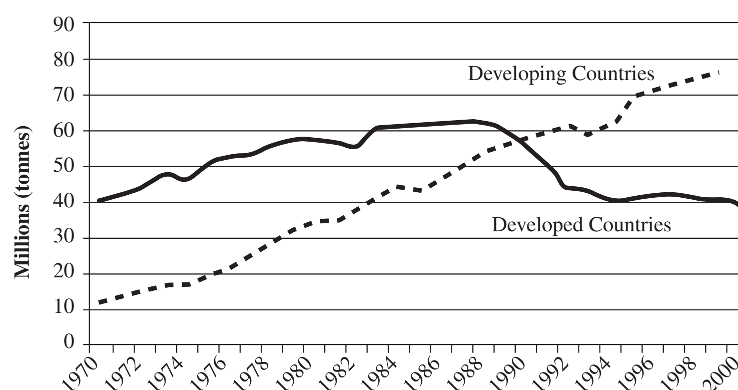
World War II resulted in a severe drop in agricultural production in Europe, the USSR, Southeast Asia, and North Africa. These regions became significant importers of food in the immediate postwar period. However, food production in Canada, the United States, Australia, and Argentina actually rose, just as it had during World War I. In North America alone, agricultural production during the war increased by about 30 percent.

The formation of the European Economic Community (EEC) in 1957 with the Treaty of Rome was a major event shaping the structure of world agriculture. One of the main reasons that the EEC was formed was to protect agricultural production in Europe from low-cost imports from North America and Oceania. Europe's Common Agricultural Policy (CAP) made no provisions for production limitations, and thus output increased dramatically while prices rose. Farmers in Europe responded by rapidly expanding the use of fertilizers and chemicals. As a result of CAP, Western Europe changed from a major net importer of agricultural commodities to a major exporter.

The 1950s witnessed the introduction of "cheap food policies" in many developing countries in Latin America, Africa, and Asia. At the time, the belief was that rapid economic growth could only be achieved through import-substitution industrialization. As a result, agriculture was discriminated against through high import tariffs on industrial goods, the formation of parastatal marketing boards, urban food subsidies, and overvalued exchange rates.

Perhaps the most extreme example of dis-

Figure 3. Use of Manufactured Fertilizer



crimination against agriculture took place in China in the 1950s with the collectivization of agriculture and the establishment of communes based on the Soviet model. China's "Great Leap Forward" in the late 1950s diverted resources away from agriculture toward industrialization in an attempt to rapidly industrialize China's economy. China's grain output fell by about one-third in just two years, resulting in the worst famine of the nineteenth and twentieth centuries (Carter et al. 1996). An estimated 30 million people perished from the famine in China from 1959 to 1961. In comparison, the Irish famine of 1845–1851 resulted in 1.1 million deaths, the Bengal famine (in eastern India) in 1943 in 3 million to 4 million deaths, and the Ethiopian famine in 1984–1985 in about 1 million deaths.

The 1960s was a decade characterized by rapid technological change in agriculture, often called the "Green Revolution." Unlike previous periods of agricultural change, which were driven by advances in mechanical technology, the Green Revolution was characterized by breakthroughs in biological technology. In agriculture, mechanical technology has saved labor, whereas biological technology has generally served to save land.

Asia was the major benefactor of the Green Revolution because of major technological innovations that occurred in the production of hybrid rice and dwarf wheat. High-yielding corn and wheat varieties were developed in Mexico in the 1950s, and high-yielding rice varieties were developed in China and the Philippines in the 1960s. These new varieties were very responsive to industrial inputs (such as chemical fertilizers, pesticides, and herbicides) and more effective soil and water management (including double cropping, that is, harvesting two crops per year on the same piece of land). These new techniques quickly replaced traditional farming practices throughout Asia and led to increased use of manufactured fertilizer in the developing world (see Figure 3).

The United Nations Conference on Trade and Development (UNCTAD) was established in the early 1960s with the goal of stabilizing and raising commodity prices in order to help developing countries, which were very dependent on primary commodity exports. Third World exporters faced falling commodity prices and price instability, slow growth in import demand, and trade restrictions in importing countries. UNCTAD worked to establish international commodity agreements (ICAs) that attempted to use buffer stocks and export controls to raise and stabilize world prices. ICAs in one form or another operated for wheat, sugar, rubber, and cocoa, and there were attempts to establish agreements for cotton, tea, jute, and sisal. The ICAs were unsuccessful owing to a lack of enthusiasm from member countries, "free riders" selling outside the agreements,

and the general difficulties of attempting to manipulate world commodity markets that are subject to the disciplines of supply and demand (Gilbert 1987). For instance, the international coffee agreement was dominated by Brazil and Colombia for many years but could not control increased production in Africa and Asia that was sold outside the agreement to countries such as Russia.

An agricultural commodity price boom characterized the decade of the 1970s. Poor weather in parts of the world (partly due to El Niño) and policy failure elsewhere reduced food supplies and raised legitimate concerns over a potential world food crisis. The famous Russian "grain robbery" took place in 1972 when the Soviets purchased 30 million metric tons of grain from the United States over a short time period. The U.S. government even provided export subsidies on those sales, but immediately following the Russian purchases, the price of wheat, feed grains, and soybeans escalated sharply. The price of wheat and soybeans tripled in 1973. The volume of world agricultural trade expanded dramatically in the early part of the 1970s, and the U.S. government overreacted, imposing export controls on soybeans in 1973, a move which enraged Japanese importers and reignited food security fears in Japan. In 1974 and 1975, the United States also imposed volume restrictions on exports of corn and wheat to the USSR.

The 1980s saw a slowdown in the volume and value of agricultural trade and a collapse of commodity prices. In response to the USSR invasion of Afghanistan, the U.S. government (and other cooperating exporters) imposed an embargo on grain sales to the USSR in 1980. This embargo was not related to U.S. domestic supply concerns; rather, it was a foreign policy action aimed to punish the Soviet Union. The embargo was ultimately judged to be ineffective (USDA 1986), though Soviet import behavior did change after the embargo was lifted.

The most significant development in world agricultural policy during the 1980s was that China decollectivized its agriculture. To privatize farming, it established a "household responsibility system," supported rural industrial development (that is, township- and village-owned firms), and reformed mandatory procurement quotas and prices for agricultural commodities. Following reform, China's agricultural production growth was abnormally high for a few years owing to one-time productivity gains from improved incentives.

The Uruguay Round of trade negotiations was also launched in the 1980s, and the final 1994 agreement brought agriculture into the World Trade Organization (WTO). Agriculture thus became one of the last global industries to be subject to multilateral trade rules. The Uruguay Round Agreement on Agriculture (URAA) set new rules for trade in agricultural products and initiated a modest reduction in protection. The URAA also improved market access and disciplines on domestic support and export subsidies.

In the 1990s, the Asian financial crisis hit, and stock markets and currencies in the region fell between 30 and 50 percent. The Asian crisis was a reminder of the important linkage between macroeconomic variables (for example, interest rates, exchange rates, and income growth) and the agricultural sector. Macroeconomic shocks influence export competitiveness, import demand, and input prices. The agricultural producers in some Asian economies (such as Thailand) actually benefited from the crisis owing to currency depreciation, but consumers in those same countries suffered.

Agricultural Policy

Over thirty years ago, D. Gale Johnson wrote: "A significant fraction of world farm output is being produced in the wrong place. If significant benefits of a permanent nature were being derived from the distortions in location of output, there might be a reasonable basis for such interferences. However, the benefits that have been, and are being, derived are minimal; and

the costs to consumers and taxpayers in many industrial countries, and to the possibilities of the developing countries to use their own resources to best advantage and to earn foreign exchange required for rapid economic growth, far outweigh any possible gains" (Johnson 1974, 23).

Johnson's description of how agricultural policies in rich countries have resulted in "world agriculture in disarray" is equally accurate today. He observed that the world's food supply is not produced in the regions with the lowest agricultural costs. Policies in developed nations tend to encourage agricultural output, while the opposite tends to be true in developing countries (Krueger et al. 1992). As a result, surplus agricultural production takes place in regions of the world where it isn't needed, and there is underproduction in regions of the world with a deficit in food supply. This implies that marketing and policy constraints are at least as important determinants of future food availability as biological or ecological constraints.

Despite considerable political rhetoric in the United States and the European Union about reforming and liberalizing agricultural policy, not much has changed; if anything, there is now more policy intervention than when Johnson made his observation many years ago. Agriculture remains one of the most distorted industries in the world economy.

The protection of agriculture has a long history. Prior to the nineteenth century, Britain employed import tariffs on grain (for example, through the Corn Laws) to raise food prices and benefit British landowners. The famous economist David Ricardo was concerned with this policy issue, and his theory of comparative advantage was directed at showing that free trade in grain was preferable to import duties.

Ricardo's principle of comparative advantage is recognized as one of the most important propositions in economics, but in today's global marketplace, much of what is observed in agriculture goes against the logic of Ricardo's theory. The standard free trade model does not explain agricultural trade patterns. For example, the Japanese government pays its farmers $30 per bushel to produce wheat, when it could purchase all that it requires from other nations at $4 or $5 per bushel. Everywhere, agriculture remains heavily protected from imports—for instance, the U.S. import tariff on peanut butter is 130 percent, Canadian import tariffs on dairy products are 300 percent, and South Korean rice tariffs exceed 500 percent.

The staple nature of agricultural products makes the industry somewhat unique, and this is one reason that it receives special status with regard to government policy. Because human survival depends on food, agriculture and agricultural trade is highly political. This also means that the supply security issue is given undue attention in, for example, Europe and Japan. France is a classic example of a country where supply security is used as an argument in favor of high farm prices even though the country is a large food exporter. French politicians still use food shortages during World War II as justification for heavily subsidizing their farmers and others in the European Union.

Farmers in poor countries are adversely affected by subsidies in rich countries, which lead to overproduction and depressed world commodity prices. Annual agricultural support for developed countries now totals over $300 billion, double the value of total agricultural exports from developing countries (UNCTAD 1999). According to the Organisation for Economic Co-operation and Development (OECD), domestic policy support to agriculture in the United States, Japan, and the European Union accounts for 80 percent of the world's total subsidies. In 2001, total agricultural support in OECD countries was about $311 billion, accounting for about one-third of total farm receipts. Subsidies totaled about $100 billion in the EU, $55 billion in the United States, and $50 billion in Japan. For every metric ton of wheat produced in Australia in 1999, farmers received about $10 (in U.S. dollars) in subsidies from the government. In contrast, in the United States and in the EU, the subsidies

per metric ton were $50 and $60, respectively, in the same year. The world wheat price in 1999 was only about $100 per metric ton.

U.S. farm policy is revamped every five years by measures commonly referred to as "Farm Bills." Prior to 1996, U.S. agricultural policy was based on a combination of features, including government-guaranteed farm prices, export subsidies, and government stockholding activities. The subsidies in the United States varied inversely with the global supply-demand balance. When world supplies were low and prices high, U.S. farmers received less in the way of government support. When global supplies were burdensome and prices low, farmers were paid not to produce but received very high prices for what they did produce.

The 1996 U.S. Farm Bill introduced the most fundamental changes in U.S. farm policy since the 1930s. Government payments were no longer linked to specific crops and crop prices, and farmers no longer had to take land out of production in order to receive subsidies. Furthermore, the U.S. government largely withdrew from holding reserve stocks and dramatically reduced the use of export subsidies. Under the 1996 bill, the government tied payments to individual producers based on historical plantings and yields. Individual growers could obtain government payments totaling up to $150,000 per year, and some growers receive multiples of this limit through partnerships and other business arrangements.

The EU has recently reformed its agricultural policy with the Agenda 2000 legislation, introduced in 1999. Agenda 2000 modified EU policy through a shift from price supports to direct payments. One impetus for the legislation was the EU enlargement to include several Central and Eastern European countries, including the Czech Republic, Hungary, and Poland. Another reason for the EU reform was that Europe needed to reduce its use of export subsidies in order to comply with its Uruguay Round commitments. A large share of the subsidies in the EU, Japan, and the United States becomes capitalized into land values. The WTO offers the most hope for stopping this subsidization, as it helps governments in the EU, Japan, and the United States keep their own domestic special-interest groups in check. In order to comply with the spirit of the WTO rules, the United States is going to have to grant better access to its own markets—including sugar, dairy products, peanuts, and citrus—and to do so it must stand up to domestic lobby groups.

As traditional agricultural trade barriers are lowered, food safety and animal and plant quarantine measures are increasingly used as obstacles to international trade. The Uruguay Round Agreement on Sanitary and Phytosanitary Measures (SPS Agreement) established some basic rules for countries to set standards for food safety and the protection of domestic animal and plant species. It allows countries to set their own standards, but it also says regulations must be based on science.

Trade remedy laws are now being used in agriculture as a replacement for traditional trade barriers. There is an upward trend globally in the usage of trade remedy cases in both developed and developing countries—including antidumping (AD) and countervailing duty (CVD) laws and, to some extent, import relief (safeguard) laws. Developing countries have criticized the use of AD and CVD laws in developed countries. For instance, Brazil refused to fully engage itself in discussions on the Free Trade Area of the Americas because of the continued application of U.S. AD duties on products such as orange juice. In 2002, the filing of AD cases on exports of raspberries and spring table grapes to the United States troubled Chile. U.S. honey producers have also received AD protection from competition from Argentina and China as well as CVD protection from Argentina.

Food Supply and Demand

In 1972, the Club of Rome published "Limits to Growth," a very pessimistic study of population and food that predicted that by 2050 there

would be a worldwide catastrophe due to food shortages (Meadows 1972). The Club of Rome predictions gave renewed attention to the writings of British economist Thomas Malthus, who in 1798 said the world would eventually face a large-scale famine because population growth would outstrip the food supply. Paul and Anne Ehrlich made a similar prediction in a 1990 book, *The Population Explosion,* in which they argued that humans are on a "collision course with massive famine." In 1995, Lester Brown, in *Who Will Feed China? Wake-Up Call for a Small Planet,* predicted that China will starve the rest of the world. These gloomy predictions have all been well off the mark; world per capita food supply (measured by available calories) has increased by 25 percent over the past forty years (FAO 2002).

Growth in agricultural production has been particularly impressive in Asia. In the 1980s and 1990s, agricultural production grew by 5.3 percent per year in China, 3.2 percent in India, and 3.3 percent in Indonesia. In contrast, agricultural production in the rich OECD countries only grew by 0.3 percent during the same period. China is the most successful story, as it boosted cereal grain production by more than 50 percent during this time period. Per capita food supply in China rose from 2,328 calories per day in 1980 to 3,029 calories in 2000, a 30 percent increase in just twenty years. In sharp contrast to Lester Brown's forecast, China's huge success with food production helps explain why developing countries as a group have done so well in terms of increasing supply.

The food situation has not performed as well in sub-Saharan Africa, where per capita food production fell by about 1.1 percent per year during the 1970s and 1980s. Food production grew at an annual rate of 1.7 percent between 1970 and 1989, but it could not keep pace with the rapid population growth in the region at the time, rising at 2.9 percent per year. Reasons for poor agricultural performance lie with a poor infrastructure (for example, less than 2 percent of the arable land is irrigated in sub-Saharan Africa), poor marketing systems, unpredictable government policies, wars, and unstable macroeconomic conditions. However, there has been a movement away from centralized decisionmaking throughout Africa as marketing parastatals have been disbanded and market forces have been allowed to work. The results are encouraging, as sub-Saharan food production growth increased to an annual rate of 2.9 percent in the 1990s and growth in per capita food production was positive (0.2 percent per year).

Globally, per capita food production has grown at an average rate of approximately 0.6 percent a year over the past thirty years, and the growth rate has increased in the past decade. Developing countries, with increases in production due to the liberalization of regressive policies and the intensification of agriculture, have accounted for most of the growth in per capita world food production.

Of course, on the production side, agriculture is vulnerable to unplanned fluctuations in output resulting from weather phenomena. Moreover, supply fluctuations often give rise to price variations in the opposite direction. These factors combine to produce a large amount of revenue variability for agricultural exporters and fluctuating import costs for importers. Many developed nations have attempted to isolate themselves from fluctuating prices through the formation of trade barriers. However, this response tends to accentuate the amount of instability in the international marketplace (Zwart and Blandford 1989). For developing countries, variable agricultural prices are problematic, because their export base is often heavily concentrated on raw commodities.

"Engel's Law" (named after Ernst Engel, a nineteenth-century German statistician) states that with rising incomes, the share of expenditures for food products declines. Today, consumers residing in developing countries spend, on average, about 47 percent of their budget on food, whereas in rich countries consumers spend about 13 percent on average. It is also the case that increases in per capita food demand resulting from income growth slow as incomes

rise. For example, as per capita incomes rose in Japan and South Korea, per capita rice consumption peaked and then started to decline.

Demographers, who once predicted the earth's population would peak at 12 billion over the next century, have revised their estimates; they now expect that the world's population will peak at 10 billion before 2200, when it may begin declining. The world's population, now 6.2 billion, quadrupled in the twentieth century. In 1900, 86 percent of the world's people lived in rural areas and about 14 percent in urban areas. By 2000, cities were home to 47 percent of the population, with 53 percent still in the countryside. Between now and 2030, when the global population is expected to reach about 8 billion, almost all the growth will be in cities. The largest percentage increase will take place in Africa, but the greatest absolute growth in population will occur in Asia, which has 56 percent of the world's population. The United Nations estimates that the world's population is growing at an annual rate of slightly more than 1.2 percent. Of this growth, 97 percent is taking place in less-developed countries.

Income growth and urbanization, and the resulting changes in dietary patterns, particularly in developing countries, have important implications for food consumption and agricultural trade. Urbanization leads to a decrease in calorie consumption per person (Clark et al. 1995) but greater demand for processed food products. At the same time, urbanization is correlated with income growth. Low-value staples, such as cereals, account for a larger share of the food budget of the poor, whereas high-value food items, such as dairy products and meat, make up a larger share of the food budget of the rich (Regmi 2001). Poor consumers are most responsive to income and price changes. Thus, rising incomes are usually associated with increased demand for meat, horticultural, and processed food products, and increased demand for meat, in turn, results in increased demand for feed grains and protein meals.

For instance, in 2000, per capita meat consumption (red meat, poultry, and fish) in China was 20 kilograms (kg) per year for rural households and 35 kg per year for urban households, and urban incomes were 2.5 times larger than rural incomes. On average, China's rural and urban meat consumption per person in 2000 was 24.5 kg per year. This figure compares to an annual consumption level of about 81 kg per person in the United States. The income gap between the United States and China is about 8:1. However, China's per capita incomes have more than tripled over the past twenty years, and as a result, some dramatic changes in food consumption have taken place. For instance, per capita meat consumption has also tripled over the past twenty years in China. Demand for improved quality and convenience, increased health awareness, and an aging population have all led to changes in food consumption patterns in developed countries (Regmi 2001). For example, in the United States, per capita consumption of red meat has fallen 12 percent over the past thirty years while per capita consumption of poultry increased by 92 percent. Per capita fruit and vegetable consumption in the United States increased by 21 percent over the same period.

International Trade

Global merchandise trade has grown seventeen-fold since 1950, but agricultural trade has grown only sixfold over the same time period. Agriculture now accounts for less than 10 percent of merchandise trade, down from 25 percent in the early 1960s. This lower growth rate in agricultural trade no doubt reflects the lower rate of world demand growth for food relative to the more price-elastic manufactures. However, average tariffs on manufactures have fallen from 40 percent to 4 percent during this period, whereas agricultural tariffs have remained in the 40 to 50 percent range, on average (USDA/ERS 1998). Thus, agriculture has

not yet fully participated in the new globalization phenomenon. However, despite high protectionism, agricultural trade has expanded faster than agricultural production.

In 2001, the value of global agricultural trade was an estimated $412 billion, according to the FAO's categorization of agricultural products. Table 2 lists the annual value of global trade by major categories of agricultural products. The largest trade categories include fruits and vegetables ($69.8 billion), meat ($45.8 billion), cereal grains ($36 billion), milk and milk products ($27.6 billion), beverage crops ($25.1 billion), and soybeans and soybean products ($21.2 billion). The United States and the European Union are the largest food exporters in the world, each exporting around $50 billion per year. Tables 3 and 4 report the top agricultural trading nations. The two dominant exporters are followed by Canada, Australia, Brazil, China, and Argentina, in order of importance. On the import side (Table 4), the European Union, the United States, and Japan are by far the largest agricultural importers, followed by Canada, the former Soviet Union, Mexico, China, South Korea, and Hong Kong. China's official agricultural imports may be underreported because they do not take account of smuggling from Hong Kong, an activity that is prevalent for horticultural and animal products to avoid tariffs and other trade restrictions.

There have been some distinct changes in patterns of agricultural trade over the past few decades. The share of high-valued and processed food products has grown dramatically since the mid-1980s relative to trade in bulk agricultural commodities such as cereal grains, rising from about 39 percent in 1980 to more than 50 percent in 2000. The value of trade in fruits and vegetables has increased by over 30 percent over the past decade. Trade in meat has shown a similar upward trend, but at the same time, the value of trade in cereal grains has remained flat.

Cereal grain markets around the world remain a critical component of the world food equation because grain represents the single most important source of world food consumption, accounting for about 60 percent of the calories consumed. Total global production of wheat, coarse grains, and rice is approximately 1.8 billion metric tons per annum, with some 220 million metric tons (mmt) traded (about 12 percent). Oilseed production is around 215 mmt, and approximately 18 percent of this is traded. Because grain is one of the world's key staple products, it is a highly political commodity—it has been used in the past as an economic weapon (for example, in 1980 with the U.S. embargo on grain sales to the Soviet Union), and it receives special economic and political status in both developed and developing countries. Grain is a special commodity because the possibility of a grain shortage is real, although the probability of one is very low: World carryover stocks average about two to three months' supply, more or less the same as thirty years ago.

Wheat is the primary grain consumed by humans around the globe. About 75 percent of the world's wheat is consumed directly, and an-

Table 2: Global Trade in Major Agricultural Products, 2001 (in billions of U.S. dollars)

Agricultural Product	*2001*
Fruits and vegetables	69.8
Meat	45.8
Cereal grains	36.0
Milk and milk products	27.6
Beverage crops (coffee, tea, & cocoa)	25.1
Soybeans and products	21.2
Wine	12.7
Distilled alcoholic beverages	10.6
Sugar	10.5
Cotton	6.2
Bananas	4.2
Orange juice	2.5
Other	161.3
Total	412.2

Source: Food and Agriculture Organization of the United Nations, FAOSTAT, www.fao.org.

Table 3: Top Ten Agricultural Exporters, 1998–2000 (in billions of U.S. dollars)

	1998	*1999*	*2000*
United States	53.1	50.3	52.9
European Union	49.5	47.4	48.1
Canada	14.7	14.8	15.8
Australia	13.4	14.2	15.1
Brazil	16.0	14.1	13.6
China	11.4	11.7	12.9
Argentina	12.9	11.5	11.2
Thailand	7.4	7.7	7.9
Mexico	6.5	6.5	6.8
New Zealand	6.4	6.3	6.6

Source: United States Department of Agriculture, Economic Research Service; Foreign Agricultural Trade of the United States.

other 15 percent indirectly in the form of animal products from animals that consume grain. This leaves 10 percent for seed and industrial use. The global consumption of wheat has doubled over the past thirty years to reach nearly 600 mmt per year in recent years. Consumption expanded by about 5.6 mmt per year in the 1990s, owing to rising population and incomes as well as increased urbanization, with its associated changing dietary patterns. Future growth in wheat consumption is expected to originate mainly from developing countries, the same source that accounted for recent growth in global wheat consumption.

Feed use accounts for a relatively small share of total world wheat consumption. During the 1990s, this share has dropped from approximately 20 percent of global use to just 15 percent. This shift in feed use was attributed mainly to a dramatic decline in the use of wheat for feed in the former Soviet Union (FSU). Between 1990/1991 and 1999/2000, the use of wheat for feed in the FSU fell by more than 46 mmt, a 74 percent decline. This was precipitated by the FSU's economic recession and the collapse of livestock production in that region.

The United States is the largest wheat exporter, followed by Canada, Australia, the EU, and Argentina. Recently, a number of smaller exporters have emerged that are of consequence in aggregate. These exporters include Kazakhstan, Hungary, India, Romania, Russia, and the Ukraine. China and the former Soviet Union (FSU) together were large wheat importers during the early 1980s, at one point accounting for one-third of total world imports. However, their combined significance as importers declined sharply in the 1990s. At present, these two regions are immaterial importers. Looking forward, the FSU will most likely emerge as a major wheat exporter instead of an importer. At the same time, China will probably revert to importing wheat, with erratic swings in yearly import volumes.

Import demand for wheat in the developing nations of East Asia, Latin America, and North Africa has continued to grow—a trend that helps to explain why global trade in wheat has not fallen dramatically with the departure of China and the FSU from the import market. The strong possibility that developing countries will account for most of the import demand growth in the foreseeable future is extremely important for exporters, because developing countries tend to import lower quality wheat. The East Asian market (excluding China) is now the largest importing region, with its imports of wheat doubling over the 1990s.

Agricultural trade barriers were never seriously negotiated under the General Agreement on Tariffs and Trade (GATT) until the Uruguay Round in 1993. This meant that agricultural export subsidies were permitted under the GATT, as were quantitative domestic import re-

Table 4: Top Ten Agricultural Importers (in billions of U.S. dollars)

	1998	*1999*	*2000*
European Union	61.8	57.9	54.3
United States	41.1	41.4	40.5
Japan	31.4	31.1	31.4
Canada	10.8	11.5	12.1
Former Soviet Union	15.4	11.8	11.8
Mexico	8.7	9.0	10.3
China	7.6	6.8	9.5
South Korea	6.5	7.4	8.1
Hong Kong	9.0	7.7	7.8
Saudi Arabia	4.8	5.0	5.2

Source: United States Department of Agriculture, Economic Research Service; Foreign Agricultural Trade of the United States.

strictions. As a result, there was a rise in the use of quantitative trade barriers, tariffs, and nontariff import restrictions. Major agricultural products continue to enjoy a level of protection uncommon in merchandise trade. Certain developing countries now benefit from preferential trading arrangements with developed country importers. The EU has the most extensive set of preferential deals with nonmembers (Greenfield and Konandreas 1996). For instance, under the previous Lome Convention, the EU signed a series of preferential trade agreements with developing countries in Africa, the Caribbean, and the Pacific (the so-called "ACP countries"). Preferential trade concessions mean increased market access for those countries granted special access, but these types of trade preferences are inefficient relative to nondiscriminatory access. For this reason, special trade preferences contradict WTO rules. The EU's sugar import preferences are particularly controversial. The EU imports sugar from its former colonies and at the same time provides generous subsidies to its domestic sugar producers. As a result, the EU also is the world's largest exporter of sugar (accounting for 40 percent of world exports), and these subsidized exports are damaging the interests of many developing-country exporters.

In 2001, the United States and the EU settled a major trade dispute over bananas following a WTO ruling against the EU's banana import policies that gave import preferences to ACP growers. The quotas excluded U.S. companies with Latin American operations from exporting bananas from Latin America to the EU. After losing the WTO case, in 2001 the EU agreed to replace the preference system with a tariff-only system, which would give Latin America some access to the EU market.

Examples of regional trade agreements of importance to agriculture include the Andean Community (involving Bolivia, Colombia, Ecuador, and Venezuela); the Association of Southeast Asian Nations (ASEAN, including Cambodia, Indonesia, Singapore, the Philippines, Malaysia, Thailand, and Vietnam); the North American Free Trade Agreement (NAFTA, with Canada, Mexico, and the United States); Mercosur (Mercado Comùn del Sur, with Argentina, Brazil, Paraguay, and Uruguay); the Free Trade Area of the Americas; the Asia Pacific Economic Cooperation (APEC) forum; and, finally, the enlargement process of the European Union to include Central and Eastern European transition economies. Some economists believe that trade liberalization on a regional basis reduces the costs of liberalizing trade between blocs, hence making global liberalization easier to achieve. Others claim that regional integration reduces the motivation for liberalizing trade on a more global basis and results in excessive trade diversion (Krueger 1999).

Developing countries' share of world merchandise exports increased from 17.7 percent to 28.8 percent between 1980 and 1997. This greater involvement in global trade is largely due to a more outward-oriented trade policy and to trade liberalization that has been undertaken unilaterally by developing countries. However, developing countries have not been as successful in capturing a larger share of agricultural trade. During the period 1980–1997, developing countries' share of world agricultural exports was essentially unchanged, increasing only from 36.4 percent to 37.5 percent, and it remains surprisingly low. This inability to expand participation in world agricultural markets has held back economic growth and diversification in the developing world. Agriculture is the backbone of almost all developing countries, and for about fifty developing countries it accounts for one-third to one-half of export earnings.

Nontariff trade barriers of importance to agriculture include sanitary and phytosanitary measures—for example, Japan's testing requirements for imported apples, cherries, nectarines, and walnuts were found to be "without scientific merit" by the WTO. Scientific justification for trade measures is a complicated issue. A famous trade dispute in this area involves the European Union's long-running ban on growth hormones in beef production that has prevented the United States from selling beef into the EU. The WTO has found against the EU because the EU has failed to prove a public health risk, but the ban continues.

It can be argued that protectionism in agriculture and its success in expanding agricultural production have had adverse environmental consequences (Pinstrup-Andersen 2002). The expansion of acreage has led to deforestation and soil erosion. At the same time, the excessive use of fertilizer and chemicals in some countries has polluted the soil and water. For example, chemical fertilizer use in the EU ranges from 250 kg to 350 kg per hectare, compared to only 110 kg per hectare in the United States. Partly in response to policy reform and lower prices, the use of manufactured fertilizer in developed countries has actually declined in recent years, while it has continued to increase in the developing world (see Figure 3).

One of the most extreme examples of protectionism threatening the environment is the high cost of wheat production in Saudi Arabia's desert. Saudi Arabia has offered massive subsidies to encourage wheat production. Prices paid to farmers were five times the world level, and as a result, Saudi wheat production rose to exceed domestic consumption and the surplus grain was exported. In the early 1990s, Saudi Arabia was the world's sixth-largest wheat exporter. Through the use of modern irrigation, the desert wheat farms consume huge amounts of underground water, which is in short supply in that part of the world.

Recent arguments (for example, the multifunctionality approach) in the EU and the United States claim that agriculture provides "social benefits" not valued by the market, including environmental protectionism, food security, and the maintenance of rural communities. Those advancing this view claim that the agricultural industry must be subsidized because the value of social benefits is not included in the market prices.

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See Also Protectionism; Subsidies; Tariffs; Food and Beverages; World Trade Organization (WTO); Food Safety

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Chemicals

Global Chemical Production

The overall value of world chemical production in 2002 was estimated at $1,738 billion. The chemical industry is spread somewhat unevenly across continents. About 29 percent of industry revenues, or $500 billion, were generated in North America, including about 26 percent in the United States alone. South America accounted for about 5 percent, or $95 billion; Western European countries for about 31 percent, or $530 billion; and the Middle East and Africa together generated about 4 percent, or some $70 billion. The Asia Pacific region accounted for approximately 29 percent, or $504 billion, of which the Japanese chemical industry accounted for about 10 percent. The East Asian subregion, including China and the Republic of Korea (South Korea), accounted for about 13 percent.

The chemical industry has been slowing down in recent years in North America, particularly in the United States. The U.S. industry grew by only 2.5 percent in 1999 and had negative growth, of –0.1 percent, in 2002. In Western Europe, the chemical industry shows steady growth, with increases of 4.4 percent in 1999 and 5.2 percent in 2002. The East Asian

Table 1: Evolution of World Chemical Production, 1999–2004

	Actual Increase/Decrease				*Chemical Production, 2002 (in billions of U.S. dollars)*
	1999	2000	2001	2002	
North America	2.6	2.5	-0.5	0.1	498
USA	2.5	2.0	-0.6	-0.1	458
Canada	3.9	10.5	3.0	5.5	24
Mexico	3.4	3.9	3.2	-1.4	16
South America	0.3	5.0	2.9	1.1	95
Western Europe	4.4	5.1	2.3	5.2	534
Middle East and Africa	1.2	4.6	1.7	11.6	70
Asia and Pacific	5.6	6.3	3.2	6.3	504
Japan	2.5	0.7	2.1	3.1	181
East Asia	8.9	12.1	8.1	9.1	220
South Asia and other Asia and Pacific	5.7	6.0	3.1	5.7	103
World total	3.8	4.8	1.9	4.0	1,738

Source: Kagaku Keizai, special issue (March 2004): 7, and ILO.

Table 2: Chemical Production, United States, 1993–2003

	1993	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*Annual change: 1993–2003*
Total index	80.8	85.2	89.3	93.1	100.0	105.9	110.6	115.4	111.5	110.9	111.2	3.2
Manufacturing, total	78.1	83.1	87.8	92.1	100.0	106.8	112.3	117.7	113.1	112.5	112.6	3.7
Nondurable manufacturing	91.4	94.6	96.2	96.5	100.0	101.5	102.2	102.8	99.8	99.2	97.0	0.6
Chemicals	89.0	91.3	92.7	94.6	100.0	101.8	103.8	105.5	103.9	105.3	105.6	1.7
Basic chemicals	92.4	93.2	93.1	93.1	100.0	97.6	101.8	98.9	91.4	95.3	93.9	0.2
Alkalies & chlorine	122.4	97.3	103.9	109.3	100.0	101.3	125.8	116.8	110.1	108.5	104.3	-1.6
Synthetic dyes & pigments	97.8	100.5	96.2	96.0	100.0	100.8	97.2	96.2	93.0	95.6	93.6	-0.4
Other basic inorganic chemicals	97.7	90.1	93.8	96.6	100.0	105.1	109.3	98.4	97.1	96.9	93.7	-0.4
Organic chemicals	86.4	91.2	90.4	90.2	100.0	92.2	99.1	99.9	88.2	94.9	94.6	0.9
Synthetic materials	88.4	95.5	96.1	94.1	100.0	104.1	105.6	103.2	92.1	96.2	94.9	0.7
Plastic material & resin	81.7	93.2	93.9	91.0	100.0	107.9	112.4	112.3	100.2	105.8	104.3	2.5
Artificial & synthetic fibers	105.7	104.4	105.5	105.9	100.0	100.8	92.1	83.0	72.6	72.5	71.0	-3.9
Chemical products	85.0	86.9	90.4	94.7	100.0	104.6	106.2	110.2	115.8	115.6	116.3	3.2
Pharmaceuticals & medicines	83.0	86.4	89.7	94.9	100.0	108.0	112.7	116.6	124.9	126.8	127.6	4.4
Soap, cleaning compounds & toiletries	87.7	87.1	91.8	94.4	100.0	98.5	94.2	99.0	101.3	96.3	96.6	1.0
Paint & coatings	95.6	102.6	99.5	99.3	100.0	100.4	98.9	98.6	96.1	106.2	111.6	1.6
Pesticide, fertilizer & other agricultural chemicals	95.0	94.9	94.5	96.4	100.0	102.4	91.8	84.9	80.6	81.7	80.9	-1.6

Note: Synthetic materials row includes synthetic rubber
Source: U.S. Federal Reserve Board, cited in *Chemical & Engineering News* (CEN), July 5, 2004, p. 50.

chemical industry shows almost two-digit growth. Tables 2 through 5 show the evolution of primary chemical production by the major chemical-producing countries, with 1997 as the base year, set at 100.

Global Chemical Trade

World trade in chemicals reached a record $660 billion in 2002 and accounted for 10.5 percent of overall world merchandise trade. The industry ranked fourth in world merchandise exports by product in 2002, after machinery and transport equipment ($2,539 billion, or 40.5 percent), office and telecommunications equipment ($838 billion, 13.4 percent), and mining products ($788 billion, 12.6 percent).

Table 6 shows leading exporters and importers of chemicals in 2002. The European Union is the largest exporter of chemicals. In 2002, the EU alone exported $363.34 billion of chemicals to the rest of world, accounting for 55 percent of the world chemical trade. It was followed by the United States, which exported $81.29 billion of chemicals in 2002. Japan ranks third, with $33.25 billion of exports in chemicals that year, followed by Switzerland with $29.70 billion and China with $15.32 billion. Canada ranks sixth. The world's seventh largest chemical-producing country is the Republic of Korea, which exported $12.65 billion, followed by Singapore, with $11.65 billion. From 1990 through 2002, the EU, the United States, Japan, and Switzerland reduced their shares in the world chemical trade, while China, Canada, the Republic of Korea, and Singapore increased their shares.

The EU is also the largest chemical importer. It imported $295.64 billion in chemicals in 2002, accounting for 43.5 percent of world chemical imports. The United States ranks second, importing $88.33 billion in chemicals in 2002. China ranks third, importing $39.04 billion, followed by Japan, Canada, Mexico, and the Republic of Korea. The United States, China, Canada, Switzerland, Mexico, Brazil,

Table 3: Chemical Production Index, Canada, 1993–2003

	1993	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*Annual Change, 1993–2003*
All manufacturing	82.2	88.4	92.9	93.9	100.0	105.0	113.5	126.4	121.5	124.7	124.4	4.2
Chemicals	89.2	94.5	99.3	99.8	100.0	100.9	105.2	116.2	119.1	126.4	131.2	3.9
Basic chemicals	85.8	91.0	97.6	93.0	100.0	98.2	97.9	106.0	92.9	95.2	99.2	1.5
Pharmaceuticals & medicines	92.5	92.4	96.8	96.6	100.0	95.3	112.2	142.1	186.1	225.4	243.8	10.2

Source: Statistics Canada, cited in *Chemical & Engineering News* (CEN), July 5, 2004, p. 51.

Table 4: Chemical Production Index, Asia, 1993–2003

	1993	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*Annual Change, 1993–2003*
Japan												
Mining & manufacturing	89.6	91.3	94.3	96.5	100.0	92.9	93.6	99.1	91.3	90.1	93.1	0.4
All chemicals	84.0	89.4	94.5	95.7	100.0	94.9	98.3	98.9	95.8	95.8	97.3	1.5
Petrochemicals	79.2	84.4	92.9	94.5	100.0	94.5	99.3	99.1	94.5	95.5	98.4	2.2
Aromatics	76.8	78.9	89.0	85.5	100.0	93.9	100.9	100.1	97.7	100.8	106.5	3.3
Industrial sodium chemicals	92.8	92.5	97.3	95.7	100.0	95.7	97.2	98.2	91.0	92.6	91.3	-0.2
Inorganic chemicals & dyes	95.9	94.5	98.5	96.8	100.0	97.7	103.3	106.8	101.8	103.8	106.3	1.0
Organic chemicals	79.6	82.0	90.4	93.2	100.0	96.6	101.9	100.6	94.3	94.6	100.0	2.3
Cyclic intermediates & dyes	80.7	89.3	96.9	96.8	100.0	95.1	98.2	97.7	93.9	95.6	96.6	1.8
Plastics	80.1	86.5	92.6	89.8	100.0	92.2	94.8	96.4	91.0	91.0	91.3	1.3
Synthetic rubber	82.3	84.9	94.1	95.8	100.0	95.5	99.1	99.9	92.0	96.1	99.6	1.9
Fertilizers	105.7	103.8	104.2	101.8	100.0	90.9	88.1	87.1	80.6	75.0	69.5	-4.1
Republic of Korea												
All manufacturing	71.0	78.9	88.3	95.9	100.0	93.4	116.8	136.8	137.1	148.3	156.0	8.2
Chemicals & chemical products	68.8	74.4	79.5	89.0	100.0	96.6	106.6	113.0	116.0	123.4	128.1	6.4
Rubber & plastic products	81.5	88.2	92.6	98.1	100.0	79.2	93.1	99.4	101.9	108.5	111.3	3.2
Taiwan, China												
All manufacturing	81.6	86.3	90.8	93.3	100.0	103.2	111.2	120.2	110.1	120.4	129.4	4.7
Chemicals	70.3	83.6	88.6	93.8	100.0	102.9	112.6	120.5	129.4	137.1	145.8	7.6
Basic chemicals	80.9	84.0	88.7	95.9	100.0	98.9	107.5	120.9	123.5	125.4	133.5	5.1
Petrochemicals	72.7	85.2	89.0	95.5	100.0	101.2	118.5	133.4	163.8	175.4	197.8	10.5
Fertilizers	84.6	88.1	94.7	96.5	100.0	92.3	85.0	83.0	77.5	74.2	73.8	-1.4
Synthetic fibers	74.5	82.8	85.6	91.1	100.0	105.5	107.6	111.8	107.7	112.2	111.8	4.1
Plastics & resins	64.6	84.8	91.5	95.1	100.0	103.3	113.2	117.8	118.0	125.3	129.0	7.2
Synthetic rubber	44.5	60.9	77.1	80.3	100.0	103.3	109.0	102.4	105.5	115.8	120.8	10.5

Note: "All chemicals" excludes pharmaceuticals.
Sources: Japan's Ministry of Economy, Trade and Industry; National Statistical Office, Republic of Korea; Taiwan's Ministry of Economic Affairs, Department of Statistics, cited in *Chemical & Engineering News* (CEN), July 5, 2004, p. 50.

Poland, and Turkey imported more chemicals than they had twelve years earlier, whereas the EU, Japan, and Singapore imported less.

Table 5: Chemical Production in Major Chemical-Producing Countries in Europe, 1993–2003

	1993	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*Annual Change, 1993–2003*
Belgium	91.4	97.1	106.7	102.5	100.0	99.0	99.1	105.7	111.9	112.2	N/A	–
France	95.7	97.2	102.5	101.5	100.0	98.9	98.6	103.0	104.2	103.5	105.1	–
Germany	98.9	100.4	107.4	101.8	100.0	99.1	98.3	103.0	105.1	104.0	109.4	1.0
Italy	87.8	88.3	90.5	96.6	100.0	97.8	98.5	107.0	107.5	110.1	109.9	2.3
Netherlands	90.4	94.2	103.2	99.2	100.0	95.6	94.3	110.1	109.1	109.4	112.7	2.2
Spain	94.3	92.5	101.6	101.1	100.0	95.9	96.2	105.7	105.9	106.8	109.9	1.5
U.K.	83.1	85.7	85.9	86.5	100.0	98.9	100.0	108.3	111.6	111.8	115.6	3.4

N/A = Not available.
Sources: European Chemical Industry Council, national chemical associations, cited in *Chemical & Engineering News* (CEN), July 5, 2004, p. 51.

Characteristics of the Global Chemical Industry

Production of chemicals constitutes a key industry in many countries of the world. The chemical industry is science-based and uses high technology. It is one of history's grand enterprises. Its output includes more than 70,000 products, including paints and coatings; pharmaceuticals; soaps and detergents; perfumes and cosmetics; fertilizers, pesticides, herbicides, and other agricultural chemicals; solvents; packaging materials; composites, plastics, synthetic fibers, and rubbers; dyestuffs, inks, and photographic supplies; explosives; antifreeze; and many other materials. As it grew, the chemical industry revolutionized human life. Chemicals are building blocks at every level of production and consumption in agriculture, construction, manufacturing, and services industries. The chemical industry has contributed to improving standards of living. Figure 1 shows domestic consumption of chemicals in Western Europe.

The size of the chemical industry is impressive. In 2003, the chemical industry was Europe's third largest manufacturing industry, accounting for 2.4 percent of the EU's gross domestic product (GDP). On a value-added basis, chemicals represented 10.3 percent of all Japanese manufacturing sectors in 2000. The chemical industry was the fourth largest of the manufacturing sectors in Japan on this same basis, and the fifth largest Japanese exporter. The U.S. chemical industry is estimated to constitute about 10 percent of the country's manufacturing on a value-added basis.

The chemical industry has been responsible for the diffusion of new technologies and has spillover effects to other industries. It plays a central role in generating technological innovations for use by other industries. For exam-

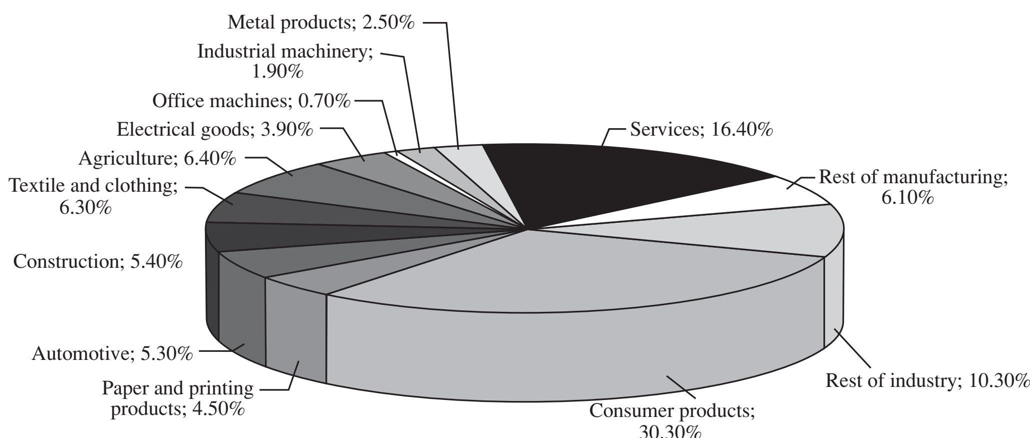
Table 6: Leading Exporters and Importers of Chemicals, 2003 (in billions of U.S. dollars and annual percentage change)

	Value	*Share in World Exports/Imports*				*Annual Percentage Change*			
	2003	*1980*	*1990*	*2000*	*2003*	*1995–2000*	*2001*	*2002*	*2003*
Exporters									
European Union (15)	442.29	58.4	59.0	52.3	55.7	3	5	15	20
Extra-exports	174.58	23.3	21.1	20.4	22.0	4	7	15	19
United States	91.56	14.8	13.3	14.1	11.5	6	0	-1	13
Japan	38.96	4.7	5.3	6.0	4.9	3	-13	8	17
Switzerland	34.06	4.0	4.6	3.8	4.3	1	15	16	15
China	19.58	0.8	1.3	2.1	2.5	6	10	15	28
Canada	17.12	2.5	2.2	2.5	2.2	6	1	2	12
Singapore	16.88	0.5	1.1	1.6	2.1	6	3	18	45
Domestic exports	13.58	0.2	0.7	1.1	1.7	9	8	26	59
Re-exports	3.29	0.3	0.4	0.6	0.4	2	-7	-1	7
Korea, Republic of	16.82	0.5	0.8	2.4	2.1	9	-9	8	25
Taipei, China	12.19	0.4	0.9	1.6	1.5	4	-4	13	22
Hong Kong, China	10.85	-	-	-	-	-1	-11	4	12
Domestic exports	0.75	0.1	0.3	0.1	0.1	-7	-13	-4	10
Re-exports	10.10	-	-	-	-	0	-11	5	13
Russian Federation	9.08	-	-	1.2	1.1	...	2	0	25
Saudi Arabia	6.27	0.1	0.8	0.7	0.8	0	24	-2	23
Mexico	5.88	0.4	0.7	0.9	0.7	6	1	3	4
India	5.88	0.3	0.4	0.8	0.9	13	1	23	...
Malaysia	5.42	0.1	0.2	0.6	0.7	11	1	16	23
Above 15	719.47	87.0	91.0	89.5	90.8	-	-	-	-
Importers									
European Union (15)	358.77	46.4	50.6	41.7	44.0	2	4	14	20
Extra-imports	91.06	11.6	12.0	10.9	11.2	3	5	10	19
United States	103.81	6.2	7.7	12.5	12.7	12	7	9	18
China	48.98	2.0	2.2	5.0	6.0	12	6	22	25
Japan	29.43	4.1	5.0	4.3	3.6	2	-3	1	15
Canada	24.56	2.2	2.5	3.3	3.0	9	2	5	14
Switzerland	20.86	2.5	2.6	2.3	2.6	3	18	12	15
Mexico	18.29	1.5	1.2	2.5	2.2	16	2	7	11
Korea, Republic of	16.39	1.3	2.4	2.2	2.0	1	-4	8	18
Taipei, China	15.74	1.3	2.3	2.6	1.9	3	-22	11	17
Hong Kong, China	13.49	-	-	-	-	-1	-14	4	12
Retained imports	3.39	0.7	0.9	0.6	0.4	-5	-22	3	11
Brazil	10.50	2.4	1.1	1.7	1.3	5	2	-6	4
Turkey	10.20	0.8	0.9	1.2	1.3	7	-15	25	31
Poland	9.94	1.0	0.3	1.1	1.2	...	6	12	21
Australia	9.55	1.2	1.2	1.3	1.2	5	-8	7	21
Russian Federation	8.56	-	-	0.8	1.1	...	26	5	29
Above 15	688.95	73.6	81.0	83.2	84.6	-	-	-	-

Notes: Figures for China, Mexico, and Malaysia include significant shipments through processing zones. Figures for Korea and Russian Federation include Secretariat estimates. Figures for India are for 2002 instead of 2003. Import figures for Canada, Mexico, and Australia are valued f.o.b.

Source: World Trade Organization, International Trade Statistics 2004 (Geneva: WTO, 2004).

Figure 1. Chemicals in everyday use in Western Europe, 2003



Source: European Chemical Industry Association (CEFIC)

ple, nanotechnology is the latest study of the unique properties of structures on the nanometer scale. Still a nascent field, nanotechnology promises to revolutionize manufacturing processes and products in almost all industry sectors, including medicine, plastics, energy, electronics, and aerospace.

In 2003, the total sales of the world's top 100 chemical companies reached $700 billion. Estimated net profits exceeded $15 billion, and total assets reached about $640 billion. These companies invested more than $17 billion, and their capital spending exceeded $40 billion. These companies altogether directly employ more than 1.5 million workers, accounting for about 20 percent of the global workforce in the chemical industry.

Keeping Competitive

The chemical industry is highly capital-intensive. In general, the more capital, the higher the profits. The integration of capital and cost-saving techniques are at the heart of the modern chemical industry. The industry is composed of two main types of companies. There are "all-around companies," which are highly integrated across different value chains and operate in several of those chains on a large scale. Large chemical companies have a high degree of vertical integration compared with companies in other industries. Vertically integrated companies focus on direct control of strategic parts of the value chain in order to attain competitive advantage. There are also "focused" companies, which concentrate their business on one or only a few areas of chemicals. Focused companies tend to be smaller than all-around companies, but many of them are rather large in absolute terms.

Regardless of the scale on which they operate, chemical companies tend to pursue core focusing. They critically evaluate key elements of costs and value delivery and thereby focus on manufacturing and the process of developing specific products for high return against investment. One way to effectively increase core focusing is through mergers and acquisitions. Figures show that major transactions in the world chemical industry reached over $25 million in value, held steady at about $80 million

Table 7: Global Top 100 Chemical Companies, 2003

Company	Sales		Employees		Operating Profit or EBIT		Net Profit		Total Assets		R&D		Capital Spending	
	Millions of Dollars	Change from 2002 (%)		Change from 2002(%)		Change from 2002(%)		Change from 2002(%)		Change from 2002(%)		Change from 2002(%)		Change from 2002%
1 BASF	42,025	3.6	87,159	-2.5	3,348	0.6	1,146	-39.5	42,328.4	-4.2	1,392.0	-2.6	2,888.5	-14.3
2 Bayer	35,986	-3.6	115,400	-5.9			-1,715	-228.4	47,169.5	-10.2	3,040.9	-6.3	2,190.6	-27.0
3 Dow Chemical	32,632	18.2	46,372	-7.2				312.3	41,891.0	5.9	981.0	-8.0	1,100.0	-32.2
4 DuPont	26,996	12.5	81,000	2.5			1,002	-45.6	37,039.0	7.0	1,349.0	6.7	1,713.0	33.8
5 Atofina	22,486	-9.3			320	-32.1							1,404.6	-9.9
6 Shell Chemicals	20,817	36.9			-277	-142.6	-209	-137.0	15,420.0	8.8			599.0	-40.0
7 ExxonMobil Chemical	20,190	23.1					1,432	72.5					692.0	-27.5
8 Mitsubishi Chemical	18,481	2.0	33,496	-11.0	942	6.7	332	61.5	19,219.9	-5.5	849.6	-2.8	665.5	-18.8
9 Akzo Nobel	16,440	-6.8	64,600	-4.9	1,340	-21.9	758	-26.4					731.9	-15.7
10 BP	15,483	23.8	15,950	-15.8	661	131.9			10,591.0	5.1			775.0	-5.8
11 Degussa	14,395	-2.9	46,615	-2.2	829	0.5		-100.0	17,640.8	-7.8			991.4	-21.4
12 Sabic	12,475	37.5			2,827	100.2	1,786	135.1	29,146.7	10.2			2,434.9	65.5
13 Asahi Kasei	12,032	5.0	25,011	-2.8	585	-1.0	266	-141.4	11,990.8	3.0	464.8	-1.8	829.2	-8.1
14 Sumitomo Chemical	11,119	4.3			640	-9.4	0		14,871.3	4.4			1,057.7	-27.5
15 Air Liquide	10,573	6.2	31,885	3.5	2,036	35.2	914		13,862.7	0.4				
16 ICI	10,436	-4.5	36,210	-4.8	767	-19.3	36	-88.8	9,292.1	-4.7	267.6	1.4	246.2	-25.0
17 Mitsui Chemical	10,109	10.6			542	33.2	195	165.6	11,760.4	-5.6	356.2	-5.1	659.9	-41.5
18 Sinopec	9,748	27.9			261	262.2							887.8	-0.9
19 Solvay	9,520	-4.6	30,139	-0.5			622	14.9	12,202.7	2.4	508.9	1.3	699.1	-14.0
20 Dainippon Inks & Chemicals (DIC)	9,357	1.3	26,522	-1.8	421	9.1	61	163.4	9,760.4	-2.4	143.8	16.1	439.0	6.0
21 Huntsman	9,252	15.5												
22 Merc KGaA	9,072	-2.7	34,206	-0.9	927	19.5	262	2.5	8,795.2	-7.0	762.1	-0.5	474.9	34.2
23 General Electric	8,371	9.4			803	-28.6								
24 Shin-Etsu	7,994	4.4	17,384	4.9			718	2.5			252.7	-3.0	1,090.3	51.0
25 Norsk Hydro	7,839	-5.3	12,271	-32.1	422	25.2			5,496.1	-9.7				
26 Sekisui Chemical	7,822	1.9	11,783	-1.4	222	64.6	144	61.5	7,187.5	-0.3	227.5	1.3	231.3	-3.6
27 BOC	7,714	7.6			627	-0.3	391	-2.2	8,708.9	-0.2				
28 DSM	7,621	7.3			370	-34.7	175	-88.3	11,841.2				2,511.8	302.0

(continues)

Table 7: Global Top 100 Chemical Companies, 2003 *(continued)*

	Sales		*Employees*		*Operating Profit or EBIT*		*Net Profit*		*Total Assets*		*R&D*		*Capital Spending*	
Company	*Millions of Dollars*	*Change from 2002 (%)*		*Change from 2002(%)*		*Change from 2002(%)*		*Change from 2002(%)*		*Change from 2002(%)*		*Change from 2002(%)*		*Change from 2002%*
29 PKN Orlen	7,192	44.4					291	134.4	5,052.4	13.8				
30 Basell	7,180	-3.4					-87	-1,090.0						
31 Chevron Philips Chemical	6,907	28.2	5,451	-1.2			7	-123.3	6,242.0	2.2	55.0	17.0	223.0	-29.0
32 Clariant	6,879	-8.7	27,008	-3.0	494	-11.5	130	-124.8	6,464.5	-6.4	248.8	-12.5		
33 Rhodia	6,869	-10.0			-200	286.0	-1,702		8,224.6	-12.0	235.6	-7.0	293.5	-37.7
34 Showa Denko	6,617	2.3			370	23.1	99	-20.8	9,021.7	-4.7	1,574.0	961.9	392.1	99.8
35 PPG Industries	6,606	10.2	20,500	-2.8										
36 Syngenta	6,578	6.1			709	10.8	363	37.0	10,965.0	4.2	727.0	4.3		
37 Equistar	6,545	18.2	3,165	-6.9			-339	37.8	5,028.0	-0.5	38.0		106.0	-10.2
38 Rohm and Haas	6,421	12.1	17,245	-2.1			288	37.1	9,445.0	-1.5	238.0	-8.5	339.0	-16.7
39 Ineos	6,299		10,000											
40 Air Products	6,297	16.6	18,500	7.6	605	-21.9	397	-24.4	9,431.9	11.0			1,171.0	45.3
41 Reliance Industries	6,230	3.8			739	15.0	0		3,129.2	-4.8			96.3	-62.9
42 Eastman Chemical	5,800	9.0	15,000	-4.5			83	2.5	6,245.0	-1.1	173.0	8.8	230.0	-46.1
43 Eni Petrochemicals	5,652	-0.6	7,050	-6.4	-159				3,178.2	-10.6			177.6	-2.8
44 Praxair	5,613	9.5	25,438	1.7			585	6.8	8,305.0	12.2	75.0	8.7	644.0	29.3
45 Sasol	5,560	5.1	13,554	-0.4	260	-45.7	1,071	-19.8	5,403.7	-9.5			43.8	115.3
46 Sherwin-Williams	5,408	4.3	25,777	0.1			332	6.8	3,683.0	7.3				
47 Ciba Specialty Chemicals	5,368	-3.8	18,658	-1.8		3.5	278	-15.3			227.0	-4.4		
48 Celanese	5,133	0.3	9,500	-9.5	134	-47.5	165	-29.9	6,801.1	-11.9			233.1	-13.6
49 Linde	4,841	-1.0	17,420	-0.5	753	-1.3							500.1	-1.0
50 LG Chem	4,758	4.4			402	-7.2	304	4.8	3,994.1	23.8			705.4	35.4
51 Borealis	4,627	4.5	5,037	-0.9	49	-54.1	13	166.7	3,944.1	-2.2	50.4	2.6	149.9	15.5
52 Tosoh	4,530	10.4	9,167	-2.5	269	79.4	46	947.7	5,238.0	-4.6			116.4	-27.9
23 Johnson Matthey	4,493	3.9	1,524	0.3	4,493	3.9			1,370.7	3.1				
54 Grupo Alfa	4,163	17.6			416	-0.2	100	8.7	7,172.4	5.7			177.3	4.2
55 Transammonia	4,000	48.1												
56 Nova Chemicals	3,949	27.8	4,700	9.3	-75		-1		4,413.0	6.2	45.0	15.4	119.0	67.6
57 Kaneka	3,842	7.5			308	19.3	150	16.8	3,767.6	6.1			220.5	29.0
58 Lyondell Chemical	3,801	16.5	3,350				-302	104.1	7,633.0	2.5	37.0	23.3	268.0	1,118.2

(continues)

Table 7: Global Top 100 Chemical Companies, 2003 *(continued)*

	Sales		*Employees*		*Operating Profit or EBIT*		*Net Profit*		*Total Assets*		*R&D*		*Capital Spending*	
Company	*Millions of Dollars*	*Change from 2002 (%)*		*Change from 2002(%)*		*Change from 2002(%)*		*Change from 2002(%)*		*Change from 2002(%)*		*Change from 2002(%)*		*Change from 2002%*
59 UCB	3,736	18.0	11,559	11.9			428	2.4	3,893.7	17.9	340.1	3.1	823.8	298.8
60 Cognis	3,716	-5.6	8,660	-3.2	63	-64.8	-81	166.7	3,299.2	-11.2			153.7	24.5
61 Engelhard	3,715	-1.0	6,480	-2.6	282	-9.6	234	36.8	2,933.0	-2.9	93.0	5.7	114.0	0.9
62 Shangai Petrochemical	3,572	32.5					167	52.4	3,332.3	3.8				
63 Kuraray	3,188	3.0	6,760	-3.2	269	11.4	146	88.6	3,966.5	-3.2	131.4	9.3	308.7	68.5
64 Occidental Chemical	3,178	17.5	3,087	-8.4			210	89.2					0.0	-100.0
65 Honeywell	3,169	-1.1												
66 Wacker-Chemie	3,109	-7.8	15,622	-6.1	-74	-144.8	-120	-552.4	3,155.5	-9.3	191.5	-3.8	418.2	19.9
67 MG Technologies	2,933	-5.4	12,304	-2.0					3,031.0	5.2			249.4	10.6
68 Dow Corning	2,870		8,800											
69 Repsol	2,822	6.2			195	59.8							102.0	-13.8
70 Orica	2,815	-2.5					69	-52.8	2,415.0	5.6	20.4	7.1	79.5	6.4
71 Nalco	2,767	4.7	10,500						6,164.0	-5.0	0.0		101.0	-6.5
72 Kemira	2,738	4.8	10,536	1.5	144	260.0	74	797.6	2,495.1	0.2	0.0			
73 Agrium	2,499	20.0	4,667	-3.4			-21		2,273.0	3.7			99.0	90.4
74 Ruters	2,491	2.7	11,290	3.6			64	-123.5					132.0	-10.2
75 Tessenderlo Group	2,484	2.0	8,233	3.8	103	-28.7	54	-39.4			167.0	-22.0	149.9	8.2
76 Potash Corp of Saskatchewan	2,466	27.8	4,904	-5.7			77	42.6	4,567.0	-2.5			151.0	-28.8
77 Solutia	2,430	5.7	6,300	-13.7	-372	-1,078.9	-987	553.6	2,446.0	-26.8	53.0	12.8	78.0	32.2
78 JSR	2,372	12.3			200	136.0	106	132.5	2,962.0	9.5	144.9	7.6		
79 RPM	2,342	12.4	7,900	2.8			142	305.7	2,353.0	4.7			51.0	21.4
80 Danki Kagaku Kogyo (Denka)	2,340	1.3			173	7.7	46	-341.4			49.9	15.5		
81 Mitsubishi Gas Chemical	2,309	12.1			53	-583.1	57	-3,056.9	3,079.2	4.6				
82 NPC (Iran)	2,284	23.5	16,398	-5.2			302	-22.6	14,055.0	36.1	23.6	85.8	3,996.0	36.9
83 Thai Petrochemical	2,278	18.2					64	-160.4	3,556.7	6.5				
84 Israel Chemical	2,271	14.6			211	6.0					29.0	3.6		
85 Valspar	2,248	5.7	7,013	-0.6	228	41.6	113	-5.8	2,496.0	3.1	70.0	6.1	51.0	13.3
86 Givaudan	2,193	1.5	5,981	2.3	275	-16.1	175	-15.6	3,673.7	-0.3	140.6		50.9	28.6

(continues)

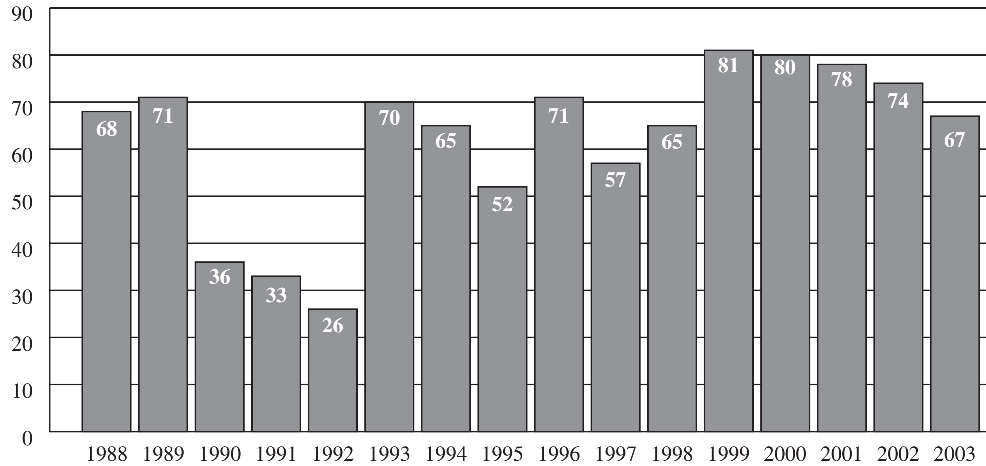
Table 7: Global Top 100 Chemical Companies, 2003 *(continued)*

	Sales		*Employees*		*Operating Profit or EBIT*		*Net Profit*		*Total Assets*		*R&D*		*Capital Spending*	
Company	*Millions of Dollars*	*Change from 2002 (%)*		*Change from 2002(%)*		*Change from 2002(%)*		*Change from 2002(%)*		*Change from 2002(%)*		*Change from 2002(%)*		*Change from 2002%*
87 IMC Global	2,191	6.5	5,017	-4.9			-38	171.4	3,671.0	0.9			120.0	-14.3
88 Crompton	2,185	4.5	5,521	-18.5			5	-91.1	2,529.0	-11.0	51.0	-5.6	88.0	-12.0
89 Asahi Glass	2,180													
90 Ube	2,066	3.6			87	-8.3			2,831.7	2.1			159.7	19.8
91 Lubrizol	2,052	3.4	5,032	-3.8			106	-15.9	1,942.0	4.4	167.0	-0.6	88.0	35.4
92 WR Grace	1,981	8.8	6,300	-1.6			-42	-290.9	2,875.0	6.8	52.0	0.0	86.0	-5.5
93 PolyOne	1,965	3.9	44,500	-41.4			-17	-522.0	1,901.0	-4.9			29.0	-55.4
94 Lonza	1,956	-4.5			244	-27.9	74	-58.8	3,621.2	9.4	65.4	17.4		
95 FMC	1,921	3.7	5,300	-3.6	218	-5.6	27	-59.1	2,829.0	-1.4	87.0	6.1	87.0	3.6
96 IFF	1,901	5.1	5,454	-4.8			173	-1.7	2,307.0	3.4	159.0	10.4	65.0	-20.7
97 Hercules	1,846	8.3	4,826	-5.3	255	15.9	45	-107.4	2,766.0	-1.5	39.0	-7.1	48.0	11.6
98 Cabot	1,795	15.3	4,400	-2.2			80	-24.5	2,308.0	11.1	64.0	33.3	129.0	-11.6
99 Millennium Chemicals	1,687	8.6			-51	-163.8	-184	-44.7	2,398.0	1.0				
100 British Vita	1,677	5.2			100	9.7	60	-60.5						

Note: Empty cell = data not available.

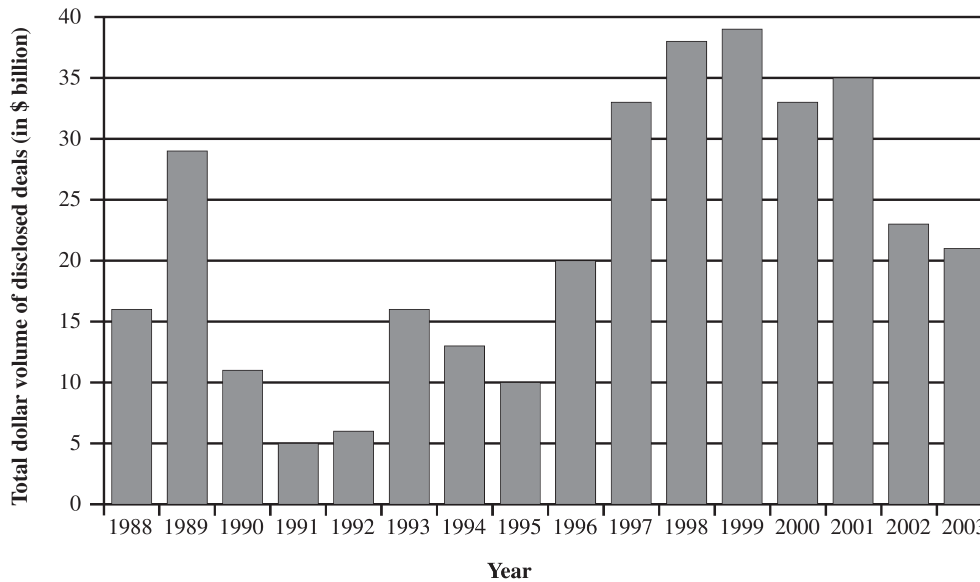
Source: European Chemical News (ECN), September 6–12, 2004, pp. 19–23.

Figure 2: M&A of Worldwide Chemical Companies in Total Number of Transactions



Source: Young & Partners

Figure 3: Mergers and Acquisitions, World Chemical Industry, 1988–2003 (in billions of U.S. dollars)



per year from 1999 to 2001, and dropped by 6 percent in 2002 and by 10 percent in 2003. In dollar value, major mergers and acquisitions in the world chemical industry amounted to around $35 billion during the period from 1997 to 2001.

U.S. chemical industry data help to explain why the industry needs to take cost-cutting measures. As Table 8 shows, the U.S. chemical industry improved by 32 percentage points between 1993 and 2003. Manufacturing sectors in general improved by 61.8 percentage points

Table 8: Productivity of the Chemical Industry in the United States, 1993–2003

	1993	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*
Manufacturing	83.2	85.2	89.4	94.0	100.0	107.1	114.5	121.2	127.0	136.3	145.0
Chemicals	89.9	90.9	92.1	94.5	100.0	101.0	105.2	109.5	113.6	120.5	121.9
Basic chemicals	94.0	93.4	92.9	92.4	100.0	100.5	117.4	119.7	118.1	135.2	138.9
Resins, synthetic rubber & fibers	87.9	91.9	94.5	94.1	100.0	105.5	109.4	109.1	108.1	123.6	125.7
Agricultural chemicals	92.4	93.1	94.5	95.8	100.0	99.0	88.7	91.3	94.8	99.9	103.0
Pharmaceuticals	87.0	87.5	85.9	93.3	100.0	100.6	98.3	98.7	103.3	103.7	99.2
Paints, coatings, & adhesives	93.5	95.3	94.5	100.1	100.0	100.1	98.0	97.7	104.9	111.0	118.1
Soaps, cleaning compounds, & toilet preparations	87.0	87.8	94.0	96.4	100.0	95.2	90.1	100.9	104.8	104.9	105.4

Source: U.S. Federal Reserve Board and U.S. Department of Labor, cited in *Chemical & Engineering News* (CEN), July 5, 2004, p. 48.

Table 9: Establishment, Employment, Production, and Added Value in the Japanese Chemical Industry, 1990–2001 (in millions of Japanese yen)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Establishment	5,352	5,391	5,340	5,340	5,160	5,230	5,224	5,184	5,426	5,280	5,263	5,152
Employment	401,076	405,572	415,073	412,879	398,114	392,1	388,586	383,089	382,814	370,694	365,953	364,06809
Production	23,606,820	24,395,096	24,243,305	23,221,656	22,502,206	23,42	23,509,017	24,683,252	23,267,239	23,025,095	23,792,798	23,308,2107,633
Added value	11,271,992	11,621,425	11,825,805	11,507,388	11,378,762	11,98	11,901,652	12,125,014	11,329,352	11,475,838	11,496,608	11,248,5043,632

Note: Establishments covered have more than four employees.
Source: Kagaku Keizai, January 2004, p. 96

over the same period. The pharmaceuticals sector, which requires a huge amount of investment and labor in order to grow, showed a decline in output per hour.

The chemical industry has maintained high added value while increasing productivity and integrating capital. Table 9 shows that this is true, for example, for the industry in Japan. Added value remained constant at 11 trillion Japanese yen (approximately $100,000 US) between 1990 and 2001. The Japanese chemical industry concentrated capital by eliminating 200 establishments during this period, with their numbers declining from 5,352 in 1990 to 5,152 in 2001. Over the same period, about 10 percent of the total workforce, or 37,000 people, lost their jobs; overall, employment fell from 401,076 in 1990 to 364,068 in 2001.

Employment loss has been an ongoing phenomenon in many chemical-producing countries over the past few years. In the United States, average chemical employment declined by about 1.2 percent, or by 125,000 workers, over a ten-year period, from 1,025,000 in 1993 to 900,000 in 2003. Among the chemical sectors, only pharmaceuticals scored an increase, adding 62,000 workers between 1993 and 2003, and reaching 294,000 workers in 2003. These figures compare with a 1.4 percent decline in employment for all manufacturing industries. Among the chemical sectors, basic chemicals saw the largest percentage drop, falling 3.9 percent from 1993 to 2003. Among the other chemical sectors, agricultural chemicals were down 2.5 percent, to 40,000 workers; resins, synthetic rubber, and fibers fell 2.6 percent, to 112,000 workers; paints, coating, and adhesives fell 1.6 percent, to 69,000 workers; soaps and toiletries declined 0.8 percent, to 118,000 workers; and all other chemicals fell 2.4 percent, to 111,000 workers. Table 10 shows the employment evolution of the chemical production workforce in the United States from 1993 to 2003.

In China, the workforce in the chemical industry declined from 3.82 million in 1996 to 3.7 million in 2003. This figure does not include the workforce in two large state-owned chemical companies. The reduction of workforce was accelerated by China's accession to the World Trade Organization (WTO) in 2001. Under the planned economy, the country followed a full-employment policy. However, globalization of the world economy put the Chinese chemical industry under severe competition, and this necessitated a restructuring of the chemical industry and further changes in management systems at the enterprise level in order to boost labor productivity.

Wages for chemical production workers are generally good. Workers in the industry in the United States receive some of the highest wages in manufacturing. For 2003, for example, wages for U.S. chemical manufacturing employees rose an average of 3.1 percent to reach $18.52 per hour. At the same time, the average hourly wage for all manufacturing increased only 2.9 percent, to $15.74. However, there have been some declines in hourly pay within specific chemical-industry sectors. For agricultural chemical workers, the average hourly wage fell by 3 percent, to $18.40 per hour, while the hourly wage for workers in the soaps and toiletries sector declined 0.8 percent, to $14.15, the lowest hourly wage in the chemical industry. By contrast, the largest increase was the 9.2 percent rise, to $19.78, for pharmaceutical workers.

Global Chemical Employment

Current global chemical employment is estimated at around 8 million workers. These employees account for almost 10 percent of the global manufacturing workforce, which has, of course, increased over time. In 1997, the global chemical workforce exceeded 5 million, and by 1999 it exceeded 7 million. This increase was due to rapid growth in East Asia and the Middle East. Employment in North America, Europe, and Japan experienced a downturn. Asian countries with increasing employment in the industrial chemical sector include India, where

Table 10: Evolution of Employment of Chemical Production Workers in the United States, 1993–2003

	1993	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*Change: 1993–2003*
Manufacturing	12,070,000	12,361,000	12,566,000	12,532,000	12,673,000	12,729,000	12,524,000	12,428,000	11,677,000	10,768,000	10,200,000	- 1.7%
Chemicals	590,000	596,000	598,000	595,000	593,000	601,000	595,000	588,000	562,000	532,000	525,000	- 1.2%
Basic chemicals	139,000	139,000	139,000	139,000	137,000	136,000	126,000	122,000	115,000	104,000	101,000	- 3.2%
Resins, synthetic rubber & fibers	98,000	101,000	99,000	98,000	99,000	98,000	96,000	96,000	89,000	81,000	78,000	- 2.3%
Agricultural chemicals	34,000	33,000	33,000	33,000	33,000	34,000	34,000	32,000	30,000	30,000	28,000	- 1.9%
Pharmaceuticals	111,000	115,000	119,000	118,000	116,000	123,000	129,000	132,000	132,000	128,000	134,000	2.0%
Paints, coatings, & adhesives	41,000	41,000	41,000	40,000	40,000	40,000	41,000	42,000	39,000	38,000	37,000	- 1.1%
Soaps & toiletries	80,000	80,000	80,000	80,000	81,000	84,000	85,000	82,000	80,000	76,000	76,000	- 0.6%
Other chemicals	87,000	87,000	87,000	88,000	88,000	87,000	83,000	82,000	77,000	75,000	72,000	- 1.9%
Percent of chemicals against total manufacturing	4.9	4.8	4.8	4.7	4.7	4.7	4.8	4.7	4.8	4.9	5.1	

Source: U.S. Department of Labor, cited in *Chemical & Engineering News* (CEN), July 5, 2004, p. 48.

such employment doubled in a short time, going from about 190,000 in 1980 to about 380,000 in 1999. Chemical employment in the Republic of Korea peaked in 1996, reaching about 72,000. Malaysia's employment also increased, from about 10,000 in 1990 to 15,000 in 1999. In Singapore, chemical employment reached its peak of about 5,600 workers in 1994. There is some indication of rapid growth in recent years in the Middle East's chemical industry, although data are limited. Petrochemical facilities in the Middle East have been expanding, and the region is expected to almost double its share of world ethylene capacity, from 10 percent to about 20 percent, between 2003 and 2012.

The overall percentage of female workers in the world chemical industry is estimated to be as low as 20 percent. Figure 4 shows the percentage of female workers in the unionized workforce in selected chemical industries in 2000. In most of these countries, women accounted for less than 50 percent of the total workforce. Female workers are often found in peripheral jobs, and there are few women in top management.

Petrochemicals

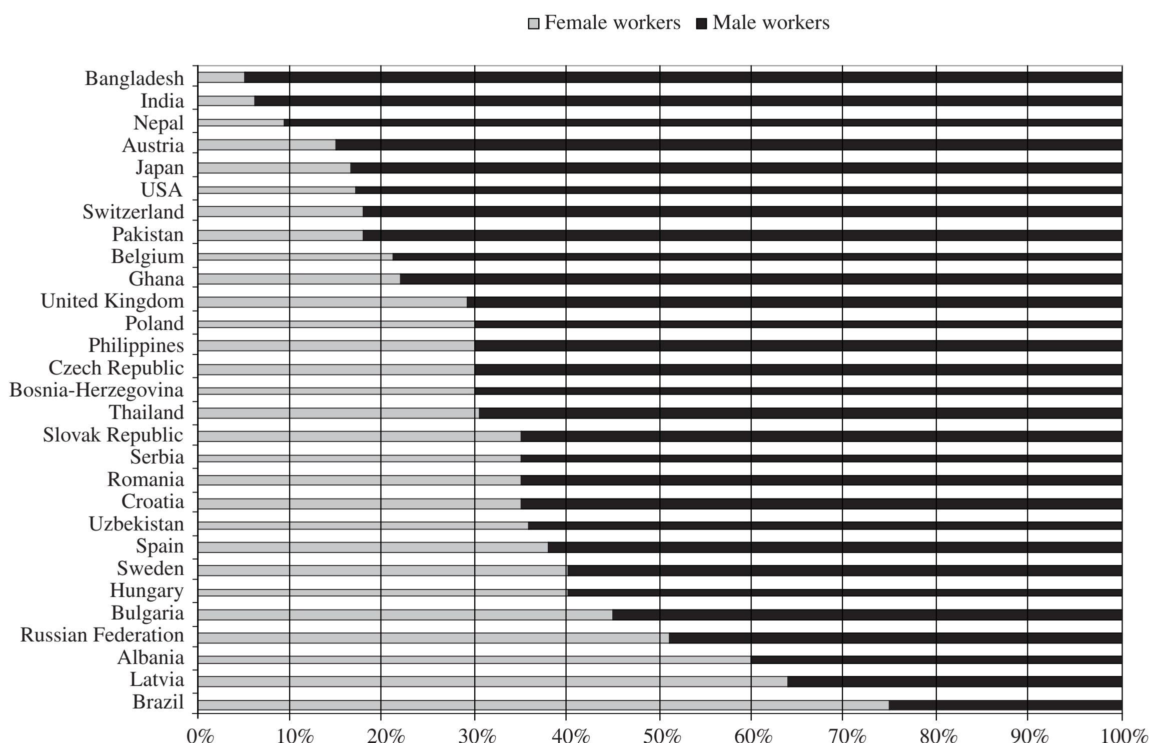
The petrochemicals industry uses crude oil or natural gas to produce ethylene, propylene, butadiene, and benzene. It plays an essential role in supporting other industries in the development of new technologies and materials. Petrochemicals are first sold to customer industries, undergo several transformations, and then go into products that seem to bear no relation to the initial raw material. Because petrochemistry underpins a host of other essential industries, it is called an "enabling industry." It is, indeed, an enabling force behind innovation in numerous sectors, such as health care, telecommunications, construction, and transport. As such, the petrochemicals sector is central to the chemical industry as a whole.

Table 11: Wages of U.S. Chemical Production Workers, 2000–2003 (in U.S. dollars)

	Hourly Earnings				*Weekly Earnings*			
	2000	*2001*	*2002*	*2003*	*2000*	*2001*	*2002*	*2003*
Manufacturing	14.3	14.8	15.3	15.7	590.7	595.2	618.8	636.1
Chemicals	17.1	17.6	18.0	18.5	721.9	135.5	759.5	784.6
Basic chemicals	21.1	21.4	21.8	22.1	949.1	959.9	980.6	988.5
Resins, synthetic rubber & fibers	17.1	17.5	17.8	17.9	724.7	722.5	738.8	749.1
Agricultural chemicals	16.2	17.4	19.0	18.4	768.2	800.0	848.1	836.9
Pharmaceuticals	17.3	17.8	13.1	19.8	693.1	729.4	776.7	850.6
Paints, coatings, & adhesives	14.1	14.8	15.6	16.0	597.9	609.8	644.0	656.4
Soaps & toiletries	13.8	14.1	14.3	14.2	549.4	560.4	566.4	562.7
Other chemicals	15.5	16.0	16.4	17.0	642.4	647.8	665.8	694.3

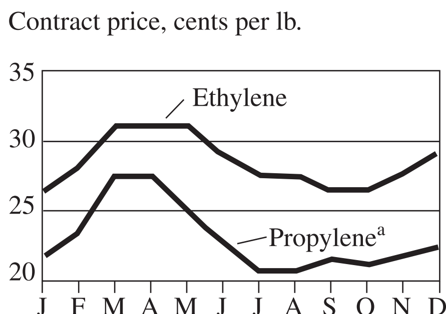
Source: U.S. Department of Labor, cited in *Chemical & Engineering News* (CEN), July 5, 2004, p. 48.

Figure 4: Women in the Unionized Workforce in the Chemical Industry, 2000



Source: International Federation of Chemical, Energy, Mine and General Workers Unions (ICEM), "ICEM World Conference on the Chemical Industries," Background Paper, 26–28 November 2001, Bangkok, Thailand (Brussels: ICEM, 2001).

Figure 5: Volatility of Ethylene and Propylene Prices, 2003



a Polymer grade.
Source: Chemical Market Associates Inc.

The U.S. petrochemical industry relies mostly on natural gas, whereas European, Latin American, and Asian production use petroleum-based feeds. The prices of crude oil and natural gas reflect the profit margins of the petrochemical industry. Figure 5 demonstrates the volatility of ethylene and propylene prices, and Figure 6 shows world ethylene production in 2003.

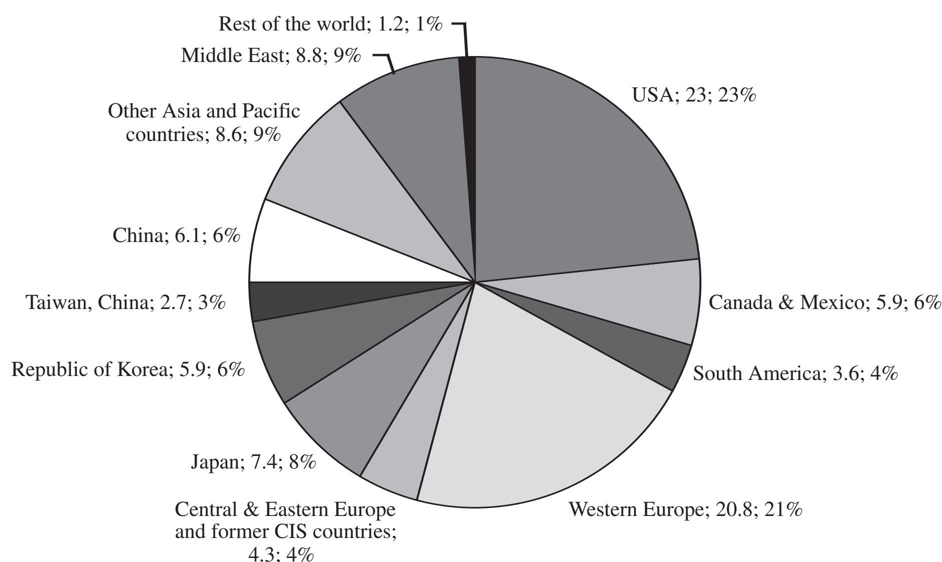
The North American petrochemical sector has been suffering from stagnant growth in recent years. The emergence of low-cost Middle Eastern players and a growing base of Asian producers coincided with the disappearance of the advantage that had benefited the North American petrochemical industry in the past. Relatively high prices for raw materials affect the Asian petrochemical industry, and it is becoming nearly impossible for countries in Asia, particularly China, to compete with the Middle East, which has the lowest feedstock prices in the world. China has an advantage in cost-savings because of downstream manufacturing.

China's chemical industry is also hugely important to the overall Chinese economy. In 2003, China's chemical industry produced chemicals worth about $106 billion, accounting for some 5 percent of total world output. The chemical industry is the third largest industry in China, followed by textiles and machinery, accounting for about 10 percent of China's GDP. China accounts for about 40 percent of global demand growth for chemicals and represents about 45 percent of Asian demand for most chemical products. China's largest chemical companies, such as Sinopec and PetroChina, are still under state control. Table 12 shows the major Chinese chemical and petrochemical companies' sales in 2003.

China is described as the "powerhouse" of the market and will continue to drive demand growth in the petrochemical industry. According to Fortune Global 500, in 2002 CNPC/PetroChina and Sinopec ranked fifth and seventeenth, respectively, in profits among twenty-six global chemical companies. CNPC/PetroChina's profits in 2002 were equivalent to about half of those of ExxonMobil,and its profits as a percentage of total operating expenses reached 12 percent, or fourth in the world. Its operating return on chemical assets was 6 percent, or eleventh place. Because Chinese chemical/petrochemical companies are parts of integrated oil and gas companies, they can be more competitive than chemical companies elsewhere.

The Chinese petrochemical industry is forecast to grow an average of 11.3 percent per year through 2014. China's accession to the WTO appears to have increased its dependency on chemical imports, while also forcing improvements in infrastructure. China imports about 50 percent of its chemical consumption. Its heavy dependency on imported chemicals means that its chemical markets have become integrated with international markets. China committed to cutting chemical tariffs as part of its accession to the WTO. As a result, Chinese tariffs on polyethylene will fall from 18.1 percent in 2001 to 6.5 percent in 2008. Tariffs for polypropylene, PVC, and polystyrene will fall from 16 percent in 2001 to 6.5 percent in 2008. Lower tariffs will expose the inefficiency of much of China's outdated chemical capacity relative to more modern overseas plants. Some estimate that the loss of tariff protection could force closure of 15–20 percent of China's marginal operating capacity in polyethylene by

Figure 6: World Ethylene Production, by Country, 2003 (in millions of tons and percent of world production)



Source: Kagaku Keisai, March Special Edition, 2004, p.37

Table 12: Sales of Major Chinese Chemical Companies in 2003 (in billions of renminbi)

Sinopec	1	92.3
China National Chemical Corp.	2, 3	40.0
PetroChina	1	39.2
Shangai Petrochemical	4	29.6
Yangzi Petrochemical	4	22.0
Jilin Chemical Industrial	5	20.6
Shanghai Huayi Group	6	20.0
Beijing Yanhua Petrochemical	4	11.5
Yizheng Chemical Fibre	4	10.3

(1) chemical business; (2) proforma; (3) includes sales of nonchemical products; (4) Sinopec subsidiary; (5) PetroChina subsidiary; (6) Estimate

Source: Chemical Week, August 18/25, 2004, p. 25.

2008. In addition, the government's tightening of financial policy may harm private medium- and small-sized chemical companies, which account for about 55 percent of China's chemical production.

China also faces a huge energy crisis. It has a growing shortage of electricity and coal and a burgeoning demand for imported oil. However, some inadequate infrastructure is expected to be mitigated by an easing of restric-

tions on distribution by foreign companies operating in China. In connection with its accession to the WTO, China allowed foreign companies to distribute their products in Chinese markets without the need for local partners, for example.

Biotechnology

Biotechnology is taking its place at the center of the chemical industry, and statistics demonstrate its importance in the industry. In 2002, there were 1,466 biotechnology companies in the United States alone. These companies were marketing some 150 drugs and vaccines. Collectively, biotechnology firms amassed revenues of $33.6 billion in 2002. Success in developing drugs has led to enormous financial benefits for the chemical companies. In 2003, the U.S. chemical industry produced $460 billon in sales. More than one-quarter of the sales were within the pharmaceuticals sector, totaling $114.3 billion. The pharmaceuticals industry has been increasing in significance since the early 1990s. In 1993, pharmaceuticals represented 23 percent of the U.S. chemical industry. This share had increased by 4.5 percent by 2003. The industry's growth has been striking. It showed an increase of 8.4 percent in 2002–2003 alone. By contrast, chemicals excluding pharmaceuticals increased by only 2.8 percent between 1993 and 2003, from about $260 billion to about $344 billion. Similarly, pharmaceuticals in Japan increased from 24.2 percent of the chemical industry in 1993 to 29.2 percent in 2001. In the EU, the pharmaceuticals industry accounted for 24.1 percent of the chemical industry in 2003.

New medicines are now being developed with relatively small venture capital. There are some data indicating that small biotechnology "garage companies" have come of age. In San Francisco's East Bay region, biotechnology garnered 42 percent, or $101 million, of fourth-quarter 2003 funding. During the same year, life-science companies were awarded about $5 billion in funding, or about 30 percent of all venture funding, for the year in the United States.

By contrast, the growth of the biotechnology industry in Europe is still retained by publicly quoted companies. European biotechnology generated 12,861 million euros in 2002, of which publicly quoted companies generated about 60 percent, or 7,869 million euros, in the overall revenues in the sector. The number of publicly quoted companies increased by 2 percent in 2002, reaching 102 companies. The total workforce for the publicly quoted companies accounted for about 40 percent, or 33,304 workers, in the overall biotechnology industry, and saw an increase of 3 percent in 2002.

The pharmaceuticals industry is a global player in drug development. This is, in part, a result of global outsourcing. This sector continues to grow globally, particularly in the Asia and Pacific region. The global biotechnology industry increased its total revenues by 15 percent to more than $41 billion, while research and development (R&D) spending rose 34 percent to $22 billion, indicating a greater than 50 percent reinvestment of revenues in R&D. The number of biotechnology companies grew by about 2 percent in 2003, but the number of publicly quoted ones declined by 3 percent, suggesting that the downturn in global capital markets is taking its toll on new company formation. The one major hot spot is the Asia and Pacific region, where revenue was up 28 percent, the number of employees rose by 24 percent, and the number of public and private companies grew by 17 percent.

Growth of the biotechnology sector depends more on progress in developing its R&D segment than on drug manufacturing and export. During the past two decades, biotechnology companies have benefited from the intellectual strength of the workforce in science and technology in developed countries, focusing their efforts on biotechnology research. This emphasis has given the industry the potential to become a leading player in the drug discovery market.

India is the largest country stressing research and development in its biotechnology sector. It ranks high among developing countries in terms of technology, quality, and range of medicines manufactured. In October 2004, India opened the Wockhardt Biotech Park, the country's largest biotechnology complex, in Aurangabad. This complex has the capacity to serve 10–15 percent of global demand for biopharmaceuticals and symbolizes the rapid development of the country's pharmaceutical sector. In recent years, the international pharmaceutical industry has faced increasing pressures to reduce drug prices at a time when costs for R&D have risen sharply. These pressures have led international pharmaceutical companies to outsource their drug-related R&D operations to cost-saving countries. It is estimated that the Indian pharmaceutical industry is worth about $4.5 billion, and that it is growing at a rate of about 9 percent annually. The sector is highly fragmented, consisting of nearly 20,000 drug-production companies. The leading 250 companies control 70 percent of the market, and several are multinational firms.

Genetically Modified Crops

Chemical products are readily tradable items globally. Chemicals are sometimes also at the heart of international controversies. One example can be found in an international trade conflict over genetically modified (GM) crops. The United States, the largest exporter of GM crops, was particularly affected by the EU de facto moratorium on these products and claims to have lost $300 million annually in agricultural sales to Europe. The United States brought the case to the dispute settlement mechanism at the WTO in 2004, along with Canada and Brazil. These nations were later joined by Peru, Colombia, Mexico, New Zealand, Australia, India, Brazil, and Chile. The case was heard in June 2004 at the WTO.

At the center of the dispute is the EU's failure to process applications for genetically modified organisms (GMOs) to enter the European market. Since October 1998, the EU has operated a de facto moratorium, having previously approved eighteen GMOs for release into the environment and fifteen food products for marketing since 1990. The EU's ban was initially forced by five member states (Denmark, Greece, France, Italy, and Luxembourg), largely in response to rapidly growing public opposition to GM foods. U.S. concerns extend to the impact that the EU's precautionary stance will have on the future of the biotechnology market. Adoption of the European model of GM regulation by other countries would seriously curtail the international market for GM products and stunt the growth of the industry.

Despite the EU's moratorium, GM crops are now accepted by many countries. China has been a leading proponent of agricultural biotechnology among developing countries, and a decision to plant GM rice in China is expected soon. China was the first country to grow GM crops commercially in the mid-1990s. Cotton is the only GM crop currently grown on a commercial scale in China, accounting for about 60 percent of total national cotton production. However, a wide range of other GM crop varieties have been developed and tested. Rice may become the first GM food crop to be authorized for large-scale commercial planting in China.

Global Dialogue in the Chemical Industry

The International Labour Office (ILO), a United Nations specialized agency, provides unique opportunities to the chemical industries to discuss various social and labor issues. The ILO seeks to promote social justice and internationally recognized human and labor rights, to create employment opportunities, and to improve working conditions around the world. All activities at the ILO are carried out based on a consensus of labor, employers, and governments among the member states. The

Chemical Industries Committee was created in 1948 and meets on a regular basis. In 2003, chemical representatives from four continents met to discuss best practices in work-flexibility schemes and their impact on the quality of working life in the chemical industries. (Information about the ILO can be found at www.ilo.org.)

Major International Chemical Safety Initiatives

The chemical industry has a responsibility to help ensure that the chemicals it produces are safe for humans and for the environment. In 1984, in the middle of the night, a toxic cloud of gas from a Union Carbide pesticides plant crept over Bhopal, India. The toxic fumes cost 3,800 lives within days of the leak, and thousands more were injured. The chemical industry receives significant scrutiny from the public, partly as a result of this incident. Concerns about the potential ecological and human health impacts of chemicals have brought the safety of the industry as a whole into the global spotlight, resulting in an erosion of public trust and confidence.

The chemical industry responded to the erosion of public trust by establishing the Responsible Care (RC) program. The RC program was first developed in Canada. It has now become the international standard for stewardship in the chemical industry. It is practiced in more than forty countries, including the United States. All companies of exercising RC programs need to follow the RC standard in their day-to-day operations. RC uses a life-cycle approach to managing chemicals and consists of six management codes: (1) Community Awareness and Emergency Response (CARE); (2) research and development; (3) manufacturing; (4) transportation; (5) distribution; and (6) hazardous waste management.

In addition, the United Nations chemical safety initiatives emphasizing that hazardous substances need to be subject to standardized classification and labeling systems, with safety data sheets and easily understandable symbols. One of these initiatives was the Globally Harmonized System for the Classification and Labeling of Chemicals (GHS). GHS, drafted with the premise that existing systems in these areas should be harmonized into a single, global system , was designed to cover all chemicals, including both pure substances and mixtures, and to provide for the chemical hazard communication requirements of the workplace, transport of dangerous goods, safety of consumers, and protection of the environment. The International Chemical Safety Cards (ICSC) project, undertaken by the International Programme on Chemical Safety (IPCS), was another successful UN initiative addressing the issue of chemical safety. The ICSCs summarize essential health and safety information on chemical substances in a clear way and are intended for use at the shop floor level by workers and by those responsible for health and safety issues in factories, on farms, at construction worksites, and at any other place of work. They are also designed for use by employers when undertaking the duty of providing information and instruction to workers. (See www.ilo.org/safework.)

The United Nations Environment Programme (UNEP) was established in 1972 to coordinate and stimulate environmental action with the UN system and to provide technical and managerial assistance to countries requiring it. Under UNEP's auspices, governments have developed international treaties governing hazardous chemicals and substances, including the Stockholm Convention and the Rotterdam Convention.

The Stockholm Convention is a global treaty to protect humans and the environment from persistent organic pollutants (POPs). POPs are chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms, and are toxic to humans and wildlife. Their effects on humans and animals include birth defects, cancer, and

damage to the immune system, to growth and development, and to the reproductive system. The convention calls for action on twelve initial POPs, nine of which are pesticides (aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzen, mirex, and toxaphene). The other three are PCBs, dioxins, and furans.

The Rotterdam Convention aims to promote shared responsibility and cooperative efforts among parties in the international trade of certain hazardous chemicals in order to protect humans and the environment and to contribute to their environmentally sound use. Governments began to address the problem of toxic pesticides and other hazardous chemicals in the 1980s by establishing a voluntary Prior Informed Consent (PIC) procedure. PIC required exporters trading in any of a list of hazardous substances to obtain the consent of importers before proceeding with the trade. In 1988, governments decided to strengthen the procedure by adopting the Rotterdam Convention, which makes the PIC procedure legally binding. The convention establishes a first line of defense by giving importing countries the tools and information they need to identify potential hazards and to exclude chemicals they cannot manage safely. When a country agrees to import chemicals, the convention promotes their safe use through labeling standards, technical assistance, and other forms of support. It also ensures that exporters comply with the requirements. (For information about UNEP and its programs, consult www.unep.ch.)

The European Union is planning to introduce a regulatory regime for chemicals known as the REACH system (Registration, Evaluation and Authorisation of Chemicals). The REACH system is anticipated to go into effect in 2005. Although it is difficult to assess what effect REACH will have on the chemical industry, industry leaders are concerned because it is a massive regulatory undertaking and the costs may be substantial, both for the industry itself and for downstream users. Under REACH, the industry will bear the costs of registration, authorization, and testing. It is estimated that the cost to the chemical industry will be about $3 billion spread over an eleven-year period. However, the chemical industry is characterized by long, complex supply chains that touch nearly all sectors of the economy, so the actual costs may be much higher. It is estimated that the cost of REACH to European industry alone, including costs imposed on downstream users, could reach 5 billion euros over this period of time. The most ardent opponents of REACH have suggested that its costs may be 100 times higher than this and cause job losses for up to 2 million workers over its first decade in force.

The Future of the Chemical Industry

The chemical industry is an industry with innovation. Figures from the European Chemical Industry Association and the Organisation for Economic Co-operation and Development show that in Europe's chemical industry (excluding the pharmaceutical sector), the proportion of sales revenues devoted to R&D decreased in 2002, to just 1.9 percent, whereas in the United States it increased from 1.5 to 2.5 percent during the same period. To stay competitive, countries interested in advancing their chemical industry must ensure adequate R&D funding.

Innovation needs people to make it happen. The European Chemical Industry Association is concerned about a shortage of researchers, especially chemists. Since 1996, the numbers of chemistry graduates in many European countries have fallen, often by some 10 percent a year. Not only have the number of young people seeking a degree in chemistry dropped, but more of those completing chemistry degrees are seeking careers outside the sector. The chemical industry is working with academe and science organizations to increase the number of chemistry graduates. Government initiative in this area could make a significant difference. The EU aims to increase its research spending to 3 percent of GDP by 2010. But the future of the chemical industry worldwide re-

Table 13: Chemical Industry Research and Development (R&D) Spending (% of sales) in Japan, the United States, and the European Union, 1995–2002

	1995	1996	1997	1998	1999	2000	2001	2002
Japan	3.0	36.0	4.0	4.4	3.8	3.5	3.3	3.0
United States	2.5	3.0	2.2	2.9	2.6	2.6	2.6	2.5
European Union	2.4	2.4	2.3	2.4	2.2	2.1	2.0	1.9

Source: European Chemical Industry Association and Organisation of Economic Co-operation and Development, cited in European Chemical News (ECN), March 15–21, 2004, p. 17.

lies on young people to enter the industry and to keep it competitive and profitable.

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See Also Pharmaceuticals

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Computer Hardware and Electronics

The field of electronics is developing rapidly, with new products entering the market every day. The computer is arguably one of the most important tools of daily life. Computer hardware and electronics have played a major role in globalization, especially with the rise of the Internet, facilitating communication and the sharing of information worldwide and enabling firms to engage in greater trade and other international opportunities.

Definition of Electronics

Electronics is the field of engineering and applied physics dealing with the design and application of devices, usually electronic circuits, the operation of which depends on the flow of electrons for the generation, transmission, reception, and storage of information.

The history of electronics has its roots in the early twentieth century, with the invention of the first three-electrode vacuum tube—the "audion"—by Lee De Forest in 1906. Indeed, De Forest was building on previous inventions when he developed the device. Since then, vacuum tubes and other electronics components have been increasingly miniaturized and improved. The most important products in the field have either provided radically new ways to do important jobs, or made possible tasks that were previously unimagined. Their impact has been felt, if not right away, then eventually, by a large portion of humanity. Developments in the field have enabled significant new technological innovations and scientific discoveries to take place. And, finally, these products have had an enduring effect on the world.

The transistor, the television, and the computer are considered the main turning points of electronics history and development. It is noteworthy that each of these three inventions is developed further every day. They have affected every area of modern life, especially communications, the exchange of information, medicine, education, and business. In many fields, they increase efficiency and lower costs. They have become increasingly reliable, resulting in lower prices, and lower prices, in turn, have resulted in greater popularity and more widespread use of electronic devices.

The transistor, a device made of a crystalline semiconducting material, usually germanium, was one of the first important inventions in electronics because it helps to control the flow of electrons in electronic products. As such, it provided a key component of many other inventions. Radios have undergone countless improvements since the pioneering days of radio in the early 1900s. The telephone has seen dramatic improvement in recent years with the use of fiberoptic cables, which provide an alternative to bulky copper wire cables. This vital and important invention has been developed in size, capabilities, and functions, leading to huge leaps in the telecommunications industry. The development of wireless telephones, cellular telephones, and new features such as voice mail, conference calling, call forwarding, and other functions have given the telephone an essential role in global communications. The Internet, electronic mail (e-mail),

and the ability to send and receive files and video streams further increased the ease of communicating over long distances.

Even video recorders, videocassette players, photocopiers, digital cameras, and the like have contributed in enormous ways to basic communication between people in many realms of their lives. Communication is a vital part of both personal life and business; it is also essential to education and, indeed, to any other situation that requires people to interact with each other. Communication, that is, the process of sharing ideas, information, and messages with others in a particular time and place, includes writing and speaking as well as nonverbal communication such as facial expressions, body language, or gestures; visual communication such as the use of images or pictures, photography, video, or film; and electronic communication such as telephone calls, e-mail, cable television, and satellite broadcasts.

One of the core developments in electronics is the communications satellite, which has become a linchpin of global communications. From modest beginnings, with a satellite that could handle only 240 voice circuits at a time, the technology has blossomed to the extent that satellites now carry about one-third of the voice traffic and essentially all the television signals between countries.

Definition of the Computer

Computers and information systems are tools that allow their users to transform data efficiently and effectively into digital format and distribute it wherever it is needed. If used properly, they can improve productivity in terms of both the time and the resources required to gain a desired result. In recent years, the growing use of microcomputers has brought the benefits of these tools to every continent and, in wealthy countries, to almost anyone who wants to take advantage of them. People use computers for many reasons, especially in economies based on information.

Computers process data by means of three basic functions: first, by performing arithmetic operations on numeric data; second, by testing relationships between data items by logically comparing values; and third, through the ability to store and retrieve data. These functions allow the computer to calculate numeric data, create documents, and manage data. Moreover, computers can work faster, more accurately, and more reliably than people. A computer is a machine that can be programmed to process data (input) into useful information (output). It can follow instructions to accept input, process that input, and produce information. The computer is a remarkable tool. Like humans, computers are complex; indeed, computers could be compared to humans in some ways. In a sense, they have hands (the keyboard or mouse); eyes (the monitor or scanners); ears (microphones); a mind (the central processing unit with its different parts); and even a memory (secondary storage).

Because computers can do certain types of jobs much faster than people and with far fewer errors, they have displaced people in many types of work at a great savings in labor costs. Moreover, they have enabled people in many professions to perform tasks that in the past were not possible. For instance, in the field of medicine, high-technology equipment is now used in virtually every area of specialization. It helps surgeons to perform operations (for example, laser technology), and it enables doctors to diagnose conditions more accurately (through the use of X-rays, ultrasounds, computerized tomography, magnetic resonance imaging, positron emission tomography, and the like). Medical electronics has progressed to systems that can image organs and other structures of the human body in great detail. Computers also facilitate research and compilation of documents and other projects, and they are now used in all aspects of business and education. Self-instructional computer programs help people learn new information and skills. Some programs present simulations of tasks, require the learner to per-

form in certain ways, and give the learner and/or instructor feedback about that performance. For example, airline pilots can sharpen their flying skills through the use of computer-generated flight simulators that duplicate the experience of flying in different types of aircraft.

Computers can be classified into four main types: (1) supercomputers, the most powerful type of computer, high-capacity machines used by very large organizations; (2) mainframes, large computers that occupy specially wired, air-conditioned rooms, which are capable of great processing speeds and data storage; (3) minicomputers, used by many businesses, colleges, and state and city agencies; and (4) microcomputers, common tools in all areas of life. The minicomputer market has diminished in recent years, squeezed at the high end by multifunction mainframes and at the low end by less expensive but increasingly powerful personal computers. Microcomputers are the most widely used and fastest-growing type of computer. This type includes desktop computers, laptop and notebook computers, and personal digital assistants. The memory and storage capacity of notebook computers today can compete with those of desktop computers. Personal digital assistants, also known as palmtop computers or handheld computers, combine pen input, writing recognition, personal organizational tools, and communications capabilities in a very small package. The pen-based computers weigh just over 5 ounces and fit in a shirt pocket. The newest kind of microcomputer, the net computer, is limited but useful for some purposes. It does have a central processing unit, but its memory is minimal. Microcomputers are the type of computer in most widespread use today.

It has become clear in most developed countries that access to computer technology is essential to success in education, business, government, and other realms. Thus, governments are faced with how to make computers more widely available to a broader range of citizens. The practical response to the digital divide was to establish national, state, and local programs to get more equipment and connections to a broader set of institutions. As a result, community technology is often available at libraries and schools, and ambitious grant-writing efforts to obtain computers for public access and to underwrite the costs of Internet connectivity continue.

Components and Developments of Hardware

Computer hardware, that is, the equipment associated with a computer system, comprises many different components. All computer hardware helps in some way to process "input," or the raw data accepted into the computer, to produce "output," that is, usable information, usually in the form of words, numbers, and graphics. The processor, or central processing unit (CPU), processes raw data into meaningful, useful information. The CPU interprets and executes program instructions and communicates with the input, output, and storage devices. Secondary storage provides additional storage space separate from memory. The most common secondary storage devices are magnetic disks or hard disks. Peripheral equipment includes all input, output, and secondary storage devices. In the case of personal computers, some of the input, output, and storage devices are built into the same physical unit; the CPU and disk drive are all contained in the same housing, whereas the keyboard, mouse, and screen are separate.

Hardware is only one of five components that make up a complete information system, however. The complete information system includes, first and foremost, people; the other four components are procedures, software, hardware, and data. People are the most important part of an information system because they program the computer to perform certain tasks or become users of the computer to achieve certain objectives related to business, private life, education, and so on. Procedures

are the rules or guidelines that people follow when using software, hardware, and data. These procedures are documented in manuals written by computer specialists. Software and hardware manufacturers provide manuals with their products. Software is another name for a program or programs. It consists of the step-by-step instructions that tell the computer how to do its work. The purpose of the software is to convert data, or unprocessed facts, into information, or processed facts. Data consist of the raw, unprocessed facts, including text, numbers, images, and sounds. For example, for a payroll office worker, the raw facts might be the work hours and pay rate for a list of employees. After the data is processed by the computer, it is usually called information. Information in this case would be the total wages the company owes each employee for a week's work. Hardware is the equipment itself, the physically tangible pieces that make up the computer and that enable it to process input to produce output and to store data and information.

Because computers are made of electronic circuits, they can only recognize two distinct electrical states, "on" or "off." The on and off states are commonly represented by the numbers 1 and 0, respectively. The binary system is a base 2 number system using ones and zeros only. Various combinations of ones and zeros can be entered and stored in a computer to represent all of the numbers, letters, and symbols that people use in information processing, and data and instructions must be interpreted into binary code before they can be used by the computer. There are computer programs that take care of this conversion. Each individual 1 or 0 is called a "bit," short for binary digit. A bit is the smallest piece of data that a computer can process. Alphanumeric representation requires multiple bits. A group of eight bits is a "byte." The byte is the basic unit for measuring the size of memory. With today's memory sizes, a kilobyte (KB) is 1024 bytes, whereas a megabyte (MB) is 1024 kilobytes, and a gigabyte (GB) is 1024 megabytes. An "encoding system" permits alphanumeric characters to be coded in terms of bits using 1s and 0s. The two most widely used encoding systems are the American Standard Code for Information Interchange (ASCII) and the Extended Binary Coded Decimal Interchange Code (EBCDIC).

Besides hardware and software, there is also a category called "firmware." This term is often used to refer to microprocessors, which include aspects of both hardware and software. In some cases, they are still referred to as hardware.

A central processing unit has two principal parts, an arithmetic logic unit and a control unit. In addition, it contains several registers and a "bus." The arithmetic logic unit is the part of the CPU that performs arithmetic and logical operations. The control unit is the part of the CPU that directs the flow of electronic traffic. The bus connects the parts of the CPU that need to exchange data. The bus lines link the CPU to memory and peripheral cards. Registers are storage areas used by both the control unit and the arithmetic logic unit to speed up system processing. The CPU itself is a collection of electronic circuits. Electronic impulses enter the CPU from an input device. Within the CPU, these impulses move under program control through circuits to create a series of new impulses. Eventually, a set of impulses leaves the CPU, headed for an output device.

Input hardware consists of devices that provide information and instructions to the computer. There are two main types of input devices: keyboards and pointing devices. The keyboard is a composition of numerous keys arranged in a configuration similar to that of a typewriter that generates numbers and letters when pressed. Besides the numeric and alphabetical keys, there are function keys, a backspace key, a tab key, control keys, shift keys, the delete and insert keys, and arrow keys. Pointing devices are moving, on-screen pointers that control, for instance, an arrow, cursor, or insertion point. There are nine types of pointing devices that vary in function, specialization, and shape: mouse, light pen, touch screen, joystick, trackball, graphics tablet, stylus, puck, and

head position and eye trackers. The mouse is the most common and the easiest pointing device.

Some input hardware records and generates images. Scanners and digital cameras, for example, enable users to prepare quality images for business or personal use. These images can be used on Internet Web sites or printed out and reproduced, thus enhancing advertising and other forms of media and communication. With the use of these tools, businesses and others can send images around the world instantaneously, and so this hardware, too, has contributed in important ways to the process of globalization. Digital imaging has made dazzling leaps in the half decade since the first digital cameras appeared. Digital cameras are ideal for four typical users: personal users, Web site designers, business users, and other professionals. Digital imaging is very useful for real estate agents, insurance adjusters, police officers, newspaper and magazine editors, and many other users who have a need for high-quality, high-resolution images to achieve various objectives.

Digital camcorders are vastly superior to the mid-level analog formats of a few years ago and provide better resolution and color quality. In addition, they enable users to get video from the camera to the computer via a simple file transfer that does not degrade the quality of the footage. Camcorders today have a number of advantages over the older analog ones. With the analog devices, video capture was a complicated operation involving a plethora of arcane settings that caused degradation in the quality of the video images. Over time, analog tape can suffer color shifts just sitting in a drawer. The new equipment uses flash memory, which has enough capacity and write speed to let the user capture reasonable amounts of fairly high-quality video. Thumbnail-size flash memory is used for smaller video cameras. Some small camcorders provide high-resolution stills along with video. In any case, these input devices all enable users to convey video streams worldwide.

Output hardware consists of external devices that transfer information from the computer's CPU to the computer user. There are two main types of output devices: display devices (monitors) and printers. A key characteristic of the monitor, or viewing screen, is its resolution, or sharpness. Resolution is measured by the density of the pixels. Monitors have improved greatly over the past two decades. Today, there are some that weigh less than 10 pounds; in size, most vary from 12 to 21 inches. Printers can be classified into three main types: personal printers, including most deskjet and laser printers; multifunction printers, which usually include a fax machine, a copier, and a scanner in addition to the printer; and photo printers, used mainly by professional photographers and graphic artists.

Storage hardware provides permanent storage of information and programs for retrieval by the computer. The two main types of storage devices are disk drives and memory. Memory refers to the computer chips that store information for quick retrieval by the CPU. Random access memory (RAM) is used to store the information and instructions that operate the computer's programs. Some devices serve more than one purpose. For example, floppy disks may also be used as input devices if they contain information to be used and processed by the computer user. Secondary storage provides additional storage separate from memory. The three most common secondary storage mediums are magnetic disks, magnetic tape, and optical disk systems, each with a number of subtypes.

Secondary storage devices have many properties: Besides the physical characteristics, which may differ, they may be volatile or nonvolatile, they may be removable or nonremovable, and they may access data via different methods. Any secondary storage system involves two physical parts: a peripheral device and an input/output medium. A disk drive and a tape drive are examples of peripheral devices, and diskettes and magnetic tape cartridges are types of media. The drives write data and pro-

grams onto the storage media and read them from the storage media. A medium must be situated on a peripheral device for the computer's CPU to process its contents. Peripheral storage devices can be internal or external. Nonvolatility means that when the computer is shutting down, the data stored on the medium remain there. This feature contrasts with many types of memory that are volatile. Data held in volatile storage disappear once the computer's power is shut off.

When the computer system receives an instruction pertaining to data or to a program in secondary storage, it must first find the materials. The process of retrieving data and programs in storage is called "access." There are two basic access methods: (1) sequential and direct access, by which a user can retrieve the records in a file only in the same order in which they are physically stored on the medium; and (2) direct access, sometimes called "random access," by which a user can retrieve records in any order.

There are two main types of magnetic disks: hard disks and diskettes. Hard disks consist of one or more rigid metal platters mounted onto a shaft and sealed along with an access mechanism inside a case. The size of hard disks vary. Diskettes, or floppy disks, store small amounts of data. They are round platters made of tough plastic. Most diskettes measure 3½ inches in diameter, with the common capacity of 1.44 megabytes. Zip drives are magnetic-disk drives that accept removable 3½ inch disk cartridges with capacities of 100 megabytes. Optical disks are metal disks varying in size from 3½ to 14 inches and were originally developed as compact disks for video and audio applications. There are three formats of optical disks, namely, CD-ROM, WORM, and Erasable. Optical tape uses optical-laser techniques to store data. It is in cassette form, with a storage capacity of 8 gigabytes.

Storage technology will remain viable for a long time. Manufacturers are producing high-capacity super-floppy drives with large storage capacities using new materials such as metal particles and barium ferrite. New disk-drive technology includes the wet disk, which separates the disk drive heads from the rotating disk with liquid instead of air, and the glass disk, which uses a glass platter instead of aluminum. Moreover, hardware advances are spawning growth in noncomputer devices. Televisions and computers are expected to merge into one device offering interactive television programming. Copiers are now equipped with storage devices for image capturing, and disk drives are found in printers, fax machines, and other document-imaging equipment.

Hardware connections are also very important, and their importance is increasing from day to day because of the Internet. E-mail messages may include not only the e-mail text itself but also a song, an attachment with a word-processed document, or a digital image, for example. There are many systems for connecting computers to the Internet, and all of them involve various types of hardware. Essentially, the computer should have a modem or make use of Ethernet technology. In other words, computer hardware requires physical connections that allow the components to communicate and interact.

The Computer Hardware and Electronics sector has been a major driving force in the process of globalization. Improvements in computer hardware, software, electronics, and telecommunications have created widespread access to information and economic potential. These advances have facilitated efficiency gains in all sectors of the economy. The use of computers and other electronic equipment provides the backbone that allows the expansion of products, ideas, and resources among nations and among people across borders. Thus, the computer and electronics industry has been a catalyst for global trade, innovation, and integration.

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See Also Technology and Technical Change; Computer Software

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Computer Software

Software has been a key enabler of globalization in three ways. First, it has helped to integrate geographically dispersed activities by allowing electronic communication and transactions to take place and by providing a foundation for better use of central data repositories. Second, with computing becoming ubiquitous, the software industry, even though dominated by the United States, has fanned out to all continents to market its products, thereby standardizing the interface between humans and machines, and to recruit inexpensive talent, thereby innovating ways to synchronize work globally. Finally, software itself has globalized, which in industry jargon refers to a combination of internationalization (ensuring that software can handle multiple languages and cultural conventions) and localization (ensuring that software is appropriate for different local audiences). In all this, demand from government and businesses, not individuals, has been the central driver for the transformation of software from a niche market to a large, globalized sector.

Early Experiments in Defense

The roots of software-led globalization were in experiments in the 1950s by the U.S. military on communication and translation technology. The Advanced Research Projects Agency (ARPA) within the U.S. Department of Defense (DoD) explored decentralized, software-mediated means of communication that the Soviet Union would find difficult to penetrate or disable. The U.S. military also explored "machine translation" software intended to provide a quick, rough translation of intercepted Russian broadcasts.

In the 1960s, ARPA succeeded in establishing a network between a handful of "hosts," machines meant for managing electronic communications. Communications software was predicated on two key innovations that are still powering the Internet today: packets and protocols. Software broke data down into small packets and sent it to the recipient computer, where another software program would stitch the packets together into the full message. This activity eventually allowed the same physical line to be shared by multiple computers, thereby lowering the cost of data transmission. A set of protocols governed the transmission of packets. ARPANET, the precursor to the Internet, was founded in 1969 based on these innovations.

The Growth of Business Applications and Microcomputers

Only around 5,000 computers were in service in the United States in 1960. Software at that time was not standardized. Unlike today, most software was not bought "off the shelf" or even developed by software companies. It was developed by computer manufacturers, "bundled" and sold with computers, and meant to work only with the specific computer. Business customers hired in-house specialists and contract programmers to enhance software. Program-

ming took place in "machine rooms" where large computers, called "mainframes," were housed. Different applications required different machines, making computing overall an expensive proposition limited to large businesses such as banks.

Within a few years, some companies began to identify opportunities to supply software in cases where manufacturers did not offer comparable products. To fill this niche, they developed the first packaged software and brought it to market. These products were made to complete specific tasks, usually for businesses or the military. The SAGE air defense project, developed at a cost of $8 billion, spawned the first private software developers in the United States. Demand from the Banque de Paris spurred the first European software company, the French SEMA. The first major project in which communications and business applications were developed together was Sabre, a system for travel agents in different locations to make airline reservations. Released in 1964 following seven years of development by IBM, Sabre was the harbinger of software's potential to transform global business by connecting computers through a communications link. Sabre is still used today, though in a much upgraded form.

Sabre's success showed the value of using communications-based software to facilitate transactions. Large companies began to establish proprietary networks to track sales, credit authorization, and research and development efforts across different branch offices. These systems began to store records in a central database for easier and faster access. As a result, managers had better insights into business generated by different branches. These transactional systems were custom-developed and "closed," that is, they were proprietary and could not communicate with other systems (in contrast, for example, to the telephone, which is an open system because you can plug the same telephone into the wall in different companies and it will still work and perform the same exact functions). A closed system can be expanded internationally only in a limited manner. From the existence of multiple computing platforms with bundled software, which limited the use of computers to a select group, the industry had moved towards custom-designed programs. These programs, though still closed systems, enabled more companies to benefit from using computers. The widespread use of computers with a broad choice of standardized software was still another step in the evolution of the software industry.

Early corporate networks remained closed partly because of strict government regulation of the industry, especially in telecommunications. To circumvent regulation, the makers and buyers of network systems lobbied successfully to classify software-mediated exchange of data as a domain separate from telecom, even if they used telecom hardware. They persuaded the government to consider data networks and software as business tools, and like other business tools, as the private property of corporations. Although freed from regulation in this way, software was not protected by intellectual property rights. As opposed to hardware, the U.S. Patent and Trademark Office viewed software as mathematical formulas and algorithms, which were by definition "nonstatutory" (that is, they could not be patented). Inventions powered by software were also considered nonstatutory. The combination of treating software as proprietary but outside the realm of patents meant that companies were protective about their own software; as a result, the growth of commercial software remained limited to closed systems employed by large organizations.

For software to transform global business at an individual scale, more innovations needed to take place. The first, the floppy disk, arrived in the early 1970s, allowing software to be packaged, sold, and shipped at low cost. The software market expanded, and by the middle of the decade, fifty-two products had passed $5 million in revenue, though most were still used in specific business or scientific settings. The second innovation, e-mail software, was devel-

oped in 1971 and enabled people to send messages to addresses specific to individuals, not just to a computer. E-mail widened the potential use of computers beyond the programming community. By 1973, three-quarters of all traffic flowing through ARPANET consisted of e-mail.

The software industry was catapulted toward global growth through two innovative business decisions by IBM. In the early 1970s, IBM unbundled its software from its hardware, creating space for other companies worldwide to supply software for IBM's systems. Then, in 1981, IBM introduced the personal computer (PC), opening its architecture and allowing other companies to "clone" it. (Ironically, it was in the same year that the U.S. Supreme Court established that software-driven inventions were patentable.) These two decisions had several important ramifications: The number of players in the software market increased, prices declined, and eventually PCs were adopted in massive numbers in business environments. Companies could now run cheap word-processing programs, construct spreadsheets, develop databases, and increasingly, use e-mail programs.

These innovations made software useful for *individuals* within businesses. Its applicability was no longer restricted to mainframes and special circumstances. The growth of software was not uniform worldwide, however, and it became increasingly apparent that language could impose serious limitations on software. In Japan, for instance, IBM was not as dominant in the computer hardware market as it was in English-speaking countries. Fujitsu, Hitachi, and NEC were the leading manufacturers of computers in Japan. Business software there is still dominated by these three companies, and still bundled with hardware. Independent software players therefore did not flourish there the same way that they did in the United States after the PC revolution. Japan's entry into the world software market developed around recreational software such as video games, where language was less of an issue. Video gaming software increased the computer's appeal for leisure use and spurred growth among home users in other non-English-speaking countries.

Centralization of Data and Standardization of Communications

Growth in the software industry, led by U.S. companies, skyrocketed from $2 billion in annual sales in 1979 to over $25 billion in 1985. Advances in centralized data analysis and communications bolstered this growth. Though corporate data software was still closed and expensive, ARPANET led innovations in free software, individual-level communications, and open systems (that is, usable across different computer platforms). The first international connection to ARPANET was made in 1973 when the University College of London (England) was linked to the network. In 1981, another research network, called BITNET, sprouted in the United States. Outside the United States, France led the way in consumerizing software-based communications by announcing Minitel in 1979. Minitel comprised terminals that French citizens could use free of charge to access a centralized electronic directory. It was a successful early example of integrating a single database with numerous terminals using communications technology—a hub-and-spoke architecture that still today drives much of software globalization.

The National Science Foundation established a wholly civilian network called the "NSFNET" in 1986. Based around five supercomputing centers, this network was critical to bringing more universities and international communities to the network. Several other networks were established around the world following the NSFNET model. These would eventually combine into a single network, giving rise to the Internet. A rapid international expansion in the number of hosts ensued, bring-

ing the total to more than 100,000 by 1989. This growth was an indication of not just interest in networking but also the increasing maturity and stability of networks based on open (nonproprietary) protocols.

In the corporate world, the merger of data processing and networking happened in two stages, both of which sustained demand for software to connect distant computers and get them to "talk" or work together. The first was a growth in Electronic Data Interchange (EDI), a method of establishing a direct connection between computers. In the transportation sector, for instance, EDI began to replace or supplement manual documentation, ranging from invoices and purchase orders to bills of lading and acknowledgments, sent to and from different parties. The information could be stored in a central database. Different EDI software, however, used different proprietary methods, and a supplier that did business with multiple companies would require a custom software setup for each EDI connection. This led to high maintenance costs, and smaller companies were left out of EDI connections altogether.

The success of open networks led to the second stage: intranets, essentially networks based on protocols pioneered by the likes of ARPANET and NSFNET but closed off to those outside the company. Whereas EDI facilitated communication between a company and its external partners, intranets were used to enhance internal business within the company. By the late 1980s, for instance, Citicorp's network spanned ninety-four countries, transmitting calls, facilitating trades, and enabling employees to share information. Behind the scenes, large data-processing, reporting, and transactional software powered these networks, raising the pace of globalization.

ERP (Enterprise Resource Planning) software, developed by Oracle, Siebel, SAS, and PeopleSoft, added further integration capabilities across the entire international supply chain of large companies. In the late 1990s, online business-to-business (B2B) marketplaces began to connect buyers and suppliers from different countries within a particular industry. Unlike EDI, marketplace software is open and provided entirely on the Web. Transactions are open to all with a browser. B2B marketplaces have been successful especially in the aerospace, automotive, metals, energy, paper, and chemicals sectors. These virtual marketplaces facilitated regional integration. By 2001, B2B markets in Singapore, for instance, were conducting transactions exceeding U.S.$50 billion with companies in Malaysia, Indonesia, China, Taiwan, South Korea, and Japan.

While corporate software led globalization by connecting worldwide systems and companies virtually, a silent and more physical connection was occurring in the field of "embedded software." Almost everything with electronics—from digital wristwatches to thermostats, VCRs, cell phones, cars, and airplanes—has software embedded within it to perform certain tasks. The rapid growth of electronics since the 1980s has fueled growth in embedded software. In consumer goods markets, where innovation in hardware is increasingly sporadic, embedded software has become a key competitive differentiator. Some manufacturers of consumer electronics report that almost 70 percent of their product development costs go toward software development. Embedded software has been responsible for "convergence": that is, it has driven the standardization of the human-machine interface around the world, so that one can program a VCR using almost the same logic whether one is in Australia, Sri Lanka, or Canada.

Internationalization and Localization of Software

For most of software's history, U.S. firms have controlled the global market, and English has been the universal vernacular of software. Virtually all programming languages are based on English commands. The design of software's

human interface (screens, features, and functionality) has been based on Western cultural norms. As U.S. businesses started to deploy software to integrate their foreign branches, and as software companies began to market their wares to other countries, the linguistic and cultural norms that had been taken for granted so far emerged as barriers. Although U.S. firms would likely dominate software production in the foreseeable future, they would no longer dominate its usage. By 2005, more than 70 percent of the world's software users were not native English speakers.

Software manufacturers and large businesses began to appreciate and tackle these issues systematically in the early 1980s. Initially they employed freelance translators and small in-house departments to translate "help" and other nonessential features into other languages. Packaging and instruction manuals were also translated, in some cases to comply with local law that required documentation to be in the local language. Core software functionality continued to be executed in English.

As software increased in size and complexity and as markets expanded beyond languages with Latin roots, manufacturers needed to rethink their approach to software development, especially in regard to internationalization and localization. First, software needed to accommodate different languages, including non-Latin ones. Akin to a telegraph using Morse Code, computers handle all letters and numbers by translating them to binary codes. To process English, computers employ a map called ASCII (American Standard Code for Information Interchange), set in 1963. ASCII defines binary code for 256 characters, more than enough for the English alphabet, including upper case, lower case, and special characters. But software based on ASCII cannot handle expansion into Japanese, which employs tens of thousands of characters. "Internationalization" refers to the process by which software is modified to accommodate such languages. Although it sounds very basic, internationalization is an extremely important task, without which software would not be able to cross very many geographic boundaries.

Second, software needed to be "localized," that is, each local version or instance of software needed to appear in the local language and respect local cultural norms and legal requirements. A "locale definition" had to be added to software, where "locale" is defined as a combination of country and language. Canada-French and Belgium-French are different locales, and software deployed to a company with offices in Montreal or Brussels needs to be localized as such.

In the 1990s, the scope and complexity of internationalization and localization expanded significantly as the Internet became a basis for servicing a worldwide customer-base. By 1992, the number of hosts on the Internet exceeded 1 million worldwide. International organizations such as the World Bank and the United Nations, which were among the first to come online in the early 1990s, required internationalized and localized software. Key standards organizations adopted and clarified internationalization and localization guidelines for the Internet, and software manufacturers adopted many of those guidelines for their own development. Further innovations, such as "geolocation," which enables Web sites to automatically determine the geographic location of individual users and serve localized content or software accordingly, arose in the 1990s.

The number of Internet hosts worldwide now exceeds 180 million, and 171 countries have their own Internet identification. But localization by and large remains unidirectional. Almost 80 percent of software products are still developed in English and then localized. Due to the continued dominance of U.S. English in programming languages, standards, and conventions, most non-U.S. software manufacturers either develop their products in English or localize into English first, using that version as a basis for further localization. Regardless, thanks to software and the Internet, large firms, for the first time, can think globally and act locally almost instantaneously.

U.S. Capital, Foreign Labor, and Renegade Developers

A parallel exists in the software labor market. Just as U.S. English is the dominant language, even though the software user-base is global, U.S. capital is the engine that drives the software industry, even though labor is increasingly global. U.S. companies sell 77 percent of the packaged software in the world. Large software manufacturing and consulting firms in the United States have experimented with outsourcing labor-intensive tasks to Ireland and Wales, Southeast Asia, and India. Motorola, a leading U.S. manufacturer of cell phones and embedded chips, has software development centers in twenty-five countries. It developed software for its 3G phones by organizing teams in six countries. Between 1,300 and 9,900 miles apart from one another, the teams, who never got together physically, worked globally via advanced communication software, central databases, and management processes.

The goals of outsourcing have been to find specialized skills, to reduce labor-intensive programming costs, and to expedite production time by conducting “round-the-clock” product development. The biggest consumers of outsourced software labor, however, are not software manufacturers, but the IT (information technology) departments of large U.S. companies. Many have outsourced their routine IT maintenance and development jobs, focusing U.S. labor on higher value-added tasks, thereby generating 30 to 50 percent savings on wages.

The roots of outsourcing are in the diasporas of various nations, that is, their overseas immigrant populations. Employees of Indian or Chinese origin working for U.S. companies took advantage of their contacts within the United States (and later, Western Europe) to secure the initial contracts for data processing, the most labor-intensive of all IT-outsourced jobs. As the Internet boom took off in developing countries in the mid-1990s, and as higher bandwidth became available for communications, more outsourcing firms emerged. Success with data processing provided confidence to both overseas contractors and their U.S./European counterparts to allow the former to take on more complex programming projects.

Currently, almost 80 percent of the worldwide overseas outsourcing of software goes to India. India has aggressively marketed its highly skilled, English-speaking population and its wage differentials to Western clients while giving ample tax breaks, subsidies, incentives, and infrastructural investment for local entrepreneurs. Tata Consulting Services (TCS) was the first Indian software exporter, beginning operations in 1974. But tight government regulations and the lack of infrastructure kept growth checked, keeping it almost negligible until 1991. Since then, India’s software production and services have boomed, exceeding $8.3 billion in sales in 2000 and making up 15 percent of India’s total exports. The size of India’s software industry is projected to exceed $50 billion by 2008, including exports and domestic use.

Outsourcing, though successful, has not been an entirely smooth experience for U.S. firms. The transition to managing teams in different countries has been difficult, as the productive work hours extended from eight or ten hours a day to almost twenty-four. Cultural norms and attitudes toward structure, decisionmaking, hierarchy, communication styles, and deadlines need to be bridged continually. Management of knowledge and information has also become problematic as intellectual capital and skills have become dispersed. Some studies indicate that because of these issues, multisite software development still takes longer than comparable projects colocated within a single firm, even with the virtually twenty-four-hour workday.

Populist politicians in the United States have attacked outsourcing as a labor-displacing and therefore reprehensible practice. Outsourcing is increasingly a threat to systems integration and programming jobs within IT departments in large firms, though it has been

less menacing to software manufacturers. Sixty percent of India's software exports are sent to U.S. clients. U.S. software firms, in turn, have been vocal proponents of more lenient immigration and labor laws because they are in favor of allowing both employment of immigrants and outsourcing to the global labor market. India's provision of labor is centered on the least value-added and most labor-intensive activities in the software development chain. India is not a leading provider of either consumer-level or enterprise-level packaged software. To be sure, the leading Indian software companies do possess the management and programming skills required to complete large-scale software development. They have provided turnkey software projects to banking, manufacturing, retail, and other sectors in developing countries. However, they have not been able to shake the software leadership in most Western markets.

The main international challenge to large software companies has come from global communities of individual programmers. Although free software has existed since the mainframe days, the General Public License (GPL) and Linux movements catapulted it into a major player. These movements were a response to proprietary code, which renegades in the software community deemed wasteful and an example of capitalism being suboptimal for the common good. In 1983, the Free Software Foundation developed the concept of "copyleft," which, in contrast to "copyright," would allow anyone to use certain software and contribute to its development, provided that the source code remain nonproprietary and open. GPL is the license that codifies this concept and accompanies open-source products.

Linux, an operating system released in 1994 by Linus Torvalds of Finland, was based on this concept. It launched the first large-scale open-source threat to commercial U.S.-dominated software. Thanks to the Internet, a global community of contributors develops Linux and all other open-source software collaboratively. Because it is virtually free, nonprofit organizations were among the first adopters of open-source software. Parallel open-source software now exists for many commercial software titles. Because global volunteer talent nurtures it, many open-source software titles are proving to be more stable and flexible than their commercial counterparts, prompting an increasing number of large businesses to switch to open source. Some large manufacturers, such as IBM and Oracle, have already released Linux versions of some of their high-end business products. As of April 2003, more than 60,000 open-source projects involving over 600,000 collaborators worldwide were in progress at SourceForge, one of the leading online software collaboration hosts. Together, outsourcing and open-source software are poised to shape the foreseeable future of software globalization.

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See Also Technology and Technical Change; Computer Hardware and Electronics

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Energy and Utilities

Energy and utilities industries are essential to all societies. They include such activities as telephony and telegraphy, water and sanitation, electricity and power supplies, and public transportation. Since shortcomings in public utility systems can lead to problems in health care and exacerbate economic inequality, governments generally make it a top priority to ensure these services are provided to all who are within their jurisdiction. The investment in infrastructure necessary to provide services is extremely high, however, and the possibilities of extracting profits from rural and remote areas very low. Consequently, service provision often follows the model of the natural monopoly. This pattern is being increasingly challenged as states look for ways to introduce market mechanisms to the provision of energy and utilities.

Utilities generally operate under the terms of a license or contract with a central government. Typically, they are obliged to provide certain services to the public, and in return they may receive government funding or other forms of support. The exact nature of such arrangements differs considerably around the world, just as legislative and constitutional arrangements vary. However, with the spread of privatization and deregulation, more complex but also more internationally standardized arrangements are being introduced. These often make an important distinction between bodies that maintain a distribution network of some sort (for example, water pipelines or train tracks) and those that provide services to the public (for example, generating electricity or driving trains). As technology and society change, the types of industries generally considered public utilities also change, with new technologies becoming important and older services less so. On the one hand, for example, different forms of broadcasting and radio-frequency wavelength usage have been considered public utilities in some cases in recent years. On the other hand, historical monopolies in commodities such as salt and spices would now no longer be considered a public service anywhere.

As industrial development deepens and spreads around the world, the demand for energy and utilities continually increases. Since resources are finite, inevitably states will increasingly compete with each other for access to those resources. Climate change will also have an impact upon further demand for energy and utilities, and there will be enhanced need for the development and delivery of alternative sources of energy, including nuclear power. In many cases, greater levels of efficiency may be obtained through cross-border public utility provision, although in these cases many political and logistical problems remain.

Public utilities may be classified into several categories: energy (fossil fuels, nuclear power, and alternative sources of energy), water, public transportation, telecommunications and broadcasting, and other services that take a public-utility role, such as provision of health care. Management of each type of utility involves specific issues, especially with respect to privatization and deregulation. Finally, globalization and cross-border issues affect the provision of public utilities.

Varieties of Public Utilities

Energy

The production of energy is necessary to keep modern society running. Without it, wealth production would be almost impossible, public health would rapidly deteriorate, and disorder would soon become rampant. Most energy is produced from fossil fuels, although alternative sources are likely to become increasingly important as fossil fuel supplies become depleted. Many governments, especially in developing countries, subsidize energy production and consumption; in many cases, their policies render populations vulnerable to external shocks and especially to the impact of climate change (Heller and Mani 2002).

Fossil Fuels. Fossil fuels—primarily oil, coal, and natural gas—remain the most important sources of energy in the world. These fuels are unevenly distributed, however, often relatively inaccessible, and contribute to pollution and global warming when burned. Existing supplies are, of course, finite, though how long they will last under current levels of demand is a contested issue. In part, it depends on the feasibility of employing new techniques to extract already known sources of supply that would not be economical to extract at the present time. Although oil production may have already peaked, it is unknown how long supplies will last: There may be as much as 120 years' worth of supply still remaining, or there may be significantly less. In any case, attention will have to be focused on continued improved efficiency in machinery and operations. International diplomacy will also be required to limit military threats and armed confrontation over the distribution and use of fossil fuels for particular states.

Alternative Energy. Research is under way to explore various forms of energy that are renewable and that do not depend on fossil fuels. These include wind, wave, and solar power, together with different types of fuels that may cause less environmental degradation than fossil fuels. It is hoped that these alternatives will soon begin to replace fossil fuels as researchers find ways to make them feasible. Although some progress has been made with providing alternative energy, such sources make up a very small proportion of energy provision globally. The alternatives are not without environmental concerns. Hydroelectricity, in particular, has attracted negative scrutiny with regard to the impact of dams on indigenous peoples and their lifestyles, and wind power sites have also been criticized by some for unsightliness and noise pollution.

Many projects related to alternative energy are organized by the private sector, although public-sector initiatives do exist. Universities in a number of developed countries are leading the way with some technologies and have formed partnerships with other public- and private-sector institutions. To date, most forms of alternative energy generate power to only small-scale local areas or else contribute to the conventional distribution network.

Nuclear Power. Nuclear power depends upon the decomposition of certain heavy metals that release energy in the form of radioactive particles, or fission energy. The energy is typically used to heat water, which then drives generating equipment. Fission energy produces nuclear waste, which can remain harmful for many years. Management of this waste remains of crucial importance to the production of nuclear power. Proponents point to ongoing successful management of waste from existing nuclear power plants, whereas detractors highlight the fact that accidents could still occur, that successful management would have to continue for many years into the future, and that it would take just one serious incident to cause widespread suffering and possible loss of life. In any case, the issues surrounding the disposal of nuclear waste remain unresolved, and any possible international trade in waste would need to be thoroughly regulated and monitored. These factors make nuclear power a very

expensive prospect and reduce its attractiveness to potential recipient states. A new phase of development of nuclear power would be the use of fusion energy, which, if it were feasible, would reduce the amount of dangerous byproducts released into the environment.

Despite the unsolved potential problems, nuclear power is seen as inescapable in countries such as South Korea and China where demand for energy far outstrips resources to generate it. Countries such as Iran and North Korea, which are also apparently investigating the use of nuclear power, have come under suspicion of wishing to use the nuclear power generation program to hide potential weapons development programs. As the United Nations–led efforts to identify nuclear and other programs in Iraq demonstrated, finding evidence of such activities is a complex and time-consuming undertaking.

Water

A safe and secure supply of water is necessary for individuals as consumers and also for industry. Additional, related services include sewage removal, sewage treatment, and desalination. Parts of the same network are generally required for conducting each of these services, and the cost of maintaining the network, not to mention extending it, means that only states will have the ability to manage the process. However, a number of countries have found that allowing independent providers of some services may be a feasible alternative. Nevertheless, the increasing global demand for water, deriving from increasing population and increasing industrial development, together with changes in demand patterns resulting from climate change, mean that competition for water resources is likely to become more intense. As water resources are rarely located wholly within the boundaries of a single state, it is possible that political or armed confrontation could develop around water issues in the future. This seems particularly true in the case of the Middle East; the supply of water from Malaysia to Singapore and the use of the upper Mekong River by China are other areas where controversy is possible.

Public Transportation

Some states have deemed the provision of public transportation to be a public utility because of the importance of moving people conveniently to and from workplaces, public institutions, and the like. Forms of transportation that fall under the public utility umbrella often include rail and underground rail (subway), bus, and air transportation. Geography and society affect the type of transport considered to be a utility, however. For example, in Australia, remote distances promoted the idea of the Royal Flying Doctor Service, and ferries are common forms of transportation when island communities are involved. Transportation facilities can also provide additional services. In South Korea, for example, underground railway systems in the capital, Seoul, were built in part to provide shelter in the event of bombardment or chemical attack from North Korea or other enemies, and the highway system was created not only to boost economic development and national unity but also to assist in military deployment.

Transportation consists of a network along which services may be provided, together with vehicles and attendant services such as cleaning, catering, and maintenance. Public safety services may also be required, especially with respect to air services. Deregulation and privatization of transportation services generally work to the disadvantage of people in remote, rural locations, whereas those in profitable urban locations may find themselves facing intense competition under such a system.

Telecommunications and Broadcasting

Telecommunications can be used to provide important information and services to people and industry and hence may be considered a public utility. The development of mobile telecommunications and its integration with personal computing suggest that it may not be necessary to expand existing communication

networks to cover the remaining unconnected regions of states. In Brunei, for example, mobile telephones have rendered the need for conventional landlines redundant. However, this option requires individual members of the population to own handsets, which remain expensive in many countries for the average person. The inability to develop inclusive networks in some regions may intensify the problem of the digital divide—that is, the differences in economic opportunities available to those who have access to Internet services and those who do not.

Although some states have sought to regulate the types of services used within their borders, economies of scale and scope dictate that the more successful mobile telephone providers will be large multinational enterprises. Insofar as companies act together to create industry standards, their collaboration can increase efficiency and hence reduce costs for consumers. Generally, private-sector institutions dominate these industries, although they may be subject to regulation by a state body.

State broadcasting services have been favored in many countries on the basis that they can be used to convey important security information and other forms of public announcements to people in a wide area. Further, some believe that an unbiased approach would result from the absence of commercial interests. Unfortunately, state broadcasting services have in many cases been subject to powerful influences over content that compromise the impartiality of the news and information sent over the airwaves. Further, the complexity and sophistication required of modern broadcasting services require resources beyond the ability of states to provide without commercial sponsorship. Nevertheless, in states where broadcasting and telecommunications technology may play an important role in nation-building, integrating people into society and widening economic opportunities, the provision of such services may be helpful. Examples include Thailand, where open-distance learning, sponsored by the king, helps to overcome the problem of meager educational resources in remote areas. Planned satellite and telecommunication services can also reduce inequalities stimulated by the digital divide.

Public Health

Because infectious diseases and other health hazards can represent significant social problems, many governments provide public health services in the same way that they provide public utilities. These services vary considerably from country to country. Services may be created and delivered on very short notice in the event of a medical emergency. Examples of this phenomenon in recent years have included crises arising from Severe Acute Respiratory Syndrome (SARS) in East Asia and North America, Avian Influenza ("bird flu") in Southeast Asia, and Bovine Spongiform Encephalopathy (BSE, or "mad cow disease") in the United Kingdom and elsewhere. The nature of public health services range from provision of information to health inspection, vaccination, and other preventive measures. Voluntary groups may also become involved in public health services, especially internationally.

Other Utilities

Almost any industry may be classified as a public utility in one context or another. Industries that play a significant role in economic development, such as mining or banking in some economies with few other resources, are good examples.

Privatization and Competition

Particularly since the collapse of the Soviet system at the end of the 1980s, a single model of economic development has assumed supremacy worldwide. This model has been adopted by the International Monetary Fund (IMF) and aggressively promoted around the world, notably in countries requiring structural adjustment funding. The model strongly promotes privatization of state-owned enterprises

and increases in market competition. Numerous countries have voluntarily privatized energy and utility services, but with mixed results. In Russia, for example, the rapid privatization of resource industries resulted in a concentration of power in a small number of corporate hands before an effective taxation system could be established (Stiglitz 2002, 157–160). Other privatizations in the country were conducted without an appropriate legal or market infrastructure and have been ruinous for the Russian economy.

Privatization is considered a necessary precursor to competition, and deregulation is required to ensure that privatization enables market actors to perform to their highest ability. However, evidence from privatization of power-generating companies illustrates a number of difficulties attendant upon the process. In California, for example, privatization and partial deregulation led to competition in wholesale markets for electricity, while retail prices were capped. The motivation for the deregulation was to allow for companies to recover their losses from failed investments in nuclear power (Palast 2001). California normally relies upon hydroelectricity and natural gas for significant portions of its energy supply, and deregulation initially made little difference, as excess generating capacity ensured that wholesale prices remained lower than retail prices. However, in 2000, drought and a large increase in natural gas prices caused major increases in demand for conventional electricity, and the wholesale price increased beyond the capped retail limit. Independent producers were then able to manipulate the price through transmission restraints and other manipulations of the supply. Distributors were forced to buy power at a loss from the independent producers and could not pass on price increases to consumers. They were soon in financial difficulties and appealed for state support. Governor Gray Davis was required to implement emergency legislation to allow for the purchase of power at levels acceptable to consumers, although the deregulation had been instituted by his predecessor. Newly elected president George W. Bush refused to lend assistance to California, and Davis, beset by corporate scandals and obliged to close down state programs through lack of money, was subsequently recalled following a politically motivated right-wing campaign (McCrum 2003).

The privatization of water services has also grown in importance internationally. Thanks in large part to the support of the World Bank and the IMF, the number of people in the world dependent on water supplies from private corporations rose from 51 million in 1990 to around 460 million in 2004 (Hacher 2004). Many of these privatization projects have had negative consequences, such as increased pollution, increased costs to consumers, and corporate difficulties in meeting expected targets. From South America to South Africa and Southeast Asia, many thousands have faced increased costs and decreased service as a result of water privatization. There are few significant reports of positive outcomes outside of Western countries, which already possessed sophisticated institutions able to deal effectively with powerful corporations. Furthermore, regulatory bodies have proved themselves incapable of administering corporations in any country, as scandals over companies such as Enron have demonstrated. However, there are occasions in which privatization of some public utilities may be managed successfully.

Globalization and Cross-Border Issues

Many complex issues cross political borders by nature. These include issues related to environmental degradation, migration, and climate change. In some cases, these issues may be ameliorated through provision of public services and cross-border cooperation is required. This may be bilateral or multilateral in nature, depending on the particular issue concerned, although multilateral fora are more likely to be effective in dealing with widespread problems.

Acid rain, for example, affects countries quite removed from those where it is created. Similarly, water resources are rarely concentrated wholly within the boundaries of a single state. Such actions as the refusal of the United States to ratify the Kyoto Protocol dealing with global warming, the collapse of World Trade Organization (WTO) negotiations, and the like have reduced global collaboration on such matters.

Corporate power in many cases far outstrips the ability of states to regulate the provision of public services. The creation of international regulatory bodies with genuine power to control private-sector institutions involved in energy and utility provision will therefore become essential. Public policy must begin to ensure that gains from energy consumption are matched by efforts to mitigate the costs, especially to the environment. Global economic development and the attendant demand for energy cannot be constrained, but governments will need to provide for reduced emissions from oil consumption and increased use of alternative energy sources, together with appropriate institutional arrangements to administer them.

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See Also Environmental Impacts of Globalization; Global Climate Change

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Financial Services

The term "financial services" generally covers all services offered by banks, credit institutions, insurance companies, financial intermediaries, and other institutions that deal with investments or financial instruments. In order to avoid disputes on the definition of financial services, the World Trade Organization (WTO) devised a listing of financial services under the General Agreement on Trade in Services (GATS), where financial services are divided into four main categories: (1) insurance services—direct insurance (life and property insurance), reinsurance, insurance provision, and auxiliary services such as insurance statistics; (2) banking services—acceptance of deposits, issuance of loans; (3) securities services—asset management, trade with and participation in the issue of securities, invoicing and clearing services; and (4) other services, such as provision of financial information and consultation services. Virtually all national and international financial operations fall into one of these categories.

Revolutionary Changes in the Financial Services Industry

The financial services industry has undergone revolutionary changes, particularly in the past decade, and continues to evolve today. The revolution has mainly concerned the organization and structure of markets, the role of financial intermediaries, and the pathways taken by monetary flows around the globe (Gentle 1993). These changes have left no corner of the industry untouched. Consequently, the direct investments of the industrial countries in the financial service sector increased from $63 billion to $356 billion between 1980 and 1990, representing an approximate average annual increase of 18 percent (UNCTAD 2003).

The institutions involved in providing financial services are being rocked by new competition both domestically and internationally. For instance, the Hong Kong and Shanghai Banking Corporation (Hong Kong Bank, or HSBC) has been transformed from an Asian giant to a global financial services provider—with its headquarters now in London and with a huge U.S. network of affiliates—based on its acquisitions of Republic Bank of New York, Marine Midland Bank, and other smaller institutions. Even insurance companies are finding it necessary to enter the domain of other financial services in a major way—the acquisition of Dresdner Bank, Germany's second largest, by Allianz, and the rapid global expansion of the latter through acquisitions of insurance companies in the United States and Europe, is a case in point. Moreover, these changes are redefining the financial services industry through the use of electronic methods replacing people and physical documentary activities.

Traditionally, households in many countries have used commercial banks for checking accounts and credit cards. People have generally had their savings accounts and home mortgages at savings institutions, purchased life insurance policies from insurance companies, and bought securities from a securities broker. Similarly, companies have generally borrowed

from commercial banks and used security firms to issue debt or equity securities. Moreover, there has been a desire to delineate boundaries for each financial institution. For example, in the United States, a variety of constraints have prohibited bank branching across state lines. There were also restrictions that limited the range of products banks could offer and that kept other companies out of the banking business. In several countries, banking and securities have been relatively separate businesses, in some cases by law and regulation (United States and Japan) and in others by practice (United Kingdom).

The historical separation of financial service functions has come under increasing strains in recent times. Under the competitive pressures unleashed by decreasing legal and regulatory barriers, returns in traditional financial services have drastically decreased. On the one hand, these forces have worked as a catalyst to financial service providers, forcing them to expand beyond the traditional boundaries with new combinations of activities. On the other hand, other factors have encouraged highly focused firms to specialize in particular activities. A number of factors have contributed to the changing economics of the financial services industry. A complete list of these factors would have to include more volatile interest rates and exchange rates, liberalization and deregulation, the formation of international pools of funds, new product development, and asset securitization. These are not independent factors. The collapse of the Bretton Woods system and the subsequent shift to floating exchange rates in the early 1970s made it easier for central banks to pursue easy monetary policies, encouraging inflation, higher domestic rates, and wider swings in interest rates and exchange rates (Meerschwam 1991). These effects, in turn, put pressure on domestic regulatory structures and institutional relationships, setting the stage, for example, for low interest rates on savings deposits.

The rise of euro markets—international money outside of domestic regulation—has been the key underlying force that propelled a decisive change. Previously, corporate figures who wanted to borrow a particular currency had to rely on the local institutions in the home country of the currency desired. Now corporations can obtain funds from several locations. This internationalization of the capital markets has greatly increased the competitive pressure on domestic financial institutions and the pressure for more uniform financial regulation. Moreover, the development of the swap market, a new financial instrument, has encouraged the process of integration. Swaps and other products, such as interest rate options and forward contracts, have greatly facilitated the management of financial risk in the corporate world and have strengthened links in international markets. For instance, a borrower can take advantage of an attractive financing opportunity in one financial market and then swap the repayment obligation into the form and currency desired through the swap market.

Securitization, a process of homogenizing and packaging financial instruments into a new fungible one with functions such as acquisition, classification, collateralization, composition, pooling, and distribution, has also been a vital force for change. Loans normally made by banks to large borrowers increasingly have taken the form of securities sold to an array of institutional buyers. Instead of loaning the money, commercial banks now act as agents in the transaction, sometimes providing credit guarantees to borrowers. This has led to the development of the euro-commercial paper market, note issuance facilities, and other security products in the international marketplace. Securities backed by a pool of managers have been particularly important for securitization in the United States. These changes have allowed various institutions to invest in mortgages, converting the U.S. mortgage market from a highly segmented and localized market into a broad-based market in which mortgage rates are driven by other long-term rates available in the financial marketplace.

With increasing international and domestic competition, declining margins in traditional businesses, and greater regulatory freedom, financial service firms have sought new opportunities outside their traditional businesses. The changes under way, however, are more fundamental than institutions simply managing by broadening their horizons. The basic cost structure of most financial service firms developed in a different world than that of the early 1990s. These institutions were protected from potential competitors; their cost of funds was relatively low and stable; and the rates they charged on assets were determined by local market conditions. In this environment, institutions often competed by building up expensive delivery systems in the form of branch offices, loan officers, securities brokers, life insurance agents, and the like. Because delivery systems were highly labor intensive and often involved handling a large paper flow of checks and securities, economies of scale were difficult to achieve (Humphrey 1990). But, with high and stable margins, firms could afford to compete through "service" by adding staff and opening new offices.

The changed state of savings banks demonstrates what has really happened in the new environment. In the United States, the earnings rate on new mortgages is determined by the national marketplace because of the large mortgage-backed securities market. The savings rate paid to customers is also heavily determined by national money market rates because savers have ready access to money market mutual funds. Thus, the net interest spread is effectively out of the hands of the savings bank. Even worse, mortgage brokers in competition with savings banks can originate mortgages without an expensive branch network, and the operating cost of a money market mutual fund is way below that of a savings bank. The mutual fund can provide a money market rate with checking account privileges for an all-in cost of 0.50 to 0.75 percent of assets, approximately one-third of the operating cost of a savings bank. Faced with this situation, many financial service firms are seeking economies of scope, trying to distribute more products through their expensive delivery systems (Crane et al. 1983). Regulators are generally helping in this process in an effort to improve the profitability of weakened institutions. For instance, in Australia, commercial banks are allowed to distribute virtually all consumer financial products.

Technology changes and expanding customer needs are also affecting the configuration of financial service firms. Taking corporate customers as an example, short-term borrowing and long-term debt were formerly treated as separate products. These products were purchased by different people within the company and provided by different suppliers. Now, debt is a highly integrated set of products purchased in a centralized manner. Financial service firms are reorganizing their functions to face the evolving realities of the marketplace. Whereas some products are being bundled together in new ways, others are becoming unbundled. Credit cards in the United States are more and more spun off into separate businesses. Nonbank competitors have discovered that credit card services can be delivered successfully nationally or internationally without the need for conventional bank branches. Furthermore, there are substantial economies of scale in the card business. With advances in technology and customer solicitation, the business has become much less paper- and labor-intensive. These changes have led to substantial increases in the concentration of business among the leading credit card issuers.

New Trends in the Financial Services

The financial services sector has experienced far-reaching structural and directional changes over the past two decades. An extremely dynamic period of growth in this sector began in 1973, the year that ushered in a new floating exchange rate regime. It was the end of the postwar order of the international financial system

and its fixed dollar-tied exchange rate mechanism. With the floating exchange rate regime, a powerful wave of liberalization and deregulation swept across the financial sector, leading to the rise of global financial markets. Under the new set of conditions, the financial services industry experienced an enormous upswing and became itself a driving force behind the dynamics of the financial markets. This process was characterized by some new trends, including, on the one hand, a high degree of concentration, and on the other numerous new products and institutions.

Expansions, Mergers, and Concentrations

The internationalization of banks and other financial service providers has been observable since the 1960s. Euro markets created the need to circumvent national regulation. For example, during the 1950s German banks were largely devoted to reconstruction, but during the 1960s they began to follow their customers, the multinational companies abroad. At that time, corporations involved in cross-border activities were already initiating international mergers. In the 1970s, rapid development of international financial business created new fields of activity for internationally oriented companies. With the addition of the foreign exchange trade, "new" financial centers in London, New York, Tokyo, Hong Kong, and Frankfurt started to emerge. The international credit trade became an important and rapidly growing area of business. Commercial banks, too, were no longer involved in their original areas of operation, but through diversification of their service and financial product range, and through mergers and takeovers, increasingly tried to expand into other money-spinning areas. Thus, a major new trend has been toward one-stop banking. As a result, up to 75 percent of the sales volume of the big banks has been achieved through the trading activities of the investment banking sector.

Financial services have become more important in the context of a substantial increase in the indebtedness of consumer households as well as the privatization initiatives that have taken place in waves for more than two decades. The financial services industry is therefore among the big winners of globalization. Nevertheless, financial markets outside the United States are still regarded as highly regulated. Numerous financial service providers are still in public ownership, despite the fact that privatization programs have been moving ahead in many developed and developing economies. Therefore, it is no coincidence that a concentration wave, based on mergers and takeovers as well as a further increase in the supply of financial products, has swept across the industry. The growing derivative trade is a product of unregulated financial markets.

Since international financial markets are given considerable control and steering functions, with regard to all other macroeconomic areas their weaknesses and systemic risks are viewed as dangerous to stability. Highlighting this point, the Bank for International Settlements (BIS) has noted that with an increasing degree of concentration of the banks, the systemic risks grew, as did the distortion of market rates, which ultimately led to the misallocation of capital. The concentration processes are exemplified as well by the worldwide unofficial trade in derivatives and foreign exchange, almost 50 percent of which is concluded at only two financial centers, London and New York. Only three U.S. banks hold almost 90 percent of the nominal circulation of foreign currency derivatives. The concentration in the market for interest and credit derivatives, 86 percent and 94 percent, respectively, is similar. Globally, about three-quarters of exchange transactions are concluded by only thirty dealers (BIS 2002).

A glance at the share of overall worldwide capital holdings in the hands of a few banks and pension funds makes the oligopolization trend even clearer. And yet, this type of concentration could be used to make directive power of supervisory and regulative authorities more efficient, since the number of players is very limited. Another trend is the strong development of wealth and asset management in the

banks, an indicator of the considerable increase in large fortunes (World Bank 2002), which is an expression of the increasing social polarization that has taken place worldwide over the past two decades. These circumstances, in any case, have further strengthened the influential role of banks and insurance service providers. The financial service providers and banks—and primarily the investment banks, such as Citigroup, Deutsche Bank, Credit Suisse, First Boston, Goldman Sachs, Morgan Stanley, JP Morgan, and Merrill Lynch—have thus at the same time secured a leading role in the process of economic globalization.

Institutional Investors

Institutional investors, such as insurance companies, pension funds, investment funds, and investment companies, are a new, strategically important group of players in the financial markets. They clearly demonstrate the problem of the concentration of large amounts of capital in a few hands. Their decisions on inflows and outflows of capital can have far-reaching economic effects. They therefore are increasingly courted by state and private capital recipients, and increasingly included in the political-economic decisionmaking process. Certainly, like banks, institutional investors collect savings deposits; rather than passing them on to companies and governments in the form of loans, however, they invest in bond issues and stocks, putting together a mixture of portfolio investments. The significance of institutional investors for national economies gets even clearer if one places the assets managed by them in relationship to gross domestic product (GDP). For instance, in the United States, institutionally invested assets to some extent amount to more than one and a half times the value of the GDP.

Private Pension Funds

Owing to demographic developments in industrial countries, a wide-ranging discussion about the future of the public pension systems, which are based on the intergenerational-contract concept and financed by payments, has taken place. The providers of private retirement plans have a major stake in this discussion. For them, it is extremely attractive to open up, at least partially, the gigantic sums of money that move through the public pension funds. The optimistic idea that commercial pension funds would bring about a solution to the demographic problem, however, has subsided considerably. The burst of the speculative bubble in 2001, after almost a decade of apparently irreversibly high-flying stock-exchange quotations, has brought the supporters of private retirement provisions back to earth. In the United States, thousands have lost their pensions, and millions of privately insured people the world over have seen their payments drop considerably. The pension insurance companies, which once seemed so solid, have obviously miscalculated and are now facing massive losses. Besides the high-capital market risk, there is a problem inherent in the system for the mass of wage-earning policyholders. On the one hand, high salaries are necessary in order to be able to afford sufficient private insurance protection in the first place; on the other, if those salaries rise too high, the returns on the private funds will drop.

Moreover, regardless of crisis-type developments, the gigantic financial assets that are moved around by the pension funds in "normal" times also contribute to increasing the volatility of the financial markets. Developing countries are placed at a particular disadvantage, since they are frequently forced to use their foreign currency reserves to stabilize their foreign trade earnings and their debt service, creating a permanent redistribution effect from the weak currencies to the strong currencies. The privatization of the retirement-pension system not only further strengthens the economic power of the financial services industry but also increases its influence on basic sociopolitical conditions. The experience with the private pension systems in the United States and Great Britain demonstrates that the

pensions are getting unstable, that the polarization between wealthy seniors and poor pensioners is increasing, and that old-age poverty is rising.

Financial Conglomerates

The financial services industry is increasingly dominated by financial conglomerates—commonly defined as a group of companies under common control whose predominant activities consist of providing significant services in at least two of the three major financial sectors. The three sectors are commercial banking, investment banking, and insurance. In countries where the boundaries between the different subsectors have broken down, the majority of the banks and insurance companies have engaged in cross-selling each other's products. Even in countries where deregulation could not move that fast, distribution alliances between banks and insurance companies are very common. Researchers have referred to this phenomenon by the term "bancassurance," but other terms, such as "assurfinance," "assurbanque," "allfinanz," "all finance" and "financial conglomerates," have been used to identify the phenomenon of financial convergence. Sometimes, the term "allfinanz" has been used to indicate both bancassurance and assurfinance strategies. For example, Lafferty Business Research (1991) used the term "allfinanz," which some people have translated into "all finance," because it better conveys the blurring of barriers that has been taking place, not just between banks and insurance companies, but among all types of financial service providers.

The largest financial services provider worldwide is the U.S. financial holding company Citigroup—formerly Citicorp—since its merger with the Traveler's Group, which was a financial services provider for travel insurance companies. Citigroup encompasses Citibank as well as various other banks and insurance companies, including one of the largest investment banks, Salomon Smith Barney (SSB), and also Visa. These major mergers and takeovers took place in the 1990s, during a period that saw the overall consolidation of financial service providers. The companies and subsidiaries belonging to Citigroup can be found worldwide—in more than 100 countries. According to the criterion of market capitalization, Citigroup now occupies fifth place in the overall worldwide corporate ranking, behind only Microsoft, General Electric, Exxon Mobil, and Wal-Mart.

In the European ranking, the Allianz Group is in the top seven, surpassed, for instance, by the oil majors Totalfina and BP and the automobile manufacturers DaimlerChrysler and Volkswagen. Allianz is not only in the insurance service sector, the group's traditional line of business, but also in asset management and other financial services. The Allianz Group includes more than 700 companies, subsidiaries, or partial ownerships on all continents. Allianz, with more than 1 trillion euros in assets under management, is one of the largest investors worldwide. The second largest European insurer, Axa, also a one-stop banking company, intends to expand its banking transactions and thus to double the number of its bank customers, create new distribution channels for traditional products, and extend its product range by expanding into home-building, consumer credit, and savings accounts.

The Lobby of the Financial Services Industry

Financial service providers have a strong lobby by which they influence the political decision-making process and public opinion. They include representatives of the most influential financial service industries (with the highest sales volumes) in the most economically and financially dominant economies. One of the most important lobby associations is the Financial Leaders Group (FLG), whose members are leading financial services representatives from the United States, Canada, the European Union, Hong Kong, Japan, and Switzerland. The lobby was founded principally to promote the position of its members in the negotiations for financial services agreements in the WTO.

Without the pressure from this powerful lobby, there probably would have been no agreement on the deregulation of financial services.

The most influential national group in the Financial Leaders Working Group (FLWG) is the U.S. Coalition of Service Industries (USCSI), which was founded in 1982. At its initiative, the issue of trade in services was for the first time placed on the international agenda in 1986, at the beginning of the Uruguay Round. Between 1982 and 1985, the coalition cooperated closely with U.S. trade representatives and tried, through intensive lobbying, to win Congress members over to a stronger stand on trade liberalization (Wesselius 2002).

The result of this lobbying was a real symbiosis between the Trade Desk of the government and the representatives of the service industry. The USCSI was given privileged access to all decisionmaking processes relevant to trade policy via the Industry Sectoral Advisory Committee on Services (ISAC). During the negotiations of the Uruguay Round, the USCSI became the most important support of the official negotiators. The conclusion of the Uruguay Round could therefore also be regarded as a victory for the service industry. At that time, financial services were not yet a component of the liberalization negotiations. The first progress was made in 1997. During the preparations for the next round of negotiations, GATS 2000, the cooperation of the two parties was intensified. There was a business-government dialogue between the government and the service industry regarding future expansion aims. At a joint conference, the USCSI and the Department of Commerce discussed increased market access and the implementation of additional regulatory and supervisory standards. In 1997, the negotiations on the financial services agreement as an additional protocol to the GATS were concluded. A so-called interim agreement had been reached in 1995. A temporary result of the untiring lobbying effort was the implementation of the final agreement in 1999, which even liberalization proponents regard as far-reaching. The agreement covers 95 percent of all international financial services in the banking, security, and insurance sectors. The lobbying of the Financial Leaders Group and of several large financial services providers, including AIG, Citigroup, Merrill Lynch, and Goldman Sachs, had paid off. Founded in 1999, the European Service Forum (ESF) is the counterpart to the USCSI, but less effective in its influence.

Activities of Financial Service Providers

Together with the telecommunications and information sectors, the financial services form the core of a modern economy. Information technology, telecommunications, and financial services are mutually determinant and supporting. Without the innovations in information and communications technology, noncash commercial traffic, remote-sales transactions, interbank commercial traffic, electronic floor trading, and the like would not have been possible. Telecommunications technology facilitates all these operations, allowing them to take place in real time and at very low transaction costs. Because of their intangible nature, financial services are particularly well suited for transactions in remote sales. With the global IT revolution, the international volume of trade in financial services has also increased, as has product diversification. A few central fields of activity among providers of financial services demonstrate the economic function of the sector.

Financial Intermediaries

Financial intermediaries include all market participants who offer services to providers and recipients of money or capital in the broadest sense. They may be individuals or such financial service institutions as banks or stock exchanges, insurance or investment companies, or leasing or factoring companies. Basically, the term covers all the players in the capital markets who can act as agents in any form whatsoever. One area of responsibility is oriented toward the mediation of financial need

and potential financial investment, that is, the funds of investors are accepted against the promise of later repayment (investment service) and then provided to recipients, again against a promise of later repayment.

The services provided fall into three main categories. First, there are agency services, which include two primary areas of activity: (1) those that bring together provider and recipient to facilitate business transactions between them, usually through agents such as financial brokers, credit agents, insurance institutions, or agents/brokers, including reinsurance institutions (an example would be the issuance and placement of short-term credit instruments—for example, euro-notes); and (2) those involving the transfer of already-existing claims or obligations from a previous provider to a new provider, usually through agents such as securities firms or securities dealers, including reinsurance brokers and companies (an example would be the revolving trade in promissory note loans). Since the original providers or recipients have a multilevel agency system available to them owing to the passing on of claims and obligations, the network of relationships between and among the contracting parties is often very difficult to elucidate. The second main category is information services, such as stock exchange services, rating agencies, securities issuers, evidence centers, and institutions that collect information about money and borrowers and pass it on to donors on request. Third are risk-assumption or risk-transfer services, and hence also liability services, including all kinds of credit insurance, such as credit sureties, leasing sureties, and factoring.

The services of financial intermediaries are viewed by investors as opportunity enhancing. The existence of market intermediaries is also seen as an indicator of the stage of development of the market itself: The more the intermediaries, the more highly developed the markets. Financial intermediaries are legally independent and receive not salaries but so-called acquisition commissions.

Other Financial Services

Reinsurance. Reinsurance exchanges (prevalent in the United Kingdom) or reinsurance brokers (widespread in Germany) are among the financial intermediaries that are at work in today's global economy. Their role stems from the fact that insurance companies can reinsure themselves through other insurance companies. These reinsurance companies then assume the obligations that the insurance companies have taken on through their actual insurance policies (primary or direct insurance)—the future-based protection promise toward the policyholder. They therefore cover both the risk from the direct insurance and that from the reinsurance. Almost all primary insurance companies pass on a part of their risk in this way. Furthermore, reinsurance companies cover risks of further reinsurance by other insurance companies. In this way, a variety of insurance companies are involved in the risks. The reinsurance stock exchange is the place where insurance companies are traded. Reinsurance companies are regarded as particularly dependent on the assessment of the rating agencies, which are responsible for the credit standing classification of countries, financial institutes, and monetary and capital market securities in certain classification systems. Leading rating agencies are Standard and Poor's (New York), Moody's Investors Service (New York), and International Banking Credit Analysis (London), since the primary insurance companies judge the credit standing of the reinsurance companies on the basis of these classifications.

Factoring. Factoring means nothing more than the continuous purchase of short-term receivables. In other words, it provides funding, or cash flow, that is locked up in a company's sales ledger. With the assumption of the receivable, the factor also assumes the risks of failure and liability. Before assumption of risk, a credit standing and respectability investigation of the receivable seller (client) is carried out; the level of the receivable must be beyond reproach, and

the receivable itself must be free of any claims by third parties. Collection companies are an example. They insure that due receivables, usually following multiple reminders and nonpayment of invoices and charges, are returned as fast as possible to their customers. Thus, they do not assume the failure or liability risk. This form of receivables assumption is therefore also described as "recourse factoring." As a fee, one receives a proportional share of the amount collected, which is in turn charged to the debtor.

Brokerage Services. The main activity of the broker is to manage the trade in securities, funds, and foreign exchange. When acting as a business agent, the broker either acts on the part of a third party or as a commission agent in his own name, but with the money of others. Current developments are, however, increasingly moving brokers away from the classic broker's position—one in which they do not execute any trading activity of their own—and toward that of so-called broker-dealers, who do hold risk positions of their own. The broker gets a "brokerage fee," or commission, for his services.

Portfolio Management. A securities portfolio is a mixture of different types of investments, such as stocks, securities, federal bonds, bills of exchange, and the like. The mixture serves the purpose of spreading the risk. Portfolio management means the optimum planning and choice of securities for the purpose of an ongoing optimization among companies, investment trusts, and banks. The attempt is also made, with the aid of mathematical statistics, to take into account the risks of single investment, in addition to yields. The main function of portfolio management is to spread or diversify the risk in the interest of securing long-term profits.

Portfolio investments, unlike direct investments, are short-term capital investments that mainly serve speculative interests. Profits are made through the continual use of exchange and interest-rate differences. They involve all cross-border purchases of tradable monetary and pension-fund-market securities as well as those stock purchases by which the foreign investor does not gain a controlling influence on the business policy of the issuing company (that is, less than 10 percent of corporate capital). Portfolio investments have fallen into disrepute since the Asian financial crisis of 1997, as so-called "hot money" (the money invested in currency markets by speculators) was one of the main causes of the crisis. After 1998, their share has declined dramatically, from 22 percent in 1994 to around 2 percent in 1998.

Investment Banking. Unlike commercial banks, which traditionally have handled deposit and credit transactions, investment banks operate mainly on the security markets, that is, they issue no loans, concentrating instead on consulting services concerning the issue of securities and capital investments as well as trade in securities, either in their own name or on the part of others. Thus, investment banks could also be described as financial intermediaries. The customers of the investment banks are large corporations, governments, and high-net-worth individuals. They support governments and corporations in procuring financing on the capital market or through the new issue of shares and loans. This support service extends from consultation on setting the issue price of new shares through the composition of bank consortiums, the placement of securities on the markets, and the assumption of placement risk through obligations to purchase securities not sold. All in all, they are responsible for investing and utilizing public and private funds as profitably as possible. Their area of operations thus extends into asset management. Market research, consulting, and risk management are also among the services of the investment banks.

Furthermore, investment banks also handle currency-hedging transactions for transnational companies, including the trade in derivatives. This description shows that the areas of

operation of the dominant players—financial intermediaries, brokers, investment bankers, and fund and portfolio managers—increasingly overlap. Because the boundaries of their fields of activity are becoming blurred or hard to differentiate, it has become much more difficult for outsiders to get a picture of the structures and power relations, and hence to assign responsibilities within them. Regulatory authorities, and supervisory bodies, too, have had to contend with this problem.

General Agreement on Trade in Services (GATS)

The WTO is the most important international institution, next to the International Monetary Fund (IMF) and the World Bank, involved in the economic—or rather, financial—globalization that has been occurring over the past decade. The goal of the WTO is to open all markets by means of multilateral liberalization agreements. The doctrine of free trade is the ideological basis of WTO policy initiatives. Until the establishment of the WTO in 1995, trade in goods was the only focus of the multilateral trade regime, under the General Agreement on Tariffs and Trade (GATT). Now, agricultural trade, intellectual property, trade-related investments, and services have also been integrated, through such devices as the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), the Agreement on Trade-Related Investment Measures (TRIMS agreement), and of course the GATS.

From its main principles—reciprocity, most-favored-nation clause, and nondiscrimination—the WTO has developed a strong liberalization dynamic. The only multilateral economic organization with a dispute settlement procedure that can authorize economic sanctions, the WTO has a strong capability to intervene in the economy and social policy of its member countries. The WTO Agreement on Financial Services is a component of GATS, which regulates the services trade in general. In 1986, financial services became the object of multilateral negotiations for the first time with the beginning of the Uruguay Round (1986–1993). At that time, however, there still was resistance on the part of developing countries to the liberalization of financial services, so that at the end of the Uruguay Round, there was no agreement on the integration of a financial services component into the WTO treaty framework.

When the WTO took up its work in 1995, and the GATS went into effect, there was merely an interim agreement on financial services. The liberalization requirements in the banking, insurance, and securities sectors lagged far behind the expectations of the industrial countries. During two follow-up rounds of negotiations, developed economies were able, thanks to far-reaching concessions by the developing countries, to achieve a considerably better result. Thus, on December 12, 1997, an agreement on financial services was successfully concluded. It went into effect upon ratification in 1999.The agreement brings trade in the financial services sector under the WTO's multilateral rules on a permanent and full most-favored-nation basis. The agreement covers more than 95 percent of trade in banking, insurance, securities, and financial information.

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See Also International Financial Markets; World Trade Organization (WTO)

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Food and Beverages

The United Nations Food and Agriculture Organization (FAO) defined globalization as "the ongoing process of rapid global economic integration facilitated by lower transaction costs and lower barriers to movements in capital and goods" (FAO 2003). Like other industrial sectors, the food and beverage sector is influenced by the globalization process. Economic growth and the universalization of the modes of food consumption—that is, the diffusion of the Western model—offer multinational enterprises (MNEs) new and important markets, mainly in high-density demographic areas such as Asia and South and Central America.

Three main lines of research have emerged in globalization studies (Traill 1997). First, researchers study the increasing weight of international trade and its role in promoting economic growth. Second, they look at the importance of MNEs in both trade and foreign direct investment (FDI), and especially in promoting an integrated economy (that is, one in which firms make production and distribution decisions without regard to national boundaries). The expressions "international" and "global" are not used synonymously: "Internationalization" refers simply to the expansion of operations across national boundaries; "globalization" involves more than this, implying a degree of purposive functional integration among geographically scattered operations. According to this analysis, trade is a form of internationalization, whereas the operations of MNEs can represent true globalization. A third perspective comes from the marketing profession. In this line of research, globalization is seen in terms of consumer markets (demographics as well as food preferences and attitudes, for example). Researchers in this area thus deal with questions related to the convergence of consumer markets and the extent to which this convergence enables firms to use global marketing strategies to target consumers.

Food processing is the largest industrial sector in the United States, Canada, and the European Union, with the U.S. processed-food industry dominating the developed world's food industries overall. The sector has undergone significant structural changes. The size and market of the world food majors have had profound implications for basic agricultural commodity producers globally, particularly for products such as coffee, cocoa, and bananas, and also for the value-added capabilities of those industries. The orchestrated corporate strategies executed by MNEs imply a certain maneuverability in the ways in which commodity input producers relate to the value-added capabilities of the processed-food industry. Current consolidation trends in the industry, through mergers and acquisitions, strategic alliances, and the construction of bigger plants, have resulted in fewer and larger enterprises.

Characteristics of the Food and Beverages Sector

Food and agribusiness constitute one of the major sectors of the world economy. There-

fore, much necessary development has been directed toward raw inputs and technology that will convert food products and market them to consumers. The sector faces a constantly changing industrial environment. The global market can be described as the result of vacillating influences from the realms of science and sociology. Advances in biological and information technologies are in turn affected by globalization as well as by increasing social concerns about the environment, health, and nutrition. From a broad view, the distinctive characteristics of the sector include:

- the unique cultural, institutional, and political aspects of food, both domestically and internationally;
- the uncertainty that arises from the underlying biological processes of crop and livestock production;
- the alternative goals and forms of political intervention across subsectors and between nations in an increasingly global industry;
- the institutional arrangements that place significant portions of the technology development process in the public sector; and
- the differing competitive structures within and among the subsectors of the food and agribusiness industries.

This is a sector that has traditionally been characterized by interference from governments, either through regulations intended to protect consumers or through measures directed toward the organization of the sector. The economic and sociopolitical weight of this sector for centuries, as well as its importance for the well-being of the general population, have led to an intricate and complex set of rules embedded in layers of devices. The endless international controversies regarding public subsidies and protection rules testify to this complexity.

Two cofactors in the distribution of inventory are (1) the dependency on the nature of perishable goods, and (2) the rate of consumption as determined by consumer behavior (within a socioprofessional and cultural context). Perishable agricultural products from U.S. growers were not feasible in the international market prior to ten years ago. Today, with 20 percent of U.S. foreign agricultural trade, the U.S. farmer is competitive in sales to a global market. Moreover, the cost of transporting perishable products is, in many cases, substantially more than for bulk commodities, amounting to over 30 percent of the free on board (FOB) value of important agricultural products such as citrus and frozen potatoes, compared to only 5 to 10 percent for grain. Perishable products are becoming available to new and more distant regions partly because of declining transportation costs and partly because of new technologies to increase shelf life. Moreover, consumer demand is fueling research and development into even more high-tech preservation of perishable goods, making them a rising component of international food and agricultural trade.

Food and beverage products have been an important part of most countries' economies for hundreds of years. In the past, sustenance was primarily locally produced. Consumer demand and other factors have combined today to make domestic produce only one of the choices. Cheeses, wines, citrus fruits, and other special foods might have been imported from other regions previously, but most foods were grown locally. Two modern developments, in particular, have enabled producers to bring a spectrum of choices to market: (1) the advent of refrigeration, and (2) rapid transportation systems. In former years, fruits such as bananas, pineapples, and papayas were exotic foods to regions outside the region of origin. Transporting these items long distances took time, and the food would be ruined by the time it arrived at its destination. When, and if, limited amounts of tropical fruits made it into foreign markets, their shelf life was considerably shorter than it is today.

Table 1: Top Fifteen Agricultural Exporters and Importers, 2001

Exporters	*Amount Exported (in billions of U.S. (dollars)*	*Share in the World (%)*	*Importers*	*Amount Imported (in billions of U.S. (dollars)*	*Share in the World (%)*
EU members	215.53	39.0	EU members	235.51	39.7
EU to rest of the world	57.81	10.6	EU from rest of world	79.87	13.5
U.S.	70.02	12.8	United States	68.40	11.5
Canada	33.57	6.1	Japan	56.94	9.6
Brazil	18.43	3.4	China	20.12	3.4
China	16.63	3.0	Canada	15.55	2.6
Australia	16.56	3.0	Mexico	12.79	2.2
Argentina	12.20	2.2	Korea, Rep. of	12.50	2.1
Thailand	12.06	2.2	Russian Fed.	11.40	1.9
Mexico	9.07	1.7	Hong Kong, China	11.06	—-
Russian Federation	8.17	1.5	Retained imports	6.99	1.1
New Zealand	7.97	1.5	Switzerland	5.65	1.0
Malaysia	7.19	1.3	Indonesia	5.35	0.9
Indonesia	7.02	1.3	Saudi Arabia	5.01	0.8
Chile	6.97	1.3	Malaysia	4.83	0.8
India	6.41	1.2	Thailand	4.83	0.8
Above 15	445.80	81.4	Above 15	472.32	79.6

Source: World Trade Organization, International Trade Statistics 2002.

Food and Agricultural Trade

Trade is of continuing importance for both developed and developing countries. The benefits of international agricultural trade to the domestic economic climate cannot be underestimated. Further, it can be argued that international trade augments the domestic supplies to meet consumer consumption needs; reduces supply variability while possibly causing stability of prices; fosters income growth; makes efficient use of world resources; and permits global production to take place in those regions most suited for it. According to the FAO, the value of U.S. agricultural goods traded worldwide, including fishery and forestry products, reached close to $650 billion in 1995—more than doubling since 1980.

The relative weight of trade in agricultural products in relation to world exports of goods in general has been diminishing for decades, however. From 46 percent, the share of agricultural trade declined to 10–12 percent in 1998 (Rastoin and Ghersi 2001; FAO 2003).The share of exports represented by processed foods and beverages increased considerably during the same period. According to FAO data, developing countries accounted for about 26 percent of total food trade in 1996–1997.This trend follows a historical pattern in which the volume of processed products tends to increase in the global food system.

Only a few commodities account for a large share of total agricultural trade (wheat, coffee, cotton, and so on). The food system is steadily becoming more internationally oriented. However, this trend is sensitive to changes in demography. Developed countries have played a dominant role in the changing structure of world agricultural trade. The fact that food products are essential makes their consumption dependent on the consumers' purchasing

power capacity. Economic growth in countries with high population densities will create new and important food markets.

The world trade in agricultural products is characterized by three main features. First, the internationalization of the food system is relatively low, that is, specific foods are still intensively produced by certain countries. The ratio of agricultural exports to agricultural gross domestic product (AGDP) is about 40 percent, on average (Rastoin and Ghersi 2001). However, only 15 high-revenue countries exceed this ratio. The evidence reveals a competitive relationship between domestic and international markets, with economic wealth being a determining factor in the outcome. Other determining factors are the demand location (for example, temperate zones for tropical products) and the degree of perishability of products. Second, agricultural trade by the main triad of producers (the United States, the European Union, and Japan) is far ahead of trade by other countries, causing substantial polarization: It accounted for about 62 percent of the world agricultural exports and 70 percent of the world agricultural imports in 1996. However, after the opening of Eastern European economies in 1989, world trade expanded considerably for those countries. Third, the formation of new free trade areas and regional agreements, such as the North American Free Trade Agreement (NAFTA), Mercosur, ASEAN, and the like, should promote international trade. The expanding consumer base resulting from open markets in Eastern Europe, along with other factors causing increases in worldwide food-product commerce, should lower costs for consumers and erase nonfiscal barriers for businesses.

Many countries produce only a few major crops, especially bananas, coffee, or rice. Plantation countries are economically vulnerable because of their complete dependence on fluctuating market prices, and market collapses could be extremely detrimental. Additionally, the ecosystems of plantation countries are entirely at risk because they are subject to hazardous environmental damage from large-scale agricultural production (for example, from pesticide use).

Evolving interconnected economics and political dynamics have an effect on trade and food consumption patterns across regions. In turn, changes in food consumption in one region have implications for production and trade in other countries (Gehlhar and Coyle 2001). Trade acts to balance the differences between production and consumption. Therefore, trade links countries, helping to form an interlaced global economy. The common market trend creates a demand for a wider range of products, especially in developed countries, and increases the distribution of products from both developed and developing countries. Further, other factors, such as the role of urbanization in developing countries, a country's stage of development, its unique cultural features, and geography, also help to determine growth in trade.

Trends in Consumption Patterns and Behavior

Over the past fifty years, the food consumption model was characterized by five phases (see Table 2). Patterns of food consumption changed considerably, especially in developed countries, during the period. The "satiety society," which emerged after 1980, had four main features:

- income was not the primary factor explaining consumption;
- there was a strong and generalized preference for agro-industrial foods;
- nutritional patterns of food consumption improved; and
- food consumption expenditures increased in absolute terms.

In Organisation for Economic Co-operation and Development (OECD) countries, caloric consumption increased by 5 percent between 1969 and 1988. The minimum range by the end

Table 2: Evolution of Food Representations in Western Countries

	Before 1955	*1955–1980*	*1980–1987*	*1987–1992*	*After 1992*
Dominant Model	The quantity of eating	Reduction of quantity	Distance/food consumption	Reconstitution	Choice among products
Products	Basic products	Reduction of "bad" products	New products, new practices	Similarities among products (without or more)	Variety and diversity of products
	Bread,meat, feculent	Hunting Kcal, sugar, fattening	Frozen, "4th range," unstructured meals	Traditional plates	Exploration, rehabilitation
Symbols	Health	Slim	Good shape, social winner	Balancing the way of life	Rhythm, bio-individual
	Additional quantities	Less quantity	Minimalism	Substitutes	Quality, taste
	Eating more	Eating less	Eating rapidly	Eating without	Eating balanced

Source: Adapted from A. Defrance, "To Eat or Not to Eat, 25 ans du discours alimentaire dans la presse," *Les Cahiers de l'OCHA,* no. 4 (1994).

of the period went from 2,647 calories per capita per day in Japan to 3,698 calories per capita per day in ex-Yugoslavia. This increase, however, was not continuous over time; rather, it peaked in 1983 at 3,279 calories per capita per day and declined thereafter. The average protein intake for OECD countries showed similar trends over the same period.

Though still important, expenditures for food have become less important for households as a share of expenditures overall (see Figure 1). Food consumption at home decreased sharply, while expenditures for food outside the home progressively increased over the 1980s and 1990s. Changes in society, in other words, have led to new consumption habits and patterns.

Changes in society have brought other issues to prominence as well. Food security is one of the main issues faced by policymakers because of the threat of terrorism. The pursuit of value capture through "quality" is assuming primacy in the corporate strategies of the world MNEs. Quality is increasingly associated with lifestyle considerations, health awareness, convenience, consumer social aspirations, and, especially for advanced industrial economies, increased female workforce participation. Research and development (R&D) activities of MNEs increasingly take these factors into account.

Since the 1970s, free-market economies have seen an increase in the consumption of "high-value" products among families and individuals (see Figure 2). Urbanization and changing lifestyles have reduced the consumption of products with high nutritional value and increased the consumption of highly processed foods that are convenient. Consumer marketing and supply are dependent in part on consumer purchase analyses. People in developed countries have less time for meal planning and preparation. Because of changes in women's roles and in the economic needs of families, the two-income family has become common in many nations. The food industry recognizes this and has responded to the fact that traditional, labor-intensive meal preparation has become impractical. Working women, with more purchasing power, lead an active life outside the home, have to commute long dis-

Figure 1. U.S. Food Expenditures by Families and Individuals as a Share of Disposable Personal Income (1929–2001)

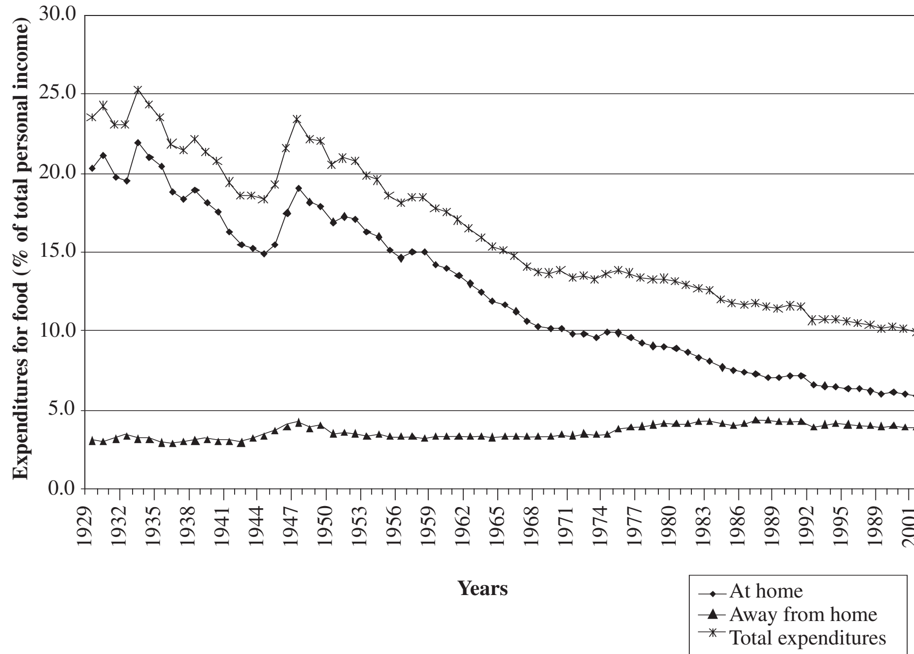
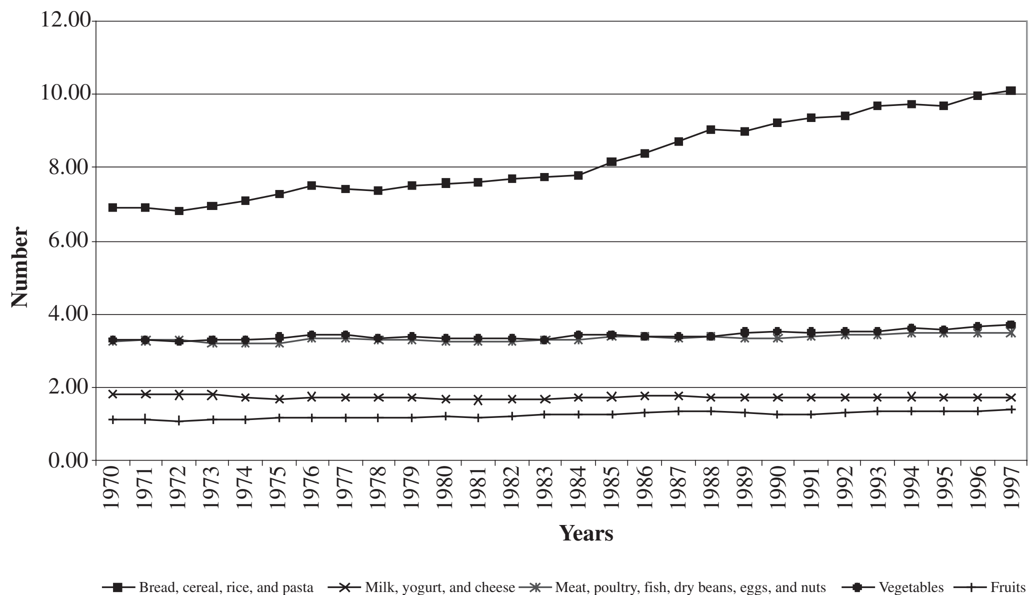


Figure 2. U.S. Food Supply: Food Servings Available per Capita and per Day (1970–1997)



tances for work, and desire to have more leisure time.

This shift in the social and economic role of women within the family creates a demand for new products that cater to a new market. Industry-wide changes implemented by the food trade in response to shopper demands include extended store hours, greater availability of convenience foods, and the like. Industrial analysis of current trends projects an increasing demand for healthy choices in meal planning. The consumer is "king" with business; therefore, keeping a pulse on current changes in habits and preferences is vital to industry growth.

Consumers have busy schedules and are expected to progressively organize commitments. The average consumer in industrial nations divides his or her time between work, family, and leisure pursuits. Thus, the average shopper in this hyper-demand culture devalues traditional, time-consuming methods of preparing meals and prefers to take "shortcuts" in menu planning. Major food companies are responding by developing partially or totally prepared meals. A growing share of food companies' output is due to the popularity of prepared meal items among these consumers. Trade in single-ingredient items has been declining in market practice. Market trends, in other words, follow consumer demands as revealed through purchasing habits.

Another factor in the current food market is that the concept of "healthy" food is changing. It now means, above all, safe food, but it increasingly refers to foods that are rich in nutrients and wholesome. Nutritional awareness among consumers is encouraging a closer integration between pharmaceutical and food interests. This pattern is quickly being adopted in the industrial Asian markets, though it has not gained much momentum in Western developed nations.

Moreover, behavioral trends are clearly favoring some foods over others in all markets. Generally, snack foods are favored for their convenience, and low-fat dairy products and fruits for their health attributes. At the same time, individual buyers are lowering their consumption of meat, refined sugar, and eggs. Vegetarianism is another emerging trend. Meat substitutes and alternatives are a fast-growing market.

"Functional foods," or foods chosen primarily for their nutrient quality and for their perceived ability to counter disease and maintain health, are also becoming important. Particularly in the aging population, the belief that nutritious foods may be used as medicinal agents is becoming more widespread. Consumers have even more fundamental requirements covering food safety, and issues concerning environmental sustainability and greater fairness throughout the food chain are growing in importance.

Food-Processing Multinationals and Investment Flows

Traditionally, the food industry was almost wholly focused on developments within the domestic market. However, this is no longer the case. Food processing is becoming an increasingly global industry. MNEs are moving their investments and operations around the globe to site facilities where costs are low and quality is high.

Some of the current changes driving the process of globalization in the sector are international liberalization of investment controls, liberalization of trade, and technological issues. These changes relate to practical considerations:

International liberalization of investment controls. MNEs wishing to access a foreign market do not have to rely on exporting to those markets—they can establish a local manufacturing presence close to consumers in the market or license a local manufacturer to produce their product.

Liberalization of trade. Exports generally provide an option for penetrating foreign

markets that carries less risk than the option of expanding operations to another country, keeping costs low. Reduced trade barriers, through the World Trade Organization (WTO), and bilateral or regional agreements, through, for example, NAFTA, the European Union, Mercosur, and the like, facilitate this route.

Technological issues. Advances in food and food storage technologies have facilitated increases in shelf life. New production technologies, rapid transportation of goods, improved logistics, and advanced food safety techniques are examples. Further upstream in the chain, the use of equipment and chemicals has expanded considerably in the middle-income countries over the past decade.

Along with these innovations, the expanding tastes of consumers (related to the diffusion of information and cultural influences in international markets) have driven globalization.

Even with massive global changes in technology and the opening of new markets, there are still formidable barriers to increased agricultural trade. Guarded nations can effectively hamper and discourage the free transfer of products, capital, and goods, leaving the buyer's demand for variety and choices from international sources unsatisfied. Potential investments can be curtailed or circumscribed by restrictive conditions that are subject to government enforcement. Most at fault are developing countries, which often legislate protectionist trade policies in an effort to shelter and enhance the position of their domestic food industries. "Tariff escalation," or the practice of raising tariffs on processed goods, is an example of the methods used.

Even in developed nations, tastes do not change quickly. The vast majority of food consumed is in accordance with a nation's traditional staple diet. However, even traditional fare is being highly processed for the sake of convenience, longer shelf life, more attractive packaging, and so on. In this way, previously unconventional means of packaging are now inculcated into the traditional staple-food system.

The intense emphasis on quality in the food industries of advanced industrial countries, and in the corporate strategies of MNEs, has had a profound impact on the agribusiness chain and on corporations themselves. Sluggish growth in real expenditures has triggered an ever-increasing pursuit for new high-value, quality food products in the advanced developed countries, yielding record-breaking profits. As the premium consumer needs of lifestyle, health, and convenience are exploited, the food suppliers are generating large profit margins. Profitability of MNEs has been high, and consequently, various food entities are segmenting (concentrating) within the food industry at a startling pace.

Indeed, concentration has been the main issue in the industry since the end of the 1980s. For example, meat-packing and grain-milling enterprises see themselves as separate industries rather than as subcategories within the food industry. "Horizontal integration" takes place through consolidation; "vertical integration" connects the retail sector back to the production and processing stages of the food system (see Table 3). However, the trend toward a world oligopoly headed by MNEs will not mean the disappearance of small and medium-sized enterprises (SMEs).

Those corporate strategies pursue profitability in advanced developed markets through extensive international reach. The multi-nation selling strategy assumes that members of the target population are dynamic, informed buyers. Sellers make substantial investments annually toward establishing brand recognition, launching new products, and repositioning high value-added products. Food industrialists conduct research into current consumer lifestyles and demands for quality. Only 10 of the top 190 world food companies receive more than half their revenues from standardized staple products (Rama 1992, 23).

MNEs increasingly make investment decisions by comparing opportunities in emerging

Table 3: Concentration in Protein

Beef Packers	*Pork Packers*	*Broilers*
CR4 = 81%	CR4 = 59%	CR4 = 50%
1. Tyson (IBP Inc.)	1. Smithfield	1. Tyson Foods
2. Cargill (Excel)	2. Tyson (IBP Inc.)	2. Gold Kist
3. Swift & Co. (ConAgra)	3. ConAgra (Swift)	3. Pilgrim's Pride
4. Farmland National Beef	4. Cargill (Excel)	4. ConAgra

Note: CR4 is the concentration ratio (relative to 100 percent) of the top four firms in a specific food industry.
Source: Adapted from Mary Hendrickson, "An Overview of Concentration in the Food System," University of Missouri, available at http://www.foodcircles.missouri.edu.

Table 4: The World's 100 Largest Food Firms

Home Country	*1978*	*1985*	*2002*
United States	50	38	38
United Kingdom	21	25	7
Japan	9	11	19
France	4	8	5
Canada	7	7	4
Netherlands	2	2	7
Switzerland	2	2	2
Other countries	5	6	18
Total	100	100	100

Sources: Ruth Rama, *Investing in Food* (Paris: Organisation for Economic Co-operation and Development, 1992), 41; *Food Engineering,* October 2002.

economies such as China with alternatives in other countries. Investors weigh the potential of emerging markets against the combination of market opportunities available. Profit-driven decisionmakers consider the logistical practicality and risk control that competing locations offer. U.S. food and beverage businesses look to minimize the uncertainties in maintaining the value of their product, including their brand names, trademarks, and patents.

In 2002, the world's top 100 companies in the food and beverage sector accounted for US$679.4 billion. Each year, new names enter the rankings. For example, in 2002, Constellation Brands, Wrigley, Pilgrim's Pride, and Barilla appeared, replacing some companies that no longer exist, including IBP, which merged with Tyson in September 2001; Quaker Oats, now part of PepsiCo; Ralston Purina, which was sold to Nestlé in December 2001; and Earthgrains, now the centerpiece of Sara Lee's bakery division. Also disappearing were Suiza Foods, which acquired Dean Foods and adopted the Dean name; and Eridania Beghin-Say, a French company that separated into four companies.

Major companies are streamlining business operations. Products with poor profit margins are divested of the brand and business without hesitation. Entire operations may be restructured as management acts to shed "extra baggage" in order to be competitive and strive to be flexible enough to quickly respond to market trends with new product and idea development. After reorganization, MNEs often emerge leaner, more goal oriented, and more profitable.

Table 5: Number of Subsidiaries of the 100 Largest Food and Beverage MNEs by Region, 1996

HEADQUARTERS	*HOST REGION*						
	Africa	*Latin America and the Caribbean*	*North America*	*Asia*	*Eastern and Central Europe*	*Western Europe*	*Total*
Africa	58	0	0	1	3	2	64
Latin America	8	45	14	5	0	49	121
North America	52	390	1295	234	114	818	2903
Asia	9	37	103	587	1	90	827
Western Europe	84	233	312	268	104	1948	2949
Australasia	1	8	5	25	0	46	85
Total	212	713	1729	1120	222	2953	6949

Source: Jean-Louis Rastoin, Gérard Ghersi, Roland Perez, and Selma Tozanli. "Structures, performances et stratégies des groupes agroindustriels multinationaux," *Agrodata 1998* (Montpellier: CIHEAM-IAMM, 1998).

Table 5 shows the number of subsidiaries of the top 100 food and beverage MNEs by region, indicating the extent to which MNEs have spread their activities and the regions most affected. Most of the MNEs host subsidiaries based in both North America and Western Europe. Together they account for approximately 84 percent of all MNEs that have invested in markets abroad. MNEs from North America and from the European Union have, to some extent, also established foreign affiliates in developing countries. Together, Asia and Latin America host almost the same number of subsidiaries as North America. Limited North American and European Union subsidiaries are present on the African continent.

Food companies in such countries as South Africa, Brazil, and Mexico are also beginning to offer serious competition to the large U.S. and European food companies as their products continue to be exported worldwide (for example, Ambev, Grupo Modelo, Bimbo, Femsa SABMiller). Like many primary nations with established and trusted food businesses, the secondary nations are making it their objective to bring goods to the global market.

MNEs have a global vision of the food system and act in a synchronized network, accountable to the customer's well-being. Information technologies are indispensable to the future of MNEs worldwide because they will help them to function in the web of multiple transactions (intranet, data warehouse, electronic data interchange, and the like) required by a global economy. Also, the restructuring of large commodity chains leads to the implementation of international standards (HACCP [Hazard Analysis and Critical Control Point], ISO [International Organization for Standardization] 9000) in order to ensure quality and safety. Traceability has become increasingly important in most of the global food chains (dairy products, fresh fruits and vegetables, meat, and so on) because of the rare but essential need to determine the origin of food safety problems.

Networks of Food Retailers

In retailing, supermarkets are changing as chains construct larger stores in a variety of formats (Wal-Mart, Ahold, Carrefour, and so on), which further affects the structuring of suppliers on through distributors. Mergers among supermarket chains have led to increased concentration of the industry within countries and cities. At the same time, nontraditional food retailers such as Wal-Mart and

Sam's Club have expanded their presence, and e-commerce providers have begun to offer services in some major metropolitan areas. According to some industry rankings, Wal-Mart is now the world's largest grocery retailer, followed by Carrefour of France and Ahold of the Netherlands. The top five grocery retailers in the United States now control about half of the U.S. market, and their share is increasing. Heavy concentration at the retail level is forcing processors, manufacturers, and seed suppliers to cluster even further to supply mass-produced, uniform supplies at margins acceptable to these mega-firms. Farms, in turn, will need to grow larger to produce the raw materials in mass quantities at lower prices.

Increasing control from large chains in retailing improves the efficiency of the food and beverage sector and changes the dynamics of conducting business. Although efficiency is advantageous, the negotiating ability of the industry diminishes under these conditions. The concentration of retailers and the movement toward increasing domination by a few large retail chains will clarify several functions in the food sector. Logistical obstacles for big retail chains will be gradually overcome through strategic planning throughout larger territories. As a counterweight, the negotiating power of retailers will increase, and hence the retail sector will display growing similarities across countries. Retailers will emphasize private label products, and it will be possible to conduct competition bidding and purchasing in, for example, the whole European Union. In another example, in the Baltic market, competitive emerging Finnish firms would need to provide accessible products to an assortment of retailers for survival in the food industry.

In many countries today, the large retailers have increased their use of upgraded information systems, computerized technology known in the field as electronic data interchange (EDI). The EDI system provides an electronic link between manufacturers and retailers in such areas as order placement and inventory control. When retail formats use EDI methods successfully in one country, they are rapidly adapted, tested, and modified for use in receiving nations. In addition, hard-discount chain retailers (holding a relative short range of products at low prices), such as Lidl, Aldi, Netto, Ed, and Leader Price, are diffused. The largest grocery retailers compete in an almost saturated market. Competition for the same customer base within Western countries in the food retail market is good for consumers, but it is a challenge for established organizations. Already familiar giant food retailers must compete fiercely with emerging retail food chains for revenue.

Food Service

The diverse food service industry is a fast-developing sector that may be quantified by its growing share of revenue and by the surge in the number of facilities that cater to consumer appetites. In response to consumer demands, fast-food franchises and other restaurants continue to multiply. The "food service industry" includes all companies involved in the catering of prepared meals and snacks intended for on-premise or immediate consumption. Catering in the food industry may be either commercial (drinking and eating places, lodging, recreation/entertainment, and retail hosts) or non-commercial (establishments where meals and snacks are prepared as an adjunct, supportive service to the primary purpose of the establishment, such as schools, colleges, hospitals, or the military).

Enterprising business acumen has been well rewarded in the U.S. food service market, which has seen sales soar, reaching some US$358 billion in 2000. Separate eating places deriving revenue mainly from the sale of meals and snacks accounted for about 70 percent of total food service sales. These establishments included full-service restaurants, fast-food or quick-service outlets, lunchrooms, commercial cafeterias, and social caterers.

The four largest restaurant chains in 2002 sales were McDonald's Corporation, Burger

Table 6: Top 10 Restaurant Chains in the United States by Market Share, 2002

Restaurant Chain	*Market Share*
McDonald's	7.3%
Burger King	3.0%
Wendy's	2.4%
Subway	1.9%
Taco Bell (Yum Brands)	1.9%
Pizza Hut (Yum Brands)	1.8%
KFC (Yum Brands)	1.7%
Applebee's	1.1%
Starbucks	1.1%
Domino's Pizza	1.0%

Source: Http://www.adbrands.net.

King, Wendy's, and Subway (see Table 6). McDonald's and Yum! operate about 30,000 stores each worldwide. These franchises are opening new units outside the United States at a faster rate than they are domestically. McDonald's, the leading franchise, has opened 1,000 units per year in other countries in recent years.

McDonald's is the most popular fast-food entity worldwide. Yum! Brands owns three of the world's best-known fast-food franchises: Pizza Hut, KFC, and Taco Bell. None of the three individually matches the global strength of the McDonald's brand. However, sales of the three brands combined make it the number one restaurant worldwide by number of outlets, although McDonald's outperforms it by sales.

The food industry is largely unaffected by recessions. Although the industry was affected by waves of job cuts and major restructurings in the early 2000s, it nevertheless remains a strong business segment nourished by the resourcefulness of its highly professionalized management ranks.

The European market strategy of the food franchises has been savvy. In Europe, where these establishments are well represented, they invest in high-growth business segments (sandwiches, pizzerias, and coffee shops) favoring the emergence of new concepts, which has raised the level of competition among existing food service firms.

In the United States, consumer tastes have become sophisticated with exposure to exotic foods. Confident market strategists have taken advantage of this element to market vegetarian meals as ethnic fare to nonvegetarians.

Emerging Regional and Niche Products and the Social Construction of Quality

Regional products are specialty goods that are unique products of specific geographical locales. To qualify as an official regional product, a food should meet three criteria (the first two are mandatory to attain the specific-origin label):

1. It must have *geographic specificity.* The product must have intrinsic characteristics that differentiate it from similar products. These characteristics must depend upon a specificity in the production process and/or in the raw agricultural input that can be found only in a well-defined geographical area.
2. It must arise out of *historical tradition.* There must be historical evidence of the existence of the product in the past, and it must have characteristics similar to the traditional item.
3. It should have *cultural and social specificity.* In the region of origin, there should be a consensus, depending on the local, social, and cultural environment, about the identification and appraisal of specific attributes that differentiate the product from others. The cultural value of the product might be associated with particular celebrations or with local gastronomic customs or social norms, for example.

In the case of regional products, it can be assumed that quality is a social construction. In other words, in consuming their regional products, people are guided by social and cultural norms. These norms operate on three levels:

1. They help to construct a reference standard (accounting for the horizontal dimension of quality).
2. They play a role in enforcing the standard. Whereas formal standards are enforced by law (through the quality standards of a governing body), informal standards must be informally enforced. The enforcement mechanisms may rely on competitive as well as on cooperative behaviors.
3. They have the effect of raising the value of the product. Since regional products give consumers socially and psychosocially rooted benefits different from those given by the closest substitute products, they are perceived as high-quality goods.

Regional food products may have three important functions: (1) enhancing the degree of competitiveness within the food and beverages sector through the strong influence of market strategy; (2) preserving agriculture in regions with cost disadvantages but where rural communities perform considerable positive environmental and social functions; (3) keeping alive local traditions by avoiding the loss of social and cultural diversity stemming from globalization.

Regional products are vulnerable to many modern practices. In the international food market, they suffer from the progressive standardization of food consumption patterns, from the use of biotechnology in the industry, and from the consolidation of retail sectors. Perpetuating the demand for regional products will require both public and private interventions to be carried out. Public interventions concern the preservation of local cultural environments that sustain the "social construction of quality" of regional products. Private interventions will likely involve producers' associations in marketing efforts that promote regional products in order to stimulate demand in food-market niches.

The Road to Sustainability: Future Challenges

Within the competitive food and beverage industry, organizations must confront and challenge interests of special stakeholders in order to preserve the quality of trustworthiness—an open, customer-centered relationship—that is needed to satisfy the expectations of the general public. Greater competitiveness can be achieved through increased economic efficiency of inputs, such as precision farming and biotechnology. However, greater regulation, which limits competition, and a lack of standards could encourage market segmentation.

The tendencies of countries exposed to globalization have changed the position of sectors within given societies, and government statutes reflect this latest transformation. In nations open to internationalization, the role of the public sector in many areas of food security and nutrition appears to be shrinking, whereas the involvement of civil society and the private sector is increasing. There is a precautionary principle in all of this that applies to the resolution of certain disputes: Do governments have the right to create trade barriers to protect human health and/or the environment, and if so, are there also corporate rights to conduct export commerce? Related questions are also emerging:

- What are the consequences of restructuring for rural communities?
- What are the implications for large, nonlocal firms, whether they hire labor as wage earners or as piece rate workers, which often view laborers as a "commodity" to be purchased at the lowest rate?
- How do these changes affect U.S. food imports, in light of a stronger U.S. dollar and increases in low-dollar-value imports as a share of U.S. trade activity?
- How can food quality and especially food safety be assured?
- How do food-industry events affect the

genetic diversity of various domestic animals?

These are complex questions. The global food system is becoming more like other economic sectors, however, except that food is a human necessity, thus always in demand. The primary participants in global food commerce thus have enormous economic power.

Gaining more acceptance and popularity on the local level of food trade are "niche markets." In a niche, farmers and other participants try to satisfy a specific consumer demand. Such opportunities do exist: There has been a major resurgence of farmers' markets, local food routes (for example, in the wine sector), subscription, and other forms of direct marketing between farmers and consumers. Of course, minor processing agents are involved in small-scale "niche market" transactions, when necessary.

Although a more centralized food system continues to emerge, the industry lacks organized, public-sanctioned direction. The ruling minority of large retail food entities makes choices for the masses. But many observers believe that consumers have a right to more choices. Rather than allowing themselves to be supplied with food from dictatorial conglomerates because of networks supported by information systems and many other collaborators, informed buyers should question the fairness of the control imposed by retail food vendors within the food system. And, more important, the public, both now and for future generations, has interests in the food supply chain that should be given the attention they deserve.

Conclusion

Although the effects of globalization on the food and beverage sector have been systemic, they are difficult to accurately assess. A few things are clear. The open market has been beneficial to the food industry. Changes in the global marketplace have resulted in increased global food consumption, changing patterns of food consumption, and trade liberalization. In addition, due to increasing popular demand, developing environmentally sustainable agricultural products has become a high priority internationally. The prevailing government forces affecting the industry stem from state interventionism through agricultural, sectoral, and food and nutrition policies. Furthermore, in many nations, economic and social policies inadvertently affect the globalized distribution of the food and beverage sectors.

Food consumption is not globally monitored in any systematic way; therefore, the impact of nation-to-nation policies on consumption of perishable goods alone cannot be adequately quantified. There are clearly some forces at work that amplify the convergence of consumption patterns (see Connor 1994). International trade, when complicated by cultural differences, is beginning to produce segments of consumers with common preferences. As the decades advance, supermarkets and manufacturers can be expected to add yet more distinctive brands to their already existing lines of products. Vendors indisputably will research ways to market to a global consumer base and increase consumer confidence in the sector as a fair and responsible industry.

The food industry, like a cartel, has a monopolistic reach and is formed by independent organizations. The large retail food chains perceive that the benefits of globalization in food and agriculture could outweigh the risks and costs of commerce. Globalization has generally helped to reduce poverty in Asia, for example. But, as the FAO has pointed out, it has "also led to the rise of multinational food companies with the potential to disempower farmers in many countries" (FAO 2003).

The expansion of MNEs into developing countries may have some positive effects. The MNEs bring in important financial resources but do not maximize reinvestments into the

community. The developing countries gain an influx of skilled management staff to areas with few skilled laborers. Local employment is also generated, though predominantly for low-level positions.

A critical task for international communities is to have the foresight to form progressive agendas while staying mindful of the importance of including developing nations in the decisionmaking process. Ethical business practices support the integration of all nations into a world economy. When such integration occurs, then and only then will developing nations have a voice to protect and advocate their own interests. Underrepresented nations can gain multiple benefits, along with the food and beverage sectors, upon integration into the "cartel" of food industrialists.

Moreover, economically challenged nations, by lobbying other nations, can present the case for decreasing high-trade distortion barriers. Developing nations would have greater economic viability, with representation within the circle of food magnates, once trade barriers were diminished. The immediate result would be to favor economic growth and viability. In addition, healthy diets and proper nutrition should be a global focus, especially since such goals are achievable through an equally represented international alliance of food suppliers, handlers, and vendors.

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See Also Agriculture; Food Safety

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Media and Entertainment

In an increasingly global environment, the media are facing new challenges, including audience fragmentation and erosion, ownership regulations, and the need for more sales in more markets. The boundaries of media and entertainment continue to expand, including movies, television, radio, sound recordings, newspapers, magazines, books, and advertising. The addition of new media technologies, such as video games and the Internet, have further blurred the line between entertainment and information.

The biggest problem that media companies around the world are tackling is rapidly changing audiences. Audiences now have more competitive media products to choose from, and less time in which to consume them. For example, the average American receives more than 100 television channels at home and is exposed to dozens of media outlets every day, including Web sites, advertising, television, and print publications. This media fragmentation leads to smaller audiences for all media and to a decrease in the percentage of the population using specific media or outlets. In order to keep audiences, entertainment companies have to expand their holdings and saturate the marketplace with well-promoted products beyond the domestic sphere. These global media companies are often multinational conglomerates trying to sell diverse products in an increasingly competitive environment but are criticized for enabling "cultural imperialism"—the belief that American entertainment is colonizing the rest of the world through technological devices such as cable and satellite broadcasting as well as remote printing presses, movies, and music. Some critics are also concerned that the diffusion of "American taste" will be detrimental to nationalism and cultural identity around the globe.

Historical Overview

The first step in creating a global entertainment environment was Hollywood's perfection of mass production and distribution in the first half of the twentieth century. Between 1919 and 1939, Hollywood engaged in international motion picture trade, especially with England, France, and Germany. The increasing tension in Europe, however, encouraged American companies to focus more on the domestic market. At the height of the Studio System from the mid-1930s to late 1940s, eight companies produced and released more than 500 films in a year, owing much of their success to a codified structure of market domination, a dizzying schedule of mass production and distribution, and the star system, which created movie icons out of actors under contract. At its height in 1946, the annual American box office took in $1,692,000, even with a third fewer releases than in the previous seven years (Finler 1988, 288). But in 1938 the Justice Department launched an antitrust suit against the major studios with the aim of dismantling the vertical integration of the motion picture industry. The suit took one step forward and two steps

backward over the next ten years, while Hollywood basked in the glow of sky-high revenues and popularity. In 1949, the district court demanded that the studios divest themselves of theater chains—the most contentious issue in the suit.

The "Paramount Decree" forced the competition of quality, not quantity. Studios now had to compete in the market based on the intrinsic value of their products. This market was becoming increasingly crowded as television lured families away from theaters. As television grew more popular, particularly with young postwar families, box-office revenues plummeted by the early 1960s. It became very clear that in order to build up the audience again, entertainment companies would have to expand their interests, particularly overseas. The import, but mostly export, of cultural products was stepped up, particularly by the United States, Europe, and Asia. By the 1970s, all the major Hollywood studios were also engaged in television production and were starting to branch out into other media outlets. The biggest battle for market saturation, however, was being played out between the three television networks—NBC, ABC, and CBS. As cable networks began to expand and audience share decreased, networks were caught up in the merger mania sweeping the nation. NBC was purchased by military-industry giant General Electric, CBS by Westinghouse, and in the 1990s, ABC became part of Disney's holdings.

Ownership and Conglomeration

Currently, globalization in entertainment is best exemplified by the trend toward conglomeration, where fewer and larger corporations own more and more media properties. This trend continued throughout the 1980s and 1990s, until a massive system of horizontally integrated companies was built. Previously, media had been primarily vertically integrated, where each organization had control over a product through the production, distribution, and exhibition process. Now, conglomerates that are horizontally integrated own production facilities, distribution networks, and exhibition outlets in a number of different media industries. They all join together to create an efficient and synergistic media environment in which the whole of the company is greater than the sum of its parts, both ideologically and financially. Companies such as Disney can not only produce and distribute a movie in theaters and on video/DVD, but can create tie-in books, soundtracks, toys, and computer games and market their products in Disney-owned newspapers, magazines, and radio and television networks around the globe.

Most companies do not set out to become a transnational conglomerate, but become invested in foreign markets through a process of evolution. Globalization in media is influenced by the trend toward deregulation and privatization and significant changes in technology and markets. These conglomerates can only flourish in a free market economy, where players are willing to compete internationally for foreign direct investment. The push for media companies to expand across domestic borders is usually influenced by three things:

1. interest in penetrating a foreign market, which may or may not already be developed;
2. access to production and distribution resources, such as lower labor costs, tax incentives, or technical talent; and
3. desire to circumvent import quotas and tariffs through strategic foreign partnerships.

Although the expansion of these conglomerates is usually successful, they often run into roadblocks in the form of governments wanting to protect domestic markets and activist groups wanting to protect local culture. Transnational media ownership is aided, however, by the realization by most players that conglomeration is an inevitability in the new

global economy. These conglomerates make financial sense because they fit into "economies of scope" and "economies of scale." In a media economy of scope, it costs less for one company to produce vastly different cultural products than it would for different companies to specialize. An economy of scale occurs if the average cost of creating one particular product is lower for firms capable of higher levels of output. Media conglomeration allows for both of these economies to flourish.

Over the past twenty years, international distribution has been crucial in the success of global media but has met with criticism over allegations of discriminatory pricing strategies, product "dumping," and the fears that many countries have over losing control of their own domestic markets. As the market for American cultural artifacts opened up, including newly vital trade in Asia and Central America, many governments and trade organizations had to contend with the reality that exports from the United States were becoming more popular than local products. Exacerbating this situation was the low level of U.S. export prices, especially on television programming. Of particular concern were accusations of "dumping," which occurs when the price charged in the foreign market is below cost and less than domestic producers would charge for the same product. In other words, in many foreign markets it is cheaper to buy an American television program than it would be to produce the program themselves. Some countries, such as Canada, Australia, England, France, Germany, Brazil, and Japan, have relatively thriving film and television industries but still retain protectionist measures, such as tariffs and taxes, on entertainment imports. Many of these same countries, however, have benefited from participating in coproductions, wherein creative talent and financing is assembled from different nations. International coproductions are sometimes hampered by difficulty in communication, but the advantage of gaining access to international markets, as well as quotas, subsidies, and tax incentives, often outweighs any concerns over culturally muddled projects.

Global Media and National Identity

Some countries are concerned that the prevalence of American media is undermining their own cultural identity, not just their domestic market. Although satellite television and electronic media have virtually erased national borders, cultural boundaries still exist around the world, and many cultures are struggling to maintain themselves in the face of Western media colonization. In the twentieth century, this struggle against the domination of American culture has been located around the globe. In the 1940s, the French government lobbied unsuccessfully to ban Coca-Cola. For most of the twentieth century, South Korea banned Japanese cultural products, and other countries, such as Singapore and South Africa, have struggled to extend their geographical borders to include media and entertainment importation.

Many countries have decided to assimilate American culture in their own way. McDonald's has different menus around the globe, ranging from kosher in Israel to teriyaki burgers in Japan. American media conglomerates often pride themselves on hiring local talent to run their global operations. In another example, MTV is available in more than 140 countries on every continent except Africa and Antarctica and relies on regional talent to produce 60 percent of its content for broadcast on nearly fifty localized channels and Web sites (Turow 2003, 186). Some local media, recognizing that imported television and music may always be more popular than domestic content, privileges American programming in coveted time-slots. Another popular strategy is simply to borrow successful American genres and remold them with local talent. The television soap opera, which has a long tradition in both the United States and the United Kingdom, is increasing in

prominence all over the globe. One notable example was *Dallas,* which had a worldwide audience of more than 300 million people tuning in to displays of American excess on a weekly basis during the 1980s. Even popular British soap *Coronation Street* was appropriated by Dutch producers, who planned to resituate the show in the Netherlands. In the early twenty-first century, reality shows have become the most exportable genre of television programming—they are cheap to produce, easy to translate and adapt to different cultural markets, and very popular with audiences. Even the brackets around television shows—television commercials—are now a global media commodity, enjoying collective success at film festivals such as Cannes.

One explanation for the success of commercials, soap operas, and now reality shows around the world is that they often have a low cultural discount. A cultural discount exists if a television program, film, or other media product is easily marketed in different cultures. A product rooted in specific cultural values, myths, style, language, and history will be less appealing to viewers outside of that culture and therefore will garner fewer viewers. This reduced value will affect the domestic and international trade in the media product. The cultural discount for an imported program or movie can be calculated as the value of the domestic equivalent minus the value of the import divided by the value of the domestic equivalent. A product with a low cultural discount will be more successful outside the domestic market, which is an important consideration for entertainment companies with global interests.

The Global Village and Cultural Imperialism

In the 1960s, communications theorist Marshall McLuhan envisioned a "global village" whose citizens would be inextricably linked by media and a common popular culture. McLuhan's prediction is now a reality thanks to the speed and immediacy of electronic communication and satellite technology, but it still does not mean that media products will be received the same way by geographically and culturally diverse audiences. It has been argued that the overseas success of American movies and television is a form of cultural imperialism. This theory has gained prominence since the 1970s, as mergers between media companies continue to create huge international conglomerates such as AOL Time Warner, Viacom, and Newscorp. Researchers believed that the flow of international cultural products, particularly in film and television, was one-way—from the United States to the rest of the world. This "hegemony" uses cultural ideology to exert force over other nations, in the form of entertainment, and is often exacerbated by lackluster domestic production in poorer countries. One example of this is the "CNN effect." The global reach of Cable News Network's operations has arguably influenced American (and international) foreign policy and diplomacy through the "parachute journalism" encouraged by instantaneous satellite news delivery (Kamalipour 2002, 232).

The tension between consent and coercion is especially present in global media, but the "cultural imperialism" thesis has also been criticized for not taking the "active" viewer into account. The theory presupposes that audiences are passive vessels, who use media products as the producers intended. Cultural studies theory argues that media texts are polysemous, meaning that they are interpreted and used differently by different groups. For example, American audiences may make meaning out of a television show like *The West Wing* and relate to its discussions of domestic politics and democracy, but viewers in China are unlikely to interpret the program the same way.

Not all popular culture is American. Although products with a low cultural discount,

such as action movies and reality television, continue to dominate the international market, in some arenas media producers have realized that American tastes are not universal. Popular music, for example, is hugely different from country to country, as are the newspaper, magazine, and book industries. But often the cost of creating these products is incremental, so it makes financial sense to continue to pursue segmented audiences. Media conglomerates are particularly adept at expanding the breadth and depth of their international divisions, while still channeling the profits back to the head office. Some companies believe that their global brand is crucial to continued success. For example, Disney has consistently focused on international venues, opening Disneyland Tokyo (1983), Disneyland Paris (1992), and Disneyland Hong Kong (set for 2006). Romance publisher Harlequin Books has also thrived in the global marketplace, selling approximately 200 million paperbacks a year in 23 languages and more than 100 countries.

Globalization in the Digital World

At the turn of the twenty-first century, the Internet and digital technology has an enormous influence over media and entertainment around the world. It is now not only possible for media producers to reach global audiences simultaneously and immediately, but also for consumers to connect with each other. Digital technology means that media products such as motion pictures and newspapers can be reproduced electronically and sent anywhere at a fraction of the cost, time, and space required previously to distribute material. The Internet and e-mail make it possible for consumers to provide feedback to producers and to keep in touch with people around the globe with similar interests. The combination of these technologies also makes piracy easier than ever before.

Pirated movies and television shows on videotape have been problematic for Hollywood producers for twenty years, particularly in regions where American culture is not politically popular, such as the Middle East and Africa. Popular music also continues to be a hot property in the international black market, particularly since the refinement of compact disc burners. But new communications technologies, such as the Internet, have made the production and consumption of copyrighted materials accessible, fast, and even acceptable in some circles. Peer-to-peer file-sharing services, which allow Internet users to freely trade digital copies of movies, television shows, and especially music, are increasingly popular among amateur and professional bootleggers. Unlike traditional distribution of media goods, Internet file sharing rarely delivers income of any kind to the producer. Creative personnel and corporate accounting offices alike are not being paid for the usage of these pirated products.

This is troubling to movie studios, recording companies, and professional associations. The Recording Industry Association of America estimates that it loses more than $1 billion a year from illegal Internet downloads. Some companies and professional associations have attempted to combat this problem with lawsuits against users, but they are battling a shift in popular ideology that suggests that current copyright laws are outdated. Producers who have tried to convince users to pay for downloading materials are largely disappointed, and while the Internet expands and flourishes, so will piracy of entertainment products. In the global marketplace, digital convergence and the Internet have been a double-edged sword. On one hand, they have facilitated international trade in media goods and services, reaching previously untapped audiences with ease and speed. On the other hand, they have also smoothed the path for illegal distribution and protests against perceived cultural invasion.

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See Also Copyrights and Intellectual Property; Culture and Globalization; Gender

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Pharmaceuticals

The pharmaceutical industry consists of thousands of firms engaged in one or several of the functions of discovering, developing, manufacturing, and marketing medicines for human use. More narrowly, the industry can be taken to include firms supplying prescription drugs. This market segment is dominated by around twenty-five research-based companies headquartered in the United States, Europe, and Japan. Known as the "big pharma" group, these firms participate as "insiders" within national policy processes and markets across the world yet operate globally integrated innovation, production, and marketing networks. Firms specializing in the production of out-of-patent generic drugs constitute another increasingly significant segment of the pharmaceutical industry.

The recent period of globalization has brought about a wave of mergers and acquisitions and the reengineering of corporate structures to achieve greater flexibility and increased capacity to engage in external collaborations. Changes in the structure of the industry are closely associated with a technological paradigm shift from chemistry-based drugs toward biopharmaceutical drugs requiring more complex and diverse capabilities.

History of the Pharmaceutical Industry

Early medicines were derived from natural sources such as plants and animals and had limited or nonexistent therapeutic effects. The nineteenth-century development of chemistry into a major science made possible the production of a new type of synthetic drugs. Morphine was extracted from crude opium in 1805, and other discoveries, such as digitalis and strychnine, followed. In the 1880s, the medicinal effects of dyestuffs and other organic chemicals were discovered, and in 1897 aspirin was introduced by the German company Bayer. German and Swiss companies such as Bayer, Hoechst, Ciba, Geigy, and Hoffman–La Roche were trailblazers in the emergence of the modern pharmaceutical industry. Germany alone represented around 80 percent of the world production of pharmaceuticals in the years leading up to 1914. The outbreak of World War I provided a strong stimulus for England, France, and the United States to develop their own chemical and pharmaceutical industries, and these gradually acquired capacities comparable to those of their German and Swiss competitors (Gassmann et al. 2004; Silverman and Lee, 1974).

Merck and several other U.S. drug companies were first established by German chemical firms, while SmithKline Beckman (which merged with Beecham in 1989 and in 2000 with GlaxoWellcome) and Upjohn (now absorbed by Pfizer) originated as wholesale pharmacists and moved into drug discovery only after 1945. The pharmaceutical industry became research intensive in the middle of the twentieth century. Sulfanilamide, effective in the treatment of infections, is considered the first of the modern drugs. It was introduced by Bayer in 1935 under the name of Prontosil and represented a breakthrough in synthetic or-

ganic chemistry, opening the way for the discovery, patenting, and marketing of other sulfanilamide derivatives. During World War II, pharmaceutical firms in the United States worked closely with the government in support of the war effort. Particular achievements in this period included the production of dried plasma and penicillin. Penicillin, discovered by Alexander Fleming in 1928 and first manufactured by Merck and Pfizer during the war, provided a major boost to the growth of the industry. By 1945, penicillin was produced by twenty-one companies (Pratt 1985).

The decades after 1945 were the golden age of the pharmaceutical industry. The large companies multiplied their research and development (R&D) spending, and several hundred new chemical entities (NCEs) were discovered. Many effective new products were launched, and this had a major impact on life expectancy throughout the world. It is likely, however, that environmental public health and political, economic, and social measures were at least equally important in changing mortality patterns. The economics of scale of research and marketing prevented new firms from challenging the dominance of incumbents such as Bristol-Myers, Warner Lambert, Plough, Merck, Pfizer, Lilly, Hoechst, Hoffmann–La Roche, and Ciba.

From the 1970s, commercial drug developments became increasingly intertwined with expanding systems of public health research such as the U.S. National Institutes of Health. Advances in the biological sciences have since had a major impact on the drug development process and the structure of the industry. The first of the new biotechnology companies—Genentech—was established in 1976, signaling that the revolution in molecular biology would have significant commercial implications. Big pharma companies, adapting successfully to new scientific and technological paradigms, have become less self-sufficient than in the past and now engage extensively in collaborations with external organizations. Firms seek efficiencies and innovative capacities from outsourcing (including outsourcing of manufacturing and clinical trials), licensing and marketing alliances, strategic partnerships, joint ventures, and other forms of collaborative arrangements with both competitors and science-intensive "spin-offs" from universities and the public research sector. Even the largest of the pharmaceutical firms now draw extensively on external resources, typically spending around 30 percent of R&D budgets on outside collaborations (Goozner 2004; Henderson et al. 1999).

Regulation of the Pharmaceutical Sector

The pharmaceutical sector is characterized by market failures that, in the absence of state intervention, would produce unacceptable outcomes. The principal failure is the inability of consumers to make informed decisions about the quality, efficacy, and appropriate use of medicines with potentially harmful or even fatal consequences. Individual medical practitioners are also unable to assess the therapeutic value of thousands of pharmaceuticals and must rely to a large extent on the claims made by the suppliers.

The current system of government controls to ensure drug quality, safety, and efficacy evolved in parallel with the growth of the modern pharmaceutical industry. The U.S. Food and Drug Act of 1906 established the agency that became the Food and Drug Administration (FDA), though initially its primary focus was on problems in the food industry. Recurrent disasters resulting from unsafe drugs impelled the U.S. and other governments progressively to extend their regulation of the industry. The Food, Drug, and Cosmetic Act, passed by the U.S. Congress in 1938 after the death of 107 people poisoned by a toxic medicine, introduced the requirement that manufacturers provide scientific proof of the safety of new products. In the late 1950s and early 1960s, the birth of more than 8,000 infants with severe deformities of the limbs in forty-six countries,

as a result of their pregnant mothers' consumption of the drug thalidomide, paved the way for more rigorous safety regulation achieved through the Kefauver-Harris 1962 Amendments to the 1938 act. The FDA's role in preventing market clearance for thalidomide strengthened a public perception in the United States of the indispensability of strict government drug controls (Burkholz 1994).

Similar steps to make the process of market approval more stringent were soon taken in other developed countries. Complex government controls now affect all stages of the pharmaceutical production and distribution chain: basic research, product development, manufacturing, exports and imports, market access, pricing and profits, marketing, wholesaling, and retail distribution, most countries also have direct or indirect regulation of drug prices and profits. Since the early 1990s, the drug safety control system has been largely harmonized at the transnational level through a process known as the International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH). The key participants in this process are the pharmaceutical industry associations and the government drug regulatory agencies of the European Union, Japan, and the United States (Abraham and Smith 2003).

The very nature of medicinal drugs introduces a powerful ethical element to the activity of firms and to public policy in this domain. Universal access to essential drugs irrespective of ability to pay is an accepted policy objective in most countries. Doctors and pharmacists operate as intermediaries between drug suppliers and consumers. The effect of public and private insurance schemes is to insulate consumers and doctors to a significant extent from normal market signals. Consumers generally do not have to bear the full cost of the medicines, while doctors can prescribe drugs with scant regard to their cost. In the countries of the European Union and in Canada, Australia, and elsewhere, governments subsidize a significant proportion of the cost of prescription pharmaceuticals through public insurance schemes. In the United States, some of the drug costs of the elderly and disabled are subsidized through Medicaid, a joint federal-state program, but most consumers rely on health maintenance organizations (HMOs) and other forms of private insurance for some protection against high drug costs. Approximately 20 percent of the population, however, does not have prescription drug coverage.

Both public and private third-party payers around the world are concerned about the growing cost of medicinal drugs associated with the aging of the population and the availability of new expensive medicines, including "lifestyle" drugs for conditions such as obesity and hair loss. Concerns about prices and political pressures on the industry are also fueled by the very high profitability of big pharma. The annual Fortune 500 list regularly records profits in the pharma industry that, as a percentage of revenue, far outstrip most or all other American industries. A standard cost-containment tool is to undertake a cost-effectiveness assessment before accepting a new drug on a "formulary" of products approved for use or reimbursement. Expert committees managing formularies now expect prices paid for a new drug to reflect its relative benefits compared to alternative treatments, as it is simply not rational to pay a substantially higher price for a new drug that delivers only marginal additional benefits compared to an older, cheaper product. Companies must therefore pay increasingly close attention to the economics of new drugs. The complexity of economic analyses of drug development and drug use gave rise in the 1990s to the applied discipline of pharmacoeconomics (Schweizer 1997).

The extent of government regulation makes political and legal action critical to the prosperity of the pharma industry. National and international industry associations—including the Pharmaceutical Research and Manufacturers of America (PhRMA) and the International Federation of Pharmaceutical Manufacturers Associations (IFPMA)—lobby effectively on

its behalf. The relationship between regulators and the drug industry has fluctuated over time and across countries. Regulatory agencies have at times been unduly influenced by the industry, and there are recurrent examples of corruption. The industry at other times has criticized regulators for being unresponsive and hostile. In particular, the time taken by regulatory agencies to approve new products for marketing was a source of persistent industry apprehension throughout the 1980s and 1990s. Interaction between regulators, companies, and other interests is, however, normally characterized by routine exchange.

The trend in the recent period of globalization has been toward a blurring of public-private boundaries and more trust-based interaction among a wider range of actors, including pharma companies, doctors, pharmacists, consumer and patient advocacy groups, and government agencies. Both the pharma industry and regulators now aim for partnerships rather than conflict. Yet, scientific and technological developments, including the emergence of biotechnology, and the globalization of innovation, production, and markets have spurred ever more complex regulation at national and transnational levels. The capacity of government agencies to impose regulatory controls unilaterally, however, has diminished.

Product and Market Characteristics

More than 20,000 different medicinal drugs, derived from around 5,000 active substances, are available in major pharmaceutical markets (Ballance et al. 1992). The value of the global prescription drug market in 2004 approached $500 billion. The United States accounts for approximately 50 percent of worldwide sales, and the European Union for a further 25 percent. In the early 1990s, the value of U.S. pharmaceutical sales was of the same magnitude as in Europe. The rapid expansion of the U.S. market in the past fifteen years is due largely to the fact that prices are higher in the United States than in other industrially developed countries as a consequence of the absence of government price controls. Countries outside of North America, Europe, and Japan represent only about 10 percent of the global market.

Medicinal products are divided into patented prescription drugs; out-of-patent, or multisource (generic), prescription drugs; and over-the-counter (OTC) medicines (which may or may not be patented). A strict categorization is made difficult by the fact that the same drug may have a different status in different markets, and products also move between these categories. Prescription medicines are also known as "ethical" drugs. Generics are copies of an original product whose patent has expired. OTC products are medicines for self-medication sold directly to the public through pharmacies and other retail outlets. Research-based firms seek to recoup R&D costs and generate a profit from sales of prescription drugs during the period of effective patent protection, whereas OTC products can have a long product life, sometimes more than fifty years (for example, aspirin).

Big pharma companies derive a high proportion of revenue from so-called "blockbuster" drugs generating more than $1 billion in annual sales. There were sixty-six blockbuster drugs in 2003; forty-seven of these were sold by the top ten companies. The best-selling product was Pfizer's Lipitor, which generated $9.23 billion in revenue, followed by Merck's Zocor, which was worth $5 billion (Sellers 2004). Prices normally fall substantially following patent expiration when generic competitors enter the market.

The 1984 U.S. Drug Price Competition and Patent Restoration (Hatch-Waxman) Act was a decisive moment in the development of the generics industry. The Hatch-Waxman Act introduced facilitated market entry for generic versions of all post-1962 approved products. Generic competition in the 1990s transformed the dynamics of the U.S. pharmaceutical market (Congressional Budget Office 1998). A key driver of that market came in the form of

health maintenance organizations and pharmaceutical benefit management companies spearheading cost-containment measures such as generic prescribing, brand substitution by pharmacists, and reimbursement on the basis of cheapest brand (called "reference pricing"). Generics in the United States now account for more than 50 percent of all prescriptions dispensed and in 2003 sold at an average price of $31 per prescription, compared to brand prescriptions averaging $84 (according to data provided by the National Association of Chain Drug Stores). In other countries, public-sector insurance programs similarly encourage or mandate prescribers and consumers to substitute cheaper generics for more expensive brand products. The value of the global generics market is around $40 billion, and growth fueled by recent and future patent expirations of many blockbuster drugs is expected to continue at around 10 to 15 percent per annum.

Litigation between brand and generic companies about intellectual property rights is a conspicuous feature of the contemporary pharma industry. Patents and exclusive marketing rights enable research-based companies to charge monopoly prices, and the extension of patent protection often translates into many millions of dollars. Yet, the boundary between the research-based and the generics segments of the pharma industry is increasingly blurred. Most big pharma companies also supply generics, including so-called "pseudo-generics," that are identical (not copies but produced on the same production lines) to their branded equivalents. Conversely, some generics companies also supply patented products.

Industry Consolidation and the R&D Productivity Crisis

The ten largest companies ranked as follows in 2003 (by global prescription drug sales): Pfizer, GlaxoSmithKline, Merck, Johnson & Johnson, Aventis, AstraZeneca, Novartis, Bristol-Myers Squibb, Wyeth, and Eli Lilly (Sellers 2004). Six were headquartered in the United States, two in the United Kingdom (GlaxoSmithKline and AstraZeneca), one in France (Aventis), and one in Switzerland (Novartis). Other countries with a significant research-based industry include Germany and Japan. Over several decades, the composition of the group of twenty-five or so leading companies has changed, mainly through mergers and acquisitions. Firm rankings are also affected by the launch and patent expiry of blockbuster drugs, which can result in significant shifts in market share. At least thirty-eight major drug companies have merged since 1994, and the process of consolidation is continuing. Recent examples include the merger in 2000 between Glaxo Wellcome and SmithKline Beecham to form GlaxoSmithKline, and Pfizer's 2002 acquisition of Pharmacia (formed through earlier mergers between Pharmacia, Upjohn, and Monsanto). Pfizer had previously absorbed Warner-Lambert, Parke-Davis, and Searle.

The generics industry is also undergoing consolidation at a global level as companies seek to expand their geographical and technological reach. The market leaders in 2004 were Teva Pharmaceutical Industries of Israel and Sandoz (owned by Novartis of Switzerland). Indian companies, including Ranbaxy and Dr Reddy's Laboratories, drawing on low-cost, quality-manufacturing facilities and a strong engineering tradition, are also important global suppliers of generics. In 2003, around 20 percent of all generic drugs sold in the United States were manufactured in India.

To sustain growth, big pharma must be able to substitute new products for their old ones as patents expire and prices fall with the onset of generic competition. This requires large investments in R&D. The top ten companies reported total R&D spending in 2003 of close to $36 billion, which for most firms represented around 15 percent of sales revenue. Occasionally, a "new product" means a truly innovative drug that treats a disease for which an effective medicine was not previously available. Most new drugs, however, are "me-too" products that

provide a marginal improvement on existing medicines. It is estimated that about 18 percent of R&D spending is directed at research to discover new breakthrough medicines, while 82 percent is expended on incremental improvements on existing drugs and clinical trials (National Science Foundation 2003). Governments also contribute to drug discovery research with commercial spin-offs through deductions and tax credits and through the basic research undertaken within organizations such as the National Institutes of Health and the U.S. Department of Defense (Goozner 2004).

Explanations for industry consolidation most commonly emphasize pressures to improve R&D productivity. The discovery of innovative new drugs has become increasingly difficult and expensive. The R&D cost per new drug more than doubled between the late 1980s and the late 1990s. For most of the 1990s, the top twenty firms each launched an average of 1.5 new products per year, but in 2000 to 2003 they launched less than one new product per year. In 2003, the FDA approved twenty-one new molecular entities (NMEs), which can be compared to the peak in 1996, when fifty-six new NMEs were approved. Scientific and technological developments, including the advent of genomics, have opened up promising new avenues of drug discovery. But the R&D process has also become more complex, and the prospect of a wave of new, effective drugs has not yet been realized (Cockburn 2004).

Industry consolidation is pursued as a means of mobilizing and rationalizing the massive resources required for R&D and can also facilitate the management of the regulatory approval process throughout the world. Mergers enable companies to widen their product portfolio through the acquisition of existing products and drugs in the R&D pipeline, and also enable them to eliminate duplicate overhead costs, partly through the shedding of employees. Moreover, a larger size extends the global reach of companies and provides for scale advantages in manufacturing and marketing. Yet, bigger size does not automatically solve the productivity problem. Since the 1980s, a high proportion of drug innovations have emerged from biotechnology and other small science-intensive companies. Some of the new biotechnology companies, including Amgen and Genentech, have become fully integrated competitors with big pharma. Others have been acquired by the big pharmaceutical companies, but most operate as specialist suppliers to big pharma.

Global Disparities

The big pharma companies are central actors within a global system for discovering, developing, regulating, and marketing prescription drugs. Firms in some developing countries (including India, China, Brazil, and South Africa) participate within this network, but the global pharma sector remains primarily a "triad" system of companies, regulatory agencies, and research organizations in North America, Europe, and Japan. Drugs are developed first and foremost to meet the needs of patients and doctors in industrially developed countries, accounting for almost 90 percent of global pharmaceutical sales. The majority of the population in developing countries lacks purchasing power to access patented drugs, and cheaper generic medicines are also out of reach for billions of people (Médecins Sans Frontières 2001). A minuscule proportion of R&D expenditure focuses on diseases affecting mainly poor countries, such as sleeping sickness, river blindness, Chagas disease, and leishmaniasis. Of 1,393 new drugs launched between 1975 and 1999, only 16 were for tropical diseases and tuberculosis (Trouillier et al. 2002).

In the industrially developed world, drugs account for around 15 percent of total (public and private) health expenditure, and in most of these countries between 50 and 80 percent of pharmaceuticals expenditure is publicly funded. In poor countries, by contrast, drugs account for between 25 percent and more than

60 percent of total health expenditure, and most consumers must pay the full cost of drugs out-of-pocket. Also, safety regulation is often unreliable or nonexistent, and many drugs are of poor quality. Since 1977, the World Health Organization (WHO) has operated an "essential drugs program" to assist developing countries in spending their limited resources in a way that maximizes health outcomes. Through the careful selection of a limited range of essential medicines, most medical needs can be met cost-effectively. The 12th Model List of Essential Drugs, prepared in 2002, includes 325 individual drugs, most of which are out-of-patent and can therefore be supplied relatively cheaply as generics (WHO 2004).

The calamity of AIDS in Africa and elsewhere has brought issues of access and affordable pricing to the fore in global drug policy debates. The 1995 Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement has been a central focus of such discussions. The TRIPS Agreement progressively extends a standard twenty-year patent period for drugs to all member countries of the World Trade Organization, including developing countries. Big pharma, and governments in countries where these firms are based, consider intellectual property rights to provide essential incentives for investments in the discovery of new effective medicines. From the perspective of the population of many poor countries, however, an extended patent period means delayed access to cheaper generics, including access to generic AIDS medications.

Following international lobbying and media controversy, the November 2001 ministerial meeting of the WTO at Doha agreed on a consensus statement called the "Doha Declaration on TRIPS and Public Health." This agreement allows developing countries to produce generic versions of patented drugs through "compulsory licensing" to protect public health and meet national emergencies. The least developed countries, however, lack the capacity to produce generic drugs, and the issue of importation and effective distribution of affordable generics in these countries continues to be the subject of international dispute.

The Pharmaceutical Industry in the Era of Globalization

Pharmaceuticals have become a quintessentially global high-tech industry. The huge companies emerging from mergers and acquisitions operate discovery, development, and marketing processes stretching across many countries, linking into the best science anywhere in the world and the most cost-effective locations for production. Yet, the United States is by far the primary location for pharmaceutical and biotechnology R&D. In the past, the manufacturing of active ingredients, and other core activities, were concentrated in companies' home countries, with secondary plants located elsewhere for conversion into final products and local distribution. Today, regional or global markets are supplied with ready-made products from a small number of strategic sites, and the manufacturing of active ingredients is often outsourced to low-income countries such as China and India. Clinical trials, which can encompass up to 40 percent of total development costs, are shaping up as the next major activity for global outsourcing. India offers the advantages of large pools of patients, many qualified doctors and clinicians, and low costs. Thus, the corporate strategies successfully applied for most of the postwar period are being redesigned to meet the new opportunities posed by globalization.

At the same time, corporate strategies must also meet the challenges of globalization. These include:

- Growing pressures on prices resulting from the application of market power by public and private insurance providers. Companies must increasingly be able to demonstrate the cost-effectiveness of drugs to cost-conscious group buyers.
- Price competition as drugs go out of

patent. The market share for generics is increasing steadily.

- A lack of new breakthrough drugs. The long-expected major commercial breakthrough for biotechnology-based drugs has not yet become reality.
- A more complex political environment, and the growing expectation that companies demonstrate "corporate social responsibility."

The hallmark of the global big pharma corporation is the replacement of traditional command-and-control systems with less hierarchical forms of management and control. In particular, the science- and technology-intensive nature of innovation requires openness toward external organizations such as universities and smaller biotechnology companies.

Pharmaceutical firms remain very sensitive to decisions taken by government regulators. The failure to bring a research project to fruition, or a delay of market approval for a major drug product, can have devastating commercial consequences. All actors within the sector retain an awareness of the risk and unacceptable consequences of unsafe products. Global company webs and global markets are, however, inducing a reconfiguration of regulatory arrangements, and some functions previously wielded by nation-states are being shifted upward to the transnational level. Companies and their associations are engaged forcefully in the process of international harmonization and in broader discussions on health policy. The international regime now emerging is characterized by a complex intermeshing of private and public players in a process shaped and influenced, to a significant extent, by the power of big pharma. National regulatory agencies have not been superseded, but the trend is for such agencies to operate as components of a global system.

Pharmaceutical companies have been much criticized in debates about affordable access and have in response initiated a range of humanitarian and charitable activities, including partnership programs with WHO and with the governments of many developing countries. The role of international organizations such as WHO, UNICEF, and nongovernment organizations (NGOs) such as Médecins Sans Frontières (MSF), Health Action International (HAI), and Oxfam International impose some constraints on the global power of big pharma. As globalization proceeds, however, there will be growing pressures for transparency and democratic accountability in respect to the worldwide system for discovering, developing, and providing access to medical drugs.

Hans Lofgren

See Also World Health Organization (WHO); World Trade Organization (WTO); Copyrights and Intellectual Property; Public Health

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Textiles and Apparel

Textiles and apparel have been referred to as the most globalized industries in the world. They are also the industries most associated with the first stages of industrialization, having fulfilled this role in both the industrialized nations during the nineteenth and early twentieth centuries and in the developing world in the late twentieth and early twenty-first centuries. Currently, both textiles and apparel are technology-intensive industries with complex supply-chain management systems, computerized production, highly competitive time-sensitive sales, research and development, and truly global manufacturing. The labor-intensive apparel industry is frequently at the center of international labor standards debates, especially child labor issues. The more capital-intensive textile industry is often at the center of environmental issues, particularly in regard to dyes and colorings.

The international textile and apparel trade has been regulated on a multilateral basis since the 1960s and remained outside the jurisdiction of the General Agreement on Tariffs and Trade (GATT) until 1994, when it was agreed that the quota system would be phased out. On January 1, 2005, textiles and apparel became fully integrated into the World Trade Organization (WTO) system. Textile and apparel trade still plays a sizable role in the economy of industrialized countries, but it is most important for some developing and least-developed countries, accounting for a dominant portion of industrial capacity, industrial employment, total exports, and gross domestic product (GDP) for many. Because of this role, the quota system phase-out became the most controversial trade issue of the first years of the twenty-first century.

Global Economic Impact

The textile and apparel industries constitute a significant sector in the world economy. World exports of textiles and apparel in 2002 exceeded $400 billion. This accounts for over 6 percent of world trade, and over 8 percent of world trade in manufactured goods. Apparel represents 60 percent of this combined total. There are 30 million apparel production jobs worldwide. The international garment industry works in far more countries than almost any other industry today, dealing with more products and with more suppliers. Virtually all countries produce and export garments. This means that some 192 countries export garments from more than 250,000 garment factories. For many developing countries, garment manufacturing represents the overwhelming majority of total exports. For example, in terms of total exports, apparel accounts for 85.9 percent for Bangladesh, 84.4 percent for Macau, 72.5 percent for Cambodia, 72.1 percent for Pakistan, 60.2 percent for El Salvador, 56.6 percent for Mauritius, 54.3 percent for Sri Lanka, 50.9 percent for the Dominican Republic, 48.7 percent for Nepal, and 42.4 percent for Tunisia.

Table 1: Global Textile and Apparel Trade, 1995–2003 (aggregate figures)

	European Union				*USA*				*Japan*			
	1995	*2001*	*2002*	*2003*	*1995*	*2001*	*2002*	*2003*	*1995*	*2001*	*2002*	*2003*
IMPORTS (in billions of euros)												
WORLD	45.25	72.49	71.41	70.24	37.45	85.52	83.23		19.38	26.21	22.96	
European Union					3.31	5.51	5.23		2.76	2.29	2.1	
USA	1.87	1.91	1.59	1.28					1.48	0.87	0.7	
Canada	0.12	0.15	0.13	0.11	1.46	3.9	3.74		0.03	0.03	0.03	
Japan	0.7	0.78	0.69	0.57	0.52	0.75	0.72					
Acceding countries	4.28	6.43	6.26	5.92	0.21	0.28	0.26		0.02	0.04	0.05	
Bulgaria & Romania	1.36	4.56	4.85	5.03	0.09	0.32	0.3		0	0.02	0.03	
CIS	1.25	1.42	1.33	1.21	0.17	0.73	0.71		0.01	0.02	0.01	
Mediterranean countries	6.82	12.14	12.97	13.24	1.31	3.46	3.72		0.05	0.08	0.08	
Latin America	0.85	0.77	0.77	0.73	7.42	22.88	21.59		0.11	0.12	0.11	
China	4.81	10.44	11.37	12.32	4.68	9.69	10.71		9.45	18.34	16.35	
Hong Kong	2.6	2.64	2.34	2.08	3.58	5.14	4.5		0.25	0.08	0.07	
South Korea	0.83	1.75	1.56	1.39	1.94	3.69	3.52		1.78	0.99	0.68	
ASEAN	3.6	6.17	5.61	4.94	4.38	10.97	11.01		1.6	1.99	1.69	
South Asia	5.84	9.85	9.69	9.99	4.02	10.33	9.98		0.67	0.53	0.43	
Australia and New Zealand	1.08	1.05	0.87	0.76	0.22	0.38	0.36		0.43	0.29	0.19	
ACP	1.11	1.84	1.53	1.36	2.27	3.84	3.43		0.04	0.02	0.02	
Gulf countries	0.21	0.38	0.33	0.33	0.41	1.06	0.87		0	0.01	0.01	
OPEC	2.18	3.01	2.53	2.25	1.34	3.65	3.18		0.52	0.61	0.49	
EXPORTS (in billions of euros)												
WORLD	29.23	43.59	43.51	41.71	13.96	21.41	19.45		6.65	8.16	7.53	
European Union					1.63	1.66	1.48		0.62	0.68	0.62	
USA	3.24	5.72	5.2	4.64					0.48	0.59	0.54	
Canada	0.43	0.61	0.58	0.55	2.07	3.5	3.14		0.04	0.04	0.04	
Japan	2.54	2.39	2.16	2.01	1.22	0.71	0.6					
Acceding Countries	3.82	6.43	6.51	6.38	0.04	0.05	0.04		0.01	0.01	0.01	
Bulgaria & Romania	1.06	3.28	3.53	3.68	0.02	0.01	0.01		0	0	0	
CIS	0.98	2.22	2.43	2.49	0.03	0.04	0.03		0.01	0.01	0.01	
Mediterranean countries	2.68	4.32	4.58	4.33	0.33	0.38	0.37		0.04	0.04	0.05	
Latin America	0.74	1.32	1.22	1.02	4.76	11.94	10.79		0.07	0.07	0.05	
China	0.29	0.59	0.65	0.74	0.83	0.32	0.49		1.8	3.17	2.94	
Hong Kong	1.28	1.55	1.47	1.37	0.41	0.41	0.39		0.92	0.97	0.91	
South Korea	0.67	0.73	0.77	0.72	0.44	0.34	0.29		0.58	0.54	0.49	
ASEAN	0.7	0.77	0.74	0.69	0.76	0.66	0.66		0.87	1.02	0.96	
South Asia	0.25	0.39	0.42	0.43	0.27	0.46	0.35		0.14	0.15	0.14	
Australia and New Zealand	0.38	0.41	0.46	0.45	0.16	0.14	0.13		0.09	0.05	0.05	
ACP	0.64	1.15	1.11	1.02	1.28	1.94	1.79		0.05	0.06	0.06	
Gulf countries	0.82	1.16	1.21	1.05	0.21	0.12	0.11		0.32	0.28	0.25	
OPEC	1.24	1.72	1.72	1.54	0.69	0.55	0.47		0.54	0.54	0.46	

(*continues*)

Table 1: Global Textile and Apparel Trade, 1995–2003 (aggregate figures) ***Continued***

	European Union				*USA*				*Japan*			
	1995	*2001*	*2002*	*2003*	*1995*	*2001*	*2002*	*2003*	*1995*	*2001*	*2002*	*2003*
					BALANCE (in billions of euros)							
WORLD	-16.02	-28.9	-27.9	-28.53	-23.49	-64.11	-63.79		-12.73	-18.05	-15.43	
European Union					-1.67	-3.85	-3.75		-2.14	-1.61	-1.48	
USA	1.37	3.81	3.61	3.36					-1	-0.28	-0.17	
Canada	0.31	0.46	0.45	0.44	0.61	-0.4	-0.59		0.01	0.01	0.01	
Japan	1.84	1.61	1.47	1.44	0.7	-0.03	-0.12					
Acceding countries	-0.46	0	0.25	0.46	-0.17	-0.23	-0.22		-0.01	-0.03	-0.03	
Bulgaria & Romania	-0.3	-1.28	-1.32	-1.35	-0.08	-0.31	-0.29		0	-0.01	-0.03	
CIS	-0.27	0.8	1.1	1.28	-0.14	-0.69	-0.68		-0.01	0	0	
Mediterranean countries	-4.14	-7.82	-8.39	-8.91	-0.98	-3.08	-3.35		-0.01	-0.03	-0.02	
Latin America	-0.11	0.55	0.45	0.29	-2.66	-10.94	-10.79		-0.04	-0.05	-0.06	
China	-4.52	-9.85	-10.72	-11.58	-3.85	-9.37	-10.22		-7.65	-15.18	-13.41	
Hong Kong	-1.32	-1.09	-0.87	-0.71	-3.17	-4.72	-4.11		0.67	0.89	0.84	
South Korea	-0.16	-1.02	-0.79	-0.67	-1.5	-3.35	-3.23		-1.2	-0.45	-0.19	
ASEAN	-2.9	-5.4	-4.87	-4.25	-3.62	-10.31	-10.35		-0.73	-0.97	-0.72	
South Asia	-5.59	-9.46	-9.27	-9.56	-3.75	-9.86	-9.63		-0.53	-0.38	-0.29	
Australia and New Zealand	-0.7	-0.64	-0.41	-0.31	-0.06	-0.24	-0.23		-0.34	-0.23	-0.14	
ACP	-0.47	-0.69	-0.42	-0.34	-0.98	-1.9	-1.63		0.01	0.04	0.04	
Gulf countries	0.61	0.78	0.88	0.72	-0.2	-0.94	-0.76		0.31	0.27	0.25	
OPEC	-0.94	-1.29	-0.81	-0.71	-0.65	-3.1	-2.71		0.02	-0.07	-0.03	

Note: Figures for world totals exclude intra-EU trade
Sources: EUROSTAT/COMEXT, March 23, 2004; COMTRADE, March 23, 2004.

The Quota System

Global trade of textiles and apparel among WTO members is governed by the Agreement on Textiles and Clothing (ATC), which came into force at the founding of the WTO on January 1, 1995. According to this agreement there was a progressive application of GATT rules and a progressive phasing out of quotas in the European Union, the United States, and Canada over a ten-year period. The ATC further established that following the ten-year phase-out period ending on January 1, 2005, the ATC would expire and all quotas would be abolished, allowing all WTO members unrestricted access to the European, U.S., and Canadian textile and apparel markets.

The quota system began in the postwar period. Industrialized countries such as the United States and the United Kingdom negotiated a series of bilateral arrangements restricting their textile and apparel markets as early as the 1950s. Multilateral arrangements began with the Long-Term Arrangement Regarding International Trade in Cotton Textiles (LTA) in 1962. The LTA gave way to the Multi-Fiber Agreement (MFA) (also called the Multi-Fiber Arrangement) in 1974. The aim of the MFA was to stem a steady fall in employment in the textile and apparel industries in the West. Under the MFA framework, the United States, for example, negotiated access to its market with each country, and then each other government allocated quotas among its own domestic textile and apparel firms as it saw fit. When an apparel-exporting country reached a limit in a given category of product, the category was said to be "embargoed," that is, that country could not ship more goods of that kind until the following year. Companies that ran into unexpected embargoes were allowed to work around them through a program known as "carry forward," which allowed them to borrow against the next year's quota allocation. The response of the apparel industry in the industrialized countries to the import quotas was to globalize production by creating a "quota-hopping" system, which encouraged development of the industry in places where none existed previously. The demise of the quota system came about during the Uruguay trade rounds, spearheaded by the developing countries. In practice, the MFA carved up the world market, thereby shielding some of the weaker producers from competition.

The Impact of Quota Phase-Out

MFA quotas were quantitative restrictions that had a number of characteristics. They were applied on a discriminatory basis to some exporting countries but not to others; were negotiated on a bilateral basis rather than imposed globally and, therefore, differed from country to country in terms of product coverage and degree of restrictiveness; and involved limits on exports, transferring rents from the importing country to the exporting country. Xinshen Diao and Agapi Somwaru (2001) estimated that over the twenty-five-year period following ATC implementation, the annual growth of world textile and apparel trade would be at least 5 percent faster than it would have been in the absence of the ATC. This acceleration translates into as much as $200 billion over the period. They also predicted that world apparel trade would increase twice as fast as textile trade in the post-quota world, but that the impact would differ across countries and regions. For all countries, quota elimination represents both an opportunity and a threat: an opportunity because markets will no longer be restricted, and a threat because suppliers will no longer be restrained and major markets will be open to intense competition.

China is expected to be the biggest winner from the phase-out of the quota system, followed by India. At the time the phase-out was negotiated, China's production was comparatively minimal, and China was not a member of the WTO. Developing countries thought the phase-out agreement would help them expand exports to the industrialized world. Reinstate-

ment of the MFA or some form of quota system appears unlikely because of a lack of interest from the United States and the European Union as well as because of the potential WTO challenges if the quotas are not removed.

Some have argued that the phase-out could lead to a reallocation of production to the detriment of developing-country exporters that in the past were "effectively protected" from more competitive suppliers by the quota system. Others have predicted that the apparel production of the restrained exporters as a whole, generally Asian countries, would increase by almost 20 percent, and that their textile production would increase by almost 6 percent once the MFA has been phased out. It has been estimated that the market shares of non-quota-constrained suppliers (such as Mexico and African, Caribbean, and Central American countries) would shrink. It is thought that Mercosur and Chile will reduce their exports of clothing significantly and their exports of textiles moderately.

Richard Avisse and Michel Fouquin (2001) estimated that Asian apparel exports would rise by 54 percent over the phase out period and that their share of the world market would increase to 60 percent from 40 percent in 1995. China's apparel exports are expected to rise by 87 percent, and their share of world apparel exports should rise by more than 10 percentage points during the same period. Meanwhile both South Asia's and Southeast Asia's apparel exports also should experience substantial gains, increasing by 36 percent combined. Latin American apparel exports, in contrast, are predicted to decrease by 39 percent during this period.

Asian countries should also experience some increases in textile exports. It is estimated that China's exports will increase by 9 percent, and South Asia's by 22 percent. Avisse and Fouquin estimated that Chinese production would rise by 70 percent, and that of other Asian countries by 26 percent. Some industry observers expect much higher rates and believe that China will dominate world apparel production within a few years of quota elimination. Joseph Francois and Dean Spinanger (2001) have argued that the "protective shield" will disappear gradually as quotas are phased out and that preferred supplying groups will probably see dramatic increases in competition from Chinese and other Asian exporters. They asserted that preferential access to North America (by Mexico) and Europe (by Turkey and Eastern European countries) will be reduced considerably when quotas are eliminated for competing exporters and that there will be a shift in demand away from these countries to other suppliers (especially Asian countries). Mexico, in their view, stands to be the largest loser among exporting countries.

The growth in domestic demand in Asian countries, particularly China, might lessen the dramatic changes in trade patterns after 2005. Mike Flanagan (2003) argued that wealth in rich countries (and therefore the people's ability to buy clothes) is not growing as quickly as wages in the world's middle-income countries—especially in the world's two most populous countries, China and India. He further argued that faster economic growth would be accompanied by even faster growth in apparel purchases and apparel importing. For example, in 2001 China's retail sales of apparel grew twice as fast as its economy.

Lower prices in manufactures may be offset by higher prices in some raw materials, especially cotton. Total world cotton production in 2004 was over 22 million tons. The top ten countries accounted for nearly 86 percent of world output. These are: China (5.42 million tons), the United States (4.39 million tons), India (3.12 million tons), Pakistan (1.73 million tons), Brazil (1.38 million tons), Uzbekistan (1.01 million tons), Turkey (0.99 million tons), Greece (0.35 million tons), Australia (0.34 million tons), and Mali (0.29 million tons). The United States is the leading cotton exporter, with more than 40 percent of global market share. The WTO ruled in June 2004 that U.S. cotton subsidies violated international trade rules. The landmark decision is expected to

eventually drive up world prices and give cotton growers from Brazil to West Africa an incentive to increase production. In its WTO complaint, Brazil charged that the more than $3 billion in annual subsidies paid out to U.S. cotton growers led to increased output in the United States and artificially depressed global prices, robbing Brazil of potential export markets and undercutting the livelihood of its farmers. Brazil argued that U.S. cotton exports would fall by 41 percent, that U.S. production would drop by 29 percent, and that world cotton prices would rise by 12.6 percent if the United States ended its cotton subsidies. If Brazil's WTO challenge survives U.S. appeals, the United States may eventually be forced to reduce all agricultural subsidies.

The Global Fight for Quotas

The changes slated to occur in the global textile and apparel quota system sparked a trade debate within individual countries and within the international community. The Fair Trade Textile Alliance, a coalition of 123 textile and apparel trade associations representing 56 countries, called for an extension of quotas beyond 2005. In this alliance, industry leaders in industrial countries joined forces with their counterparts in developing countries, thus grouping, for example, some U.S. industry leaders and Bangladesh on the same side of the battle. Throughout 2003–2004, representatives of the U.S. textile industry actively campaigned both domestically and abroad for continued protection. Textile firms, led by Milliken & Co., lobbied heavily to change policy and elect congressional candidates who would back policies favorable to U.S. mills.

The textile industry has never been a large campaign contributor in the United States, and since the latest revenue and job declines, its political action committees have been largely dormant, according to the Federal Election Commission. U.S. domestic textile groups, including the National Coalition of Textile Organizations and the American Manufacturing Trade Action Coalition (AMTAC), issued a call for textile producers around the world to lobby their governments to continue providing protection through 2007. In conjunction with Turkey's textile and apparel industry association, they issued the Istanbul Declaration for Fair Trade in Textiles and Clothing—a letter to the director general of the WTO urging him to convene an emergency meeting to discuss the quota phase-out. The press release announcing the declaration states that China's accession to the WTO "represents a severe and disruptive change in circumstances not present during consideration in the early 1990s of a timetable for the phase-out of quotas." The U.S. groups toured the world to enlist the support of textile and apparel industry associations.

The movement, however, miscalculated its strategy because: (1) it did not focus on governments, which make up the membership in the WTO, but on industry associations; (2) the WTO operates by consensus, which means that any quota resolution could be blocked by expected winners of the phase-out such as Pakistan, India, and China; (3) the Istanbul Declaration assumes that China's accession was not contemplated in the Uruguay agreement, when in fact it was a consideration; and (4) the elimination of the quota system was put into the Uruguay agreement as a condition by the developing world in return for accepting some of the other standards put into place by the request of the developed world (such as intellectual property rights).

Moreover, although textile and apparel manufacturers in the United States and many other countries were united in maintaining the quota system, apparel importers around the world, especially in the giant U.S. market, were active and vocal in their support for the quota system phase-out. The diverging interests produced clashes within the United States between the two sides of the industry (importers vs. manufacturers). Domestic manufacturers successfully pushed the George W. Bush administration to accept threat-based safeguard peti-

Global Textile and Apparel Trade—A Snapshot of Major Events

1950s The United States and the United Kingdom negotiate with Japan, Hong Kong, China, India, and Pakistan to restrict textile and apparel exports out of fear of undermining domestic producers.

1961 The United States initiates the Short-Term Arrangement Regarding International Trade in Cotton Textiles (STA)—a multilateral agreement to formalize one year restrictions on trade in cotton products in sixty-four categories in order to avoid market disruption until a more permanent agreement can be put in place.

1962 Nineteen major trading nations agree to the Long-Term Arrangement Regarding International Trade in Cotton Textiles (LTA)—a multilateral agreement to regulate international trade in cotton textiles and apparel.

1974 The Multi-Fiber Arrangement comes into effect covering all textiles and clothing goods except silk, with seventy-three countries as signatories. This arrangement would be renegotiated four times (1977, 1981, 1986, 1991).

1995 The Agreement on Textiles and Clothing, negotiated in the Uruguay Round, comes into force, committing WTO members to progressively eliminating all quotas by January 1, 2005.

2003 In May, EU Commissioner Pascal Lamy chairs the Global Conference on the Future of Textiles and Clothing After 2005. Also, the Istanbul Declaration for Fair Trade in Textiles and Clothing is issued, whereby trade associations and labor unions from twenty-six countries appeal to the WTO for an emergency meeting and delay in the phase-out of quotas, emphasizing the threat from China. By August 2004, a total of 123 organizations from 56 countries at all stages of development had signed the declaration.

2004 The debate on the WTO's impending phase-out system intensifies, and the following events occur:

June The Brussels Summit on Fair Trade in Textiles and Apparel is held, with thirty-six industry associations in attendance warning that ending quotas will result in 30 million job losses around the world and one or two countries monopolizing the market.

September The Euro-Mediterranean trade ministers conference on the future of textiles and clothing, chaired by Tunisia, is held.

December The United States Association of Importers of Textiles and Apparel challenges the ability of the Committee for the Implementation of Textile Agreements to consider threat-based safeguard petitions and wins a temporary injunction barring the U.S. government from considering further proposals. In addition, Turkey becomes the first country to announce the imposition of new quotas on Chinese apparel imports to protect its domestic industry, and China announces voluntary export taxes on exports of textiles and apparel.

tions in August 2004 and went on to submit twelve such petitions by December. Apparel importers, who saw their interests hurt by any safeguards, took legal action against the U.S. government. In December, the United States Association of Importers of Textiles and Apparel (USA-ITA) successfully sued the Committee for the Implementation of Textile Agreements, chaired by the U.S. Department of Commerce, securing a court injunction preventing the U.S. government from considering further threat-based petitions (see section on United States under the heading "Current Trends: Technology and Consolidation"). In the same month, Turkey became the first country to announce new restrictions on Chinese imports of

textiles and apparel, and China announced voluntary imposition of export taxes on certain textile and apparel categories.

Supply Chain Management

The end of the quota system makes the global apparel industry essentially a buyers' market. However, labor costs, normally assumed to be the deciding factor in production, are not the only factor. Competition is exacerbated by complex supply chains. Apparel may have the most difficult supply chain of any business because of the seasonality of clothing and fast-changing consumer preferences and trends. In such an environment, competitiveness depends on service, quality, speed, logistical support, and infrastructure as well as price.

For this reason, lowest-cost producers in terms of labor are not always preferable, and thus they are unlikely to be major beneficiaries of a post-quota world. Niki Tait (2002) has asserted that purchasers are likely to concentrate on four or five politically and financially stable countries. According to Tait, factors that are considered important include respect for basic human ethics such as minimum wages, absence of child or forced labor, good working conditions, and reliable delivery and lead times. David Birnbaum (2002b) argued that current and future sourcing decisions depend in great part on which countries offer the best facilities and greatest logistical advantages. Tait also stressed the importance of infrastructure to support the buying process (such as good telecommunications, ease of import and export documentation and procedures, international logistics, quality controllers, and test centers). Proximity to the export market, or the ability to quickly respond to changes in market conditions, is also considered to be an important determinant of the pattern of trade. Birnbaum (2001) noted that since U.S. buyers are increasingly demanding "quick response" services, distant factories will find it harder to satisfy customer requirements.

Regional sourcing will remain important for flexibility and for technical innovation, and having regionally available producers that offer a six-week versus a 120-day lead time will also be important. For example, shipping time from Sri Lanka, Bangladesh, and India to the United States averages twenty-eight days, compared to two days from Mexico or Canada. Similarly, Turkey, Romania, the Czech Republic, and Hungary are all within one or two days by road freight to the EU. Moreover, the availability of local or regional raw material greatly improves a country's ability to respond to orders with shorter lead times. Also, technological innovation is more easily accomplished when the factory is near the design firm. Significant speculation over whether safeguard measures will be employed against Chinese imports may prevent China from dominating market share as has been predicted. As purchasers consolidate and rationalize their sources, the degree of vertical integration in countries or firms becomes an important competitiveness factor.

According to Birnbaum (2002b), today's sourcing decisions are increasingly based on which factories can best meet customers' ever-increasing requirements. He noted that buyers go to China because Chinese factories give the customers what they want, from patternmaking to final stock garment shipment. Tait (2002) argued that the level of service required by buyers is evolving and that a "full package from design to delivery of the finished product, inclusive of fabric and trim sourcing, right down to the delivery of store-ready items to individual shops," is now in demand. Not all apparel products have the same requirements. Some firms (such as those producing higher priced or specialty products) don't expect big changes for their supply chain as a result of quota elimination because of their focus on maintaining a high standard of quality, and they expect to maintain more vendor continuity than the majority of fashion firms because of the steep learning curve required for producers of certain products. Others expect larger, more integrated manufacturers to de-

velop that coordinate and deliver more services and product development while supplying directly to the retailer. For trendy fashion items, speed to market is critical, and so proximity plays a greater role; thus, firms in that sector also may be slow in making big changes if closer suppliers are available. More apparel firms are interested in vertical integration (full-package manufacturers). This can be accomplished within a particular firm or even within a particular region/country. The general industry agreement, however, is that only the strongest, most efficient supply chains will remain. With quota elimination comes sourcing consolidation. U.S. companies are cutting the number of offshore suppliers and countries with which they do business, and they are asking those that remain for more involvement in design and logistics. In general, the U.S. industry plans to do more business with fewer suppliers that are bigger.

Employment, Labor Standards, and Social Responsibility

Social responsibility also plays an increasingly important role in textile and apparel imports. For example, in 2003, the Gap chain dropped 136 of its factory suppliers because they had committed violations of its code of vendor conduct. It also began to deliver a social responsibility practices report to shareholders at its annual meeting. The Gap has a supply chain of 3,000 factories in more than 50 countries and 4,000 stores around the world, along with 93 compliance officers. Its code of conduct includes both broad human rights standards, such as forbidding the use of child or forced labor, as well as safety and hours rules, such as ensuring corridors remain clear and not allowing workers to toil more than sixty hours a week. One of its reports said that "few factories, if any, are in full compliance all of the time." The firm's compliance officers strive to correct problems in noncompliant factories rather than just dropping vendors at the first sign of a violation, with the goal of improving the conditions of factories and the well-being of workers.

However, there is concern that the post-MFA competition could threaten labor standards. The International Labour Organization (ILO) monitors garment factories around the world. According to a 2004 ILO report, "ensuring that working conditions and labor relations throughout the sector are generally acceptable is now, more than ever, of the utmost importance," referring to the elimination of quotas in 2005. The impact on jobs will be tremendous. Vertical manufacturing facilities could grow so large that they would employ 40,000 workers. More than 150,000 people in Latin America today earn a living making pants for the U.S. market. It is expected that the majority of those jobs will disappear as manufacturing shifts to Asia. In 2004, Honduran exports to the United States declined by 20.5 percent, and Turkey's declined 16.2 percent, while exports to the United States from South Korea rose by 20.3 percent, from Pakistan by 8.3 percent, and from Indonesia by 16.7 percent; China's shipments rose 20.26 percent a month. About half of the 500,000 jobs in the Central American region's 1,000 garment companies could vanish in the next five years.

Current Trends: Technology and Consolidation

Technology increasingly plays an important role in the apparel industry, and especially in the textile manufacturing process. In addition to supply-chain management technology, computerized design and production and radio-frequency identification (RFID) tags are now industry standards. Computer-aided design and computer-integrated design manufacturing (CAD/CAM) are used to digitize, record, and automate pattern production and sizing. The development and integration of 3D pattern-making tools allow designers to visualize the interaction between body form, garment shape, and fabric. Increasing global competi-

tion is forcing manufacturers around the world to look seriously at their methods of production in the quest for ways to rapidly turn out good quality merchandise. They seek flexible methods that will enable them to react to consumer demands and maintain low work-in-process (WIP) levels.

Within a few years, industry experts expect to see widespread use of RFID tags on high-value items where size and color choices add complexity to stock management, on items where counterfeiting is an issue, and for items that are a security risk. RFID was already in use in 2004 by retailers in the United States, Germany, and the United Kingdom such as Wal-Mart, Asda, Metro Group, Marks & Spencer, and Woolworths. Other uses for RFID include customer service. Prada, for example, tested RFID tags in its New York City boutique in 2003 for customer benefits, installing tag readers in fitting rooms so shoppers could check on related merchandise or alternate size availability from a self-serve kiosk rather than having to call an assistant. In the textile industry, innovations include infrared fabrics that improve circulation; stain-fighting, odor-fighting, and antimicrobial bacteria–resistant fabrics; fabrics that protect against ultraviolet light; automatic cutting machines, single-process seamless-garment knitting machines, and digital textile printing and computerized fabric printers; body scanning virtual measurement; and 3-D visualization technology.

In the United States, a number of large apparel firms were established as mergers, acquisitions, and consolidations rippled through the industry to produce multibrand marketing giants such as the VF Corporation, Kellwood, Warnaco, Liz Claiborne, Jones New York, and PVH. In Europe, similar trends produced LVMH and PPR, the luxury giants controlling many of the most well-known brands in luxury fashion and accessories. Expectations are for even more consolidation after 2005. This may result in greater industry unity, which has been lacking for more than a decade. Financing within the textile and apparel industries tends to be in-house or through traditional channels of commercial banking, with only a tiny fraction of firms becoming publicly listed. Even commercial bank financing is tricky. Banks have traditionally viewed the apparel sector as too risky, thereby imposing punitively high interest rates on companies that want to expand. The industry frequently finances internally with suppliers offering credit to buyers at all levels. Factoring (or selling at a discount to a third-party financial entity) of receivables is also common.

United States

The United States is the largest textile and apparel importer in the world, importing more than $77 billion worth of textiles and apparel in 2003, representing more than 90 percent of all clothing sold at retail in the country. Of that total, more than $61 billion was under quota. By 2004, U.S.-made apparel represented less than 10 percent of the clothing sold in the country. The U.S. textile and apparel industries have been hurt severely by increased competition, losing more than 740,000 jobs in the past ten years, with factories closing continuously. A number of textile firms filed for bankruptcy over this period, while hours worked fluctuated for those workers still employed. Meanwhile, retail employment grew as retailing dramatically expanded into what some have called "the over-storing of America." For example, department store employment in the United States, as of June 2004, totaled 1.6 million. After the remaining quotas are removed, the expectation is that there will be a wave of textile plant closures in the United States and that an estimated $42 billion in export orders from non-U.S. countries will shift to China. Currently, China supplies 16 percent of the U.S. market, but after quotas are eliminated, it is expected to supply 50 percent or more. India is expected to move from 4 percent to 15 percent, while the rest of the Americas drop from 16 percent to 5 percent. In cotton pants, for example, which represents 10 percent of the U.S. market, U.S. importers purchased from more than seventy

countries in 2003. This number is expected to drop to ten countries within five years.

U.S. officials have said they are committed to quota elimination. However, import restrictions under alternate mechanisms are likely. Under the terms of China's WTO entry agreement, China remains subject to temporary "safeguard quotas" that could cap its shipments up to 2008. Importing nations are allowed to place safeguard quotas on Chinese exports in specific categories where Chinese products cause market disruption. The one-year quotas can limit shipments in affected categories to no more than 7.5 percent above the previous year's level, and they can be renewed for as many as three years. In accordance with these guidelines, safeguard measures that were negotiated bilaterally between China and the United States in 1993 allow the United States to preserve its trade laws and to unilaterally impose temporary quota-like safeguard limitations lasting one year (renewable) on Chinese exports if requested to do so by U.S. industry. These safeguards can be used until the end of 2008, and under these provisions, China can only export goods at a level 7.5 percent higher than in the previous year. These safeguard limits could be imposed prior to the removal of the quotas. The relaxation of restrictions on some textile and apparel categories has already resulted in surges of 24,000 percent in imports from China to the United States. In 2003, as quotas for some products expired, U.S. safeguard measures were imposed for bras, dressing gowns, robes, and knit fabrics. Because only a low threshold of evidence was needed for the measures to prevail in these earlier cases, some analysts predict that safeguards will be used extensively after quotas are removed.

In August 2004, the Bush administration determined that the industry had the right to file petitions based on the threat of market disruption, rather than waiting for actual disruption to occur. A coalition of U.S. textile associations filed twelve "threat-based" safeguard petitions between October and December 2004 alone, covering U.S. imports from China of such items as cotton pants and trousers, cotton knit shirts and blouses, men's and boy's cotton and synthetic fiber shirts (not knit), synthetic fiber knit shirts and blouses, and synthetic fiber pants and trousers. Under the safeguard procedures, once petitions were filed the Committee for the Implementation of Textile Agreements (CITA), established in 1974, had fifteen days to decide whether it would accept them for review. Following that was a thirty-day public comment period. CITA then had sixty days to review the petitions and render a decision.

CITA manages bilateral and multilateral textile trade issues for the United States. It is a five-member interagency governmental body established in 1972, chaired by the Department of Commerce, and includes the Department of Treasury, the Department of Labor, the Department of State, and the chief textile negotiator of the Office of the U.S. Special Trade Representative. On December 1, 2004, a lawsuit was filed against CITA by the United States Association of Importers of Textiles and Apparel to try to block the U.S. government from taking safeguard action based on the threat of market disruption. The U.S. Court of International Trade issued a temporary injunction prohibiting the U.S. government from reviewing any new threat-based petitions. Importers, represented by USA-ITA, alleged that by considering the preemptive safeguard quotas CITA was endangering their livelihood and argued that there is no legal basis for safeguard petitions based on threat rather than actual damage.

Another important association, the American Apparel and Footwear Association (AAFA), has ardently supported free trade in textiles and apparel, arguing against safeguards, but has not taken legal action. Antidumping action is distinct from safeguard action and remains an option for the U.S. government regardless of the ultimate outcome of the CITA lawsuit. AAFA supports U.S. efforts to expand free trade agreements and has been a proponent of U.S. preferential trade legislation such as the Caribbean Basin Trade Partnership Act, the

African Growth Opportunity Act (AGOA), and the Andean Trade and Drug Eradication Act, all of which allow duty-free and quota-free entry into the United States of regionally made apparel produced using American fabrics, or third-country fabric under special circumstances.

The European Union

Although the U.S. market is larger in terms of sales, textiles and apparel are much more important in the European Union than in the United States in terms of share of industrial production and employment. The textile and apparel industries account for 4 percent of all EU manufacturing production and 7 percent of all manufacturing employment, at 2.5 million jobs. The EU was the world's largest exporter of textiles (not including clothing) in 2002, with a 15 percent share, and the world's second largest exporter of textile and apparel (combined), accounting for an 11 percent share, just behind China. In the same year, the EU imported textile and clothing goods worth some 71 billion euros, or around 20 percent of total world imports, second after the United States, which accounted for 24 percent of world imports. In 2003, more than 107,000 textile and apparel companies, mostly small and medium-sized enterprises averaging twenty-three employees (only 2,500 firms have 1,000 employees or more), comprised an annual turnover of approximately 190 billion euros. The EU has progressively liberalized textile and clothing imports (one-third are duty free), it has not imposed many quotas on less developed countries, and its imports under quota in the sector represent only 25 percent of total imports.

To prepare for the challenges faced by the textile and apparel industries, on October 29, 2003, the European Commission adopted a communication on "The Future of the Textiles and Clothing Sector in the Enlarged European Union." In order to follow up on the ideas and suggestions contained in this document, early in 2004 the commission set up a High Level Group on textiles and clothing. This commission comprises all stakeholders of the textiles and clothing industry and is composed of commissioners, representatives from governments of four EU member states, a member of the European Parliament, industrialists, retailers and distributors, European trade associations, trade unions, and local textile and clothing association representatives. Its mandate is to formulate recommendations on initiatives to improve conditions for the competitiveness of the European textile and clothing industry.

The group produced a report, "The Challenge of 2005—European Textiles and Clothing in a Quota Free Environment," on June 30, 2004. The report made several major recommendations, urging EU officials to complete the EU-Mediterranean free trade area and asserting that the EU should promote research and development in clothing technology, establish an action plan in respect to China, secure genuine market access to third-world countries, improve skills of workers, facilitate and protect intellectual property rights, simplify the internal regulatory framework, establish a monitoring system for imports from China, and look at the possible use of safeguards as a last resort. In addition, the commission proposed that the EU provide special structural funds (1 percent of the structural fund annual contribution for the "Convergence" objective and 3 percent of the "Regional Competitiveness and Employment" objective) in order "to cover unforeseen crises" and help the textiles industry restructure, modernize, and adjust to trade opening and to mitigate the socioeconomic impact on regions with a high concentration of textiles employment. In late 2004, Euratex, a lobby group of European textile manufacturers, applied to the European Commission for safeguard measures in five categories.

Canada

The Canadian apparel industry is the tenth largest manufacturing sector in Canada, with more than 79,000 employees working in 2,700 establishments. It accounts for 2 percent of Canada's total manufacturing GDP, 0.4 percent

of manufacturing investment, and 4.4 percent of total manufacturing employment. In 2003, the industry shipped some $4 billion of apparel in total, of which $2.7 billion (38.3 percent) was exported. Apparel aggregate shipments in 2003 recorded a decline of 6.3 percent from the previous year, with exports declining 11.9 percent, from $3.1 billion to $2.7 billion, and domestic shipments falling 2.5 percent, from $4.5 billion to $4.4 billion. Notwithstanding the year-to-year decline, in the seven-year period of 1996–2003, apparel aggregate shipments were 5.9 percent higher, having risen from $6.7 billion in 1996 to $7.1 billion in 2003.

As in other industrial countries, apparel manufacturers in Canada continue to lose market share to offshore suppliers. In 1996, domestic supply accounted for over 70 percent of the Canadian apparel market. By 2003, domestic producers accounted for only 41.7 percent. The continuing loss of market share by domestic manufacturers is being offset by apparel manufacturers' export-market development activity. Between 1996 and 2003, apparel exports increased 62.9 percent, rising from $1.7 billion to $2.7 billion. In this seven-year period, men's and boy's apparel exports rose 46.8 percent, from $514.2 million to $755 million; women's and girl's apparel exports rose 85.2 percent, from $540 million to $1 billion; and children's apparel exports rose 25.4 percent, from $9.6 million to $12.1 million. The United States, accounting for some 94.3 percent of Canadian apparel exports in 2003, continues to be Canada's main market. Canada nevertheless continues to carry an apparel trade deficit determined primarily by imports from low-wage countries, led by China, India, Mexico, and Bangladesh. In 2003, the aggregate textiles trade deficit rose to $3.4 billion, an increase of 12.3 percent from the previous year and 98.1 percent from seven years earlier.

China

China is the world's largest producer of textiles and apparel, which accounted for 10 percent of its manufacturing output in 2000 and 20 percent of its total exports in 2001. Reflecting the dominance of textiles and apparel for the Chinese economy, China is continually upgrading its production capacity in the sector. It was the world's largest investor in new spinning and weaving equipment during 1997–2001. China is highly price competitive, largely because of its large supply of low-cost labor, but is also considered to have effective middle management and the technical know-how to produce a wide range of sector goods.

According to the China National Textile Industry Council (CNTIC), the national federation of all textile-related industries in China, the sector comprises textiles, including knit apparel (62 percent of sector sales in 2002), woven apparel (31.5 percent), and synthetic fibers (6.5 percent). Official Chinese statistics for 2001 show that the sector comprised about 21,000 enterprises with total output of $116 billion and employment of 7.9 million workers, or 14.5 percent of Chinese industrial employment. However, sector production and employment levels are believed to be much higher, because the official statistics include data only for "statistically sizable enterprises" (SSEs), or firms having an annual output of more than 5 million *renminbi* (RMB, approximately $600,000). As such, the official statistics do not include data for the many small firms (mainly family-based production units) involved in production of sector goods in China. In 2002, CNTIC estimated that there were about 15 million workers in the Chinese textile and apparel sector, including both SSEs and smaller firms.

China is the world's largest exporter of textiles and apparel (combined), accounting for 16 percent of the total in 2001, and is expected to become the "supplier of choice" for many U.S. importers following quota elimination in 2005 because of its ability to produce almost any type of textile and apparel article at any quality level at a competitive price. Chinese apparel is sold at all price levels and in all types of stores, ranging from low end discount stores to specialty and department stores. However, many U.S. importers have said that the uncer-

tainty over whether safeguards (quotas) will be placed on U.S. textile and apparel imports from China likely will temper growth in sourcing from China, at least in the early years following quota elimination (see section on the "United States" above for information on the China textile safeguards). China is able to compete based not only on price, but also based on its industry-wide ability to respond rapidly and reliably, its business-like attitude and excellent understanding of customer demand. China offers internal and external economies of scale—not the cheapest wages, but the highest productivity.

The obstacles to Chinese success stem from the fact that, according to the terms of China's WTO accession agreement, other countries could reimpose quotas on Chinese exports until 2008. Moreover, antidumping measures could be applied as well. Furthermore, protectionist lobbies could use eco-labeling schemes and other regulatory devices to keep out Chinese imports. An additional problem for China is its lack of raw materials, particularly cotton. There is some speculation that reduced prices could be offset by a rise in the cost of raw materials, which China will increasingly have to import.

By September 2004, China's share of the U.S. market was 23.2 percent and far ahead of the second largest supplier, Mexico, with 9 percent. China continues to gain every month (outpacing other sources) in products no longer under the quota. Industry analysts predict that megafactories in China will dwarf anything found in Latin America. China's efficiencies of size, lower cost, and cheap credit are expected to push prices down further, and by 2010 China could supply more than 80 percent of all U.S. clothing and 50 percent of the world market. China has made major investments in infrastructure and has been building apparel-manufacturing capacity at a very rapid rate.

According to Wilbur Ross, chairman of the International Textile Group (ITG) based in Greensboro, North Carolina, "There is a tremendous amount of unused capacity in the Chinese mills. Many of them seem to have operating rates at only about 50 percent of capacity." This observation suggests that China is reacting to potential safeguards that could limit growth to 7.5 percent each year through 2009, according to Ross. "It's likely that their real strategy is to have this huge capacity built up and throw in as much as they can right at the bell starting 1/1/05—so when the President finally puts in the safeguards, the base to which they are applied will be bigger and they [the safeguards] won't be particularly meaningful" (Kusterbeck 2004, 5). Some related sectors and subsectors are likely to benefit from China's rise as a textile and apparel powerhouse. For example, China is the number one importer of U.S. cotton, and increasingly, affluent Chinese consumers have demonstrated a strong preference for garments made outside of China. For this group of consumers, luxury items from the United States and the European Union that reflect status, craftsmanship, and quality are becoming more popular.

In late December 2004, China announced plans to impose export taxes on 148 categories of textiles and apparel beginning January 1, 2005, in an effort to control its exports of those products as the world liberalized trade in textiles and apparel. The export duties ranged from 2.4 cents to 3.6 cents per piece or per set of clothing and 6 cents per kilogram for parts or accessories. Observers speculated that the surprising move had a dual purpose of assuaging global fears of China dominating apparel production and allowing the Chinese government to recoup a portion of the revenue it would lose from quota allocation fees as the quota system ended. Others believed the move was intended to stem U.S. and EU safeguard actions.

ASEAN

The countries of the Association of Southeast Asian Nations (ASEAN) expanded their exports of textiles and apparel by 17 percent during 1997–2001 to $26 billion. Three-fourths of the exports in 2001 came from Indonesia, Thailand, Malaysia, and the Philippines. Most

ASEAN countries benefit from low labor costs, established textile manufacturing infrastructures and export markets, and access to many raw materials. The elimination of quotas in 2005 likely will intensify competition for ASEAN countries in their home and export markets, particularly from China. Two of the world's fastest-growing exporters of textiles and apparel, Vietnam and Cambodia, are ASEAN countries. Neither is a member of the World Trade Organization, and as such, the countries are ineligible for quota liberalization under the WTO Agreement on Textiles and Clothing. Vietnam and Cambodia have greatly expanded their exports of apparel to the United States in recent years, leading to the establishment of U.S. quotas on their apparel shipments. This, however, has not stopped dramatic growth. Approximately 70 percent of all growth in apparel imports to the United States in 2002 came from China and Vietnam. Vietnam had almost no apparel or textile trade with the United States until 2001. In 2002, Vietnam was the second largest supplier, behind Mexico, despite Mexico's tariff-free status under the North American Free Trade Agreement (NAFTA).

India and South Asia

The textile and apparel sector remains the primary engine for economic growth in South Asia, an area that includes Bangladesh, India, Pakistan, and Sri Lanka. For each of these countries, the textile and apparel sector accounts for a significant portion of traded goods, contributing between 25 percent (India) and 86 percent (Bangladesh) of the total value of exports in 2001. South Asian countries are highly dependent on the sector for both jobs and export earnings.

The textile and apparel sectors in Bangladesh, India, Pakistan, and Sri Lanka exhibit different degrees of specialization. Firms in Pakistan specialize in cotton textile intermediate goods (yarn and grey fabric), as well as towels and bed linens, whereas firms in Bangladesh and Sri Lanka remain export-oriented apparel producers and are dependent on imported inputs such as yarn and fabric to augment local textile production. India has developed a highly complex sector covering the entire value and production chain from fiber production to garment manufacture and packaging. Firms in South Asia generally are not vertically integrated and, for the most part, are independent, privately owned small and medium-sized firms. Textile and apparel exports from South Asian countries rose during 1997–2001. Total Bangladeshi exports increased from $3.9 billion in 1997 to $5.5 billion in 2001; almost all of the increase was in exports of apparel products to U.S. and EU markets.

India is positioned to become a superpower of apparel manufacturing in 2005. Its clothing and textile industry is preparing for quota removal by investing to expand capacity. Potential problems, however, are that current Indian labor laws make it easier to manage smaller separate factories than one large factory. India has good design, availability of raw materials, low-cost labor, and the English language, and its legal system provides protection for workers rights. Worldwide, India exports about $6 billion worth of apparel each year, slightly more than half of which has gone to the United States. Problems include poor infrastructure (especially access to port facilities and electricity), poor roads, high-cost power, low productivity, random strikes, and corruption.

Bangladesh is leading the movement among developing countries seeking to halt the quota phase-out. It sent a letter to the WTO in July 2004 asking to extend the quotas beyond the end of the year and calling on developed countries to extend special duty-free treatment toward developing countries' exports. This proposal lacked support among key WTO members. It is expected that when the quotas are removed, Bangladesh will lose 40 percent of its exports. The fear is that the result will be high unemployment and social disruption as women who were formerly in the apparel industry will turn to prostitution. The main problem is that Bangladesh produces few textiles and as a result has to import most textiles

used in its apparel exports. Additionally, the infrastructure is poor and results in slow deliveries, which is not good in a fast-paced apparel industry. As of July 2004, Bangladesh's government had no plan in place to stem the potentially devastating effect of quota elimination.

Central America and the Caribbean Basin

Though comparatively few textiles are produced in the region, Central America and the Caribbean are major apparel producers and highly dependent on apparel production. Major apparel producers in the area include Costa Rica, the Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Jamaica, and Nicaragua. The region maintains a special relationship with the United States based on historical ties, geographic proximity, and special preferences granted by U.S. trade legislation. U.S. imports of textiles and apparel from beneficiary countries under the 1983 Caribbean Basin Economic Recovery Act (CBERA) and the subsequent Caribbean Basin Trade Partnership Act (CBTPA), which covered the island nations of the Caribbean and the nations of Central America, have grown sixfold since 1986, when the United States liberalized apparel quotas for the region, reaching 3.7 billion square meters equivalent (SMEs), valued at $9.5 billion, in 2002. The growth in such imports, which consisted almost entirely of apparel, largely reflected the expanded use of production-sharing operations in the region by U.S. apparel producers. In addition, firms based in Korea and Taiwan have made significant investments in Caribbean and Central American apparel production. Apparel is still the largest import from the region, representing 45 percent of total regional shipments in 2002. In October 2002, the United States announced its intent to enter into negotiations on a proposed free-trade agreement with Central America and the Dominican Republic. On August 2, 2005, President Bush signed the CAFTA-DR agreement.

It is estimated that Central America will lose $6.2 billion in export orders to China, which represents a 90 percent net loss in market share over the phase out. To compete with China, nations such as Honduras have worked to consolidate their supply chain, investing heavily in capital, such as cutting, spreading, embroidery, and screen-printing operations. These firms are attempting to offer full-package programs to form a vertical supply chain. Additionally, the industry is working cooperatively to form external economies of scale through the sharing of mutual experience, technology, and expertise. There are also efforts under way to designate some locations in the region as official U.S. Customs ports so that exports destined for the United States can clear customs before actual shipment.

In Honduras, the expectation is that companies already vertically integrated will continue to stay in business, especially those with links to foreign producers, but the prospects for small and medium-sized enterprises are not hopeful. The result could be devastating for national employment. In Honduras, the apparel sector employs 114,000 people, or 30 percent of the country's total formal industrial employment, with an average wage of about $3,500 per year—or more than four times the national average. Some hope that a mix of flexibility and speed (two days to Miami as opposed to two weeks from China) will enable the region's apparel industry to withstand the expected flood of cheaper apparel from China and other parts of Asia. Central America's position is based on its reputation as a fast turnaround producer and quick-response exporter. The largest Latin American apparel producers are investing heavily to overhaul their operations in a bid to survive. Apparel makers in Central America are heavily dependent on fabric imported from the United States, Asia, or elsewhere, with local textile makers supplying only an estimated 10 percent of the fabric used in the region.

Mexico

In 2004, the Mexican textile and apparel sector accounted for about 1.2 percent of Mexico's GDP, 7 percent of manufacturing GDP, and 18

percent of all manufacturing employment, making it Mexico's largest industrial employer, with 11,000 apparel firms and 2,000 textile firms. Many in Mexico have done little to adapt to the MFA phase-out. Mexico became the largest foreign supplier of textiles and apparel to the United States in the late 1980s and early 1990s. In 2002, however, it was surpassed by China as the largest foreign supplier, largely reflecting the effects of the appreciation of the peso and the acceleration of imports from China in quota-free product categories. The sector accounted for only 2.4 percent of foreign direct investment (FDI) in the manufacturing sector. The U.S. market accounted for 95 percent ($9.6 billion) of Mexico's textile and apparel exports in 2001.

Mexico is facing growing competition in the U.S. textile and apparel market from lower-cost countries in Asia and the Caribbean Basin, and the recent appreciation of its currency is effectively reducing the price competitiveness of its textile and apparel products. A large part of the increased competition for Mexico in the U.S. market reflects the entrance of China into the WTO, which resulted in the elimination of certain quotas on Chinese exports to North American markets, and implementation of U.S. trade preferences for certain textile and apparel products from Caribbean Basin and sub-Saharan African countries. According to Mexican industry consultants, to remain a major supplier of textiles and apparel to the United States, Mexican firms will have to continue their efforts to shift production from low-value-added basic garments to more "full-package" and technology-intensive products.

According to one U.S. apparel retailer, Mexican apparel producers, faced with increasing competitive pressure from countries such as China, will need to focus more on higher fashion, brand-name products that require smaller and more flexible runs. The Mexican textile and apparel sector comprised 14,000 firms and employed 909,000 workers in 2001. The sector can be divided into three distinct segments: apparel firms, *maquila* (maquilas or maquiladoras are manufacturing or export assembly plants in northern Mexico, producing parts and products for the United States establishments), and textile producers. Apparel firms constitute the largest share of the sector (79 percent, or 11,076 firms). Maquilas produce mostly garments for export. In 2001, there were 860 maquilas (6 percent) and 2,100 textile producers (15 percent). Nearly 98 percent of Mexican firms are considered small to medium sized (averaging forty-four employees per plant), and 2 percent of the firms are large apparel firms. Most apparel firms are family owned and managed, and they are largely subcontractors that do cut-and-sew operations. The Mexican apparel industry produces primarily basic garments, particularly five-pocket denim jeans and knit tops (such as T-shirts), mainly for export to the United States. NAFTA preferences apply to products made in North America from the yarn stage forward (the "yarn forward" rule). Mexican textile producers have not always provided consistent quality in fabric production, particularly in the finishing processes.

Turkey

Turkey ranks among the world's largest exporters of textiles and apparel, and the textile and apparel industry is the country's largest industrial sector, with 10 percent of its GDP and 21 percent of industrial output and total employment. The textile and apparel sector is also its largest source of export earnings, accounting for 33 percent of the total in 2001. Since implementation of the EU-Turkey customs union agreement in 1996, Turkey has benefited from duty-free and quota-free access to the EU textile and apparel market. It has a modern and diverse textile and apparel infrastructure, with production capacity in all sectors of the supply chain, and a relatively flexible, low-cost, and highly skilled workforce. Turkey's strategic geographical location between Europe and Asia enables Turkish producers to ship goods to both markets quickly, and at reduced shipping costs. Flexible manufacturing also results in

shorter lead times and the ability to increase production runs quickly.

In December 2004, Turkey decided to impose textile quotas limiting imports from China to an annual increase of only 7.5 percent for one year in forty-two categories to protect its large domestic industry from Chinese imports expected to surge in 2005. The first country to unilaterally impose quotas in the wake of apparel and textile trade liberalization, Turkey announced that booming imports from China threatened fair trade, would drive down prices, and would squeeze out local manufacturers. The move followed China's voluntary imposition of an export tax. The Istanbul Ready-Made Garment Exporters Association called on the EU to impose similar quotas.

Africa

Sub-Saharan Africa (SSA) is a relatively small supplier of textiles and apparel to the global market, accounting for less than 1 percent of world exports in 2001. However, SSA textile and apparel exports have been growing in recent years, particularly to the United States, largely reflecting duty-free and quota-free access to the U.S. market under the provisions of the African Growth and Opportunity Act (AGOA). SSA production and exports tend to be concentrated in a few countries, particularly Mauritius, Madagascar, South Africa, Lesotho, and Kenya. Swaziland has recently increased production and exports, and other countries, such as Namibia, are in the process of making investments in new production to take advantage of AGOA eligibility. The majority of SSA-sector production and exports consists of apparel (not textiles). In 2002, U.S. textile and apparel imports from SSA consisted almost entirely of apparel. South Africa and Mauritius are the only SSA countries with an established textile sector. South Africa is the largest SSA exporter of textiles. Its principal markets include the European Union, the United States, and other African countries. Other countries with textile capacity include Madagascar, which has a fully integrated supply chain for producing trousers from heavyweight fabrics, and Zambia, which exports cotton yarn to other SSA countries.

The textile and apparel sector in South Africa has been undergoing restructuring since international anti-apartheid trade sanctions were lifted in the early 1990s. In 2001, the sector accounted for 1.2 percent of the country's GDP (down from 1.5 percent in 1997). It constituted the second-largest source of government revenue (after the mining sector) and ranked as the sixth largest source of manufacturing employment, with 15 percent of the total. Textiles and apparel accounted for 2 percent, or $471 million, of South Africa's total exports in 2001. The South African government has encouraged foreign direct investment by allowing 100 percent foreign ownership, eliminating foreign exchange controls, and extending tax allowances to foreign firms, among other investment-sector promotion activities. Although some foreign investors have found the lower wages in other SSA countries more attractive, others have found that South Africa's more developed export infrastructure and the availability of more highly skilled labor offset some of the country's additional production costs.

South Africa benefits from AGOA preferences, but it is ineligible for AGOA preferential treatment for apparel made from "third-country" fabrics or yarns (other than of U.S. or SSA origin). The textile and apparel sector in South Africa is vertically integrated from the production of natural fibers (such as cotton and wool) and synthetic fibers (such as polyester) through the manufacture of intermediate inputs (mainly yarns and fabrics) to the production of finished goods, including apparel, home textiles, and industrial textiles. The sector benefits from South Africa having the most advanced transportation, telecommunications, and utilities infrastructure in SSA. South Africa's geographic location provides ready access for imports of raw materials from neighboring countries and ocean access to foreign markets. During 1997–2001, employment declined by 30 percent in the textile industry (excluding knitting mills), to 53,372 workers, and by 42 percent

in the knitting mill segment, to 10,701 workers. Employment in the apparel industry fluctuated within a narrow range during 1997–2001, totaling about 122,500 workers in 2001.

Conclusion

The elimination of quotas will have a massive global impact, including the emergence of new manufacturers and low-cost production areas, the slashing of margins among existing producers, tumbling prices, and importers driving decisions. The results should be lower clothing prices for consumers, further consolidation within the apparel industry, stronger competition among suppliers, and expansion of vertical manufacturing. The dramatic global restructuring of apparel manufacturing will also impact employment, exports, and income for many countries and may threaten social disruption for some.

Anastasia Xenias

See Also Nontariff Barriers; Protectionism

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Transport: Airlines, Railroads, and Shipping

Industry Characteristics

Transportation is an ever-expanding global industry with the main goals of moving people and goods, locally and abroad, through the supply chain by using a system of interconnected public and private roads, airports, railroads, terminals, seaports, and waterways. Transport modes, including airplanes, ships, rail, and trucks, transfer raw materials, commercial goods, and consumer products to wholesalers, retailers, and end users over long distances, between nations and continents, or for shorter hauls through intermodal facilities. Aviation and maritime segments mainly focus on international freight transport, whereas trucking and rail segments are highly capable in shorter shipments connecting long-haul movements with local points of origin or destination.

Most international deliveries involve the transfer of goods and passengers from origin to destination using more than one mode of transport, known as intermodal transport. Efficient intermodal facilities have the ability to switch transport modes securely and reliably while modifying accordingly as transport demand grows or retracts. Transportation also enhances the process of globalization, expands trade growth, and advances world economies by employing workers, amassing revenues, and consuming resources and services generated across multiple sectors within the economy.

Globalization and Transport

Globalization transforms the international and domestic transportation industries by redefining the standard for cargo and passenger movements and creating a rapid evolution within the industry to meet progressive demand for goods in the world market. Transport companies are altering their operation methods, implementing new organization techniques, utilizing recent technology, improving customer service, and expanding geographic reach to meet this additional demand.

For example, air cargo carriers are ensuring speedy delivery times so that customers can maintain slim just-in-time (JIT) inventory systems; trucking and rail companies are installing navigation and positioning systems that will track and report more complete and accurate information on shipments and equipment; and ocean transport firms are focusing on containerization to increase delivery times on intermodal transport. Other factors that impact the transportation revolution include economic factors; government involvement; competitive pressures; transport costs; vehicle, equipment, and infrastructure availability; la-

bor skill and productivity; technology; and environmental and safety issues.

Economic Factors

Economic trends and events directly affect the performance of and govern the demand for freight transportation services, causing international transport companies to be subject to fluctuations in the world economy. Economic expansion results in volume increases in demand for goods and services, whereas economic contractions yield demand reductions. Currency variations and exchange rates produce substantial gains or losses that impact shipping costs and affect management decisions. Changes in global industry production and operations techniques, such as the use of the JIT inventory system, alter the frequency of deliveries and shipment size. Also, the overall economic condition designates the buying and purchasing power of populations, determining the types and values of commodities produced and consumed and the volume of goods that shippers will carry.

Unforeseeable economic events and other global concerns impact the health and welfare of the transport industry. Such events include the 1997 Asian financial crisis and various recessions; the September 11, 2001, terrorist attacks; outbreaks of disease, such as Sudden Acute Respiratory Syndrome (SARS); the West Coast Port Shutdown in the United States in October 2002; and the continued instability of the Middle East. The Asian financial crisis placed a heavy toll on the transportation industry, especially marine shipping, because of the imbalance of trade between Asia, Europe, and the United States that occurred as a result of a depreciation in Asian currency. Marine shipping revenue was mainly affected by the decrease in demand for Asian trade, forcing marine shipping companies to reposition containers, modify schedules, and incur operating costs. The Asian crisis also created capacity issues for many carriers because companies lacked the capital to invest in fleet expansion.

The 9/11 terrorist attacks led to implementation of new security laws and techniques but also caused delayed shipments, increased costs, and decreased shipping volumes within the transport industry. The U.S. West Coast Port Shutdown froze the global supply chain and ocean carriers' ability to deliver services as U.S. dockworkers went on strike. During 2003, SARS created a wave of panic among shippers impacting operational aspects, supply and demand for goods, and trade between countries. Transport carriers faced new regulations at seaports and airports, health checks, and increased waiting times, along with large fines for noncompliance. Finally, the ongoing friction in the Middle East causes significant impact on fuel supply and great fluctuations in the cost of fuel, decreasing carrier operating profits and shipping performance. These problems may cause either an increase in the freight rate to customers, leading to the decline of demand for shipping transport, or a decrease in profit, when the rate remains constant.

Government and Industry Involvement

Multiple political and governmental factors, such as transportation operating agreements, carrier-shipper alliances, and taxes, influence the transport trade environment by influencing global production and distribution. International trade agreements such as the European Union, the Association of Southeast Asian Nations (ASEAN) Free Trade Area (AFTA), and the North American Free Trade Agreement (NAFTA), create regional trading blocs that drive the global marketplace. These blocs were established to lower total distribution and logistics costs for exporting companies through reduced and eliminated tariffs. The regional trading blocs and international trade agree-

ments shape carrier decisions on volume, trade routes, and frequency of shipping. Nations within these regional trading blocs, seeking to create opportunities and economic growth, negotiate bilateral and multilateral international transportation agreements. International ocean shipping is usually free from route restrictions, but carrier conferences and cargo preferences influence rates and services in major markets. Other types of transportation agreements within the transport environment include intermodal operating agreements and carrier-shipper alliances. With transportation carriers becoming increasingly multimodal, there is a need to build cooperative relationships between carrier modes. Intermodal operating agreements combine the services of rail, truck, and water; allow carriers to offer a broader range of services; and tailor service packages for individual shippers, thus lowering costs and increasing levels of service for freight transportation. Shippers and carriers are also entering into partnerships to ensure better, faster, and more reliable transportation services. These carrier-shipper alliances focus on arranging, managing, and monitoring shipments. Transport companies understand the benefits these alliances can have, such as lower logistics costs per unit of commodity, higher reliability of on-time delivery, and lower probability of loss or damage claim.

Competitive Pressures

Transport firms must adjust shipping practices to meet customer needs for varied and timely shipment deliveries, or be subject to competition from other modes of transport more capable of accommodating service needs. Each transportation mode specializes in certain market areas segmented by product type, length of haul, and speed of delivery, but in some instances overlapping competition can occur between modes. Railroads and trucking companies compete for short movements of bulk commodities and for medium- to long-distance movements for general merchandise.

Competition is escalating between less-than-truckload (LTL) motor carriers and air cargo companies. LTL firms now aggressively pursue time-sensitive freight mainly transported by air carriers, and air carriers assume ground shipment responsibilities usually tackled by motor carriers. United Parcel Service (UPS), a major competitor in the trucking industry, recently acquired Fritz Companies and Menlo Worldwide Forwarding, both of which specialize in freight forwarding, customs brokerage, and logistics. UPS can now offer customers a combination of transport services ranging from road transport and airfreight forwarding to ocean shipping and international trade management services.

Transport Cost

Shippers want to minimize costs associated with transport and logistics, including the major components of fuel, weather, labor, and equipment. Cargo carriers operating their own vehicles have a high sensitivity to fuel cost. In many cases, carriers include rate hikes or fluctuating surcharges in customer contracts to reduce the impact of fuel costs. Severe weather patterns impact all modes of commercial transportation by delaying shipments, lengthening travel time, and contributing to greater labor, maintenance, and fuel costs. Rain and fog create additional costs and diminish productivity by delaying air-carrier schedules or by forcing truckers to decrease driving speeds. Railroads also use financial resources to have snow removed from tracks, delaying service, but railroad companies are most exposed to high costs by floods, which damage infrastructure, necessitating repairs that must take place before service can be resumed.

Vehicle, Equipment, and Infrastructure Availability

Many transportation firms allocate a majority of their revenue to support, maintain, and up-

date vehicle fleets, equipment, infrastructure, and facilities. These financial investments are necessary to enhance the quality and condition of current international transport systems, keep systems running efficiently, and reduce problems such as infrastructure overcapacity, pollution, safety concerns, and labor conflicts. For example, the marine shipping industry is strongly dependent on efficient intermodal transport facilities for retrieval and distribution of goods, thus demanding a fixed infrastructure of road, rail, and terminal access. Ports, which provide the infrastructure for marine carriers, invest in berth and cargo space, storage, stevedoring, fueling, and loading facilities to combat capacity constraints and maintain system fluidity.

Railroads outlay large dollar amounts to purchase, build, repair, and maintain track, signals, and terminals. New entrants to the rail industry have to privately purchase track and undeveloped land in which to place the track; indeed, these high infrastructure costs may present a barrier to entry. Trucking companies and integrated air carriers face substantial asset-related costs involving fleet numbers, terminal facilities, and equipment repair shops as well as costly equipment expenditures related to fleets of ground delivery equipment, which, again, may discourage some investment in these industries.

Labor Productivity and Skill

It is essential that the transport employment environment have a highly skilled and capable workforce that understands the business and can meet fast-changing transportation needs. Today's transport employees need a diversified set of skills ranging from technological and computer skills to management and fiscal knowledge. The transport arena has become more specialized, and knowledge of policy writing, environmental impacts, energy needs, and transportation, in regards to urban structure and economic development, are increasingly important. With the emergence of new technologies applicable to the industry, especially related to safety and security, workers need to update their skills to maintain system efficiency.

Challenges within the transport employment environment are tighter labor markets, rising labor costs, and occasional labor disturbances. Demographics and geographic regions challenge labor markets to maintain a qualified workforce at all levels within the industry. For example, rural economies with lower populations are deficient in specialized workers, such as planners and engineers, and for more populated urban areas with high-tech economies, those who can construct, operate, and maintain transport infrastructure are desired. Once an appropriate level of employment is achieved, that staff must be accurately managed. The less-than-truckload carriers, constituting a highly labor-intensive segment of freight transport, manually collect packages and consolidate these packages onto larger vehicles for distribution.

Solid management skills and large outlays of financial resources are required to integrate and maintain such a large sales staff and to handle crew and equipment and facilities maintenance personnel. Maintenance of labor pools is important, and labor disturbances may occur if a steady integration and communication is not upheld. In 2003, then again in 2004, the ports of Los Angeles and Long Beach were failing to accommodate an influx of container imports owing to a lack of dockworkers, resulting in prolonged and financially draining port lockouts as ocean carriers and port administrators battled with longshoremen over labor issues.

Impact of Technology

Technology continues to evolve and improve transportation with advances in equipment and information systems. Examples include containerization, double-stack technology, automation, robotics, handling systems, electronic data interchange (EDI), automated

equipment identification (AEI), applications of Intelligent Transportation Systems (ITS) to commercial vehicle operations, global positioning systems, and cargo routing and tracking systems. These new advances affect carriers by altering transportation type and size, the weight of commodities, methods of production and distribution, and associated costs. Many of the technologies enable significant increases in productivity to occur but require a significant financial investment.

Environmental and Safety Issues

Transportation is often connected with environmental difficulties related to air, water, and noise pollution as well as energy and natural resource consumption. Environmentalists and governments are concerned that unfavorable environmental consequences, such as pollution and congestion, create individual health problems and ecological damage; therefore, new restrictions are placed on transport carriers to reduce negative outcomes. Transport firms are concerned that these restrictions, which affect the choice of routes, vehicle usage, and delivery times, will significantly increase freight transport cost. For example, the trucking industry has been accused of straining the world energy supply through large engine fuel consumption, of contributing to congestion, of slowing down travel times for everyone, and of causing air pollution due to high levels of emissions released into the environment by idling vehicles. Governments now require emission-control devices in transport vehicles, restrict vehicle size and weight, and control fuel components, thereby improving efficiency, safety, and quality of life.

As major priorities in the transport system, safety and security issues have led to the introduction of new regulations, technologies, and security practices across all modes. Traffic safety laws are of greater importance today than in the past because large trucks now share the road with more cars, resulting in collisions. Overcrowding at transport facilities has made vehicle operation more dangerous, especially at airports and railroads with increased volumes of business.

Major Trends in Transport

Globalization has revolutionized the transportation industry's continuous goal of improving speed, service, and flexibility by bringing opportunities to all transport modes through increased demand, enhanced competition from a greater number of entrants, improved international networks, and updated innovations.

Air Transport

The global air transportation industry focuses on the movement of passengers and freight worldwide using many types of aircraft, ranging from single-engine planes to multi-engine airliners. This industry, composed of multiple players, including air carriers, express companies, forwarders, and passenger airlines with freight-carrying ability, concentrates on shipping high-value and time-sensitive goods across great distances while extending an arm into the acquisition and operation of ground transport equipment and facilities.

Demand for air transport is on the rise, recovering from market tremors of the past decade, which had a negative impact on growth and passenger volume, placing several major airlines in financial trouble. According to the International Air Transport Association (IATA), an industry trade group, demand for international air cargo services from Asia, Europe, and the Middle East will increase revenues within the industry. The fastest growing airfreight trade region with the United States is Asia, supported by exports from China. Major industry players, such as FedEx, UPS, and Emery Worldwide, have taken advantage of this growing market, increasing competition along with their presence in the region. Smaller shippers may have difficulty entering this market owing to anticompetitive practices regarding

Table 1: Air Carriers and Air Express Carriers, 2004

Air Carriers	
Company	*2004 Revenue (in U.S. dollars)*
Lufthansa	$24.31 billion
KLM	$7,154.10 million
Singapore Airlines	$5,795.6 million
Korean Air	$5,170.30 million

Air Express Carriers	
Company	*2004 Revenue (in U.S. dollars)*
FedEx Express	$2.869 billion
UPS Airlines	N/A
Menlo WorldWide	$2.89 billion
EGL Inc.	$2.53 billion
ABX Air Inc.	$1.20 billion

international traffic rights that favor certain carriers, introducing a competitive advantage.

Currently, Lufthansa Cargo is the world's largest airfreight carrier, followed by Korean Air and Singapore Airlines. In the United States, FedEx and UPS are the major carriers of air express packages, and Emery Worldwide and BAX global handle heavy cargo.

Industry regulations try to reduce anticompetitive practices by overseeing traffic rights and Air Service Agreements (ASAs), airport and landing slots, and environmental and security standards. These regulations, imposed by national and international organizations such as the U.S. Federal Aviation Administration and the United Nations International Civil Aviation Organization, often act as barriers to entry or hinder daily operations. As a trend toward deregulation spreads through air travel and freight markets, new entrants become aware of the benefits within the consumer, business, and tourism industries, thus increasing competition among airlines. Deregulation and increased competition have introduced global air transport networks and lenient ASAs, known as Open Skies agreements, resulting in lower rates, new service routes, and job creation. Open Skies agreements are multilateral agreements between countries that allow passenger demand and market conditions to set landing and departure schedules, rather than government regulations. Airlines have also formed international networks through the creation of alliances, resulting in improved efficiency by way of better customer connection to the global marketplace and a wider range of low-cost transport-service choices.

Technological innovations are being created to meet the needs of this rapidly integrating segment of the transport industry. Developments in telecommunications, e-commerce, customs, and delivery services have changed traditional airline services by providing travel information, ticket sales, Internet check-in, automatic paging, and onboard Internet access as well as by establishing an infrastructure to order, ship, track, and deliver goods to customers. Advances in safety, security, and environmental protection systems have also become a high priority within the industry. With innovations constantly changing, the air employment environment must also change to keep up with new systems. Job opportunities will increase as passenger and cargo traffic expand in response to increases in population, income, and business activity. Positions as pilots, flight attendants, baggage handlers, aircraft and avionics equipment mechanics, and computer and service technicians are seen as growth opportunities, and applicants with a college degree, technician training, and flying experience will be in demand.

Marine Transport

The marine freight shipping industry transports large amounts of deferrable, lower value goods across oceans using commodity-specific vessels. Ocean carriers are segregated into classes of bulk, specialized, and general cargo carriers. Bulk carrier vessels are designed to deliver large shipments of a single commodity. The commodities fall into three categories: dry bulk, liquid bulk, and specialist bulk. Dry bulk products include iron ore, coal, grain, phosphates, and bauxite as well as steel products, cement, gypsum, sugar, salt, and forest products. Major liquid bulk products are oil and liquid chemicals. Specialized bulk commodities include motor vehicles, refrigerated cargo, and cargo with specific handling instructions. General cargo and containership lines concentrate on the smaller shipments of manufactured or intermediate goods, such as electronics and textiles, but have the ability to carry small amounts of grain and liquid chemicals.

Since 1956, containerization within the international transport industry has led to considerable improvements in economic efficiency. The use of standardized containers, with common unit measures of usually twenty and forty feet, eases cargo movement between modes. Steamship lines and railways have encountered the benefits of standardized containers and, in turn, have designed large-scale container ships and double-stack container train cars to profit from these benefits. These innovations have heightened competition, reduced costs, and lowered international freight rates.

Along with constructing larger vessels, ocean carrier companies are gaining bargaining power, reliability, and profitability through mergers, alliances, and partnerships. Recent acquisitions in the industry have been by foreign companies purchasing U.S. carriers, which has led to the reorganization of major players in the industry. For example, Neptune Orient Lines purchased American President Lines; Maersk took over Sealand Service; and certain Crowly operations were bought by Hamburg-Sud.

Ocean transport demand was traditionally characterized by seasonal demand cycles, with volumes continually surging upward in the months from September through November and declining to previous levels as demand slowed during the beginning months of the year. But with a heavy influx of exports from China, ports are seeing major increases in container volumes throughout all months of the year. This increased volume has created problems of congestion and capacity strain at current port facilities, leading to delays in shipments, escalating rates, and soaring storage fees. As importers, such as major industry players Maersk Sealand and P&O Nedlloyd, became frustrated with delivery delays, they sought different options, including alternative routes and vessel deployments, to reduce capacity constraints and congestion. The idea of port diversion bloomed during the port lockouts in 2003, and shippers jumped at the chance to alter routes through the Panama Canal to the Gulf Coast. Even with the labor dispute solved, many shipping companies continued to divert cargo and are now better able to handle congestion. Panama Canal operators have seen the jump in demand and are developing infrastructure and management techniques to cope with the change.

Maersk Sealand, Hanjin Shipping, and Evergreen Line are the world's largest container shipping lines, according to Port Import Export Reporting Services. In the container shipping business, the top twenty carriers account for 82.3 percent of the worldwide TEU capacity.

Rail Transport

Railroads move large quantities of goods and passengers long distances over land, specializing in the movement of low-value bulk goods such as coal, ores, chemicals, and forest products. Railroads are also seen as a complement transport type linking water, land, and air-based modes. Rail transportation has embraced globalization and has since seen ascending productivity through technological advances, larger capacity equipment, and al-

Table 2: U.S. Waterborne Foreign Trade, Containerized Cargo, Top Twenty Shipping Lines, 2003 (in thousands of twenty-foot equivalent units [TEUs])

Shipping Lines	*Export*	*Import*	*Total*
Maersk Sealand	940	1,802	2,742
Hanjin Shipping Col. Ltd	442	953	1,395
Evergreen Line	405	966	1,371
American President Lines	408	934	1,342
Mediterranean Shipping Company	402	609	1.011
P&O Nedlloyd	328	616	943
Orient Overseas Container Line	301	595	869
China Ocean Shipping	251	594	845
NYK Line	249	594	836
Hapag Lloyd	325	494	819
Hyundai	274	536	810
K Line	249	532	781
Yang Ming Line	267	459	726
MOL	191	377	568
Zim Container	183	339	522
China Shipping Container Line	110	383	493
CMA-CGM The French Line	106	307	413
Lykes	184	191	375
Lloyd Triestino	87	254	341
Dole Fresh Fruit Co	50	239	289
Top 20 Shipping Lines	5,752	11,774	17,525
Grand Total	7,389	13,899	21,289
Top 20 Shipping Lines as a % of Grand Total	77.9%	84.7%	82.3%

Source: Port Import/Export Reporting Services (PIERS)

liances between rail, maritime, and road transportation.

Strong freight demand and a tight trucking capacity benefit rail volumes and prices. Coal shipments are the main driver of railroads, but intermodal container traffic is the fastest-growing segment of the railroad freight industry, fueled by growth of imports and exports. The intermodal transport of goods is growing, mainly in response to the increasing expense and restricted capacity of long-haul trucking. Rail transport has a competitive advantage through its cost structure; rail enterprises can charge lower rates for long-haul bulk movements than motor carriers, and rail has the capability to carry triple the amount of bulk product of truckload carriers. Economies of scale are prevalent in rail transport for its ability to stack containers two high per flatcar, for up to 200 containers per trip, using a minimal amount of labor, whereas truck carriers can transport only one or two containers per trip.

Railroad companies are focusing on increasing margins and operating efficiency by improving and maintaining customer relations and commercial alliances through on-time performance, value, equipment and operations, and information technology. Concerns for rail company profitability arise because of high fuel and employment costs as well as because of the need to maintain system fluidity with increased volumes. An increased demand for rail services has revealed decreasing railroad performance. The problems need to be addressed, especially the slower travel times and increased wait times, which are due mostly to the lack of skilled workers available to run the system. These issues weaken the rail indus-

Table 3: Rail Industry Leaders, 2003

Rail Line	*Location*	*2003 Revenue (in billions of U.S. dollars)*
East Japan Railway Company	Japan	N/A
Deutsche Bahn AG	Germany	N/A
Societe Nationale des Chemins Fer Francais	France	N/A
Central Japan Railway Company	Japan	N/A
West Japan Railway Company	Japan	N/A
Union Pacific Railroad	United States	$12.22
Burlington Northern Railroad Co.	United States	$10.95
CSX Corporation	United States	$8.02
Norfolk Southern Corp.	United States	$7.31
Canadian Pacific Ltd.	Canada	$5.42

try, causing overdue shipments, increasing expenditures, and discouraged customers.

Demand for railroad service has increased, however, in regions where rail technology has focused on speed, reliability, capacity, and efficiency. New computer innovations command train movements, braking systems, and grade crossings and monitor inconsistencies within rail rights-of-way, decreasing chances of collision and making the railroad system safer and more efficient. Productivity and revenue advancement is also alive in the rail passenger sector, mainly in Europe and Japan, with the introduction of high-speed rail. Railroads are providing more availability of high-speed rail service, which is seen as a possible substitute for short-haul air movements. This type of service takes the pressure off of airport capacity and reduces road congestion.

Trucking

The trucking industry, inspired by fierce competition, low margins, and minimal barriers to entry, transports goods and information to destinations of varying distances through integrated road and highway systems. The three categories of shipment capacity are truckload (TL), or shipments greater than 10,000 pounds; less-than-truckload (LTL), shipments less than or equal to 10,000 pounds; and package express. Recent industry trends have added a fourth element, logistics, to the industry. Logistics uses precise information to deliver goods in a cost-effective and timely manner. New technological advances in tracking and communication, combined with mergers and alliances, support growth of logistics by allowing motor carriers to track fleets, organize customers and loads, and provide a variety of transportation services that create optimal freight movement strategies for the customer. The trucking industry has undergone changes recently as numerous mergers and bankruptcies have taken place. First, in September 2002, the number three LTL in the United States, Consolidated Freightways, filed for bankruptcy, leaving the remaining LTLs to gain market share and post revenue growth in 2003. Then, in December 2003, the number two LTL carrier in the United States, Yellow Freight, purchased the number one carrier, Roadway.

Motor carriers have been enjoying higher prices and improved yields owing to recent industry consolidation and increased demand. Along with the increased demand, carriers are starting to struggle with capacity constraints, fuel costs, driver retention issues, and regulations regarding hours of service and environmental standards. The economic upturn has increased demand for TL freight transporta-

Table 4: Trucking Industry Players, 2003

Industry Participants	*2003 Revenues (in billions of U.S. dollars)*
Private Carriers	
Sysco Corp.	N/A
Wal-Mart	N/A
Truckload Carriers	
Publicly Owned:	
J.B. Hunt Transport Services Inc.	$2.43
Swift Transportation Co. Inc.	$2.40
Land Star System Inc.	$1.60
Privately Owned:	
Schneider National	$2.90
Less than Truckload Carriers	
Yellow Freight System	$2.81
ABF Freight System Inc.	$1.37
USF Corp.	$2.31
Con-Way Transportation	$2.20

tion, but concerns over driver shortages and high turnover rates continue to plague the TL industry, raising recruitment and training expenditures. As stated by *Traffic World,* a transportation trade weekly, hiring a new driver costs between $3,000 and $9,000, and replacing a driver can cost up to $15,000 (http://www.trafficworld.com). The need for drivers is so great that trucking companies are hiring inexperienced drivers and finding they have to make outlays for insurance costs and claims paid out for damaged cargo.

Key reasons for the driver shortage include inadequate pay, extended time away from home, and pay based on miles rather than hours, which does not account for time spent loading or waiting in congested traffic. Companies are changing operation methods in an attempt to retain drivers. In addition, the new hours-of-service regulations are expected to decrease productivity and increase labor cost per mile, causing carriers to pass additional costs to customers through rate increases, loading charges, and wait time at terminals. In 2004, after sixty-four years under the same system, truckers were introduced to new hours-of-service rules. These rules set an industry standard limiting the amount of consecutive hours drivers are allowed to work. The Federal Motor Carrier Safety Administration (FMCSA), a division of the U.S. Department of Transportation, put these rules in place as a way to reduce driver fatigue and highway accidents. Some carriers responded in a positive way, saying the new rules had little or no effect on operations, and saw improved coordination with shippers and higher driver retention.

To combat these externalities, however, carriers have to create strategies to compensate for the extra expenditures. They may raise rates, put surcharges into contracts, update their use of technology, or eliminate routes to maintain profitability. Innovations in electronic commerce and navigation extend the operations of freight movement to encompass information management, customer satisfaction, and improved business processes. These innovations revised motor-carrier roles by varying the size,

distance, and frequency of shipments and by increasing shipment timeliness and speed.

Future of Transport

The future of transport depends on the industry's ability to meet the challenges of growing trade and travel and to adjust to changing market conditions. Addressing the problems of increasing demand, congestion, and pollution that hinder transport access to intermodal terminals at airports and seaports and through all transport infrastructures will be a major public policy challenge for all nations wishing to conquer the global marketplace. Cooperation among nations and international organizations is needed to formulate guidelines addressing worldwide transport concerns for acceptable infrastructure, safety, security, labor practice, and environmental issues across all modes. Presently, carriers strive to make greater progress and seek further growth in the new millennium. These carriers will continue to face internal and external challenges, but with the improvement in the supply-and-demand balance and the increase in efficiency throughout the whole transportation chain, a positive outcome is nevertheless expected.

With the incredible economic events that occurred during the past decade, transport carrier management personnel have learned that they must take account of uncontrollable risks and uncertainties that could cause the decline of their profits. External events such as the Asian financial crisis, the 9/11 terrorist attacks, SARS, and the like have shown transport carriers the importance of a strong macroeconomic policy framework. They will have to use this knowledge to develop ways to strengthen their organizations and reduce the severity of similar future events. For example, they will have to learn to manage economic change by becoming well versed in various tools against currency fluctuation risks and by implementing contingency plans to ensure that their services will not be interrupted.

They will also have to focus on technological development and investments in new technologies to control costs, regulate environmental standards, and improve reliability, service levels, and safety. E-commerce has quickly become a permanent component of the transportation infrastructure, from the delivery of goods and services to the sales and marketing of those services, and will be used more extensively in the future as transportation continues to play a major role in trade facilitation and economic growth.

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See Also Global Economic Growth; Transportation and Communication; Transport: Equipment Manufacturing

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Transport: Equipment Manufacturing

Industry Profile

The transport equipment manufacturing (TEM) sector—whose members might be more properly termed "providers of transportation systems"—is a highly concentrated industry. Although many of the major motor vehicle companies are becoming less vertically integrated, they nevertheless remain horizontally consolidated. The majority of the companies are in many, if not most, of the subsectors of the industry, ranging from the manufacture of motorcycles, passenger cars, light commercial vehicles, heavy trucks, coaches, and buses to the production of locomotives, subway cars, airplanes, and marine engines. Only the manufacturers of bicycles, shipbuilders, and the makers of some heavy trucks seem to stand on their own.

The manufacturers of transportation systems hold a significant position in many developed economies, measured in terms of their share in employment, production, value added, exports, imports, and sales. The sector as a whole accounted for 13 percent of manufacturing employment in Canada and Germany, 12 percent in France and Sweden; 11 percent in the Republic of Korea; 10 percent in Spain, the United Kingdom, Mexico, and Belgium; 9.5 percent in the United States; and 8.3 percent in Japan. Most of these workers were in the "triad" consisting of Japan, the United States, and the European Union (EU), with the EU accounting for half, followed by the United States with one-third and Japan with 16 percent. The automotive industry alone (components suppliers plus final assemblers) employed some 10 million workers.

The TEM sector accounted for between 30 and 40 percent of Canada's manufactured exports during the past ten years, 31 percent of Spain's, 24 percent of Japan's, and 21 percent of Germany's. However, the absolute value of exports from the TEM sector was the highest for Germany, followed by Japan and the United States. Italy, Belgium, and the United Kingdom also have high TEM export ratios, accounting for as much as one-fifth of their exports in the manufacturing sector (followed by Austria, France, and Sweden).

Although motor vehicles, and automobiles in particular, have the largest share of exports within the TEM sector, the export of aircraft and their parts represents a significant share of the export sector for the United States, the United Kingdom, and France, and their value can be almost as significant as that of automobiles.

Workers in the TEM sector tend to be the best paid in the manufacturing industry (which is shrinking) and more highly unionized, with multiyear collective agreements characterized by pattern bargaining, and with many benefits other workers do not enjoy. The remuneration of TEM workers is typically above the manufacturing average; within the sector, auto workers are the highest compensated.

Three automotive companies (General Motors, Ford, and DaimlerChrysler) are the top research and development (R&D) spenders in the world, followed by an electronics giant

(Siemens) that also supplies auto parts and builds locomotives. Together with aerospace, these transport equipment manufacturers account for at least 20 percent of world spending on research and development.

Decisions of regulatory bodies such as the World Trade Organization (WTO) and the EU are having an increasing influence on the world's economy, including manufacturers of transport equipment. The progressive reduction and elimination of tariffs and customs duties will affect the international sourcing of parts and sales of vehicles. Trade disputes are being increasingly referred to the WTO for adjudication, which will ultimately have an impact on the location of jobs. The EU Commission also has a watchdog function concerning subsidies, pricing policies, and mergers that would have repercussions on the industry (where it could lead to a dominant position). The introduction of the euro has had an effect on pricing policies and on how cars are bought and sold in Europe.

The Motor Vehicle Sector

The industry is highly concentrated, with six major companies producing automobiles and half a dozen makers of trucks and buses. Mergers and acquisitions are taking place at an unprecedented pace and increasingly involve cross-border alliances. The Mercedes-Benz merger with Chrysler catapulted them from seventeenth and twenty-fifth place, respectively, on the Fortune 500 list of the largest companies in the world into second place, just behind General Motors. And with the sale of its parts supplier Delphi Automotive, General Motors may in fact find its position vis-à-vis DaimlerChrysler reversed in next year's listing. A similar leapfrog effect would put the Renault/Nissan alliance, currently thirty-third and forty-ninth in the world (ranked by assets), into about tenth place, if their activities were considered together. Companies that do not merge are likely to conduct joint research to economize (especially on green technologies) or to secure their independence.

Although the automobile industry already directly employs up to 10 percent of the manufacturing workforce in many countries, if indirect backward and forward linkages were added, the overall employment- and income-generating effects could easily be increased by a factor of two or three. These linkages include upstream activities such as rubber, tires, plastics, glass, paint, electronics, and textile manufacturing as well as downstream operations such as sales, service, repair, motor fuel, and finance and insurance personnel.

In fact, the automobile industry is so paramount in many countries that it is often considered by governments to be a barometer of their economies. For this reason, too, governments go to great lengths to attract new investment or keep ailing companies alive with subsidies. Many developing countries have also attempted to build up automobile industries, with varying degrees of success. Two-thirds of world automobile production is concentrated in just six countries: Japan, the United States, Germany, France, Spain, and the Republic of Korea. Another five—the United Kingdom, Canada, Italy, Belgium, and Brazil—account for over 20 percent. Of the developing countries only the Republic of Korea and Brazil have made it into the major producers. Mexico has potential in the North American Free Trade Agreement (NAFTA), and Asian countries such as Thailand, Malaysia, the Philippines, and Indonesia are pinning their hopes on future projections. With the exception of South Africa, few countries on that continent have been able to mount large-scale assembly (or manufacturing) activities, although many are trying, such as Botswana, which hopes for export opportunities with the disappearance of customs duties.

However, the industry is characterized by overcapacity, it is sensitive to economic downturns and currency fluctuations, and it is subject to the dictates of the market, since consumer response to new models cannot be

anticipated. It is because of these ups and downs that employers want to introduce flexible labor-market arrangements with respect to working time and work organization.

Some projections predict that the world car parc will more than double in the next fifteen years, with as many vehicles being produced in the next twenty years as were produced in the first 100 years of the industry. Much of the increase will be due to cars produced and sold in Asia, especially in India and China. This would bring enormous employment opportunities to the region but may pose severe infrastructure and pollution problems as well as pressures on world petroleum markets.

The strikes and lockouts of the past have been avoided in recent times and would be extremely costly and difficult for the industry if they were to occur again in the future. In North America, four-year collective agreements are common. Volkswagen has just signed an agreement guaranteeing jobs up to 2011, and GM has offered generous severance benefits to workers being made redundant at Opel. With just-in-time (JIT) production methods, and in the absence of huge inventories, companies would not be able to continue production while some or all of their workers were on strike. They also would be more vulnerable than in the past if a single supplier were to strike and disrupt deliveries. However, with global sourcing, companies can theoretically order parts from anywhere in the world.

Since the margins on various operations remain small, especially for the mass-volume producers, most companies have established financial divisions or separate companies to fund leasing agreements or to provide loans or other services (such as insurance) to their customers, and quite often they earn more on these operations than on the sale of the car itself. Some are also involved in the repair and rental markets. For example, the consolidation of Daimler and Chrysler's financial-service activities into a single business (Debis AG) makes it the world's fourth largest nonbank provider of such services, and it is DaimlerChrysler's biggest earner after its core automotive activities. General Motors improved its position by simply buying a local bank, and Boeing is considering leasing out its planes.

Suppliers: A Sunrise Industry

Throughout the world, the makers of automotive components, most of which are original equipment manufacturers (OEM), are on the rise. All the major employment increases in the sector have been in components manufacturers, a trend that is likely to continue, especially given the fact that workers in the car parts industry in Canada and the United States already outnumber those in final automobile assembly by a factor of 2:1, and that the second largest employer in the auto industry in Canada is a components' manufacturer (Magna International), soon to be number one, perhaps. The data available show wages in the supplier industries to be lower than in the factories where final assembly is done.

Although some of the growth in the independent parts industry can be attributed to increased orders, much of it, too, has come from the latest trend to spin off in-house or captive suppliers previously owned by automobile companies, or to outsource work formerly done in the automobile factories to outside companies. Since many of the parts manufacturers—unlike the automotive companies—tend to be in small, low-wage, unorganized establishments, unions are concerned that previously well-paid jobs are being replaced by lower-paid ones.

In the future, there may be only three types of Tier-1 suppliers, each specializing in either the interior or the exterior (or chassis) platform. The major automotive companies will allow these first-tier suppliers (or "systems integrators," as they are coming to be known) to design and install these systems (the components for which they, in turn, will subcontract out to second- and third-tier suppliers). The automotive companies themselves may simply

become marketing devices grouping a transportation system around a recognized logo and providing the customer with credit, insurance, financing, and replacement parts.

Suppliers of seats, dashboards, and instrument panels can furnish all subsegments of the TEM industry with parts that are flexible enough to be used in cars, trucks, buses, airplanes, or trains. The current wave of mergers and acquisitions (M&As) in the components sector of the automotive industry also reflects the global trend toward consolidation, both at the national and international levels (with foreign companies entering Japan for the first time).

With zero inventory and just-in-sequence production, the pressure to deliver on time is now transferred to the suppliers, whose workforces become human buffers. Internet advances will help to facilitate the process. The Internet is also changing the way people order cars, how companies sell them, how parts (suppliers) are coordinated, and how production is organized. Honda is now offering a five-day customized car order service. Auto.com has become a virtual reality, and companies such as Opel now have WYSIWYG home pages that allow customers to configure and order their own cars. Ford, meanwhile, has entered into a deal with Oracle. As these innovations grow in popularity, car dealerships may become a thing of the past.

Suppliers today play an increasingly important role in the automotive industry as a whole. Already, for cars they contribute up to two-thirds of the value added by manufacturing, an amount forecast to rise in the next few years to as much as 75 percent. The worldwide employment breakdown in the automotive sector currently is estimated to be at an average 54:46 of assemblers-to-suppliers, reaching 33:66 in some cases. The trend appears likely to move toward the latter ratio.

Emerging markets will increase their share of global components production. This will happen chiefly through the increase in automotive assembly in Central and Eastern Europe, China, and India. Although component production in developing countries is increasing rapidly, and despite a potential for outsourcing from companies in advanced countries due to lower labor costs, developing countries accounted for only 12 percent of world exports of components in 1999. However, domestic suppliers in emerging automotive economies may not always be able to fully capitalize on increased demand for components, as foreign Tier-1 suppliers colocate in emerging markets, with their major customers as inward investors.

Nevertheless, vehicle assemblers who market the final product dictate requirements to suppliers, inter alia, in terms of cost, quality, and the location of production. It is inevitable that many suppliers will remain vulnerable (despite their technological strength), since—with few exceptions—the automobile assemblers are their only customers. Those, however, that are able to innovate, exploit intellectual property, and support a balanced product base will be in the driver's seat.

To match the consolidation taking place in the assembly sector, more and more Tier-1 suppliers are expected to merge and to reinforce the coordination role they already play vis-à-vis the activities of other, Tier-2 and Tier-3, suppliers. However, should the financial weakness of many of the vehicle assemblers continue—an unhealthy situation for suppliers, in particular—and should there continue to be an assumption of greater responsibilities and risks by suppliers, the balance of decision-making power *may* tilt in favor of the Tier-1 suppliers. This would be still more likely once the supplier sector has undergone further merger and acquisition activity.

The pressure to continuously reduce costs, diversify, and deliver to increasingly just-in-time schedules will invariably have an impact on working conditions among suppliers, requiring even greater flexibility on the part of the workforce. Assemblers are passing more responsibility and risk on to supplier firms in areas as diverse as product liability, research

and development, and stock keeping. This shift, in turn, affects the position of workers within those firms. Perhaps one positive result of this process is the continued migration of competencies from assemblers to components manufacturers. One supplier, for example, registered more patents in 2003 than any automobile manufacturer. Meanwhile, in one major automobile-producing country, a supplier is poised to become the largest employer in the sector.

With the share per vehicle of electronic components and synthetic material increasing, other firms now outside the automotive industry may enter the market as suppliers, thereby transforming the shape of the industry. However, the trend toward an ever greater electronics content per vehicle may not continue as systems become too complex and subject to failure.

Other Transport Equipment Manufacturing Industries

As a result of global competition, shipbuilding is one of the industries to have suffered the largest declines in Europe and North America in recent years. The major winner has been Asia (Japan, the Republic of Korea, and China). Most new orders are in Japan and China. Although Vietnam and India are developing capabilities, their output is limited to only a few vessels. As a result of reunification, Germany still maintains a prominent position in Europe. Poland and Romania have potential but are still relatively small, and they may have more of a role in supplying parts of vessels for assembly elsewhere.

Most civilian shipbuilding is now carried out in the Republic of Korea (with 38 percent of the current order book and 43 percent of new orders), followed by Japan. China is third, with 19 percent of new orders and an official target of capturing 25 percent of the world market in the near future. Other countries with a still significant industry presence, or significant niche products, include Vietnam, Singapore (repair, conversion), India, Germany, Croatia (third largest builder of tankers in Europe), Romania (hulls), Ukraine (eighth in Europe), Russia, the United States, and Brazil. In a reverse trend, Korean workers are now worried that outsourcing by Korean companies could transfer jobs to Romania and other countries. Many nations continue to build their own naval vessels.

One of the major problems facing the industry is that order books are full and vessels ordered today will take four years to deliver, and for most ships, the rising cost of steel means a loss for the shipbuilders over the original contract price. Recent decisions by the European Union and the International Maritime Organization (IMO) to speed up the phase-out of single-hull vessels will increase the demand for new vessels and the amount of steel required for double hulls. The down side of globalization in the shipping industry is the hazardous work of scrapping obsolete vessels by hand on beaches in Bangladesh, China, India, and Pakistan, where over 90 percent of shipbreaking takes place.

With regard to negotiations on a new shipbuilding agreement for subsidies, an earlier agreement on subsidies, brokered by the Organisation for Economic Co-operation and Development (OECD), failed because of the stringent requirement that it would only enter into force after all countries had ratified it. (The U.S. Senate did not ratify it.) A new initiative may suffer a similar fate, but with the EU complaint against Korea in the WTO, Korea's countercharge against the EU—and the fact that China's continued growth is not possible without subsidies—some kind of agreement is desirable to regularize the situation. Hidden subsidies also exist for yards that build dual-purpose vessels, which benefit from military contracts to produce civilian versions of naval vessels.

With only two manufacturers of large civilian aircraft, the competition between them will increase. Although there are fewer and fewer makers of military aircraft, they also follow the

global trend of large-scale cross-border mergers and strategic alliances, as in the case of the recently formed European Aeronautic, Defence and Space Company (EADS). Three companies are competing for the market for passenger planes with fewer than 100 seats, but these rivals also rely heavily on government subsidies and backing for R&D. This subsector of the industry shows similar trends to those occurring in the automobile sector in terms of outsourcing and lean production, with offset-manufacturing often being used as a carrot to secure large orders.

There are only three manufacturers of aircraft engines, all of which suffered job losses in recent years, and none of which manufacture a single part. Virtually all components are supplied through subcontracting. Under the pressures of global competition, these companies, too, will have to invent strategies to secure orders.

Social and Labor Issues

Many of the production techniques introduced in the automotive industry have been named after their founders and emulated elsewhere. For example, "Fordism" was named after Henry Ford's assembly line, "Toyotism" after that company's lean-production methods, and the "Kalmar model" of group work after Volvo's experiments in Sweden. There is some speculation today that the industry is already in the post-lean era, and questions still surround teamwork (one of the essential ingredients of new production methods) and how it can best be implemented.

Major new forms of work organization, such as teamwork, flexible working arrangements, time accounts, the four-day week, and so on, have been pioneered in the automobile industry. Often these developments can be imitated in other sectors of the economy. For example, lean production seems to have been copied by the aircraft manufacturing industry. However, many of these flexible arrangements are also introduced under the menace of global competition and the threat that work and jobs will have to go elsewhere unless established work patterns become less rigid.

Throughout the world, people tend to live longer than in the past, and as a consequence they may also need to work longer. Nevertheless, there is an observed tendency in the automotive industry, in almost every country, to offer early retirement (or even preretirement schemes, beginning at fifty-five) to bring the current average age down from around forty-five to something in the mid- to lower thirties. From the employer's side, it is argued that this is necessary to remain competitive, since older workers have difficulty in adapting to new production techniques, whereas the trade unions argue that lean-production methods have increased the pace to the point that workers can no longer cope. One thing is clear: Golden handshakes are rarely turned down, given their high-income replacement value, and they are usually subsidized in one form or another by governments, which may use them as a device to combat youth unemployment. Nevertheless, there is a trend to increase both working hours and the retirement age in most European countries.

Despite the fact that Germany's dual system was the model that others were once called upon to emulate, German TEM manufacturers often find, after three or four years of training, at a cost of up to DM100,000, that the worker they have turned out is not the one they need. In addition, there appears to be a shortage of engineering graduates. Most countries could probably benefit from a revamping of their apprenticeship training programs and a move toward lifelong learning. With only four schools in the world teaching vehicle design, graduates are highly sought after as companies seek to differentiate their products.

Occupational safety and health (OSH) problems, such as repetitive strain injury (RSI), have emerged and warrant further study. In ad-

dition to promoting more environmentally friendly and fuel-efficient cars, the EU has recently introduced the concept of end-of-life vehicles (ELV), whereby the manufacturer is required to take the vehicle back when the owner is finished with it, much like returnable bottles and cans. Making the most of this approach will require more research into recyclable materials. Eventually, such a model could be applied to the shipbreaking industry.

Opportunities for Social Dialogue

Whether they are Japanese transplants or German companies with long-standing union traditions at home, it is quite apparent that when companies embark on greenfield investments they tend to do so in environments that are not conducive to unionization. Some examples are Mercedes in Tuscaloosa (Alabama), BMW in Spartanburg (Tennessee), or the Smart car in Alsace. To combat these tendencies, which are a matter of concern to unions, one tactic has been to negotiate "neutrality letters" (or agreements) with employers in which the employers agree not to hinder union-organizing campaigns. The concept has recently been extended in Canada, where the Big Three (DaimlerChrysler, Ford, and General Motors) have issued neutrality letters to their suppliers urging them not to stand in the way of union-organizing campaigns.

There are many ways of giving workers a voice in enterprise affairs—through, for example, their shop-floor representation, works councils (whether at the plant, company, or group level), supervisory boards (the German *Mitbestimmung,* or codetermination model), European Works Councils (EWCs), and World Company Councils. Although the automotive companies and components suppliers seem to have been quick in setting up EWCs, not enough time has passed for analysts to fairly assess their effectiveness.

Major automobile manufacturers (DaimlerChrysler, VW, and Renault) and Tier-1 suppliers (Robert Bosch, Leoni, and so on) have been in the forefront of signing International Framework Agreements (IFAs) with the International Metalworkers' Federation and local union representatives. These IFAs recognize the core labor standards of the International Labour Organization (ILO). The companies involved state that they expect their suppliers to adhere to the same standards as part of their continuing business relationship. The Global Reporting Initiative (GRI) also contains reference to ILO core standards. Companies are expected to report on their own compliance, as well as that of their suppliers throughout the value-added chain.

"Work ownership" is a new concept pioneered by the National Automobile, Aerospace, Transportation and General Workers' Union of Canada (CAW), whereby companies recognize that the worker owns the contribution to the product he or she makes. Thus, a company cannot be sold off during a collective agreement or work outsourced without the master contract also applying to the new supplier. One example of an employee ownership scheme is provided by Dasa, which instead of closing down or laying off workers sold its Speyer facilities to its employees for a symbolic DM1, (Deutsch Mark, Germany's currency before the Euro) and even provided material and training on how to run the new company, now called Pfalz-Flugzeugwerke GmbH.

An increasing number of "employment pacts" are being concluded in the form of the Alliance for Jobs, *Standortsicherungsvereinbarungen* (production site guarantees), and multiyear collective agreements. In Germany, in particular, but also in other European countries, unions have been able to secure guarantees from major companies about employment and the continuation of production at local sites over a certain period of time. The four-year agreements signed in the United States between the United Auto Workers (UAW) and the auto producers, and between the Interna-

tional Association of Machinists (IAM) and Boeing, can likewise be seen as attempts to obtain more security.

Paul Bailey

See Also Transportation and Communication; Transport: Airlines, Railroads, and Shipping

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Encyclopedia of Trade, Labor, and Politics

Volume 2

Ashish K. Vaidya, Editor

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PART THREE

International Blocs and Organizations

Andean Community

The Andean Community (Communidad Andina, CAN), also known as the Andean Pact (Pacto Andino) or the Andean Group (Grupo Andino), is a customs union and subregional organization endowed with international legal status and with political and social dimensions. Its members are Bolivia, Colombia, Ecuador, Peru, and Venezuela, which together form the geographic region surrounding the Andes Mountains in South America. The five member countries occupy a total area of approximately 4.7 million square kilometers stretching from the Atlantic to the Pacific oceans and linked by the mineral-rich Andes Mountains, with a combined population of 105 million people and a gross domestic product (GDP) of over $290 billion.

Intra-Andean exports reached $5.68 billion in 2001. The organization was formed in 1969 with the signing of the Andean Subregional Integration Agreement in Cartagena, Colombia (subsequently known as the Cartagena Agreement). Venezuela joined in 1974. Chile was an original member but withdrew in 1976. Peru partially withdrew in 1992, opting out of the common external tariff (CET) but not the other institutions. Panama applied for membership in 1995 and presently has observer status. The main goals of the Cartagena Agreement are to promote the formation of a common market, accelerate the growth of member countries, and promote job creation. The agreement also seeks to reduce the external vulnerability of the members and improve their joint position within the global economy.

To achieve these goals, the Andean Group, as it was then called, initially sought to implement the import-substitution model of development. Since 1989, the Andean Community has adopted open-market policies and sought growth through international trade. Today the Andean Community is one of the most advanced integration processes in the developing world, based on a customs union, elaborate institutional structures, a unique intellectual property regime, some common rules regarding services, and other economic, political, and social cooperation schemes. Still, intraregional total trade flows remain low in the Andean Community compared, for example, to the Central American Common Market (CACM).

A Fast Start

Throughout the 1970s, the Andean Group was based on free trade systems that aimed to form a local market for liberalized trade in goods and services among the member countries, free from competition from outside nations. The instruments of Andean integration as set out in the Cartagena Agreement were: (1) a liberalization program, designed to generate restricted competition within the area; (2) a common external tariff, to protect the enlarged market against imports from the rest of the world; (3) sectoral industrial development programs, to induce new advanced import-substitution activities; (4) a common policy toward direct investment and common developmental finance programs; (5) harmonization of economic and social policies and of national legis-

lation, where relevant; (6) programs designed to accelerate the development of the agricultural sector; (7) physical integration through transportation enhancement; and (8) preferential treatment for Bolivia and Ecuador.

The 1970s are regarded as the Golden Age of the Andean Community. For example, between 1974 and 1979, total intra-Andean trade increased by 154 percent, from $439 million to more than $1.1 billion, and intra-Andean nonfuel exports increased by 307 percent, from $230 million to $937 million. In addition to trade growth, a number of key decisions were adopted to help achieve the goals of the Cartagena Agreement. Within five years the pact's statute book included details of the minimum common external tariff; internal tariff dismantling programs; industrial development programs for petrochemicals and metal engineering; a common set of rules on foreign investment and industrial property; a convention on double taxation; rules on competitive practices such as dumping; a statute for Andean multinational companies; guidelines on harmonization of industrial policy; an agreement on international road transport rules, including standards on weights and measurements for road haulage vehicles; a priority road network and an industrial development program for the motor industry; and a number of special provisions for Bolivia and Ecuador. However, this period coincided with favorable external factors (such as the Venezuelan and Ecuadoran oil booms and the Colombian coffee boom), which generated rapid income growth in most Andean nations. When global conditions turned, so did regional integration.

Stalled Integration and Reacceleration

Intra-Andean trade experienced a prolonged crisis in the 1980s as a result of the commodity and debt crises that afflicted all Andean nations. By the early 1980s, the Andean Group had become virtually dormant as a result of unilateral efforts by its members to participate in the emerging global economy. The common external tariff was never approved; liberalization for competitive goods was systematically postponed; and industrial development programs were designed only for a few sectors and proved cumbersome and operationally deficient, particularly as a result of the political criteria used to allocate new activities.

As economic crises began to subside, the Andean countries again turned to regional trade. By the mid-1980s, Andean Community members were concluding bilateral trade agreements in an attempt to restart intraregional trade, but in direct contravention of Cartagena Agreement rules. Eight bilateral agreements were signed covering 809 items. The greatest number were between Colombia and Ecuador.

By the late 1980s, market reforms and economic integration took place in all the Andean countries. The members began a new proposal to tear down trade barriers, strengthen the Andean free trade zone, and prepare it for integration into agreements with other trade communities in North and South America. The import-substitution program was abandoned in favor of market opening. The members approved changes in the agreement, enabling foreign investors to develop and expand on intra-Andean trade, and agreed to abolish export subsidies and tariffs on goods produced in member countries.

The December 1989 summit of the Andean Community presidents in the Galapagos Islands in Ecuador was the crucial turning point. In this meeting, the member states decided, in what is called the Galapagos Declaration, that the most restrictive provisions, such as managed trade, should be rapidly phased out; that a free trade zone would be in place by December 1993 (1995 for Bolivia and Ecuador), with a small list of exceptions; and that a customs union would be established by December 1997 (1999 for Bolivia and Ecuador). After 1989, the Andean Group received renewed political stimulus but was rapidly detached from its original import-substitution elements. Emphasis was

placed on intraregional trade liberalization; the elimination of restrictive provisions regarding foreign direct investment and intellectual property rights; and the design of complementary tools to trade liberalization, such as regional unfair trade legislation and free transportation in the area. The November 1990 presidential summit in La Paz, Bolivia, sped up the commitments with a decision to consolidate the free trade zone by December 1991 for all members and to have the customs union in place by December 1993 (1995 for Bolivia and Ecuador).

The effort has proved fruitful. Intra-Andean trade over the decade of 1991–2001 was marked by heavy average growth. The volume of trade may be deceiving, both as it rises and falls, since it is critically affected by the price of oil. For example, total Andean exports in 2001 declined by 9.7 percent, but exports of nontraditional products increased by 1.2 percent; intra-Andean exports also rose by 9.8 percent overall. In the same year, intra-Andean fuel exports declined by 42.5 percent, but intra-Andean non-fuel exports increased by 21.5 percent.

Moreover, significant progress was made in terms of land, marine, and air transportation; regulations were issued based on decisions concerning international transportation of passengers and cargo; progress was made in the regulation of multimodal transportation operators; and guidelines were set for the interpretation of Open Skies policies on a subregional level and with respect to international carriers. An Andean decision about liberalization of trade in services was also elaborated in order to increase commercial links and promote technological development.

In April 1992, Peru's president, Alberto Fujimori, declared a self–coup d'état. This political event led Venezuela to suspend diplomatic relations with the Peruvian government, creating a conflictive political environment within the community. In response, Peru suspended its trade liberalization obligations with all Andean countries and opted to partially withdraw from its treaty obligations, requesting that other countries allow it to participate as a conditional member of the free trade zone. In June, this unilateral decision was replaced by a common agreement to allow Peru to stay temporarily out of the Andean Community. In an atmosphere of flexibility characteristic of the Andean Group, Peru was granted a temporary waiver of compliance in exchange for a promise to negotiate bilateral trade agreements with each of the other four Andean Group members.

The bilateral agreements were to compensate the other members for Peru's decision to maintain its own tariff structure. Peru established a free trade area with Bolivia and provisional agreements with Colombia, Ecuador, and Venezuela. It has yet to fully rejoin the Andean Group and has been permitted to keep its own tariff system while expanding its trade with the region through bilateral agreements. Other issues remain. Ecuador, for example, has not yet abandoned its traditional pattern of demanding preferential treatment within the Andean Community. In addition, the ratio of intraregional trade to total trade, known as the integration coefficient, is still relatively low (below 10 percent as of 2002, the latest data available).

The Common External Tariff

Implementation of the common external tariff has proved elusive since the Andean Community was formed in 1969. Several declarations throughout the community's history have committed the members to a CET, were breached, and later restated. For example, the Galapagos Declaration of December 1989 designed a series of mechanisms for the restart of the integration scheme, among them the creation of a common external tariff, the harmonization of economic policies, and the signing of bilateral agreements that strengthen trade between the countries of the region. In 1991, the Act of Barahona was signed, establishing an outline for the creation of a regional free trade zone

that specified that Andean members implement a common external tariff. In 1992, four of the member countries, excluding Peru, agreed to adopt a common external tariff and a customs union, and the Andean Free Trade Area was formed. In 1995, the common external tariff and customs union went into effect. Different tariff levels were set at 0 percent, 5 percent, 10 percent, 15 percent, and 20 percent.

Ecuador exempted 400 products from the CET, whereas Colombia and Venezuela exempted 270. Bolivia kept its tariff structure, with rates of 5 percent and 10 percent. In the Santa Cruz Declaration of January 2002, the Andean presidents stipulated that "Bolivia, Colombia, Ecuador, Peru and Venezuela will apply a common external tariff by December 31, 2003 at the latest." On April 14, 2003, the Andean countries reached final agreement on the CET. The primary goal of the common external tariff is to keep tariffs low on raw materials, inputs, and capital goods needed for industrialization, while setting higher duties on finished goods. Despite the difficulties in adopting the common external tariff, its establishment and that of the customs union has increased intra–Andean Community trade. And even with setbacks, the common external tariff scheme brought the average tariff level down to 13.6 percent in 1998 from 33 percent in 1989. Nevertheless, the goal of becoming a fully integrated customs union remains only partially accomplished.

Effects of Integration

From 1970 to 2001, total intracommunity exports increased more than fifty-fold, from $111 million to $5.63 billion. Intracommunity manufacturing exports increased by ninety-four times, from $54 million to more than $5 billion. Intracommunity airline flights increased from 128 a week to 496 a week, and accrued intracommunity investment expanded seventy-four-fold, from $15 million to more than $1.1 billion. Total Andean Community debt also increased dramatically, with total external debt expanding from $8 billion to $116 billion in the same period.

The effects of regional market liberalization took effect immediately. From 1970 to 1979, Andean trade multiplied tenfold, growing at an annual rate of 29 percent. As a percent of total Andean trade, intraregional trade grew from 4 percent in 1970–1974 to 5.7 percent in 1980–1982. In the 1980s, intraregional trade experienced a prolonged crisis as a result of the commodity and debt crises that afflicted all members. Intraregional trade fell to 3.8 percent at its lowest point in this decade. Members used devaluation and trade restrictions in an attempt to correct trade imbalances, in violation of the Cartagena Agreement. Intraregional trade reached a low point in 1986 at less than half the level of the early 1980s. By the end of the decade, the group was close to collapsing. In an attempt to avoid disintegration, flexibility was allowed, including the postponement of treaty obligations and managed trade.

Following the rebirth of the community with the Galapagos Declaration, intraregional trade boomed again. Between 1989 and 1993, intraregional trade tripled, rising from less than $1 billion to more than $2.8 billion, with an annual growth rate of 34.5 percent, and accounted for 8 percent of total Andean trade by 1992. In 1990–1996, intraregional trade continued to grow at an average annual rate of 20 percent, totaling 11.9 percent of total Andean trade by the end of this period. By 1998, intraregional exports reached $5.3 billion, from $111 million in 1970. Colombia and Venezuela account for most of the trade volume. Colombia is Venezuela's largest market for nonpetroleum exports.

Although the aggregate figures may be small, qualitatively they are significant, especially when certain structural factors are taken into account. All Andean Community member states are primarily commodity exporters with relatively similar factor endowments and rich mineral wealth. Primary exports account for as much as 80 percent of the Andean Commu-

nity's exports worldwide in such commodities as oil, metals, coffee, bananas, and shrimp. Transport costs within the region are very high and in general more expensive than shipping to industrialized countries such as the United States. In qualitative terms, however, intra-Andean trade is very important because of its high concentration of nontraditional or manufactured exports and intra-industry trade. Manufacturing exports account for 63 percent of intra-Andean trade (equivalent figures for both Mercosur and CACM are about 60 percent). The largest increases occurred in chemicals, textiles, and natural resource–intensive manufactures.

From Andean Group to Andean Community

The Andean Community has important political and social dimensions and institutions on which the member countries have increasingly focused their energies. An extensive institutional structure characterizes the Andean Community today, making it unique among integration schemes in the developing world, with many similarities to the European Union. A series of successive declarations and amendments to the Cartagena Agreement led to the present elaborate institutional structure.

In 1987, the member states of the Andean Group decided to give the treaty a new direction. They signed the Quito Protocol, an amending instrument through which the member states sought new horizons for the subregional integration process, including further strengthening of economic and commercial relations. Also, they reiterated the autonomous nature of the Andean integration process and reaffirmed the institutional structure established by the treaty.

In mid-1995, the member states sought to modernize and reinforce the then Andean Pact and convert it into the Andean Community, to be governed by similar structures to those instituted by the European Union. They agreed to restore the administrative structure, to improve the agility and efficiency of the decision-making process, and to broaden the scale of regional integration to include political as well as economic affairs. The Protocol of Trujillo, signed in March 1996, codified and integrated the Cartagena Agreement and its respective modifying instruments—the Additional Instrument for the accession of Venezuela (1973); the Protocol of Lima (1976); the Protocol of Arequipa (1978); the Protocol of Quito (1987); and the Protocol of Trujillo—creating the Andean Community and establishing the Andean Integration System, with its series of bodies and institutions.

The Andean Community announced its commitment to establish a common market by 2005 enabling the free circulation of goods, services, capital, and people. To this effect, in June 2001 national identification documents were recognized as the sole requirement for intra-Andean tourist travel. Goods have circulated freely since 1993. Free circulation of capital, people, and services are still being addressed.

Institutions of the Andean Community

The Trujillo Protocol in 1996 added nine bodies to the existing institutions to make up the new framework of the Andean Community, called the Andean Integration System (Sistema Integracion Andina, SAI). The institutions of the SAI are as follows:

- Presidential Council
- Council of Foreign Ministers
- Andean Community Commission
- Andean Parliament (1979)
- Court of Justice of the Andean Community (1979)
- General Secretariat
- Consultative Council on Business, Labor and Cultural Affairs
- Andean Development Corporation (Corporacion Andina de Fomento, CAF) (1968)

- Latin American Reserve Fund (1978)
- Andean Promotion Fund
- Simon Bolivar University
- Simon Rodriguez Group (Convenio Simon Rodriguez) (1973)
- Directorate of the Andean Integration System
- Andean Subregional Association of State Telecommunications Companies (Asociacion de Empresas Estatales de Telecommunicaciones del Acuerdo Andino, Aseta) (1974)
- Andean Satellite Telecommunications Organization (Organizacion Andina de Telecommunicaiones por Satelite, OATS) (1988)

The Presidential Council, composed of the presidents of the member states, is the supreme body of the Andean Community, providing political leadership. It defines the integration process of the region, provides instruction and recommendations to the other institutions, and evaluates the development and results of the integration process. The Council of Foreign Ministers is the second highest institution in the Andean Integration System. It is the executive body in charge of the implementation of the integration process and of foreign relations. Together the Presidential Council and the Council of Foreign Ministers preside over the entire Andean Integration System, allowing presidents the direct responsibility for designing policy and ordering its implementation.

The Andean Council of Foreign Ministers shares legislative authority with the Andean Community Commission. The commission is made up of a representative from each of the governments of the Andean Community member countries. Each government provides a regular representative and one alternate. The commission's president, the representative of the country that also holds the council presidency, serves a term of one year. The commission formulates, implements, and evaluates the policies of Andean subregional integration relating to commerce and investment, adopts measures for fulfilling the objectives of the Cartagena Agreement, coordinates the joint position of the member countries in international forums and negotiating sessions, and represents the Andean Community in areas of its domain. Each country exercises one vote in approving decisions. Initially, the commission adopted decisions by a two-thirds vote by the member countries. Under the rules of the Trujillo Protocol, an absolute majority is necessary to adopt decisions, a change that has facilitated approval of community proposals. Certain issues require a qualified majority, or no negative vote.

The General Secretariat is a permanent executive body with its seat in Lima. The secretary general of the Andean Community is a single individual elected by consensus in an extended meeting by the Andean Council of Foreign Ministers. The secretary general administers the Andean subregional integration process, oversees the fulfillment of community commitments, maintains permanent links with member countries and the executive bodies of other regional cooperation organizations, and enforces the decisions of the extended meetings of the Andean Council of Foreign Ministers and of the Andean Community Commission.

The Court of Justice of the Andean Community, headquartered in Quito, Ecuador, reviews the legality of community decisions to ensure uniform application in the territories of the member states, acts as arbiter and resolves disputes on the part of the members and between institutions of the Andean Community, and oversees labor disputes. It has five magistrates, with two alternates per magistrate, who are nationals of the member countries.

The Andean Parliament, located in Bogotá, Colombia, represents the people of the Andean Community. Currently, the Andean Parliament is made up of representatives of the National Congresses. The Parliament is constituted by representatives elected by a universal, direct vote for five-year terms. It lacks real legislative authority but participates in the promotion of

the integration process by drafting regulations, by making suggestions to the bodies of the System Project of Rules of Common Interest, by promoting the legislative harmony of member countries, and by promoting cooperative relations and coordination with the parliaments of member countries and of third countries.

The Andean Community formally applied for and was granted observer status in the United Nations General Assembly. In 2002–2003, it participated in a single voice in the negotiations for a Free Trade Area of the Americas.

Anastasia Xenias

See Also Economic Integration; Common Market of the South (MERCOSUR); Latin American Free Trade Association (LAFTA)

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Asia Pacific Economic Cooperation (APEC)

The Asia Pacific Economic Cooperation (APEC) forum was formally established in 1989. Though its emergence coincided with the end of the Cold War, its origins can be traced to the broad economic and geopolitical changes of the late 1960s and 1970s. By the 1970s, the United States had been overtaken by Japan as East Asia's most significant source of foreign aid and investment. The growing regional economic significance of Japan and the relative economic decline and politico-military reorientation of the United States (in the context of the rapprochement between the United States and the People's Republic of China in 1972 and the U.S. withdrawal from, and eventual defeat in, the Vietnam War between 1973 and 1975) increasingly coincided with efforts on the part of Japanese officials and economists to encourage regional economic integration and the creation of some form of Asia-Pacific organization.

The formal promulgation of an Asia-Pacific policy by the Japanese Foreign Ministry in late 1966 is often regarded as the start of Tokyo's effort to create a regional trade organization. This led to persistent but unsuccessful efforts by the Japanese economist Kiyoshi Kojima and Japan to promote a Pacific Free Trade Area (PAFTA) that would encompass the United States, Japan, New Zealand, Canada, and Australia, as a counterweight to the European Economic Community. Although the PAFTA idea received limited support, it eased the way for the establishment in April 1967 of the Pacific Basin Economic Council (PBEC). The PBEC is composed of nationally based business organizations.

Meanwhile, the first Pacific Trade and Development (PAFTAD) conference was held in 1968, primarily providing a forum for economists. The continued lack of interest in a formal trade organization in the region led Kojima to introduce a less ambitious proposal centered on the idea of an Organization for Pacific Trade and Development (OPTAD), which would be modeled on the Organisation for Economic Co-operation and Development (OECD). This proposal also languished until the late 1970s, when it was revived in a report for the U.S. Senate Committee on Foreign Relations written by prominent U.S. economist Hugh Patrick and Australian economist Peter Drysdale. It was proposed that this version of OPTAD would encompass all the non-Communist nation-states in the region, including some Latin American countries.

As with previous initiatives, very few governments in the region were actually interested in making a commitment; however, the proposal did lead to the establishment of the Pacific Economic Cooperation Conference (PECC), which sought to provide a forum for academics, business representatives, and government officials. The PECC, which later became the Pacific Economic Cooperation Council, had its first meeting in Canberra in late 1980 and included representatives from the United States, Japan, Canada, Australia, New Zealand, Korea, Malaysia, Thailand, Indonesia, Singapore, and the Philippines. During the 1980s, the governments of China, Taiwan, and Brunei and the members of the South Pacific Forum also began sending delegates to the

PECC. Hong Kong, then Mexico, Chile, and Peru, joined the PECC in 1991–1992, and a number of other Latin American countries, along with the USSR (Russia after 1991), gained observer status in the early 1990s. The PECC brought together academics, business leaders, and government officials, but a key characteristic of its operation was the unofficial role played by governments.

The failure to establish a governmental organization focused on regional economic issues between the 1960s and the 1980s, and the timing of the establishment of APEC at the beginning of the 1990s, underscore the close relationship between geopolitical and security considerations, on the one hand, and economics and trade, on the other. The Cold War had clearly inhibited any form of expansive regionalism in East Asia and the Asia Pacific: From the outset, governments in the region were wary of an economic organization that might have security implications and thus limit its membership to capitalist economies, whereas the United States was opposed to an organization in which the USSR and its allies might have a forum for the discussion of security questions. However, with the end of the Cold War, APEC could be set up as a major institutional forum for the articulation and accommodation of a revised and reconfigured version of various long-standing geopolitical and geo-economic visions for the Asia-Pacific region. (In fact, the term "Asia Pacific" itself only began to enjoy widespread currency in the 1990s.) In the early post–Cold War era, influential liberal narratives on economic development and international relations increasingly represented the Asia Pacific as destined to become an ever more integrated region of prosperous free-trading nation-states.

At the same time, governments and economic elites in Northeast and Southeast Asia were concerned that the post–Cold War international political economy was shifting toward economic blocs centered on Western Europe (through the EU) and North America (through the North American Free Trade Agreement, or NAFTA), and they viewed some form of regional economic grouping, although not necessarily the form that APEC took at its establishment, as an important counterweight to wider post–Cold War political and economic trends. For example, APEC, as it was constituted in 1989, was challenged by Prime Minister Mahathir Mohamad of Malaysia, who proposed the establishment of a trading bloc, initially called the East Asian Economic Group (EAEG), which would exclude the United States, Australia, and New Zealand as well as all other "non-Asian" nation-states. In this context, Mahathir refused to attend APEC's first heads-of-government meeting in Seattle in 1993. However, by the time of the annual summit in November 1998, which was held in Kuala Lumpur, he was the presiding host, and his East Asian Economic Group, in the form of the East Asian Economic Caucus, had been incorporated into APEC.

Apart from concerns about the possible formation of economic blocs in the post–Cold War era and the need to respond in kind, elites in Asia were also unsure about Washington's attitude toward both APEC and security issues in the region after the Cold War. At the outset, Washington was preoccupied with the situation in Europe, but in a 1991 visit to East Asia, George H. W. Bush's secretary of state, James Baker, reaffirmed a U.S. commitment to the region, emphasizing the continued importance of Washington's bilateral security arrangements. These arrangements maintained, in a somewhat revised fashion, the basic, and primarily bilateral, politico-military alliance structure of the Cold War in the region. This did not necessarily mean that the United States actively opposed regional and multilateral economic (or even security) initiatives; however, it needs to be emphasized that it was the Australian government that took the lead, with the particularly active involvement of the Japanese government (rather than the U.S. government), in the establishment of APEC.

With its establishment APEC was portrayed by many of its supporters as an example of

"open regionalism," in contrast to the preferential trading practices that characterize the EU and NAFTA. The Eminent Persons Group (EPG), which laid down much of the early organizational framework for APEC, made it clear that APEC was not intended to be like the European Union, which involved the relinquishment of national sovereignty in the context of both deepening economic integration and formal political institutionalization. By contrast it emphasized that APEC would be a much looser organization of "like minded economies" seeking to remove "barriers to economic exchange among members in the interest of all." C. Fred Bergsten (former chair of the EPG and director of the Washington-based Institute for International Economics) also emphasized that the organization should not only play a central role in regional trade liberalization, but also act as a "force for world-wide liberalization" (Bergsten 1994).

Nevertheless, the focus at the first major meeting in Seattle in late 1993 (and at the second major meeting in Bogor, Indonesia, in November 1994) was squarely on trade liberalization within APEC. On the final day of the Bogor meeting, the leaders from the eighteen member countries agreed in principle to the virtual elimination of tariff barriers and obstacles to capital flows within the APEC region by the year 2020 (2010 for developed nations and 2020 for developing nations). This meshed with an increasingly influential strand of economic and political thinking grounded in the idea that economic transformation and integration of the region was connected to a new East-West synthesis. The public articulation of synthetic cultural (as well economic and political) visions of the region's future by prominent politicians and intellectuals facilitated consensus building aimed at easing tensions in and around APEC.

An important example of the East-West synthesis was the 1995 book, *Asia Pacific Fusion: Japan's Role in APEC,* by Yoichi Funabashi, the former chief diplomatic correspondent for *Asahi Shimbun.* Funabashi's book was, in part, a reply to Samuel Huntington's famous 1993 warning of the potential for a "clash of civilizations" in the Asia Pacific and elsewhere. Funabashi, who has close links to the Institute for International Economics in Washington and had served as head of *Asahi Shimbun*'s Washington, DC, bureau, argued that "the Asia-Pacific experiment to bring the greatest civilizations of the world into one dynamic sphere of confluence will lead to a new era of prosperity into the next century." He emphasized that "the economic and cultural dynamics in the Asia-Pacific, suggest that in at least this region, economic interdependence and cross-fertilization among civilizations can perhaps transcend the barriers of race and ideology." He concluded that "the growing fusion of the Asia Pacific is offering Japan" and other countries in the region "more room to harness elements of both East and West" (Funabashi 1995, 10–11).

This view was certainly at least superficially apparent at the annual APEC summit in Osaka, Japan, in November 1995. This meeting produced what was called an "Action Agenda." Meanwhile, the organization's rejection of binding trade agreements was celebrated by participants, such as Fidel Ramos (then president of the Philippines), as evidence of the "Asian Way" at work. The Asian Way in this instance amounted to verbal assurances by all member governments that they would make every effort to meet the economic liberalization goals of APEC. Thus, regardless of the alleged antipathy between East and West, which was a focus of considerable debate in the early 1990s, APEC emerged as a major site of elite integration in the Asia Pacific, and this was facilitated by the domestication of influential East Asian visions of progress to the narratives on globalization via an emphasis on a synthesis between East and West.

Despite the efforts at elite consensus building and the emerging East-West synthesis, the end of the Cold War and the continued spread of economic liberalism contributed to considerable tension in the Asia Pacific. For example, in the post–Cold War era, relations between the

U.S. and Japanese governments, an important axis of the APEC process, continued to be beset by friction on a range of economic issues, especially those related to trading practices. In fact, the growing economic significance of the region generally, and of China in particular, combined with growing concern in North America about the latter's increasing politico-military power, also contributed to uncertainty regarding the post–Cold War character of the region. At the same time, the consensual character of agreements made at APEC meetings pointed to the organization's weak institutionalization. Although the annual meeting in the Philippines in November 1996 proceeded much as earlier meetings, the organization's diverse membership faced a serious challenge with the onset of the Asian financial crisis in July 1997. As problems mounted, APEC's inability to make formal and binding decisions became a source of frustration for many.

By the time of the annual meeting in Vancouver in November 1997, the Asian financial crisis was a serious problem. In fact, in the view of some observers, by the time of the Vancouver summit, APEC had become virtually irrelevant. In particular, the prominent role that the International Monetary Fund (IMF) began to play in the management of the Asian financial crisis provided the United States (which was seen to have been ambivalent about APEC from the outset) with the opportunity to encourage economic liberalization and deregulation in the region far more effectively than it could under the auspices of APEC. In the second half of 1997, the IMF embarked on major efforts to restore financial stability to the region via loan packages to the governments of Thailand, Indonesia, and South Korea. The loans were conditional on the implementation of a range of austerity measures and liberal economic reforms.

The IMF's intervention directly challenged the nascent multilateral and consensual approach to regional economic issues embodied by APEC. In fact, the overall approach taken by the IMF challenged East Asian ideas about how the region had achieved its economic success: From the point of view of the IMF, the crisis flowed from the inefficiencies and distortions that were characteristic of the various state-centered approaches to capitalist development that prevailed in East Asia (what became known pejoratively as "crony capitalism"). Not surprisingly, Prime Minister Mahathir in particular was quick to dispute IMF explanations for the crisis, at the same time as his government also rejected IMF advice and interference. Mahathir and a number of other politicians and commentators placed the blame for the region's problems at the door of foreign currency speculators. In some instances, they even argued that foreign currency traders had deliberately acted to undermine the economies of East Asia. For example, Mahathir singled out the well-known fund manager George Soros and charged him with masterminding a deliberate attempt to sabotage the economic dynamism of Malaysia and the other countries of the region.

Of course, Mahathir's opposition to the IMF's handling of the financial crisis was grounded in his earlier opposition to APEC and his promotion of an East Asian Economic Group, which, as already noted, had been partially accommodated in APEC as the East Asian Economic Caucus. Although Mahathir's initiative in the early 1990s had flowed from concerns about the membership and orientation of APEC, as well as the rise of NAFTA and the EU, it was also an attempt to curb the growing flow of Chinese-Malaysian capital to China by linking China more tightly into a regional economic cooperation network. By the late 1990s, the EAEC enjoyed considerable independence within the framework of APEC and was made up of the governments of the Association of Southeast Asian Nations (ASEAN) plus Japan, South Korea, and China (ASEAN+3). This lineup apparently reflected the perception in ASEAN that Japan and South Korea were the driving economic forces in the region. Indeed, both were the source of major investment flows, while China was the main destination for

overseas Chinese capital moving out of ASEAN. The exclusion of Hong Kong and Taiwan from this list also catered to Beijing's sensitivities. At the same time, Mahathir's vision at least remained focused on Japan as the leading economic power in the region, and a major economic force internationally. Although the economic malaise that has gripped Japan since the beginning of the 1990s, and the continued salience of the Cold-War-era U.S.-Japan relationship, has meant that the Japanese government and Japanese corporations have not played as significant a role in the region in the post–Cold War era as many had anticipated, Mahathir has continued to emphasize the need for the Japanese government to act as the "voice of Asia" at meetings of the G-7 and elsewhere.

Certainly, given the obvious inability of APEC to address the Asian financial crisis, there were early efforts by Tokyo to play a more significant role. At the annual IMF–World Bank meeting in Hong Kong in mid-1997, the Japanese government floated the idea of an Asian Monetary Fund (AMF), proposing that upward of $100 billion be set aside and that an institutional infrastructure to administer it be created in order to be prepared for any future crises of the kind then destabilizing Southeast Asia. A key characteristic of the AMF proposal was the absence of the conditions attached to the IMF's loan packages. The approach envisioned by proponents of the AMF was one that worked to maintain the restrictions on foreign ownership, of financial institutions in particular, and that sustained the economic practices that East Asian elites associated with rapid capitalist development. Representatives from the United States, Europe, and the IMF voiced strong opposition to an Asian Monetary Fund, while officials from Hong Kong, Malaysia, and Thailand expressed considerable enthusiasm. Meanwhile, other East Asian leaders made clear their frustration with the IMF's approach to the crisis.

The idea of an Asian Monetary Fund was formally discussed and rejected at the November 1997 APEC Finance Minister's meeting. Prior to the annual APEC meeting in 1998, the idea of an Asian Monetary Fund was again raised; however, no effort to implement such a scheme materialized. Given its size and organizational frailty, APEC has, since the Asian crisis (and in the wake of 9/11 and the launch of the war on terrorism), served primarily as an opportunity for the region's leaders to get together to hold a range of bilateral meetings on specific issues often completely unrelated to regional economics and trade, while publicly reaffirming their long-term commitment to the nonbinding economic goals of the organization.

Mark Berger

See Also Economic Integration; Association of Southeast Asian Nations (ASEAN); International Monetary Fund (IMF)

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Association of Southeast Asian Nations (ASEAN)

The governments of Thailand, Singapore, the Philippines, Malaysia, and Indonesia formally established the Association of Southeast Asian Nations (ASEAN) on August 8, 1967. Brunei joined in January 1984, and the end of the Cold War saw the entry of Vietnam (July 1995), Burma (July 1997), Laos (July 1997), and Cambodia (April 1999). Although East Timor gained independence from Indonesia in 2001 and initially sought early entry into ASEAN, it has met opposition on this score from the government of Burma; its entry to ASEAN has not only been postponed, apparently indefinitely, but as of mid-2003 it was still being refused entry to the much larger, twenty-three-member ASEAN Regional Forum (ARF).

ASEAN was originally established in the context of the deepening of the Cold War in Southeast Asia. By the mid-1960s, even though they differed with regard to the level of support they wanted to provide for escalating U.S. involvement in the Vietnam War, anti-Communist governments in the region had a shared concern about local Communist-led insurgencies in their respective nations. The founding members of ASEAN were also interested in establishing a mechanism for the resolution or avoidance of disputes such as the complicated military and diplomatic struggle that had flowed from the setting of Malaysia's borders to include Sarawak and Sabah in the early 1960s.

The failure of the South-East Asia Treaty Organization (SEATO), set up in February 1955, also contributed to the emergence of ASEAN. The formation of SEATO followed the French withdrawal from Indochina and the parallel consolidation of the Democratic Republic of Vietnam (North Vietnam) under Ho Chi Minh and of the Republic of Vietnam (South Vietnam) under Ngo Dinh Diem. The United States sponsored the establishment of SEATO, and most of its members (the United States, Australia, New Zealand, Britain, France, Pakistan, Thailand, and the Philippines) were not even in Southeast Asia. From the outset it was envisioned as more of a military alliance for the defense of South Vietnam than a regional security organization. Even at the height of the Vietnam War, SEATO never assumed an active military role. At the same time, although the establishment of ASEAN was a response to the apparent weakness of SEATO and various postcolonial and Cold War security concerns, the members of ASEAN also placed considerable emphasis on economic collaboration.

ASEAN represented one of the earliest, and now represents by far the most long-lived, efforts to establish a regional intergovernmental organization in Southeast Asia. In fact, although Southeast Asia is now widely understood as that part of Asia that lies east of India and south of China (and contains Burma, Thailand, Malaysia, Singapore, Indonesia, Brunei, the Philippines, Cambodia, Laos, Vietnam, and most recently East Timor), the routinized treatment of Southeast Asia as a political, economic, or geographical unit only dates to the era of decolonization and the early Cold War. Although the term has been traced to the nineteenth century, and was used by some policymakers, colonial officials, and journalists by the 1930s, it took on greater significance during World

War II, when the theater of war under the direction of Lord Mountbatten was formally identified as the "South-East Asia Command" between 1943 and 1946. At the same time, the area covered by the South-East Asia Command did not coincide with contemporary Southeast Asia insofar as it never included the Philippines or all of French Indochina. After the war, meanwhile, the French government sought to promote a Southeast Asia Union centered on a reconfigured French Indochina (Vietnam, Laos, and Cambodia). This was challenged by the Southeast Asian League, which was set up in 1947 by the Laotian Prince, Souphanouvong (the "Red Prince"), who became its first general secretary. Neither of these organizations survived for long, but by the time of the establishment of SEATO in 1955, and then ASEAN a little more than a decade later, the idea of Southeast Asia as a discrete region was firmly established.

Apart from SEATO, which was formally disbanded in June 1977, ASEAN also had a more immediate predecessor in the form of the Association of Southeast Asia (ASA). Thailand, Malaya (later Malaysia), and the Philippines set up the ASA on July 31, 1961. It was hoped it would serve as an alternative to the already faltering SEATO; however, the ASA was undermined within a year or two by the outbreak of a dispute between Malaya and the Philippines over Sabah, in northern Borneo. The ASA was further weakened when Manila took the side of Jakarta in the escalating territorial conflict (the "Konfrontasi") that pitted the Indonesian government against the Malayan and British governments, and their allies, over the inclusion of Sarawak and Sabah (and briefly Brunei) in the planned postcolonial polity of Malaysia (which was also expected to include Singapore).

With the eventual resolution of the Konfrontasi and the consolidation of Malaysia to include Sarawak and Sabah, but not Singapore and Brunei, the ASA was briefly resuscitated in 1966, but was dissolved in 1967 in favor of the newly created, and more broadly based, ASEAN. The Association of Southeast Asian Nations, which was briefly known as the South East Asia Association for Regional Cooperation (SEAARC), formally emerged under the auspices of the ASEAN Declaration promulgated in Bangkok on August 8, 1967, by the governments of Indonesia, Malaysia, the Philippines, Singapore, and Thailand. Immediately prior to the establishment of ASEAN, the idea of regional governmental cooperation in Southeast Asia was receiving both private and public support from U.S. policymakers, academics, and the print media.

ASEAN's main goals, as already suggested, were presented as economic and social cooperation; however, a key implicit objective was political cooperation, and the founding document also reflected an intention to influence regional political and military affairs. These latter concerns were reflected in the declaration in November 1971 of Southeast Asia as a Zone of Peace, Freedom and Neutrality (ZOPFAN). However, despite gestures such as ZOPFAN, ASEAN did very little for almost ten years after its initial establishment in 1967. And even when the organization eventually had its first summit meeting in February 1976, it was clear that ASEAN still did not have anything resembling a unified strategic outlook. During Vietnam's occupation of Kampuchea (Cambodia) from December 1978 to the end of 1989, however, ASEAN was united in its opposition to Vietnam's violation of Cambodian sovereignty.

The end of the Cold War led eventually to Vietnam, Laos, and Cambodia becoming members of ASEAN. Burma (Myanmar) also became a member in this period, and by the end of the 1990s ASEAN included all of the nation-states in Southeast Asia. Starting in January 1992, ASEAN also entered into a security dialogue with governments outside of Southeast Asia. The specific instrument for this process was the Post-Ministerial Conference (PMC), a meeting between the foreign ministers of the United States, Russia, and China, along with other East Asian governments, on the one hand, and the foreign ministers from the ASEAN governments, on the other. This

meeting led to the establishment of the ASEAN Regional Forum in July 1993, which held its first formal meeting in Bangkok in July 1994. These years also saw the promulgation of a formal commitment to an ASEAN Free Trade Area (AFTA). Meanwhile, ASEAN played a key role in the formation of the Asia-Europe Meeting (ASEM), which met in Bangkok for the first time in March 1996.

ASEAN was the focus of considerable international controversy at the time of the entry of Burma (Myanmar) and Cambodia into the organization. The acceptance of Burma into ASEAN in July 1997, and the failure of the organization's members to criticize the Rangoon-based military government's terrible human rights record, attracted the opprobrium of governments outside the region. It also highlighted the organization's continued blanket commitment to respecting the sovereignty of other members and the principle of noninterference into their affairs. The question of the human rights record of the military government of Myanmar has not gone away. It surfaced again at the June 2003 meeting of ASEAN in Phnom Penh. There is particular international concern, and concern within ASEAN, expressed most forcefully by the Malaysian government, about the fact that the government in Rangoon is slated to assume the rotating secretary-generalship of ASEAN in 2006.

Meanwhile, ASEAN members did defer the entry of Cambodia into the organization when Hun Sen led a coup in Phnom Penh shortly before its scheduled induction in July 1997. Cambodia's membership was subsequently ratified in April 1999 against the backdrop of growing problems with the formation and maintenance of consensus in the organization as it expanded in size. The Asian financial crisis (1997–1998) and disagreements over how to handle it (Thailand and Indonesia accepted the financial assistance and reform package proffered by the International Monetary Fund [IMF], while Malaysia rejected IMF support and advice) also contributed to disarray and ineffectiveness in ASEAN at the end of the 1990s.

As the issue of Myanmar's entry makes clear, ASEAN has always emphasized its commitment to consensus and respect for the sovereignty of member governments. Although ASEAN watches the European Union with interest, it has no apparent commitment to political integration. However, there has been some attempt to move toward what Rodolfo C. Severino, a former secretary-general of ASEAN (2000–2002), described as a "more rules-based association." Speaking in Kuala Lumpur in 2001, Severino, a former undersecretary for foreign affairs in the Philippines, argued that "regional agreements may need national legislation to carry them out" and that a move in this direction "would help strengthen the national legal systems of the member-states as well as the rule of law in the region as a whole" (Severino 2001). The main activity of ASEAN remains an annual meeting between the foreign ministers of the member governments, preceded by a meeting of senior officials. The daily operations of the ASEAN secretariat are managed by a standing committee that is based in the capital city of whichever member government is scheduled to provide the venue for the next annual meeting.

Meanwhile, the emergence of ASEAN+3 (ASEAN and China, Japan, and South Korea) in the late 1990s is probably the most important ASEAN-related development in the region. This trend has meant that ASEAN (or more precisely ASEAN+3) is seen as more significant than the Asia Pacific Economic Cooperation (APEC) forum. For many commentators, the Asian financial crisis breathed new life into the specifically East Asian efforts to develop a regional political and economic organization that is far less inclusive than the apparently moribund APEC. In this situation ASEAN has the potential to play an important role. The events of 1997–1998 demonstrated that East Asia continued to be vulnerable to external economic trends. For governments and business elites in the region, the crisis highlighted the need for an effective regional organization that could manage economic instability.

This is the context in which ASEAN, and especially ASEAN+3, emerged as potential frameworks for the explicitly pan-Asian organization that had been promoted for many years by the long-serving prime minister of Malaysia, Mahathir Mohamad (1981–2003). Mahathir is seen as having been vindicated in his use of capital controls (contrary to the IMF's approach to Thailand, Indonesia, and South Korea), insofar as he steered the Malaysian economy through the economic crisis of the late 1990s far better than the IMF-backed governments of Thailand and Indonesia did. The war on terrorism also initially enhanced Mahathir's ability to control political opposition in Malaysia, and his wider support for the struggle against Islamic fundamentalists in the region and beyond also improved his relationship with the United States. However, his harsh criticisms of the U.S.-led war on Iraq in early 2003 had the reverse effect. Furthermore, although he may use less strident language, compared to his earlier calls for an exclusive East Asian regional organization, Mahathir continued up to the end of his term as prime minister of Malaysia in October 2003 (and beyond) to promote an exclusive form of regional cooperation that would challenge the U.S.-led globalization project. For example, writing in a World Economic Forum publication the year before he stepped down as prime minister, he emphasized that "with the global economy in trouble, Asian countries should intensify their regional cooperation in trade and finance, including such initiatives as an East Asian Economic Grouping and a regional monetary fund" (Mahathir 2002, 10).

Regardless of the continued salience of Pan-Asian economic regionalism, it remains unclear whether ASEAN+3 will emerge at the center of an independent regional political and economic organization of the type that Mahathir has been promoting since the beginning of the 1990s. Certainly there are a number of broad reasons why the nation-states of ASEAN might move toward ever-tighter integration with the main nation-states of Northeast Asia. Although proponents of regional integration often point to an ostensibly common history and cultural background, more important factors facilitating regional integration probably relate to a continued commitment to state-guided development, or the "developmental state," along with certain similarities in the organization of economic activities. This is strengthened by the important role of overseas Chinese businesses in the region and increasingly strong regional investment flows and trading relationships. There is considerable debate about how important some of these trends and ostensibly shared characteristics are in terms of facilitating regional economic and even political integration, but when they are linked to the resentment about the unilateral way in which the United States and the IMF handled the Asian financial crisis, and the often unilateral approach that the administration of President George W. Bush is taking to diplomacy and military affairs, as well as trade and finance, there is clearly the potential for increased regional mobilization and even regional institution-building by governments and elites in Asia.

It is also clear that, unlike APEC, the regionalism associated directly and indirectly with ASEAN+3 is focused far more on money and finance than it is on trade. Both China and Japan have significant monetary reserves, and they are both viewed as potential anchors for any wider effort to develop an effective regional monetary mechanism. At the same time, the main obstacle to greater regional integration, led by Japan and/or China, apparently has little to do with any bilateral disagreements between the two major regional players. Nor does it even appear to be related directly to Tokyo's long-standing willingness to defer to Washington. The main reason that the governments of Japan and China apparently remain willing to leave the overall management of regional monetary relations to the IMF is that Tokyo and Beijing are both reluctant to make open-ended financial or monetary commitments to other governments in the region.

This situation apparently flows from the limits that the wider global political economy imposes on even the largest national economies today. The growing power of financial capital, in particular, has been at the forefront of the construction of an international economic order that is characterized by a growing disjuncture between the production of goods and services and an increasingly deregulated financial system. At this point even the largest and most powerful economies in the region are limited by the ability of the global financial markets to shape global economic policy. It is also worth noting that China's rapid economic development and concomitant politico-military rise is viewed in many quarters as a challenge to ASEAN. At the same time, Japan continues to exert a powerful influence over Southeast Asia, an influence that has a contradictory rather than a straightforward unifying effect on the region. Meanwhile, the resurgence of bilateral trade negotiations in the region and beyond over the past few years highlights the decline of APEC, the continued frailty of the WTO, and the important countervailing tendencies that will thwart any straightforward movement toward stronger regional economic and political integration centered on the East Asian region generally or ASEAN specifically.

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See Also Economic Integration; Asia Pacific Economic Cooperation (APEC); South Asian Association for Regional Cooperation (SAARC)

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Australia New Zealand Closer Economic Relations Trade Agreement (ANZCERTA)

The Australia New Zealand Closer Economic Relations (CER) Trade Agreement, sometimes called ANZCERTA, came into effect on January 1, 1983. It is usually known by its short title, Closer Economic Relations, or its abbreviation, CER. A free trade agreement (FTA) as provided for in Article 24 of the General Agreement on Tariffs and Trade (GATT), it is comprehensive and nondiscriminatory. It reports to the GATT Secretariat.

CER in a Nutshell

The CER Agreement contains provisions for the following:

- Free trade in goods. Since 1990 there have been no tariffs or quantitative restrictions on trade in goods, and goods traded between the parties are not subsidized.
- Free trade in services. New Zealand and Australian service providers can access each other's markets with only minor restrictions in air services, coastal shipping, broadcasting, third-party insurance, and postal services.
- Mutual recognition of goods and occupations. A good (with five exceptions) that can legally be sold in one country can also be sold in the other, and a person who is registered to practice an occupation in one country (save medical practitioners) is entitled to practice an equivalent occupation in the other.
- Free labor market. A long history of arrangements, collectively known as the Trans-Tasman Travel Arrangement, allow Australians and New Zealanders to visit, reside, and work in either country without restriction. These arrangements have been supplemented by a Social Security Agreement, the Reciprocal Health Agreement, and the Child Support Agreement.
- Government Procurement. Progressive agreements provide for a single trans-Tasman government procurement market.
- Investment. Most investments from one party no longer require approval by the government of the other.
- Taxation. Double taxation is eliminated, and company taxes and imputation policies are being harmonized.
- Customs, quarantine, and biosecurity measures. These have been harmonized and no longer constitute barriers.

The evolution of CER displays five notable features. First, CER did not evolve as a consequence of natural complementarity but rather was the outcome of negotiations and decisions by Australian and New Zealand political lead-

ers, who were obliged to cope with European protectionism. Second, CER was innovative inasmuch as its negotiators started with a notional assumption of total free trade and then accommodated sensitive issues with a negative list approach and other devices, such as deferral arrangements, memoranda of understanding, and intra-industry pacts. Third, CER was evolutionary inasmuch as it started with goods in 1983, progressed to services in 1987, then tackled other constraints on trade and investment in a series of pragmatic steps extending to the present. Fourth, CER gradually broke new ground with agreements to recognize professional and educational credentials and food and safety standards in both countries and to eliminate other "beyond-the-border" constraints on trade. Competition laws have made antidumping and countervailing regulations unnecessary. Fifth, CER is uniquely efficient, inasmuch as it operates without a secretariat or a dispute resolution body, but rather is managed by existing political and administrative bodies and private-sector enterprises.

Recent Developments

During the 1990s, business laws were further harmonized by New Zealand legislation including the Reciprocal Enforcement of Judgments Amendment Act, the Securities Act, the Consumer Guarantees Act, and the Financial Reporting Act, each with its Australian counterpart, and by accession, alongside Australia, to the Patent Co-operation Treaty and the Convention on the Settlement of Investment Disputes. By 1993, agreements were reached to harmonize rules of origin, industry assistance, and technical barriers to trade. Judges were exchanged among civil courts dealing with CER-related torts, and a body of "CER law" began to accumulate.

CER had reached a high plateau by the mid-1990s; that is, all major issues had been dealt with, and progress gave way to consolidation. The two governments focused on how to harmonize company laws, tax policies, and other regulations affecting trade. Subsequent meetings by prime ministers and administrators dealt with problems arising in the broader trans-Tasman relationship, such as disputes over access for New Zealand apples affected by Fire Blight, regulation of national airlines, administration of immigration and refugee policies, and welfare eligibility of resident noncitizens. Noneconomic issues engaging the leaders included New Zealand's lag in defense capability and its exclusion from military relations with the United States, which contrasted with Australia's close military relationship with the United States and contribution to the war against Iraq. These issues played a role in coordination of counterterrorism approaches.

Neither government is contemplating moving to a customs union, monetary union, or other merger of the two economies or political systems. The policy is not about duplication or merger, but rather harmonization. That is, the governments and leading associations of each country will continue to formulate their own laws, policies, procedures, and practices, but these will deliberately be made compatible with those of the other, even as they continue to differ in title, idiom, and detail. The precedents they have set and the experience they have gained have facilitated subsequent FTA negotiations with Singapore and other members of the Association of Southeast Asian Nations (ASEAN), Chile, and the United States.

Assessment of CER

In 2003, Australia and New Zealand leaders celebrated twenty years of harmonious operation of CER. Trade and economic relations between the two economies at that time were still enjoying vigorous and sustained growth. In the 1990s, trans-Tasman trade increased by an annual average of 9 percent, which exceeded the average growth of Australia's international

trade of 8.5 percent and the annual growth in New Zealand's international trade of 6.3 percent. As a proportion of total trade, New Zealand's merchandise trade with Australia grew from an average of 13.9 percent to 21 percent in the period 1985–2000; Australia's proportion of trade with New Zealand grew from 4.1 percent to 7.1 percent in the same interval. New Zealand did especially well; its merchandise exports to Australia rose steadily, from NZ$1,037 million in 1983 to NZ$6,217 million in 2002, and the trade ratio improved from two-to-one in Australia's favor to virtual parity during the first decade of CER. Australia became New Zealand's best trading partner, New Zealand became Australia's third best trading partner, and each strengthened its position as the other's best customer for manufactured goods.

Furthermore, trans-Tasman investment grew from NZ$2 billion to NZ$32 billion during the period 1983 to 2000. Intra-industry trade, intercorporate alliances, trade in services, and movement of tourists and migrants also registered increases in the 1980s and 1990s over corresponding figures for the 1970s, increases attributed directly or indirectly to CER. CER is paralleled by a Closer Defence Relationship (CDR), close and frequent political and administrative sector consultations, and a joint institution, the Australia New Zealand Food Authority. Under negotiation is a binational therapeutics goods regulatory agency. Also, citizens of each country may reside and work in the other, creating a single labor market.

Historical Background and Motivation

For a century and a half, the trade relationship between Australia and New Zealand remained harmonious and mutually advantageous, but not deep or close. The two countries' leaders had discussed closer economic cooperation sporadically since the 1880s, signed trade agreements in 1922 and 1933 extending British preferential tariff rates to each other, and negotiated a Trade Understanding to grant special import licenses in 1956. But as recently as 1960, only 4 percent of New Zealand exports went to Australia, and a similar proportion of Australia's exports went to New Zealand. Throughout much of the twentieth century, the two countries looked in opposite directions, New Zealand trading through Panama, Australia through Suez.

Their mutual aloofness was shaken by faraway events. In 1961, Britain declared its intent to seek membership in the European Economic Community (EEC). This jeopardized New Zealand's and Australia's privileged access to the British market. At the same time, world prices for bulk agricultural commodities were declining as other countries became self-sufficient and began supplying world markets. New Zealand's and Australia's export growth slowed, and by the later 1960s, as the two countries continued borrowing and importing, and to support their high standards of living, their balance of payments fell deeper into deficit. Their export industries, which were dependent on the British market, mainly for agricultural and light industrial products, had to either find new outlets or enlarge traditional ones.

Faced with these prospects, the governments of New Zealand and Australia began to take an interest in each other's markets. The attractions were several. They included proximity and familiarity; cultural, legal, and monetary similarity; an unrestricted labor pool; and substantial cross-Tasman direct investment linkages in, for example, manufacturing, banking, finance, and insurance. New Zealand traders were attracted by the potential of the Australian market to absorb dairy products facing exclusion from the British market. Conversely, New Zealand had become the largest market for Australian light manufactures and was seen also as a proving ground and a stepping stone to markets farther afield, a view soon to be adopted by New Zealand toward Australia as well.

CER's Predecessor, 1965–1978

Converging interests stimulated the political leaders to spearhead a five-year negotiating effort beginning in 1960. The specific objective was to liberalize bilateral trade in forest products, but selected manufactures were also included for consideration. The result of the subsequent negotiations and compromises was the New Zealand Australia Free Trade Agreement of 1965, popularly known as NAFTA. The heart of NAFTA was a list of products that would be traded freely, without tariffs or quotas, between the partners. This list was to be expanded at semiannual meetings by representatives of the two governments.

Despite the hopes of the negotiators, NAFTA soon bogged down, increasingly becoming an institution of managed trade. Industry lobbies used their veto power to delay additions to the free trade list. Although the number of items enjoying free trade had risen from approximately 1,000 at the inception of the agreement in 1965 to 1,760 by 1974, this still represented only 37 percent of the items on the New Zealand Customs Tariff list. Many of the additions were of little trade value or were not competitive. The inordinate amount of time and effort spent by negotiators yielded small gains, particularly for Australia. For example, New Zealand was particularly prone to using import licenses and quotas to protect motor vehicles and parts and steel products, items Australia was particularly keen to export to New Zealand.

CER Negotiations, 1978–1983

By 1978, the trade ministers of the two governments were well aware that NAFTA was no longer good enough. Furthermore, the failure of the GATT Tokyo Round to reduce the subsidization of European and American agriculture exports stimulated a defensive reaction in New Zealand and Australia, on the one hand, and on the other a determination to set up a reformed and liberalized market regime to exemplify what GATT should be. These impulses converged on the conclusion that NAFTA had to be drastically reformed or superseded altogether by a new trans-Tasman trade regime. New Zealand political leaders were inclined to reform NAFTA, but Australian leaders conceived bolder innovations.

The result was a joint statement by prime ministers in 1978 pledging to liberalize trans-Tasman trade. Joint committees were set to work to explore options. Trade and industry ministers met to review progress and to encourage the newly formed Australia–New Zealand Business Council to bring business leaders into the initiative. In New Zealand, indefatigable speeches to business groups by Minister of Customs Hugh Templeton created a favorable climate of opinion that dissolved latent protectionist impulses. Industry leaders initially were cautious, particularly toward any weakening of import licensing or diminution of export incentives, but over time modern, export-oriented firms, such as Fisher and Paykel and Feltex, and the Dairy Board, declared themselves in favor of liberalization. Older and more protected sectors and enterprises took longer to convince.

The prime ministers in March 1980 adopted five principles to guide their negotiation on a "closer economic relationship," marking the initiation of this portentous label. These principles were:

- the freest possible movement of goods;
- an outward-looking approach to trade;
- favorable treatment of each other's citizens;
- consideration of each other's interests; and
- frequent consultation.

The essence of their approach was simple but profound: Liberalization was to be effected by making *all* goods duty free (some immediately, some after five years) except those on a deferred list, which was to be kept "as short as

possible." This turned NAFTA's free-trade-list approach on its head by putting the burden of proof on any exception to the overarching principle of duty-free access.

Five Difficult Issues and Their Resolution

During the ensuing negotiations, five issue-clusters preoccupied the negotiators. They are summarized, with indications of how they were resolved, as follows.

1. *Tariff Reduction.* Tariff schedules differed considerably, so the two parties decided to reduce tariffs in three phases to protect vulnerable industries. First, all tariffs were to be reduced immediately to a maximum of 25 percent. Second, tariffs were then to be reduced by five percentage points per year so that most tradables would be duty free in five years. Third, products to be protected were to be put on a deferral list for further negotiations.

2. *The Deferral List.* Each side was tempted to defer tariff cuts as long as possible. The New Zealand negotiators assembled a lengthy list of sensitive products, one that initially included automobile and steel products, wines, agricultural chemicals, teas, wool grease and woolen yarn products, pineapples, aerated waters, and prepared vegetables. The Australians submitted a shorter list in which dairy products, horticultural products, textiles, plastics, and household appliances (whiteware products) predominated. Australia then called for the deferral period to end in 1992. New Zealand held out for an indefinite period for its sensitive industries but compromised in 1995. Thus, interim protection by deferral lists smoothed the way to a CER agreement but did not become entrenched.

3. *Subsidies and Monopolies.* The New Zealand side was worried about subsidies, rebates, or price supports of Australian wheat, wine, tobacco, sugar, and canned fruit, whereas the Australian side was concerned about New Zealand statutory monopoly marketing of dairy products (the Dairy Board), wheat (the Wheat Board), tropical fruits and grapes (Fruit Distributors), vegetables, and berry fruit. Eventually each party surrendered subsidies and monopolies as applied to trade with the other. The New Zealand government revoked the Wheat Board's monopoly in 1987 and deregulated the wheat market.

4. *Government Purchasing.* New Zealand wanted to be included in the "buy Australia" policies of the federal and state governments. The Australian federal government speedily adjusted federal preferences so as not to discriminate against New Zealand suppliers, but it was powerless to change state government purchasing policies. Despite persistent representations by New Zealand, this issue was not resolved until 1989.

5. *Intermediate Goods.* "Buy Australia" policies and higher tariffs encouraged Australian manufacturers to use materials and components ("intermediate goods") from Australian suppliers whose prices tended to be higher than world market prices. New Zealand manufacturers, by contrast, purchased intermediate goods from world markets at the cheapest available prices, so the final products tended to be less expensive than the Australian equivalent and had potential to capture larger market shares if traded freely. Australian negotiators urged New Zealand to allow a compensation for this structural advantage and used this rationale to defer tariff freeing of several sensitive products.

Intra-Industry Agreements

At the same time, many industries began to play a creative role in the negotiations. In late 1981 and early 1982, the carpet, wine, dairy, and steel industry associations met with their trans-Tasman counterparts to draft industry agreements. These were essentially intra-industry orderly marketing arrangements brokered by and later underwritten by the governments. The carpet agreement set up a ten-year

phase-in schedule for Australian synthetic-carpet access to the New Zealand market, thereby allowing the New Zealand carpet industry time to adjust and compensating it by allowing immediate free access for wool carpet to the Australian market. The wine agreement of February 11, 1982, negotiated by the Wine Institute of New Zealand and the Australian Wine and Brandy Corporation, eased New Zealand's adjustment by delaying the commencement of the tariff reduction schedule until 1986.

The dairy industry agreement of April 13, 1982, was worked out by a Joint Dairy Industry Consultative Committee representing the New Zealand Dairy Board, the Australian Dairy Corporation, the Australian Dairy Farmers Federation, and the Australian Dairy Products Federation. The committee pledged to consult in order to avoid undermining the returns or price structures of the industries, to avoid dumping or unfair trading practices, and to cooperate in international markets. New Zealand was to restrain its exports of cheddar to a pace no faster than total market growth in Australia and to avoid exporting milk or cream except in the event of a shortfall in Australia. An official memorandum of understanding pledged that dairy trade was to be "liberalized progressively under the CER in such a way as not to result in unfair competition between industries or disruption to industries of either country."

Steel was dealt with in an attachment noting that trade in deferred iron and steel products would be made compatible with CER "as soon as practicable." These intra-industry arrangements, although less visible than the government-to-government negotiations, proved essential to making CER work.

A "Heads of Agreement" was signed on December 14, 1982, and CER was brought into operation on the first day of 1983.

The 1988 CER Review

The 1984 general election in New Zealand brought a Labour government to power. The new finance minister, Roger Douglas, initiated a radical economic reform program characterized by sweeping deregulation, privatization, and the liberalization of imports of goods, capital, and entrepreneurial expertise. These policies were subsequently applied to the next review of CER, in 1988, and New Zealand negotiators were instructed to achieve full free trade in goods as soon as possible, to eliminate nontariff and qualitative barriers and "beyond-the-border" trade distortions, and to extend free trade practices to new areas such as services.

Following the 1978–1982 precedent, the negotiators started with a goal of complete liberalization, then acknowledged those issues that proved sensitive to either side, then set about isolating and minimizing them. To keep the negotiations moving closer to the liberal idea, they employed nonreciprocal concessions, which differ from tradeoffs because they are not synchronized, one-for-one deals, but concessions made by each side at varying times. The concessions made by each side are summarized in Table 1.

Consolidation of CER in the 1990s

In 1989, the two governments freed all services trade not on the exemption list. New Zealand subsequently freed trade in domestic air services, postal services, radio and television broadcasting, short-wave and satellite broadcasting, and stevedoring, and Australia freed banking, postal services, and construction, engineering, and general consultancy. New Zealand finally gained equal treatment in bidding for contracts let by state governments. Australia abolished export incentives and bounties applying to trans-Tasman trade, and in turn New Zealand abolished import monopolies on apples, pears, and bananas. By 1990, full free and unsubsidized trade in goods was achieved, five years ahead of schedule.

In the early 1990s, the two governments began to dismantle the "second-generation" bar-

Table 1: Concessions by New Zealand and Australia in the 1988 CER Review Negotiation

New Zealand agreed to:

- Removal of import monopolies
- Exceptions for Australia from the services liberalization protocol
- An exemption for Australia from its Export Market Development Tax Incentive from July 1, 1990, and phaseout of its nonperformance export incentives
- A Record of Understanding that the New Zealand Dairy Board would treat sales in Australia the same as sales in the New Zealand domestic market
- Removal of its demand for a disputes settlement mechanism
- Conclusion of the 1988 review with a collection of declarations, protocols, and memoranda reflecting the diversity of the two sides rather than a consolidated document reflecting the linkage that New Zealand sought at the outset

Australia agreed to:

- Removal of antidumping provisions in the CER agreement, and application of domestic competition laws to complaints regarding unfair competition
- Removal of two export subsidy programs for goods exported to New Zealand, and further discussion of motor vehicles
- Removal of bounties paid directly for exports to New Zealand by July 1, 1990
- Long-term disciplines and consultations for industry assistance policies
- Plans to conclude a services protocol
- Promotion of the New Zealand bid to gain nondiscriminatory access to procurement by state governments

Notes: New Zealand failed to achieve agreements on issues involving investment and a number of services sectors. The Australian exclusion list remained longer than New Zealand's and included key sectors, such as banking and insurance, as well as air services and consultancy. Useful memoranda of understanding were signed, however, on technical barriers to trade, quarantine, customs, and business laws.

riers to free trade that had proved politically intractable during the first two rounds of 1978–1982 and 1988. They abolished antidumping measures; signed a draft Agreement on Standards, Accreditation, and Quality to make the certifications, credentials, and quality standards of each country acceptable to the other; and set in motion negotiations to harmonize business laws.

The governments agreed in 1991 to set up a Joint Accreditation System to raise their quality management systems to international standards and provide for mutual recognition of each other's certifications of them. In 1992, the governments signed a memorandum of understanding to make progress toward a single trans-Tasman aviation market; this foreshadowed the freeing of trade in aviation services, a major sector still on the exemption list, by 1994. Prime ministers Robert Hawke and Geoffrey Palmer pledged to work for free trade in services by 1995.

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See Also Economic Integration; North American Free Trade Agreement (NAFTA); General Agreement on Tariffs and Trade (GATT)

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Caribbean Community (CARICOM)

The Caribbean Community, or CARICOM, is the primary instrument of Caribbean regional integration. Its mission is "to provide dynamic leadership and service, in partnership with Community institutions and Groups, toward the attainment of a viable, internationally competitive and sustainable Community, with improved quality of life for all" (CARICOM, http://www.caricom.org). CARICOM was established as the Caribbean Community and Common Market on August 1, 1973, by the Treaty of Chaguaramas, which was signed by the prime ministers of Barbados, Guyana, Jamaica, and Trinidad and Tobago. In February 2002, it was modified as the Revised Treaty of Chaguaramas Establishing the Caribbean Community Including the CARICOM Single Market and Economy (the Revised Treaty), and CARICOM was reformulated as the Caribbean Community, incorporating a single market, or CSME (CARICOM Single Market and Economy). CARICOM's secretariat is located in Georgetown, Guyana, and its secretary-general is Edwin Carrington. It encompasses a secondary instrument of subregional integration, the Organization of Eastern Caribbean States (OECS), which is recognized as an Associate Institute within the Treaty of Chaguaramas (Blake 2001, 482).

CARICOM was originally composed of Anglophone Caribbean countries. The membership subsequently expanded to include other countries of the region. CARICOM's fifteen member countries are Antigua and Barbuda, the Bahamas (a member of the community but not the common market), Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago. Antigua and Barbuda, Belize, Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines are designated as less developed countries (LDCs). Barbados, Guyana, Suriname, Jamaica, and Trinidad and Tobago are designated as most developed countries (MDCs). Associate members include Anguilla, Bermuda, British Virgin Islands, Cayman Islands, and Turks and Caicos Islands. CARICOM observers include Aruba, Colombia, Dominican Republic, Mexico, Netherlands Antilles, Puerto Rico, and Venezuela. Several CARICOM members belong to the OECS. OECS member states include Anguilla, Antigua and Barbuda, British Virgin Islands, Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines.

CARICOM evolved out of a fifteen-year movement for regional integration in the Caribbean and followed two previous attempts at regional economic integration: the British West Indies Federation, and the Caribbean Free Trade Association (CARIFTA). The British West Indies Federation was an attempt at pre-independence unification. It was created in 1958 under the direction of the British government and included ten British colonial islands. Although envisaged as both a political and customs union, the federation had more of a political orientation. It disbanded in 1962, in part because of the withdrawal of two of its largest member countries, Jamaica and Trinidad and

Tobago, which gained their independence from Britain in 1962. However, the leaders of both countries continued to support the movement for integration. After the federation dissolved, Caribbean leaders continued to meet outside of a formal alliance to foster regional cooperation and collaboration.

Rules of the Revised Treaty

The Revised Treaty is a comprehensive document that incorporates provisions governing institutional arrangements; establishment, services, capital, and movement of community nationals; sectoral development; trade policy; transport policy; disadvantaged countries, regions, and sectors; competition policy and consumer protection; and dispute settlement. The treaty makes concessions in certain cases for the LDCs. With regard to trade policy, the Revised Treaty in Chapter Five establishes a common external tariff (CET) for extraregional imports and compels free intraregional trade on the bases of nondiscrimination and most-favored-nation treatment for goods that satisfy the community's Rules of Origin criteria; prohibits import duties, export duties, quantitative restrictions, and internal taxes and other fiscal charges on intraregional imports; defines allowable and prohibited subsidies; and permits member states to take action against dumped imports if these imports cause injury or pose a threat to a domestic industry (Organization of American States, http://www.sice.oas.org).

With regard to the movement of labor and capital, the Revised Treaty in Chapter Three defers the treatment of monopolies to member states, allowing them to decide whether the public interest necessitates restriction of the right of establishment in any industry or sector; requires member states to eliminate discriminatory restrictions on banking, insurance, and other financial services; forbids the introduction of new restrictions on the movement of capital and requires the facilitation of free capital flows; requires coordination of member-state foreign-exchange policies to facilitate the movement of capital between them and third states; and provides for the free movement of labor within the community (ibid.).

With regard to sectoral policy, the Revised Treaty in Chapter Four delineates a Community Industrial Policy emphasizing the goal of "market-led, internationally competitive and sustainable production of goods and services for the promotion of the region's economic and social development"; specifies the sectors of interest, namely micro and small enterprises, services, tourism, and agriculture; outlines the priorities for each sector; and establishes a Community Investment Policy that addresses macroeconomic policy convergence, fiscal policy harmonization, monetary convergence, monetary union/single currency, a harmonized system of investment incentives, stable industrial relations, appropriate financial institutions and arrangements, supportive legal and social infrastructure, and modernization of the role of public authorities (ibid.).

Structure and Mission of CARICOM

CARICOM aims to improve the region's standards of living and work; stimulate full employment of labor and other factors of production; foster sustained economic development and convergence; expand trade and economic relations with external states; enhance levels of international competitiveness; organize for increased production and productivity; and enhance member states' economic leverage and effectiveness in dealing with external entities (CARICOM, http://www.caricom.org). The institutions of CARICOM are intergovernmental, with no supranational decisionmaking capacity such as that found in the European Community (Axline 1978, 956). CARICOM itself has no supranational body. Its primary organs are the Conference of Heads of Government (the conference) and the Community Council of Ministers (the council). The conference—

the highest organ—provides policy direction for the community, concludes treaties on behalf of the community, and negotiates relationships between the community and external entities (ibid.). The Bureau of the Conference, a subsidiary body, acts on behalf of the conference between meetings. The Council administers the community's financial obligations and coordinates its economic integration, functional cooperation, and external relations.

Four ministers councils support the conference and council. They are the Council for Trade and Economic Development, the Council for Foreign and Community Relations, the Council for Human and Social Development, and the Council for Finance and Planning. Bodies of the community include the Legal Affairs Committee, the Budget Committee, and the Committee of Central Bank Governors. CARICOM has several institutions implementing its programmatic work, including the Caribbean Disaster Emergency Response Agency, the Caribbean Meteorological Institute, the Caribbean Food Corporation, the Caribbean Environment Health Institute, the Caribbean Agriculture Research and Development Institute, the Caribbean Regional Center for the Education and Training of Animal Health and Veterinary Public Health Assistants, the Assembly of Caribbean Community Parliamentarians, the Caribbean Center for Development Administration, and the Caribbean Food and Nutrition Institute. Associate institutions of the community include the Caribbean Development Bank, the University of Guyana, the University of the West Indies, the Caribbean Law Institute/Caribbean Law Institute Center, and the Secretariat of the Organization of Eastern Caribbean States.

History of CARICOM

The prime minister of Trinidad and Tobago convened the first Conference of Heads of Government in July 1963, which was attended by the prime ministers of Barbados, British Guiana, Jamaica, and Trinidad and Tobago. Several conferences followed, and in December 1965 the leaders of Antigua, Barbados, and British Guiana signed an agreement to create the Caribbean Free Trade Association. The fourth Conference of Heads of Government ratified this agreement and formally established CARIFTA with the concurrence that a common market would be achieved over the course of several stages. The CARIFTA agreement was actualized on May 1, 1968. Membership comprised the original ten members of the federation, plus Guyana. Belize joined in 1971.

CARIFTA was essentially a free trade zone; it was neither a customs union nor a common market and therefore allowed for the least degree of integration. It lessened controls on intraregional trade but did not establish uniform requirements for external trade or establish a common market for productive factors such as labor and capital. The CARIFTA arrangement also did not include any mechanisms to limit the impact of free intraregional trade on the smallest, most vulnerable economies. Its structural weaknesses notwithstanding, CARIFTA achieved a degree of success. In 1968, it accomplished its first integration measures by lowering tariffs and quantitative restrictions in the region. During the following decade, CARIFTA stimulated intraregional trade, which increased substantially. In addition, CARIFTA stimulated interest within the region in transforming the Caribbean from a free trade area to a customs union. Eventually, it was replaced by CARICOM, which deepened the integration process.

At the seventh Conference of Heads of Government in October 1972, Caribbean leaders elected to reformulate CARIFTA into a regional community encompassing a common market. At the subsequent conference, held in Georgetown, Guyana, in April 1973, the leaders of eleven CARIFTA member countries signed the Georgetown Accord, which laid the groundwork for the Caribbean Community and Common Market. CARICOM was established by the

Treaty of Chaguaramas four months later. Although the treaty was signed initially only by the four countries of the region that were independent at that time, within a year Antigua and Barbuda, Belize, Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia, and St. Vincent had signed.

CARICOM underwent several changes after the eighth Conference of Heads of Government in 1987. The conference elected to establish the CSME to replace the common market, which had proven ineffective. The conference also proposed the introduction of a parliamentary opposition institution to enhance the community's decisionmaking process. The Assembly of Caribbean Community Parliamentarians was formally established shortly after the tenth Conference of Heads of Government. Another significant development occurred at this juncture in CARICOM's history as well: The community adopted the Grand Anse Declaration and Work Program for the Advancement of the Integration Movement in 1989 at the tenth Conference of Heads of Government. The declaration outlines an agenda of enhanced integration to be implemented over the four-year period from 1989 to 1993. The overall objective was to make CARICOM a common market in practice as well as in name, something that had eluded the organization in the sixteen years since it was founded (Erisman 1992, 136).

Member states committed to the following obligations in the declaration: implementation of a comprehensive CET by January 1991, a uniform standard for handling Rules of Origin trade questions, and a Harmonized Scheme of Fiscal Incentives; revitalization of the Caribbean Multilateral Clearing Facility to handle currency exchanges and payments and extend credit; elimination of all barriers to intraregional commerce by July 1991; and institutionalization of air-sea transport cooperation (ibid., 136). Caribbean leaders created the West Indian Commission to monitor the community's progress and ensure that member states met their obligations. The commission, comprising seventeen Caribbean experts, was tasked with preparation of a comprehensive report inclusive of recommendations for moving the region forward during the twenty-first century to be presented at the following conference. This report, entitled *Time for Action: Report of the West Indian Commission,* was published in 1992. The community revisited the Grand Anse Declaration in 1999 at the Seventh Special Session of the conference in Chaguaramas and assessed the progress that had been achieved in implementing its agenda. That same year, the nineteenth Conference of Heads of Government established a Caribbean Supreme Court called the Caribbean Court of Justice (CCJ) to officiate disputes concerning the interpretation and application of the Treaty of Chaguaramas and serve as the final appellate court for all member states (Blake 2001, 490). The Consensus of Chaguaramas summarizes the conclusions reached at the Seventh Special Session and serves as a blueprint of the community's plans for executing the CSME and CCJ in the twenty-first century.

Preparation for the CSME is an integral part of CARICOM's agenda. The CSME was negotiated in nine protocols amending the Treaty of Chaguaramas and its provision for the common market. The final two protocols were signed in 2000, paving the way for the realization of the CSME. In 2000, a quasi-cabinet was formed, and the leader of each member state was assigned a portfolio of responsibility pertaining to the creation of the CSME. Jamaica, for example, is tasked with external negotiations, the Bahamas with tourism, and Guyana with agriculture, agricultural diversification, and food security. The CSME aims to open access to the region's productive resources to all regional producers of goods and services; facilitate the location of businesses wherever investors deem most viable; and enhance the policy environment across the region (ibid., 483–484). To achieve these aims, new institutional arrangements such as COFAP, COTED, and a Committee of Governors of Central Banks were created to ensure that the national economies converge to form a single economy.

Realization of the CSME is crucial to CARICOM's success and the region's future in light of each member country's small size and economic vulnerability in a rapidly globalizing international political economy. Unfortunately, implementation of the policy measures has not matched the urgency of the negotiations creating them (ibid., 485). Critics allege that the CSME is no different from the preexisting common market because it is premised on the maintenance of frontiers, within which it will ostensibly liberalize access markets (Brewster 2003). According to these critics, the CSME, and CARICOM itself, is stymied by member states' apparent inability to cede the requisite degree of political and economic sovereignty to CARICOM.

CARICOM's Agenda

CARICOM states practice free trade with each other and "outreach" trade with external countries. For many years, CARICOM pursued regional development via widening, or expansion. However, its leadership found that widening alone was not sufficient for maximizing development; CARICOM had to deepen the integration process via economic cooperation, foreign policy coordination, and functional cooperation. These are CARICOM's three pillars of regional integration. Economic cooperation implies a common market based on the principles of free trade, a common external tariff, commitment to the removal of nontariff barriers to trade, harmonized fiscal incentives, and free intraregional capital mobility. Functional cooperation targets issues such as health, education, labor, finance, agriculture, industry, communications, transport, energy, mining and natural resources, science and technology, the law, information, and women's affairs. Foreign policy coordination involves the negotiation of political and economic affairs with extra-regional countries and organizations.

CARICOM has advanced significantly in all three dimensions. With regard to economic integration, it established a common external tariff and is moving toward becoming a single-market economy. For functional cooperation, it created several mechanisms for advancing regional human and social development, including the Caribbean Examination Council to standardize exam requirements across the region. Regarding foreign policy coordination, CARICOM established the Regional Negotiating Machinery (RNM) in 1997 to negotiate for all member states as one voice or bloc in international trade negotiations such as those conducted by the World Trade Organization (WTO), those related to the Free Trade Area of the Americas (FTAA), and negotiations between the European Union and the African, Caribbean and Pacific States (ACP). CARICOM, empowered by the Charter of Civil Society, has also played an instrumental role in fostering democratic stability in the region, particularly in Guyana, Haiti, and St. Kitts and Nevis.

Despite these accomplishments, CARICOM realized that the challenges of globalization required further widening along with deepening. Various global developments are restructuring the international relations of CARICOM states (Lewis 2002, 190). One such development is the globalization of production and finance, which has compelled countries to eliminate national barriers to the movement of goods, services, capital, and finance (Bernal 1994, 182). Another is the erosion of trade preferences under the WTO and its emphasis on trade liberalization. The EU first extended trade preferences to its former colonies in the ACP group under the Lomé Agreement to help them transition into the world economy as sovereign entities. The preferences were challenged in 1996, when the United States filed a claim at the WTO alleging that the EU discriminated against more efficient banana producers of other regions, namely Central and South America, the base of operations for U.S.-domiciled fruit multinational corporations such as Dole and Chiquita. This compelled the EU to reformulate Lomé with an eye toward phasing it out completely within a short period. The Lomé Agreement,

renamed the Cotonou Agreement after Cotonou, Benin, where the agreement was renegotiated in 2000, extended preferences to 2006, when they are slated for complete elimination. In 2003, a tripartite coalition of Brazil, Australia, and Thailand filed a claim at the WTO alleging the same complaint with regard to Lomé/Cotonou's EU-ACP sugar regime.

Trade pundits predict that sugar, bananas, and other traditional Caribbean exports will fail without preferences because they simply cannot compete with more efficient, lower cost producers. Given the predominantly agricultural orientation of CARICOM economies, this would have severe implications for member states. Another global trend that has restructured CARICOM's international relations is the intensification and increasing regionalization of international economic relations (Blake 2001, 491; Lewis 2002, 189). The creation of trade groupings such as the WTO, the North American Free Trade Agreement (NAFTA), and the pending FTAA has particular relevance to CARICOM, challenging it to devise strategies for coping in a hemisphere dominated by regional economic blocs and the eventuality of a free trade area extending from Canada to Argentina.

In 1994, CARICOM merged with other Latin American/Caribbean Basin states to form the Association of Caribbean States (ACS), a regional zone of cooperation. CARICOM was also instrumental in the creation of the Caribbean Forum of African, Caribbean and Pacific States (CARIFORUM). The community has linked with regional integration groupings in other parts of the world, such as the Southern African Development Community (SADC). In 2001, it concluded its first free trade agreement, the CARICOM–Dominican Republic Free Trade Agreement. The community has trade agreements with three other countries, Venezuela, Colombia, and Cuba. CARICOM is active at the Organization of American States (OAS), the United Nations, and the Summit of the Americas, a hemispheric grouping of states formed to foster cooperation in trade. It has also taken steps to safeguard its regional natural and human resource capital. In 1999, the region's leaders mobilized to reject the Caribbean Sea as transit for nuclear waste materials. In the aftermath of the September 11, 2001, terrorist attacks on the United States, the community mobilized to create a strategy to buffer the tourism sector—the region's most lucrative income earner—from extreme vulnerability to external shocks.

Structure and Performance of CARICOM Economies

CARICOM states are predominantly primary-commodity export economies. They are small, open economies that are highly trade-dependent. Agriculture, tourism, and mineral extraction are the region's leading economic sectors. All member states rely on agriculture, especially the sugar and banana industries, for employment and foreign exchange earnings. Although tourism is significant for the whole region, some states have been more proficient at developing a marketable product than others—for example, the all-inclusive destination package was pioneered in Jamaica. Some CARCIOM states possess large stores of mineral resources that are in high demand globally. Trinidad has oil and Jamaica has bauxite/alumina. CARICOM countries have prioritized economic diversification and technological innovation via the incorporation and utilization of information and communication technologies (ICT). However, twenty to thirty years after independence, the economies remain natural-resource based, and manufacturing still constitutes a relatively small percentage of regional gross domestic product (GDP). CARICOM does not have a regional currency. With the exception of the OECS states, which utilize the Eastern Caribbean dollar, CARICOM countries maintain their own national currencies.

Most CARICOM states have large debt-to-GDP ratios owing to extended periods of borrowing from private banks and international

Table 1: Data on Pertinent Economic Sectors

ANTIGUA AND BARBUDA
Gross Domestic Product by Industry at Factor Cost in Constant 1990 Prices
Percentage Distribution

Industry	*1999*	*2000*	*2001*
Total	100.0	100.0	100.0
Agriculture	3.5	3.5	3.5
Mining & Quarrying	1.9	1.9	1.9
Manufacturing	2.5	2.5	2.5
Electricity & Water	3.6	3.9	4.1
Construction	13.0	13.5	13.8
Wholesale & Retail Trade	9.5	9.7	9.8
Hotels & Restaurants	13.3	12.8	11.8
Transport	11.3	11.6	11.3
Communications	11.3	10.2	10.6
Banks & Insurance	10.9	10.8	10.8
Real Estate & Housing	7.2	7.3	7.4
Government Services	16.1	16.1	16.2
Other Services	6.5	6.6	6.6
Less: Imputed Service Charges	10.5	10.3	10.3

Source: Caricom Secretariat

THE BAHAMAS
Gross Domestic Product by Industry at Factor Cost in Constant 1990 Prices
Percentage Distribution

Industry	*1993*	*1994*	*1995*
Total	100.0	100.0	100.0
Agriculture & Fishing	3.4	3.3	3.2
Mining & Manufacturing	4.0	4.0	4.0
Electricity & Water	3.1	3.2	3.2
Construction	3.8	3.4	2.7
Wholesale & Retail Trade	12.7	13.6	14.9
Hotels & Restaurants	11.3	11.5	11.6
T/Port, Storage & Comm.	8.9	8.8	9.1
Financial Intermediation	3.6	3.7	4.0
Real Estate, Rent & Business	12.1	11.5	11.0
Public Admin. & Defense	7.3	7.4	7.3
Education	4.2	3.8	4.3
Health	2.9	3.0	3.1
Other Com., Soc. & Pers. Serv.	6.2	6.0	6.1
Dummy Financial Corporation (Fisim)	-2.5	-2.3	-2.4
Net Indirect Taxes	13.9	13.4	14.4
Statistical Discrepancy	5.2	5.7	3.6

Source: Caricom Secretariat

BARBADOS
Gross Domestic Product by Industry at Factor Cost in Constant 1990 Prices
Percentage Distribution

Industry	*1999*	*2000*	*2001*
Total	100.0	100.0	100.0
Agriculture	6.1	6.2	6.0
Mining & Quarrying	1.0	0.9	0.8
Manufacturing	9.3	9.0	8.5
Electricity, Gas & Water	4.0	3.8	4.1
Construction	7.4	7.3	7.2
Wholesale & Retail Trade	19.9	20.1	19.8
Tourism	14.8	15.5	15.0
Transport, Storage & Comm.	8.3	8.2	8.6
Business & General Services	16.8	16.8	17.3
Government Services	12.5	12.2	12.7

Source: Caricom Secretariat

BELIZE
Gross Domestic Product by Industry at Factor Cost in Constant 1990 Prices
Percentage Distribution

Industry	*1999*	*2000*	*2001*
Total	100.0	100.0	100.0
Agriculture	15.4	14.6	14.3
Forestry & Logging	1.7	1.0	1.2
Fishing	5.4	5.5	7.2
Mining	0.7	0.8	0.7
Manufacturing	15.4	16.6	16.2
Electricity & Water	1.6	1.6	1.6
Construction	6.0	6.2	6.5
Trade, Hotels & Restaurants	18.3	20.5	19.5
Transport & Communications	14.5	13.5	13.5
Finance & Insurance	4.7	5.1	5.0
Real Estate & Bus. Services	5.9	5.4	5.3
Public Administration	6.8	6.4	6.4
Community & Other Services	6.7	6.2	6.1
Less: Imputed Services Charges	3.3	3.5	3.4

Source: Caricom Secretariat

Dominica
Gross Domestic Product by Industry at Factor Cost in Constant 1990 Prices
Percentage Distribution

Industry	*1999*	*2000*	*2001*
Total	100.0	100.0	100.0
Agriculture	18.4	18.1	16.8
Mining & Quarrying	0.8	0.8	0.8
Manufacturing	6.5	7.0	6.2
Electricity & Water	4.3	4.3	4.7
Construction	7.7	7.8	7.8
W/Sale & Retail Trade	12.7	12.9	13.1
Hotels & Restaurants	2.5	2.3	2.4
Transport	10.0	9.7	9.5
Communications	12.3	11.7	11.3
Banks & Insurance	12.9	12.9	13.8
Real Estate & Housing	3.4	3.5	3.7
Government Services	17.4	18.1	19.8
Other Services	1.3	1.3	1.4
Less: Imputed Service Charges	10.3	10.4	11.3

Source: Caricom Secretariat

Grenada
Gross Domestic Product by Industry at Factor Cost in Constant 1990 Prices
Percentage Distribution

Industry	*1999*	*2000*	*2001*
Total	100.0	100.0	100.0
Agriculture	8.9	8.2	8.2
Mining & Quarrying	0.5	0.6	1.0
Manufacturing	8.2	8.7	8.4
Electricity & Water	5.0	5.3	5.8
Construction	8.4	9.2	8.1
W/Sale & Retail Trade	11.5	11.2	11.3
Hotels & Restaurants	7.8	7.5	7.4
Transport	14.5	13.5	13.7
Communications	12.5	14.2	13.0
Banks & Insurance	9.8	10.1	11.1
Real Estate & Housing	4.2	4.0	4.2
Government Services	14.1	12.9	13.9
Other Services	2.7	2.9	3.2
Less: Imputed Service Charges	8.2	8.4	9.3

Source: Caricom Secretariat

GUYANA
Gross Domestic Product by Industry at Factor Cost in Constant 1990 Prices
Percentage Distribution

Industry	*1999*	*2000*	*2001*
Total	100.0	100.0	100.0
Agric., Forestry & Fishing	36.4	33.1	33.6
Mining & Quarrying	10.9	11.7	11.9
Manuf. & Processing[1]	6.5	5.8	5.6
Construction & Engin.	7.8	8.4	8.4
Distribution	7.4	7.9	7.8
Transport & Communication	8.3	9.0	9.2
Rental of Dwellings	1.6	1.7	1.7
Financial Services	5.5	5.8	5.4
Government	12.1	12.9	12.6
Other Services	3.5	3.7	3.7

[1] Includes Electricity and Gas
Source: Caricom Secretariat

JAMAICA
Gross Domestic Product by Industry in Constant 1990 Producers' Prices
Percentage Distribution

Industry	*1999*	*2000*	*2001*
Total	100.0	100.0	100.0
Agric., Forestry & Fishing	8.0	7.0	7.3
Mining & Quarrying	9.1	8.9	9.1
Manufacturing	15.7	15.7	15.5
Electricity & Water	5.2	5.4	5.3
Construct. & Installation	7.5	7.4	7.5
Distributive Trade	20.4	20.5	20.2
T/Port, Comm. & Storage	15.4	16.5	17.3
Finance & Insur. Services	13.4	14.8	14.6
Real Estate & Bus. Services	9.0	9.0	8.9
Producers of Gov't Services	6.3	6.3	6.2
Miscellaneous Services	11.2	11.7	11.3
H/Hold & Private NPIs	0.5	0.4	0.4
Less: Imputed Service Charges	21.6	23.6	23.6

Source: Caricom Secretariat

MONTSERRAT
Gross Domestic Product by Industry at Factor Cost in Constant 1990 Prices
Percentage Distribution

Industry	*1999*	*2000*	*2001*
Total	100.0	100.0	100.0
Agriculture	1.2	1.8	1.5
Mining & Quarrying	0.1	0.1	0.1
Manufacturing	0.9	0.9	0.9
Electricity & Water	2.3	2.4	2.7
Construction	27.8	18.4	17.6
Wholesale & Retail Trade	5.8	5.0	4.8
Hotels & Restaurants	1.2	1.2	1.6
Transport	7.0	6.8	7.2
Communications	8.6	11.8	8.6
Banks & Insurance	6.5	11.1	11.7
Real Estate & Housing	7.5	8.2	8.8
Government Services	30.7	31.4	33.5
Other Services	6.2	7.3	7.9
Less: Imputed Service Charges	5.6	6.5	7.0

Source: Caricom Secretariat

SAINT LUCIA
Gross Domestic Product by Industry at Factor Cost in Constant 1990 Prices
Percentage Distribution

Industry	*1999*	*2000*	*2001*
Total	100.0	100.0	100.0
Agriculture	7.2	7.4	5.9
Mining & Quarrying	0.6	0.7	0.5
Manufacturing	6.2	6.0	6.1
Electricity & Water	4.3	4.6	5.1
Construction	9.4	9.0	9.0
Wholesale & Retail Trade	13.5	12.6	11.3
Hotels & Restaurants	13.1	13.4	12.7
Transport	11.1	10.9	10.9
Communications	8.8	9.3	11.0
Banks & Insurance	10.4	10.7	11.6
Real Estate & Housing	7.0	7.2	7.8
Government Services	12.1	12.2	13.1
Other Services	4.8	5.0	4.9
Less: Imputed Service Charges	8.6	9.0	9.7

Last Updated in March 2003

Source: Caricom Secretariat

St. Kitts and Nevis
Gross Domestic Product by Industry at Factor Cost in Constant 1990 Prices
Percentage Distribution

Industry	*1999*	*2000*	*2001*
Total	100.0	100.0	100.0
Agriculture	5.2	4.5	5.0
Mining & Quarrying	0.4	0.6	0.4
Manufacturing	11.8	12.4	11.1
Electricity & Water	1.8	1.9	1.9
Construction	15.4	18.8	19.2
Wholesale & Retail Trade	15.0	13.8	13.8
Hotels & Restaurants	6.0	4.3	4.4
Transport	7.6	7.8	7.9
Communications	10.3	9.9	10.1
Banks & Insurance	12.2	12.9	12.5
Real Estate & Housing	2.7	2.7	2.7
Government Services	15.7	15.3	15.4
Other Services	4.1	4.0	4.1
Less: Imputed Service Charges	8.1	8.8	8.5

Source: Caricom Secretariat

St.Vincent and The Grenadines
Gross Domestic Product by Industry at Factor Cost in Constant 1990 Prices
Percentage Distribution

Industry	*1999*	*2000*	*2001*
Total	100.0	100.0	100.0
Agriculture	11.5	12.1	11.2
Mining & Quarrying	0.3	0.3	0.3
Manufacturing	6.9	6.2	6.1
Electricity & Water	5.9	6.2	6.9
Construction	10.4	8.9	9.5
W/Sale & Retail Trade	16.6	17.7	18.3
Hotels & Restaurants	2.4	2.5	2.4
Transport	13.6	13.6	13.7
Communications	10.3	11.1	9.7
Banks & Insurance	9.3	9.8	10.2
Real Estate & Housing	2.6	2.6	2.7
Government Services	16.0	15.4	15.8
Other Services	1.6	1.7	1.8
Less: Imputed Service Charges	7.7	8.1	8.5

Source: Caricom Secretariat

Suriname
Gross Domestic Product by Industry at Factor Cost in Constant 1990 Prices
Percentage Distribution

Industry	*1997*	*1998*	*1999*
Total	100.0	100.0	100.0
Agriculture	8.0	6.9	6.6
Mining & Quarrying	13.2	22.7	24.6
Manufacturing	8.4	8.6	7.8
Gas, Water & Electricity	9.3	10.0	10.0
Construction	2.1	2.6	2.7
Trade, Restaurants & Hotels	26.3	19.4	18.2
T/Port, Storage & Commun.	7.1	5.7	5.1
Finan. & Bus. Services	12.3	9.9	10.1
Public Administration	14.7	14.4	15.2
Pers., Soc. & Other Comm. Serv.	2.1	2.2	1.0
Less: Imputed Service Charges	3.6	2.4	1.3

Trinidad and Tobago
Gross Domestic Product by Industry in Constant 1990 Market Prices
Percentage Distribution

Industry	*1998*	*1999*	*2000*
Total	100.0	100.0	100.0
Agriculture, Fishing & Forestry	2.4	2.7	2.5
Mining & Quarrying	14.4	13.7	12.5
Manufacture	15.5	17.7	19.4
Electricity & Water	1.6	1.5	1.6
Construction	11.5	11.6	11.4
Distribution Services	13.7	13.9	14.3
Hotels, G/ Houses & Restaurants	1.9	1.9	1.9
T/Port, Storage & Commun.	11.8	11.6	11.0
Fin., Ins., Real Est. & Bus. Services	9.3	8.9	8.6
General Government	13.3	12.3	12.2
Educ. Cult. & Comm. Services	4.6	4.4	4.2
Personal Services	2.8	2.7	2.6
Less: Imputed Service Charge	2.9	2.9	2.2

Source: Caricom Secretariat

Table 2: FDI Inflows to the Caribbean Community (US$million)

Country	*1990*	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*
The Bahamas		n.a.	7	27	23	107	88	210	147	145
Barbados	(17)	7	19	4	13	12	13	15	16	15
Belize	11	15	19	8	15	21	17	12	18	3
Guyana	17	13	170	46	107	74	92	52	47	48
Jamaica	8	133	178	42	130	147	1874	203	369	520
OECS*	138	166	1127	36	161	186	113	182	232	257
Suriname**	182	—	—	—	—	—	7	12	10	5
Trinidad and Tobago	109	169	1379	78	516	299	320	1,000	732	633
CARICOM	448	503	495	699	965	846	834	1,686	1,571	1,626

* All (Antigua and Barbuda, Dominica, Grenada, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines) except Montserrat.
** Included only from year of accession to CARICOM.
Source: Caribbean Trade and Investment Report, 2000.

financial organizations such as the World Bank and International Monetary Fund (IMF). The high debt-service ratios, their concentration on a few primary commodity exports, the vagaries of international commodity markets, the high incidence of agricultural protectionism in world trade, and the susceptibility of tourism to exogenous shocks all make CARICOM economies extremely vulnerable. In 1998, the region had a combined GDP of $24 billion, income per capita of $3,900, and a ratio of imports and exports to GDP of more than 100 percent (Stotsky et al. 2000, 22). Interestingly, GDP and per capita growth rates have been more dramatic for the smaller LDCs than for the larger MDCs. The region's trade and capital flows are concentrated on the United States, and most of its exports are marketed to the United States, EU countries, and Canada under preferential trade arrangements—the Caribbean Basin Initiative (CBI), Lomé/Cotonou, and the Caribbean-Canadian Agreement, (CARIBCAN), respectively (Bernal 1994, 175).

Foreign direct investment inflows to the region increased threefold from 1990 to 1999 (CARICOM 2000). These flows continue to target the region's primary commodity sectors—namely mining, energy, and agriculture—but are increasingly targeting tourism and labor-intensive manufacturing. The report also indicates that for the period 1990–1998, intraregional imports accounted for 8 to 10 percent of the region's total imports, whereas intraregional exports accounted for 12 to 23 percent of total exports. From 1990–1998, the region's total exports increased by 4 percent, whereas total imports increased by 55 percent. This difference reflects CARICOM's trade imbalance with external countries.

The regional market is more significant to some CARICOM countries than others. The OECS countries, for instance, export far more to CARICOM than do other countries. Trinidad and Tobago constitute another leading exporter (of petroleum, primarily) to the community. The three leading importers of CARICOM goods are Barbados, Jamaica, and Trinidad and Tobago, with 40, 21, and 14 percent, respectively. Implementation of the CET has facilitated the community's intra- and extraregional trade. By 2000, more than half of the member states had implemented the final reductions of the CET (Stotsky et al. 2000, 24).

Major Issues Facing the Caribbean

CARICOM member countries are small, open microstates that have had a collective history of colonialism and underdevelopment. A majority of the states are islands. Sustainable development in small states like these is impeded by

Table 3: CARICOM Statistical Profile, 2000–2003 Averages (unless otherwise noted)

Country	*Area*	*Population*	*Unemployment*	*GDP ($US, PPP)*	*GDP per Capita ($US, PPP)*	*GDP composition by sector*	*Exports ($US)*	*Imports ($US)*	*Exchange rate ($US)*	*External Debt Outstanding ($US)*	*Investment Income ($US, 1999)*
Antigua & Barbuda	443 sq km	67,897	11%	$750 million	$11,000	Agriculture: 3.9% Industry: 19.2% Services: 76.9%	$40 million	$357 million	ECD2.7/US1, fixed rate since 1976	$231 million (1999)	$41.2 million
Bahamas	13,940 sq km	297,477	6.9%	$5.2 billion	$17,000	Agriculture: 3% Industry: 7% Services: 90% (1999)	$560.7 million	$1.86 billion	BSD/US1	$371.6 million	$616.8 million
Barbados	431 sq km	277,264	10%	$4 billion	$14,500	Agriculture: 6% Industry: 16% Services: 78%	$227 million	$987 million	BBD2/US1	$692 million	$104.4 million
Belize	22,966 sq km	266,440	9.1%	$1.28 billion	$4,900	Agriculture: 18% Industry: 24% Services: 58%	$290 million	$430 million	BZD2/US1	$475 million	$616.8 million
Dominica	754 sq km	69,655	23%	$380 million	$5,400	Agriculture: 18% Industry: 24% Services: 58%	$50 million	$135 million	ECD2.7/US1, fixed rate since 1976	$161.5 million	$42.9 million
Grenada	344 sq km	89,258	12.5%	$440 million	$5,000	Agriculture: 7.7% Industry: 23.9% Services: 68.4%	$78 million	$270 million	ECD2.7/US1, fixed rate since 1976	$196 million	$38.4 million
Guyana	214,970 sq km	702,100	9.1%	$2.7 billion	$4,000	Agriculture: 35% Industry: 21% Services: 44%	$500 million	$575 million	GYD187.3/ US1	$1.2 billion	N/A
Haiti	27,750 sq km	7,527,817	More than two-thirds of labor force do not have formal jobs	$12 billion	$1,700	Agriculture: 30% Industry: 20% Services: 50%	$298 million	$1.14 billion	Gourde29.3/ US1	$1.2 billion (1999)	N/A

continues

Table 3: CARICOM Statistical Profile, 2000–2003 Averages (unless otherwise noted) *continued*

Country	*Area*	*Population*	*Unemployment*	*GDP ($US, PPP)*	*GDP per Capita ($US, PPP)*	*GDP composition by sector*	*Exports ($US)*	*Imports ($US)*	*Exchange rate ($US)*	*External Debt Outstanding ($US)*	*Investment Income ($US, 1999)*
Jamaica	10,991 sq km	2,695,867	15.4%	$10 billion	$3,900	Agriculture: 6% Industry: 31% Services: 63%	$1.4 billion	$3.1 billion	JA48.4/US1	$5.3 billion	$168.1 million
Montserrat	102 sq km	8,995	6% (1998)	$29 million	$3,400	Agriculture: 5.4% Industry: 13.6% Services: 81% (1996)	$700,000	$17 million	ECD2.7/US1, fixed rate since 1976	$8.9 million (1997)	$-5.9 million
St. Kitts & Nevis	261 sq km	38,763	4.5% (1997)	$339 million	$8,800	Agriculture: 3.5% Industry: 25.8% Services: 70.7%	$47 million	$152 million	ECD2.7/US1, fixed rate since 1976	$171 million	$82.0 million
St. Lucia	616 sq km	162,157	16.5% (1997)	$866 million	$5,400	Agriculture: 7% Industry: 20% Services: 73%	$68.3 million	$319.4 million	ECD2.7/US1, fixed rate since 1976	$214 million	$68.4 million
St. Vincent and the Grenadines	389 sq km	116,812	22% (1997)	$339 million	$2,900	Agriculture: 10% Industry: 26% Services: 64%	$53.7 million	$185.6 million	ECD2.7/US1, fixed rate since 1976	$167.2 million	$45.1 million
Suriname	163,270 sq km	435,449	17%	$1.5 billion	$3,500	Agriculture: 13% Industry: 22% Services: 65%	$445 million	$300 million	2,346.8 Gilder/US1	$321 million	N/ A
Trinidad and Tobago	5,128 sq km	1,104,209	10.8%	$11.1 billion	$9,500	Agriculture: 1.6% Industry: 43.2% Services: 55.2%	$4.2 billion	$3.8 billion	6.2TTD/US1	$2.8 billion	N/ A

Sources: CIA *World Factbook* and CARICOM Secretariat Statics website.

Table 4: CARICOM Sociopolitical Profile, 2000–2003 Averages (unless otherwise noted)

Country	*Natural resources*	*Environmental issues*	*Life expectancy at birth (years)*	*HIV/AIDS adult prevalence rate*	*Literacy**	*Government type*	*Capital*
Antigua & Barbuda	N/A	Water management; deforestation	71.31	N/A	89%	Constitutional monarchy	Saint John's
Bahamas	Salt, aragonite, timber	Coral reef decay; solid waste disposal	65.71	3.5%	95.6%	Constitutional parliamentary democracy	Nassau
Barbados	Petroleum, natural gas	Pollution of coastal waters from effluents and waste disposal; soil erosion; contamination of aquifers due to illegal solid waste disposal	71.84	1.2%	97.4%	Parliamentary democracy	Bridgetown
Belize	Timber	Deforestation; water pollution from sewage, industrial effluents, agricultural runoff; solid and sewage waste disposal	67.36	2%	94.1%	Parliamentary democracy	Belmopan
Dominica	Timber	N/A	74.12	N/A	94%	Parliamentary democracy; Republic within the Commonwealth	Roseau
Grenada	Timber	N/A	64.52	N/A	98%	Constitutional monarchy with Westminster-style parliament	Saint George's
Guyana	Bauxite, gold, diamonds, hardwood timber	Water pollution from sewage and agricultural and industrial chemicals; deforestation	63.09	2.7%	98.8%	Republic within the Commonwealth	Georgetown
Haiti	Bauxite, copper, calcium carbonate, gold, marble	Deforestation; soil erosion; inadequate supplies of potable water	51.61	6.1%	52.9%	Elected government	Port-au-Prince
Jamaica	Bauxite, gypsum, limestone	Deforestation; coastal water pollution from waste disposal and effluents; damage to coral reefs; air pollution from vehicle emissions	75.85	1.2%	87.9%	Constitutional parliamentary democracy	Kingston
Montserrat	N/A	Land erosion on slopes cleared for cultivation	78.36	N/A	97%	Overseas territory of the United Kingdom	Plymouth (abandoned in 1997 due to volcanic activity; interim government buildings constructed at Brades Estates in the northwest area of Montserrat)

continues

Table 4: CARICOM Sociopolitical Profile, 2000–2003 Averages (unless otherwise noted) *continued*

Country	*Natural resources*	*Environmental issues*	*Life expectancy at birth (years)*	*HIV/AIDS adult prevalence rate*	*Literacy**	*Government type*	*Capital*
St. Kitts & Nevis	N/A	N/A	71.57	N/A	97%	Constitutional monarchy with Westminster-style parliament	Basseterre
St. Lucia	Forests, minerals (pumice), geothermal potential	Deforestation; soil erosion	73.08	N/A	67%	Westminster-style parliamentary democracy	Castries
St. Vincent and the Grenadines	N/A	Coastal water pollution from effluents and waste disposal	73.08	N/A	96%	Parliamentary democracy	Kingstown
Suriname	Timber, bauxite, gold, nickel, copper, platinum, iron ore	Deforestation as timber is cut for export; pollution of inland waterways due to mining	69.23	1.2%	93%	Constitutional democracy	Paramaribo
Trinidad and Tobago	Petroleum, natural gas, asphalt	Water pollution from agricultural chemicals and effluents; oil pollution of beaches; deforestation; soil erosion	69.59	2.5%	98.6%	Parliamentary democracy	Port-of-Spain

*Age 15 and over has attended school and/or can read or write.
Source: CIA World Factbook.

their capacity limitations in key areas such as product and factor markets, public- and private-sector administrative and institutional structures, and negotiating power and leverage vis-à-vis external countries and organizations (Blake 2001, 481). Regional cooperation provides a means of ameliorating size-related capacity constraints to development and is thus an integral part of Caribbean development strategy (ibid.). Because individual member states are highly susceptible to external influence, CARICOM has been called an example of externally vulnerable integration (Bernal 1994, 171). Nevertheless, the degree of functional cooperation and foreign policy coordination is fairly strong. CARICOM has been less successful with regard to economic integration. This more expansive integration effort is constrained to a large degree by the small size, limited resources, and external orientation of CARICOM's member states as well as the similarity of their economies and productive structures.

CARICOM's ability to contribute to development in the region is limited by the constraints of member-state underdevelopment, dependence, and their tendency to pursue nationalistic, not regional, solutions to pressing economic problems (Axline1978, 969). These forces have fostered disincentives for full-fledged integration. Critics assert that because national interest is so predominant and entrenched, CARICOM has never been serious about economic or political integration (Payne

and Sutton 2001, 174). CARICOM is alleged to be an exercise in regionalization, not integration; it is a regionalized economy and polity in which the preservation of the institution of the nation-state is paramount (ibid.). Personality politics, elite politics, and interest-group lobbying are said to encumber effective policymaking at the regional level and implementation at the national level. Put simply, national governments are pursuing domestic politics infused with an elite perspective within a regional framework (ibid.).

To attain any semblance of collective self-reliance, CARICOM members must transcend their present regime of nominal multilateral cooperation and incorporate a higher degree of politico-economic integration (Erisman 1992, 138). Actualization of the CSME and effective implementation at the national level of rational decisions made at the regional level are imperative in this regard. CARICOM must also address several policy imperatives to foster sustained development in member states. It must encourage production and export diversification, export market penetration, improved productivity, and enhanced competitiveness.

Michelle Benjamin Calhoun

See Also Economic Integration

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The Central American Common Market (CACM)

The Central American Common Market (CACM) is a free trade organization formed in 1960 by Guatemala, Honduras, Nicaragua, and El Salvador; Costa Rica joined two years later. The organization came into being with the General Treaty of Central American Economic Integration (Tratado General de Integración Económica Centroamericana), signed in Managua, Nicaragua, on December 13, 1960. It entered into force on June 4, 1961, for Guatemala, El Salvador, and Nicaragua; on April 27, 1962, for Honduras (with reservation); and on September 23, 1963, for Costa Rica. Panama has remained outside the regional scheme because of its special status based on the Panama Canal, but has maintained limited free trade treaties with each CACM country.

According to the treaty, CACM was created "for the purpose of reaffirming [the] intention to unify the economies of the four countries and jointly to promote the development of Central America in order to improve the living conditions of their peoples" (para.1, sec. 1). It was one of four regional economic integration organizations created during the Latin American export boom of the 1960s. The CACM and the three other Latin American trading blocs, the Latin American Free Trade Association, the Caribbean Free Trade Association (CARIFTA), and the Andean Community, were similar in their initial endorsement of regional integration behind temporary protectionist barriers as a way to continue an economic policy of import-substitution industrialization that was popular among developing countries in the region at that time.

The CACM was considered the most successful integration attempt by developing countries. By the mid-1960s, the group had made advances toward economic integration, and by 1970 trade between member nations had risen more than tenfold over 1960 levels. In 1967, at the conference of American presidents at Punta del Este, Uruguay, it was decided that the CACM, together with the Latin American Free Trade Association, would be the basis for a comprehensive Latin American common market. During this period, imports doubled, and a common tariff was established for 98 percent of the trade with nonmember countries. However, the CACM's effectiveness waned following Honduras's withdrawal in the wake of the 1969 Soccer War with El Salvador. The CACM stagnated throughout the 1970s and virtually collapsed during the prolonged Central American political and debt crises of the 1980s, revitalizing only after its overhaul and the partial inclusion of Panama in the early 1990s. By the early 1990s, little progress toward a Latin American common market had been made.

Past Attempts at Regional Cooperation

The CACM was preceded by other regional attempts at economic and political union. The earliest of these was the Central American Federation, or Central American Union, a political confederation (1825–1838) comprising the republics of Central America—Costa Rica, Guatemala, Honduras, Nicaragua, and El Salvador. United under a common governor in

Spanish colonial times, these countries gained independence in 1821 and were briefly annexed to the Mexican empire formed by Agustín de Iturbide. The nations joined in a loose federation in 1825, with Manuel José Arce (1825–1829) as the first president of the group. He was succeeded by Francisco Morazán (1830–1838). Political and personal rivalries between liberals and conservatives, poor communication, and the fear of the hegemony of one state over another led to dissolution of the congress in 1838 and the defeat (1839) of Morazán's forces by Rafael Carrera. In 1842, Morazán made an abortive attempt to reestablish the federation from Costa Rica. Later efforts by Nicaragua, Honduras, and El Salvador failed, and the attempts at regional union of Justo Rufino Barrios (1885) and José Santos Zelaya (1895) only increased existing enmities. The United States proposed a union at the Central American conference of 1922–1923 that was not favorably received. Integration attempts emerged again in 1951 with the formation of the Organization of Central American States (Organización de Estados Centroamericanos, or ODECA).

The post–World War II movement toward Central American economic integration began with a wave of bilateral free trade treaties signed among Guatemala, Honduras, El Salvador, Nicaragua, and Costa Rica between 1950 and 1956. By the end of this period of bilateral negotiations, each country had become party to at least one of the treaties, which involved free trade in a limited range of products. Although primarily a political entity, ODECA represented a significant step toward the creation of other regional multilateral organizations. Toward the end of the decade, with the assistance of the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), concrete plans for regional economic integration emerged. In 1951, ECLAC delegates decided to proceed with formal integration discussions, and in 1952 they formed the Central American Economic Cooperation Commission, composed of the ministers of economy and other relevant officials from the participating governments, to engage in fact-finding under the auspices of the United Nations. The CACM treaties emerged shortly thereafter.

Treaties and Institutions of the CACM

The CACM boasts a complex and detailed legal framework. In 1958–1959, three important integration agreements were signed: the Multilateral Treaty on Free Trade and Central American Economic Integration (Tratado Multilateral de Libre Comercio e Integración Económica Centroamericana), the Integration Industries Convention (Régimen de Industrias de Integración, or RII), and the Central American Tariff Equalization Convention (Convenio Centroamericano sobre Equiparación de Gravámenes a la Importación). The Multilateral Treaty on Free Trade and Central American Economic Integration provided for intraregional free trade in 239 groups of Central American products and a ten-year phase-in of intraregional free trade in all Central American goods. The Central American Tariff Equalization Convention was a complementary agreement to the multilateral treaty, establishing a common external tariff (CET) on 270 products, including all those listed under the treaty, and proposing a harmonization of tariffs on an additional 200 products within five years. The convention would thereby provide the common barrier to extraregional imports under which Central American producers would conduct a liberalized trade.

The RII was the most controversial program and would be the most difficult to implement. As originally conceived, it was to direct the flow of capital investment into the region by granting special incentives and privileges to firms given "integration industries" status. In order to prevent costly duplication of capital investment, firms whose products had small consumer markets in the region would be given a virtual monopoly within the CACM. The Central American countries were supposed to dis-

tribute integration industry plants among themselves in an equitable and efficient manner. The integration regime envisioned by these agreements never fully entered into force, however, but was instead superseded by the General Treaty of Central American Economic Integration of 1960, which became the basis for the CACM. The general treaty went into effect for Guatemala, El Salvador, and Nicaragua in June 1961 and for Honduras and Costa Rica in April and July 1962, respectively.

In addition to the RII, the general treaty established a permanent secretariat (Secretaría Permanente del Tratado General de Integración Económica Centroamericana, SIECA) and a development bank (Banco Centroamericano de Integración Económica, BCIE). A Central American Clearing House (Cámara Centroamericana de Compensación de Monedas) was established in 1963 to promote the use of local currencies in the settlement of short-term trade deficits between pairs of CACM member states, and a Central American Monetary Council (Consejo Monetario Centroamericano) was set up in 1964 to promote monetary union.

U.S. Influence in Regional Integration

There was a strong U.S. interest in the CACM's success from its inception. The United States provided financial and technical contributions to the integration process, and presidents John F. Kennedy and Lyndon B. Johnson became personally involved. The general treaty represented a compromise between the ECLAC-inspired approach and the policy preferences of the United States. The latter proposed several significant changes to the ECLAC integration scheme, the main difference being the establishment from the outset of intraregional free trade as the norm, rather than as the exception as provided for in the multilateral treaty. Under the U.S. plan, all products would be subject to intraregional free trade unless exempted. The United States was also opposed to the idea of granting monopoly status to integration industries within the region. In exchange for adoption of its plan, the United States promised to provide funding for the various institutions of the CACM and to increase its economic aid to Central America.

In February 1960, Guatemala, El Salvador, and Honduras accepted the U.S.-sponsored integration scheme and signed the Tripartite Treaty (Tratado Tripartito) in Esquipulas, Guatemala, establishing intraregional free trade as the norm and excluding an RII mechanism. The Tripartite Treaty evoked strong objections from ECLAC, which saw its guiding role in Central American integration undermined by U.S. involvement in the process. In response to protests from ECLAC and the government of Nicaragua, the United States and the parties to the Tripartite Treaty agreed to negotiate a compromise integration treaty to supersede all prior free trade agreements. The General Treaty of Central American Economic Integration was signed in Managua, Nicaragua, by four of the five republics (Costa Rica delayed signing by two years) on December 13, 1960, with ECLAC conceding on the free trade issue and the United States conceding on the inclusion of the RII.

U.S. interest in the region continues today. Negotiations to create a U.S.–Central American Free Trade Agreement (US-CAFTA) were launched in San Jose, Costa Rica, in January 2003. The talks involved the five CACM members and the United States. The United States is CACM's biggest market, the source of several billion dollars' worth of migrant remittances annually, and provides the de facto or de jure currency of the region. El Salvador adopted the U.S. dollar as the official currency in 2002, and Guatemala allows a legal parallel circulation of dollars along with the national currency, the quetzal. Throughout Central America, U.S. dollars are commonly used for commercial loans and bank accounts as well as informal transactions.

CACM's Impact on the Regional Economy

During the 1960s and 1970s, the CACM had a significant positive impact on trade flows, economic growth, and industrial development in Central America. Intraregional exports as a percentage of total exports grew dramatically—from 7.5 percent in 1960 to 26.9 percent in 1970—before declining to 23.4 percent in 1975 and to 14.7 percent in 1985 (SIECA). The total value of trade within the region grew from US$33 million in 1960 to US$1.1 billion in 1980, but dropped to US$421 million in 1986. By 1967, 95 percent of all goods traded within the region had attained duty-free status, and 90 percent of traded goods were covered by the CET. The goods exempted from intraregional free trade were mainly traditional agricultural exports destined for global markets.

Most of the new intraregional trade was in consumer goods, a large share of which consisted of processed foods. By 1970, food processing was the single most prominent industrial activity within the CACM, accounting for approximately half of gross industrial output. The preference for consumer goods production was built into the CACM tariff structure, which imposed a high CET on extraregional consumer goods but did not impede the import of intermediate or capital goods.

In addition to the protection afforded to consumer goods by the CET on consumer imports, CACM member states also promoted investment in industry by introducing generous tax incentives and exemptions for new and existing industrial firms. To help promote balanced development, the four original CACM member states signed the Convention of Fiscal Incentives for Industrial Development (Convenio Centroamericano de Incentivos Fiscales al Desarollo Industrial) in 1962 to equalize grants of tax incentives to industrial firms. The convention allowed Honduras and Nicaragua to offer temporarily broader tax breaks to industrial firms than the other two more industrialized republics. Honduras became the main beneficiary of this differentiated treatment, gaining in 1969 an extension of its preferential taxation status.

Another important incentive to industrial development within the CACM was the implementation of regional infrastructure development projects. Several infrastructure development organizations were established during the 1960s to improve intraregional transport and communications: the Regional Telecommunications Commission (Comisión Técnica de las Telecomunicaciones de Centroamérica, or COMTELCA), the Central American Corporation of Air Navigation Services (Corporación Centroamericana de Servicios de Navegación Aérea, or Cocesna), the Central American Maritime Commission (Comisión Centroamericana de Transporte Marítimo, or Cocatram), and the Central American Railways Commission (Comisión Centroamericana de Ferrocarriles, or Cocafer). These organizations were financed mainly by the Regional Office for Central America and Panama (ROCAP) of the U.S. Agency for International Development (AID) as part of the Alliance for Progress initiative. AID/ROCAP also financed a Regional Highway Program to improve highway routes considered vital to intraregional trade.

Total net economic benefits of integration were estimated at 3 or 4 percentage points of regional GDP in 1972. Expressed as a single present discounted value for all future years, the decision to integrate was worth an estimated $3 billion by 1972. Economic integration created an estimated 150,000 jobs, or 14 percent of the increase in total employment from 1958 to 1972.

Regional Integration Setbacks

By the late 1960s, issues of unequal distribution of the benefits of integration began to arise among the members. The poorest member, Honduras, especially, but also Nicaragua

and Costa Rica, felt that the CACM free trade arrangements favored the countries with the largest industrial base—Guatemala and El Salvador—and did not offer enough opportunities for industrialization. Instead, they believed, patterns of raw materials production for finished goods imports were repeating, reinforcing themselves on a regional scale and creating trade deficits among the members.

Increasing tensions throughout the summer of 1969 erupted into hostilities on July 14, when Salvadoran air and land units made an incursion into Honduran territory. The ensuing four-day war claimed 2,000 lives and led to the forced repatriation of about 150,000 Salvadorans. The war is often referred to as the Soccer War, or "Futbol War," because the violence broke out in both countries during the 1969 soccer championship qualifying rounds for the 1970 World Soccer Cup. The deeper causes of the conflict, however, had to do with population migration and subsequent territorial claims by El Salvador on Honduras.

Diplomatic and commercial relations between El Salvador and Honduras were suspended for a decade thereafter, as was air transport between the two countries. Honduras withdrew from the CACM in December 1970 after it failed to persuade the other member states to enact further reforms in its favor. Honduras subsequently conducted trade with CACM countries on a bilateral basis until 1986. Honduras's withdrawal from the CACM, although not significant in terms of lost trade volume, represented a symbolic collapse of the organization as a vehicle for promoting coordinated regional growth.

Despite Honduras's withdrawal from the CACM and its suspension of commercial relations with El Salvador, Central American intraregional trade rose steadily throughout the 1970s, exceeding US$1 billion by 1980, before dropping to half that level in the mid-1980s. Most efforts to coordinate industrial and macroeconomic policies had been abandoned, however, well before the general treaty expired in 1982.

The fiscal problem that had plagued Central America in the 1960s carried over to the 1970s, when it was aggravated by a series of external shocks: the acceleration of world inflation and higher dollar prices for imports; the first oil crisis of 1973, which caused a quadrupling of dollar prices of oil; natural disasters in Nicaragua (1972 earthquake), Honduras (Hurricane Fifi in 1974), and Guatemala (1976 earthquake); major declines in several world commodity prices; and the second oil shock of 1979. The 1980s ushered in the Third World debt crisis, beginning with the Mexican default on sovereign loans in 1982. Real wages fell, debt grew, inflation rose (except in Honduras), and the trade balance deteriorated for each CACM. In 1982 alone, GDP fell in all five CACM republics for the first time since 1932. Also in the 1980s, the CACM was rocked by brutal civil wars in Nicaragua and El Salvador.

Resumption of Progress

A reactivation of Central American economic integration was made possible with the signing of the Central American Peace Agreement (Esquipulas II) in August 1987. Esquipulas II laid the political groundwork for concerted action to renew the integration system following restoration of peace and democracy in the region. Formal action to restart the integration process was taken at the eighth summit of Central American presidents, held in Antigua, Guatemala, in June 1990. The participants at the Antigua summit approved the Economic Action Plan for Central America (Plan de Acción Económico de Centroamérica, or Paeca), which foresaw a new conceptual and legal basis for a Central American economic community.

Further progress toward integration was made at the tenth Central American presidential summit, held in San Salvador, El Salvador, in July 1991, when the five original participants agreed to include Panama in certain aspects of the new economic community. The eleventh summit, held in Tegucigalpa, Honduras, modi-

fied several CACM institutions and incorporated them into the System of Central American Integration (Sistema de Integración Centroamericana, SICA), an umbrella organization encompassing both political and economic integration efforts. Honduras fully rejoined the integration process in February 1992 upon the signing of the Transitional Multilateral Free Trade Agreement with the other Central American republics.

Central American integration was given a further boost with the signing of the North American Free Trade Agreement (NAFTA) by Canada, Mexico, and the United States. In August 1992, a Framework Free Trade Agreement was signed by the five Central American republics and Mexico, establishing procedures for the formation of a free trade area that entered into force in December 1996. Inclusion of Central America in a free trade area with Colombia and Venezuela was also foreseen in the Caracas Commitment adopted at a regional summit in February 1993. The signing of the Central American Free Trade treaty, along with the Dominican Republic (CAFTA-DR), between the members of CACM and the United States in August 2005, promises further integration in the region.

Anastasia Xenias

See Also Economic Integration; North American Free Trade Agreement (NAFTA)

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Common Market of the South (Mercosur)

The Mercado Comùn del Sur, or Common Market of the South (Mercosur), is a customs union (that is, a free trade area with a common external tariff, or CET) among the countries of Argentina, Brazil, Paraguay, and Uruguay. It originated in 1991 with the Treaty of Asunción, which established a free trade area and outlined a transition schedule to a common market. In 1994, the Protocol of Ouro Preto gave Mercosur customs union status by introducing a common external tariff on a large number of products. The protocol also renewed the commitment among member states to a transition process, which is expected to lead to the establishment of a common market in 2006. In 1996, Chile and Bolivia joined the free trade area (but not the customs union) as "associate countries." Mercosur is entirely governed by intergovernmental structures, without any autonomous central institution.

Historical Overview

The effort to bring about economic integration in Latin America can be traced back to the Latin American Free Trade Association (LAFTA, or ALALC in Spanish), created in 1960 with the objective of achieving a free trade zone through a gradual reduction of tariffs over a period of twenty years. Difficulties in enforcing the reductions led to LAFTA's collapse in 1980. That same year, the Treaty of Montevideo established the Latin American Integration Association (LAIA, or ALADI in Spanish), signed by Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay, and Venezuela as an alternative to LAFTA. LAIA established a preferential trade zone among its members and a legal framework for the formulation of bilateral and multilateral trade agreements. It has a more flexible structure than LAFTA because it does not have to abide by a schedule for tariff reductions. Mercosur was created under the legal framework of LAIA.

The idea of a bilateral agreement between Argentina and Brazil started in November 1985 with the Iguazu Declaration, in which these countries expressed their desire to establish political and economic cooperation. Both countries had regained their democracies after enduring years of military dictatorships, and they saw in their cooperation a way to stabilize their economies. In July 1986, in the Argentine-Brazilian Integration Act, Argentina and Brazil defined the basis of future negotiations toward the promotion of a common economic area. A set of twenty-four protocols reducing tariffs in specific sectors soon followed. In November 1988, the Integration, Cooperation and Development Treaty established a ten-year transition period toward the creation of the common economic area. The treaty called for cooperation in two areas: commerce, through the elimination of tariff and nontariff barriers to trade, and trade policy, through gradual harmonization.

Argentina and Brazil stated the basis of their economic integration and cooperation in several agreements and acts that followed the Integration, Cooperation and Development Treaty. The Act of Buenos Aires established Jan-

uary 1995 as a starting date for the common market and set up a Bilateral Common Group responsible for determining the measures that would be needed to achieve this goal. In December 1990, the countries signed the Accord of Economic Complementation (LAIA's Accord of Economic Complementation #14). During 1991, Uruguay and Paraguay decided to join the agreement at a slower pace of integration, and in December of that year the four countries signed the Treaty of Asunción.

The Treaty of Asunción, with only twenty-four articles, contains the basic set of rules defining and governing Mercosur. As a frame treaty, it only sets the legal basis under which Mercosur is to be governed; as negotiations advance, new rules are put in place to complement and modify the original agreement. Besides creating a free trade area, it set January 1995 as the target date for establishing a customs union and introduced a set of instruments to help with the transition process. The treaty set a preliminary organizational structure, with a Common Market Council and a Common Market Group to administer Mercosur during the transition. It did not provide for the creation of central institutions with supranational powers. All decisions would be made by consensus of the member states. Since Mercosur was created within the framework of LAIA, it is open to all LAIA signatories. Several protocols were later added to the Treaty of Asunción to address institutional and operational issues. The Protocol of Brasilia (1991) established a system of dispute settlement among member states. It was later complemented by the Protocol of Olivos (2002).

The Ouro Preto Protocol of 1994 brought Mercosur a step closer to achieving a common market. It established a customs union as a transition arrangement, set up a common external tariff, and defined a schedule of gradual CET convergence. The customs union is imperfect, however, because the CET applies to only 85 percent of the products traded among the countries. A set of "sensitive" items and country-specific lists of products are exempt from the CET, including capital goods, telecommunication products, and computers. Difficulties encountered in reaching agreement on common policies also excluded the automobile, sugar, and textile sectors from the CETs. Following the Ouro Preto protocol, negotiations for deeper integration called for new legal measures related to methods of fair competition, antidumping, and safeguard rules. Yet little progress was made on most of these issues, especially on those related to domestic subsidies to industries and public enterprises.

By the end of the 1990s, economic problems in the two major countries of Mercosur, along with the devaluation of Brazil's currency, led to numerous trade disputes between Argentina and Brazil, threatening Mercosur's future. To reestablish confidence in Mercosur, in June 2000 its member countries signed the Relaunch of Mercosur agreement. The objective of this program was to strengthen the customs union while recognizing the central role of convergence and macroeconomic coordination in advancing the integration process. To this end, the Relaunch agreement provided a working schedule for negotiating a set of targets for economic convergence. In spirit, it is similar to the Treaty of Maastricht that launched the European Union and the euro zone in 1992. It established priority for negotiations on several topics, including market access; customs; incentives to investment; production and exports, including the free trade zones; common external tariffs; fair competition; resolution of controversies; and external relations. Some progress has been made in the harmonization of statistics, that is, in the presence of a core set of statistics in all member states. In order to ease the convergence process, elimination of national exceptions to the common external tariff was postponed until 2006.

In April 2001, in the face of deep economic crisis in Argentina, Mercosur authorized the country to abandon the common external tariff until the end of 2002. In particular, Argentina temporarily abolished the tariffs on imports of capital goods from third parties and imposed a

unilateral tariff on consumption goods of 35 percent (Mercosur sets both at 14 percent).

Organization of Mercosur

The ultimate purpose of Mercosur is to expand the national markets of the member states in order to accelerate their economic, scientific, and technological development. This purpose is to be achieved through the optimal use of available resources, the preservation of the environment, the coordination of macroeconomic policies, the improvement of communications, and complementation of all sectors of the economy. More specific objectives include "the free movement of goods, services, and factors of production; the establishment of a common external tariff and a common trade policy; the coordination of macroeconomic and sectoral policies; and harmonization of the legal systems" (Treaty of Asunción).

The organizational structure of Mercosur was established in the Ouro Preto Protocol. Mercosur has six decisionmaking bodies that operate at the presidential, ministerial, and technical levels. None of these bodies has supranational powers.

The highest body of Mercosur is the Council of the Common Market (CCM). The council is responsible for the political leadership of the organization and for ensuring the achievement of the common market. It is composed of the foreign affairs and economic ministers of the member states. The presidency of the CCM rotates among members, in alphabetical order, for terms of six months. The council meets at least twice a year with the participation of the presidents of the member states. Its main duties are to rule on proposals submitted by the Common Market Group and to negotiate with other countries or entities on behalf of Mercosur. The CCM also appoints directors of Mercosur's Administrative Secretariat. The council rules are issued in the form of decisions to be implemented by the member countries.

The executive body of Mercosur is the Common Market Group (CMG). The CMG is composed of four members and four alternates for each country, appointed by their governments, and is coordinated by the ministries of foreign affairs. Its main duty is to enforce decisions of the CCM and monitor compliance. In addition, the CMG proposes draft decisions to the CCM and organizes and prepares reports for the council. The CMG supervises Mercosur's Administrative Secretariat by approving its budget and supervising its activities. The CMG also approves procedural rules for the Trade Commission and the Economic-Social Consultative Forum. Its decisions take the form of resolutions.

Both the CCM and the CMG were created by the Treaty of Asunción to preside over Mercosur through the transition period to the common market. Both groups were ratified in the Ouro Preto Protocol. The protocol completed the institutional organization of Mercosur by adding four more entities to Mercosur: the Mercosur Trade Commission, the Joint Parliamentary Commission, the Socioeconomic Consultative Forum, and the Administrative Secretariat.

The Mercosur Trade Commission (MTC) is responsible for assisting the Common Market Group and for monitoring the application of the common trade policy instruments related to the operation of the customs union. It consists of four members and four alternates per country, meets at least once a month, and it is coordinated by the ministries of foreign affairs. The MTC submits proposals to the CMG regarding the development of common trade policy instruments, and it makes decisions pertaining to the application of the common external tariff. It also proposes new trade and customs regulations and revises tariff rates on specific products, and it is responsible for setting up and supervising Mercosur's technical committees. Finally, the MTC receives complaints from its associated national sections related to dispute settlement.

The Joint Parliamentary Commission (JPC) brings together representatives from the national parliaments of each country. Each representative is approved by his country's parliament. The commission's role is to ensure that each country applies CCM decisions and CMG resolutions at the national level. To this end, the JPC assists countries with the harmonization of legislation and submits recommendations to the CCM and the CMG.

The private enterprises and social groups of Mercosur are represented in the Socioeconomic Consultative Forum. Composed of an equal number of representatives from each country, the forum makes recommendations to the CMG.

Mercosur's Administrative Secretariat provides operational support to the other institutional organs. Headquartered in Montevideo, Uruguay, it holds the official archives of Mercosur, publishes and disseminates the decisions and resolutions adopted by the legislative and executive bodies, and organizes the meetings of the CCM, the CMG, and the MTC. The director of the Administrative Secretariat is chosen by the CMG and appointed for a two-year term, which may not be renewed.

Rules Governing Mercosur

The rules that determine the functioning of Mercosur are stated in the Treaty of Asunción and the protocols that amended and complemented the treaty. The treaty itself established a trade liberalization program to be followed by the member countries during the transition period to the common market. The program called for a reduction in tariffs on goods originating in member countries from an average level of 47 percent in June 1991 to 0 percent in January 1995. The elimination of the tariffs was to occur gradually, at a rate of 7 percent per semester. The liberalization program authorized country-specific lists of goods to be exempted from the tariff reductions. The number of goods in the lists was also to be reduced gradually throughout the transition period. After December 1994, the tariffs on these products were to be eliminated linearly and automatically over a period of four years, at a rate of 25 percent a year. Paraguay and Uruguay would have a one-year moratorium before having to begin the process.

Further integration was achieved through the introduction of a common external tariff in the Ouro Preto Protocol. The CET required the application of a uniform treatment to imports from third parties, starting in 1995 for Argentina and Brazil, and 1996 for Uruguay and Paraguay. The CET covered approximately 85 percent of traded products, with tariffs ranging from 0 percent to 20 percent, and an average of 11 percent. Exceptions were allowed in the form of country-specific lists of goods and sensitive items (including 900 capital goods and 200 telecommunication and computer items) and sectors (automobile and sugar). In the exempt sectors, countries apply a national regime of tariffs that cannot favor imports from outside Mercosur countries over imports from members of Mercosur. Brazil's exception list, with 29 products, concentrates primarily on chemical and petrochemical goods, milk, and raw textile materials. Argentina's (221 products) focuses on chemicals and steel, paper, and footwear. The lists for Paraguay and Uruguay (427 and 950 goods, respectively) contain mainly agricultural products. Under an agreement reached in the year 2000, a country can change up to 50 of the products included in its country-specific list of exempt items every 90 days, provided that it does not increase the total number of items on the list. The tariffs on the products that appear on the country-specific lists are subject to adjustments that will converge to the common tariff by no later than 2006.

The main sectors receiving special treatment under Mercosur are the automobile and sugar industries. The treaty kept in place the national tariff regimes in automobile trade that

existed prior to the creation of Mercosur; after several rounds and bilateral agreements, a Common Regime for the Automobile Sector was signed in October 2001. The objective of the common regime is to lay the groundwork for the achievement of free trade in automobiles and their parts in the Mercosur area and to create the basis for an integrated and competitive regional industry. The restrictions on trade in automotive products are to be faded out by 2006. The regime imposes a common external tariff of 35 percent; establishes rules on the import of vehicles and their parts as well as on environmental protection and safety standards; and puts into place a transition mechanism from the national regime to the common regime, including harmonization of the national protection systems. The sugar sector is also excluded from the common external tariff and the zero internal tariff. National tariff regimes on the import of sugar from inside or outside Mercosur are applied, and tariffs applied to imports from other Mercosur countries cannot exceed the tariffs applied to third parties.

Although there are no specific rules regarding the textile sector in intra-Mercosur transactions, textile imports from nonmember countries are exempt from the common external tariff until 2006. A Technical Textile Committee has been created to study the need for a common trade policy on textiles. The results of the study and committee recommendations are to be presented to the Mercosur Trade Commission by June 2006. Mercosur's accords are bound by the resolutions on textiles adopted by the World Trade Organization (WTO).

Rules governing the investment sector are established in the Colonia Protocol for the Promotion and Protection of the Reciprocal Investments in Mercosur, signed in 1994. Under the Colonia Protocol, the member countries agree to promote each other's investments and to give home-country treatment to all investments originating in a member country. The protocol allows for countries to have temporary exceptions in some sectors. Argentina has exceptions in areas such as airlines, nuclear plants, insurance, and fisheries; Brazil in telecommunications, insurance, construction, and financial intermediation; Paraguay in airlines, electricity, water, phone companies, and oil; and Uruguay in oil, electricity, telecommunications, and mines.

Given that the Treaty of Asunción offers preferential treatment to goods originating in member countries, the treaty enumerates a set of criteria for determining a product's country of origin. These "rules of origin" are stated in Annex II of the treaty. There are three main criteria that are used to determine whether a product is considered to have originated in a Mercosur country: (1) The good's production process uses exclusively materials originating from the Mercosur area; (2) Mercosur accounts for more than 60 percent of the value added to the product (this rules out products that are only assembled or packaged in a Mercosur country); (3) the good is produced with foreign parts but is transformed in a Mercosur country to the extent that its category under the Mercosur Customs Product Classification changes. Goods originating in a Mercosur country are identified by a certification of origin that is attached to their export documentation.

The treaty also establishes specific rules on internal free trade zones (that is, areas within a country that operate under special tariff and tax regimes). Mercosur countries have the right to establish free trade zones, but products originating in such zones are subject to the common external tariff. The member countries agreed that the special customs areas of Tierra de Fuego and Manaos would be preserved until 2013.

Two measures in the treaty are designed to protect domestic industries against unfair competition from other member countries: a set of safeguard clauses and a dispute-settlement procedure. Countries may levy safeguard measures on products from other member countries that benefit from the Mercosur agreement and that represent a danger for their

domestic industries, particularly if imports of the product increase sharply in a short period of time. The Common Market Group, upon request of the affected country, holds consultations on whether measures should be taken and on the nature of these measures. Safeguard clauses have been extended until 2006.

Disputes between member states are subject to dispute-settlement procedures laid down in the Brasilia Protocol and modified in the Olivos Protocol. Countries are encouraged to solve their disputes through direct negotiations, and they are required to inform the CMG of the state of the negotiations through the Administrative Secretariat. If the dispute is not resolved in fifteen days, it is taken to the CMG. Over a period of thirty days, the CMG reviews the petition and formulates a recommendation. If the countries do not agree with the recommendation, they can request the intervention of an arbitration committee. The committee is composed of three arbitrators selected from a previously specified list (one from each country involved in the dispute and a third selected at random). The arbitration committee makes a decision based on majority vote in sixty to ninety days. Countries may appeal the committee decision to a Permanent Committee of Revisions within fifteen days of the ruling. The appeal is limited to the legal interpretations on which the ruling was based.

The Treaty of Asunción is essentially an economic treaty and does not mention explicitly social issues, except to state that economic development should occur within a framework of "social justice" in order to improve the standards of living of the population. Nevertheless, the member countries have agreed to collaborate in the areas of employment, education, and the environment. With respect to employment, one of Mercosur's objectives is the achievement of free movement of labor once the status of common market is reached. A Working Group on Employment was designed to study labor-market integration. The harmonization of labor policies among member countries is a difficult issue, given their different degrees of economic development and labor regulations. In 1992, a Plan for the Sector of Education was approved by the members of Mercosur. Several working groups were created to study cooperation in areas such as higher education, especially in technology-related fields and information systems. The main agreement related to education is the Protocol of Integration in Education and the Recognition of Studies, Degrees and Certificates, signed in August 1994 in Buenos Aires. Under this agreement, university degrees obtained in one Mercosur country may be recognized in any other country of Mercosur. Regarding environmental issues, Mercosur established a working group to set objectives on environmental policy. The main recommendations of the group relate to the harmonization of environmental policies, sustainable development in the use of renewable natural resources, reduction of pollutants in production processes, and the creation of common environmental criteria.

External Relations of the Members

The Protocol of Ouro Preto gave Mercosur the status of a legal entity under international law. As such, it can negotiate as a bloc with entities of other countries and with international bodies. Mercosur has initiated bilateral agreements with various blocs as well as with individual countries.

Chile and Bolivia have signed agreements to be associate members of Mercosur, with the option of fully joining the common market. Chile signed a trade agreement with Mercosur in June 1996 in Portero de Funes, Argentina, under the legal framework of ALADI. The agreement calls for cooperation and integration in the economic, scientific, and technological arenas as well as the promotion of bilateral investments in order to achieve a free trade area in ten years. A trade liberalization program was established, with gradual and automatic reductions in tariffs. Chile has not joined

the customs union, since it is already a more open country than the Mercosur bloc: Chile's unique tariff on imports of 11 percent is lower than the common external tariff applied by Mercosur. In December 1995, Mercosur and Bolivia signed the Agreement of Economic Complementation in Punta del Este, Uruguay, with the objective of preparing for an agreement to establish a free trade area in ten years. The agreement was ratified in February 1997 under the ALADI legal framework. The purpose of the agreement was to intensify economic and trade relations between the parties, to harmonize legislation, to promote and protect investment, and to establish common projects in transportation and communications.

Since its creation, Mercosur has enjoyed good relations with the European Union. In 1992, Mercosur and the European Union signed the Agreement for Interregional Cooperation between the EU and Mercosur with the objective of developing a project of cooperation in technical issues related to the establishment of a common market. Negotiations progressed from technical assistance to commercial matters, and in Madrid in December 1995, both blocs signed the Economic and Trade Cooperation Agreement with the objective of strengthening relations and preparing the way to create an interregional association. The agreement covers political and institutional relations, trade and cooperation on integration issues, and other fields of mutual interest. The EU exports capital goods, automobiles, and other advanced technological products to Mercosur, and imports mainly agricultural products and foodstuffs from Mercosur. Indeed, agricultural products account for half of the Mercosur-EU trade. A large share of Mercosur's exports to the EU are duty free. Furthermore, the EU has an interest in the Mercosur area, with high levels of foreign direct investment, especially in Argentina.

Mercosur has established relations as well with other blocs in North and South America. Relations with the United States started with the Rose Garden Treaty, also known as "4+1," signed in June 1991 in the framework of the Initiative for the Americas. The agreement states the intentions of both parties to advance to freer trade and to promote and facilitate reciprocal investments. Mercosur and the United States also express in the agreement their willingness to negotiate on liberalization policies and on the protection of intellectual property rights. The agreement established the Consultative Council on Commerce and Investments to oversee progress in the negotiations. More recently, Mercosur has initiated external relations with Canada. Mercosur and Canada signed an Act of Understanding in June 1998 in Buenos Aires, Argentina, with the objective of deepening their relationship in terms of investment and trade. A Consulting Group of Cooperation on Commerce and Investment was created to set up a plan of action to consider the main areas of interest of each group. Mercosur has also initiated bilateral relations with Mexico.

Since 1998, Mercosur has promoted relations with other trade blocs in Latin America. In April 1998, Mercosur established "frame agreements" with the Andean Community and the Central American Common Market (CACM). The frame agreement with the Andean Community has the objective of creating a free trade area between the regions in order to promote economic development. Both blocs agreed on a schedule for further meetings to specify the terms of the agreement. The Frame Agreement of Trade and Investment signed with the CACM aims at stronger relations through trade, investment, and technological transfer in order to promote and protect investment.

Mercosur's efforts to establish relations have reached other areas of the globe as well. In December 2000, at Florianopolis, Brazil, Mercosur and South Africa signed a frame agreement with the objective of strengthening their relationship, promoting trade, and laying the groundwork for the creation of a free trade area. A negotiating committee was set up to establish a working schedule for the negotia-

tions.Mercosur is currently negotiating bilateral trade agreements with Japan and Venezuela, and it plans to negotiate as a bloc in the creation of the Free Trade Area of the Americas (FTAA), expected to begin by December 2005.

Mercosur in Numbers

Mercosur is the fourth largest economic bloc in the world, with a gross domestic product (GDP) in 1999 of $11.5 billion. The average GDP per capita in the bloc for 1999 was about $5,000 (one-fifth that of the United States). Mercosur includes four countries that are diverse in terms of their size and level of development. The biggest country in Mercosur is Brazil, with an area of 8,551,965 square kilometers (5,302,218 square miles) and a population of 174.4 million people. Brazil's GDP per capita in 1999 was $4,524. Brazil is rich in natural resources and has well-developed manufacturing and service sectors that produce 29 percent and 62 percent of GDP, respectively. Its main industries include textiles, footwear, machinery and equipment, and automobiles. The second country in terms of size is Argentina, with an area of 2,776,890 square kilometers (172,671 square miles) and a population of 37.4 million people. GDP per capita in Argentina for 1999 was $7,709. Argentina is also rich in natural resources and has very fertile land. Its main industries include food processing, chemicals, and automobiles, and its main exports are agricultural products, fuels, and automobiles. The industrial sector represents about 32 percent of GDP and the service sector 62 percent.

Paraguay's area is 406,750 square kilometers (252,185 square miles) and the country has a population of 5.7 million people. With a GDP per capita in 1999 of $1,505, Paraguay is the poorest country in Mercosur. Its economy is characterized by a large agricultural sector that mainly operates at a subsistence level (the agricultural sector produces only 28 percent of GDP but employs 45 percent of the population). The informal sector, which includes all economic activities that are not officially regulated and which operates outside the market system, is also very important in Paraguay. Paraguay's main imports are machinery and equipment, and it exports electricity and agricultural products. Uruguay, with an area of 176,220 square kilometers (109,256 square miles) and a population of 3.36 million people, is the smallest country in the region. Its GDP per capita in 1999 was $6,102. Uruguay has a highly efficient agricultural sector, which accounts for about 10 percent of GDP. The country's main exports are primary goods and manufactures derived from primary goods. Its imports include metal products and machinery and equipment.

Mercosur's performance as a trading bloc is described by its trade flows. The geographic distribution of Mercosur exports in 2002 reveals the importance of trade within the bloc: Mercosur countries received 24 percent of Mercosur exports. European Union countries received 23 percent, East Asia 15 percent, and the United States 14 percent. The main sources of Mercosur imports are the EU, with 26 percent, and the United States, with 22 percent. The main sectors exported by Mercosur are food and beverages (representing 39 percent of total exports), manufacturing goods not based on natural resources (37 percent), and manufactured products based on mining and other natural resources (20 percent). Mercosur's foreign direct investment goes mainly to the automotive sector (36 percent), followed by commerce and construction (12 percent) and chemistry and pharmaceuticals (11 percent).

Mercosur was a great success in its early stages. Intra-Mercosur trade went from 9 percent in 1990, prior to the Treaty of Asunción, to 25 percent in 1997. But during 1999, Mercosur seemed to be in trouble, with intra-Mercosur trade reduced to 20 percent. A devaluation of Brazil's currency in 1999 reduced Argentina's competitiveness in the Brazilian market by about 40 percent, threatening a tariff war be-

tween Argentina and Brazil. Furthermore, incentives to strike bilateral deals with other countries undermined the customs union. Because the organization does not have a centralized enforcement institution, it is hard to enforce the customs union. Brazil has so far blocked attempts to create a permanent dispute-settlement tribunal that could enforce the rules agreed upon in the Mercosur framework. Negotiations are still in progress to set up this type of organization. Mercosur is currently pursuing free trade agreements with the EU, India, and China.

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See Also Economic Integration; Andean Community; Latin American Free Trade Association (LAFTA)

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Common Market for Eastern and Southern Africa (COMESA)

The Common Market for Eastern and Southern Africa (COMESA) was established in 1993 to replace a Preferential Trade Area (PTA) set up in December 1981. The original PTA agreement included eight countries and covered a range of measures to promote a greater degree of free trade among members and cooperation in industry, transport, and communication. COMESA, now with twenty member states, deals with a comprehensive slate of trade and economic issues and policies in the region. The member states are Angola, Burundi, Comoros, Democratic Republic of the Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Namibia, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia, and Zimbabwe.

History of African Integration

Even before the independence of African states, many African intellectuals called for an African League. Conferences held for that purpose began in 1900 with the London Conference, followed by the Paris Conference in 1919, the Brussels Conference in 1921, and the New York Conference in 1927. The Manchester Conference in 1945 marked a turning point in African calls for unity because of the fact that it was well attended and the conference was instrumental in pushing for a unified Africa. As African nations began to gain their independence, African leaders came to believe that integration would enable states that were still occupied to gain their independence and provide the best means for independent states to maintain their newly gained freedom.

The first formal initiative for African integration was presented by Komi Nokoroma on March 6, 1957, who called for an African Conference on the issue. This conference was held April 15–24, 1958, with representatives from all of the African independent states in attendance, including Libya, Sudan, Tunisia, Morocco, Ethiopia, Liberia, Ghana, and Egypt. Other initiatives that aimed at African integration included the Mali Federation in 1959 and the Currency Union of Western Africa in 1962.

The African states have formed four organizations for regional integration since that time. The first was the Economic Community for Western African States, formed with fifteen member states in 1975. The second was the Southern African Development Coordination Conference (SADCC), established in 1980 by the states of southern Africa. In 1993, the SADCC was replaced by the Southern African Development Community (SADC), which constitutes the third regional organization. The fourth organization, the Maghareb Union, was established in 1984 to pursue economic integration among its member states in northern Africa: Morocco, Mauritania, Algeria, Tunisia, and Libya. Nevertheless, ideological debates presented obstacles to reaching specific objectives for economic integration.

In 1991, the African states signed the Decla-

ration of the Economic African Community. This declaration aimed at a number of objectives, mainly economic integration and currency union, to take place in six stages over thirty-four years. Several agencies and organizations were established to implement the declaration's articles and objectives. These included a Ministerial Council, an African Parliament, a Social Economic Committee, a General Secretariat, and a Justice Court. The member states faced obstacles, however, in achieving the wide range of activities that the declaration set forth. COMESA represented an attempt by the member states to bridge the gap between the declaration's ambitious articles and objectives and the real situation of the African states.

In November 1993, PTA countries signed a treaty transforming PTA into COMESA. COMESA started with the ten member states that ratified the treaty: Burundi, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Rwanda, Somalia, Tanzania, and Zambia. At an inaugural summit held in Lilongwe, the capital city of Malawi, in December 1994, two additional countries, Angola and Congo, joined COMESA. The last eight member states joined in 2000 and as of 2003, there were twenty member states.

In February 2000, COMESA held a conference in Cairo, Egypt. A new confidence in the common market's future was apparent. With the eight new member states, the COMESA area stretched from the Mediterranean in northern Africa to Madagascar in the Indian Ocean. The organization was preparing to implement its free trade area by October 31, 2000. At the same time it faced formidable problems, however. Much of the region remained desperately poor and underdeveloped, and a number of member states—Mozambique, Malawi, and Tanzania, for example—suffered from a high rate of illiteracy.

Objectives of COMESA

The Treaty of COMESA mentioned numerous sectors and activities. Fulfillment of the entire COMESA mandate is regarded as a long-term objective. In the effort to become more effective as an institution, COMESA has defined its strategic focus within its mandate, over the next three to five years, as being promotion of regional integration through trade development and investment. An important objective in the pursuit of this strategy is to enable member states to make the adjustments necessary to become part of the global economy within the framework of the World Trade Organization (WTO) regulations and other international agreements.

COMESA encourages cooperation in the development of natural and human resources for the good of all member states and their peoples. It is hoped that it will become a large economic and trading unit capable of overcoming some of the barriers faced by individual member states. Leaders hoped to remove all internal trade tariffs by the year 2000 in order to implement a free trade area; to facilitate the removal of structural and institutional weaknesses in member states to enable them to attain collective and sustained development; to facilitate trade liberalization and customs cooperation, including the introduction of a unified computerized customs network across the region; to improve the administration of transportation and communications to ease the movement of goods, services, and people across national borders in COMESA countries; to create an enabling environment and legal framework that would encourage the growth of the private sector; to establish a secure investment environment; to adopt common sets of standards on economic issues and achieve the harmonization of macroeconomic and monetary policies throughout the region, free movement of capital and investment, a payments union based on the COMESA Clearing House, and a monetary union with a common currency; and to adopt common visa arrangements, including the right of establishment, leading eventually to the free movement of bona fide persons.

COMESA Institutions

COMESA is made up of eight institutions: (1) the Authority of Heads of State Government, the supreme policy organ of COMESA, responsible for the executive functions of the common market and the achievement of its aims and objectives; (2) the Council of Ministers, which determines COMESA programs and activities and monitors and reviews financial and administrative management of the organization; (3) the Committee of Governments of the Central Bank, which manages the COMESA Clearing House and ensures implementation of the monetary and financial cooperation programs; (4) the Intergovernmental Committee, composed of permanent secretaries from the member states; (5) technical committees, responsible for various economic sectors and for administrative and budgetary matters; (6) the Secretariat, headed by a secretary general, which provides technical support and advisory services to the member states in the implementation of the treaty; (7) the Consultative Committee of the Business Community and other Interest Groups, to provide a link and facilitate dialogue between the business community and other interest groups and organs of the common market; and (8) a Court of Justice, which ensures the proper interpretation and application of the provisions of the treaty and adjudicates disputes that arise among the member states regarding these interpretations and applications. The Court of Justice was established by the COMESA Treaty and became fully operational in 1998.

In addition, a number of institutions have been established for promoting subregional cooperation and development, including the COMESA Trade and Development Bank, located in Nairobi, Kenya; the COMESA Clearing House, in Harare, Zimbabwe; the COMESA Trade Association of Commercial Banks, also in Harare; the COMESA Leather Institute, located in Ethiopia; the COMESA Re-Insurance Company, in Nairobi, which provides reinsurance within the region; the COMESA Metallurgical Industries Association; the Eastern and Southern African Business Association; the Federation of National Association of Women in Business in COMESA; and the Pharmaceutical Manufacturers of Eastern and Southern Africa. Finally, other bodies exist to promote cross-border initiatives, form common industrial policies, and pursue a monetary harmonization program.

Achievements of COMESA

COMESA has made good progress in several areas, including the following: (1) elimination of nontariff barriers (the classic nontariff barriers, such as quantitative restrictions, licensing, import permits, and restrictive foreign exchange controls, have been largely eliminated); removal of tariff barriers (as of April 1, 1999, two countries had achieved a 90 percent tariff reduction, eight countries had reached an 80 percent tariff reduction, one country had surpassed a 70 percent reduction, and three countries had met a 60 percent reduction); the adoption of a single COMESA Customs Document (COMESA-CD) to replace the previous multiplicity of documents (up to thirty-two in some countries) covering clearance of customs warehousing, reexport, and transit purposes; incorporation of efficient customs management systems to facilitate data and revenue collection and establish the basis for a harmonized tariff, including the Automated System of Customs Data, installed in twelve countries, and Eurotrace, in nineteen; simplification of rules of origin, with more scope for import content, by the adoption of a 35 percent local value-added criterion (these rules are undergoing further changes to take developments at the WTO into account, as a result of a study financed by the U.S. Agency for International Development); implementation of a Customs Bond Guarantee Scheme to facilitate transit traffic and reduce the cost of financing transit

goods; and establishment of a Trade Information Network, which now has some forty-seven computerized focal points set up in twenty member states to provide information on export and import opportunities available in COMESA countries, including trade flow analyses, company registers, comparative COMESA tariffs, nontariff barriers, and macroeconomic profiles of member states. In addition, COMESA has set up its own Web site (http://www.comesa.int) to provide information to business interests from within and outside of the COMESA region.

COMESA Member States

The total area of the twenty COMESA member states is 12.88 million square kilometers (7,985,600 square miles), and the total population of these states reached 385 million in the year 1999. COMESA's membership exhibits great political, geographical, and linguistic diversity as well as differences in natural resources and industrial strengths. These differences maximize the benefits to be gained by COMESA countries through economic integration and cultural and social exchanges.

Angola is located in southern Africa with 1,246,700 square kilometers (481,353 square miles) of total area and 10,145,267 in population. Its main natural resources are petroleum, diamonds, iron ore, and phosphates. The official language is Portuguese, although some people speak Bantu and other African languages, and the country is governed by a transitional government, nominally a multiparty democracy with a strong presidential system.

Burundi, located in central Africa with 27,830 square kilometers (10,745 square miles) of total area and 6,054,714 in population, contains nickel, uranium, and rare earth oxides. The main industries are light consumer goods. The official languages are Kirundi and French, and the government is a republic.

Comoros is located in southern Africa with 2,170 square kilometers (838 square miles) and 578,400 in population. The country's main industries are textiles, food processing, and chemicals. The official language is Arabic, and some people speak French. Comoros is a republic.

Democratic Republic of the Congo, located in central Africa, has 2,345,410 square kilometers (905,568 square miles) of total area and 51,964,999 in population. Its main natural resources are cobalt, copper, and cadmium. The main industries are mining, mineral processing, and consumer products, and the official languages are French and Lingala.

Djibouti, in eastern Africa, has 22,000 square kilometers (8,494 square miles) of total area and 451,442 in population. Its main natural resource is its geothermal areas. Industries are limited to a few small-scale enterprises. The official language is Arabic, though many people speak French. Djibouti is a republic.

Egypt, located at northern Africa, covers 1,001,450 square kilometers (386,662 square miles) and has a population of 68,359,979. Egypt's main natural resources are petroleum and natural gas. Its predominant industries are textiles, food processing, tourism, and chemicals. The official language is Arabic. Egypt is a republic.

Eritrea, located in eastern Africa, with 117,600 square kilometers (45,406 square miles) of total area and 4,135,933 in population, contains gold, potash, and zinc. The main industries are food processing, beverages, and clothing and textiles. The official language is Afar, with a minority speaking Amharic. Eritrea has a transitional government.

Ethiopia, located in eastern Africa, covers 1,104,303 square kilometers (426,372 square miles) and has a population of 64,117,452. Its main natural resources are gold, platinum, and copper. The official language is Amharic, though some people speak Gallinya or Tigrinya. Ethiopia is a federal republic.

Kenya, in eastern Africa, has 582,650 square kilometers (224,962 square miles) of total area and 30,399,770 people. Kenya's main natural resources are gold, limestone, and soda ash. Its

industries are plastics, furniture, batteries, and textiles. The main languages are English and Swahili. Kenya is a republic.

Madagascar, located off the coast of southeastern Africa with 587,040 square kilometers (226,657 square miles) of total area and 15,506,472 in population, contains graphite, chromites, and coal. The official language is Malagasy, and some people speak French. Madagascar is a republic.

Malawi, in southeastern Africa, covers a total area of 118,480 square kilometers (45,745 square miles) and has a population of 10,385,849. Malawi's main natural resources are limestone and arable land. Its main industries are tobacco, tea, and sugar. The official languages are Chichewa and English. Malawi is a multiparty democracy.

Mauritius, an island east of Madagascar off the southeastern coast of Africa, with 1,860 square kilometers (790 square miles) of total area and 1,179,368 in population, offers arable land and good locations for fishing. The main industries are food processing and textiles. The official language is Creole, but some people speak English. Mauritius is a republic.

Namibia, in southern Africa with 824,292 square kilometers (318,260 square miles) of total area and 1,771,327 in population, contains diamonds and copper. The top industries are meat packing, fish processing, and dairy products. Some people speak English, but African languages are also common. Namibia is a republic.

Rwanda, in central Africa with 26,338 square kilometers (10,169 square miles) of total area and 7,229,129 in population, has natural resources of gold and cassiterite. Its main industries are cement, agricultural products, and small-scale beverages. The official language is Kinyarwanda; French and English are also official languages. Rwanda is a republic.

The Seychelles are a chain of islands located off the east coast of Africa north of Madagascar with 455 square kilometers (176 square miles) of total area and 79,326 in population. The main natural resources are fish, copra, and trees, and the main industries are fishing, tourism, and processing of coconuts and vanilla. The official languages are English and French. The country is a republic.

Sudan, located in northern Africa with 2,505,810 square kilometers (967,499 square miles) of total area and 35,079,814 in population, offers petroleum and natural gas. Its main industries include textiles, food processing, and chemicals. The official language is Arabic, but Nubian and English are also spoken. The government is a transitional one.

Swaziland, in southeastern Africa, covers 41,290 square kilometers (6,704 square miles) and has a population of 7,262,372. Swaziland's main natural resources are hydropower potential and timber. The main industries are machinery, chemicals, watches, textiles, and precision instruments. The official language is French, though some people speak German and Italian. Swaziland's political system is a monarchy.

Uganda, located in eastern Africa with 236,040 square kilometers (91,136 square miles) of total area and 23,317,560 in population, contains copper and cobalt. The official language is English, and some people speak Luganda. Uganda is a republic.

Zambia, located in southern Africa with 752,614 square kilometers (290,586 square miles) of total area and 9,582,418 in population, offers copper, cobalt, and zinc. The main industries are copper mining and processing and also construction. The official language is English, though some people speak Bemba and other African languages. It is a republic.

Zimbabwe, in southern Africa, covers 390,580 square kilometers (150,830 square miles) and has a population of 11,342,521. Its main natural resources are coal and chromium ore, and its top industries are mining, steel, and wood products. The official language is English; some people speak Shona and other African languages. Zimbabwe is a republic.

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See Also Economic Integration; East African Community (EAC); Economic Community of Central African States (CEEAC); Southern African Development Community (SADC); Franc Zone

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Commonwealth of Independent States (CIS)

On December 8, 1991, near Minsk, Belarus, the Commonwealth of Independent States (CIS) was agreed upon by the leaders of Russia, Ukraine, and Belarus. On December 13, the Central Asian Republics of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan expressed their desire to be a part of the new organization in a joint statement. By December 21, the Commonwealth grew to eleven member countries: Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. Two years later, Uzbekistan's parliament approved the agreement and Georgia joined as well. By this time, all of the former republics of the Soviet Union except for the Western-supported Baltic states of Estonia, Latvia, and Lithuania had become part of the CIS.

As the USSR began to crumble, the Commonwealth of Independent States agreement represented an effort to preserve economic, military, and foreign ties between the former republics of the USSR. Attempting to stay away from the tsarist and Soviet past, St. Petersburg and Moscow were not chosen as the capital of the new Commonwealth. Instead, the leadership chose the Belorussian city of Minsk.

The Fall of the Soviet Union

After many months of uncertainty, the Commonwealth agreement represented a voluntary cohesion and a possibility for mutually beneficial cooperation for the former Soviet republics. The events leading up to the agreement began with the selection of Mikhail Gorbachev as the leader of the Soviet Communist Party and the USSR in 1985.

Gorbachev, a fifty-four-year-old agricultural specialist from southern Stavropol, was frustrated with the slow pace of change and reform within the USSR. Beginning in 1986, he moved in a new reform-oriented direction labeled as "radical" by Communist hard-liners. He advocated *glasnost* (openness) in the media and culture and *perestroika* (restructuring) in the government and economy, hoping to spark reform while maintaining the Communist Party's domination of power and the socialistic features of the Soviet system.

Gorbachev's policies led to the legalization of entrepreneurship and cooperative small businesses, but the public sector remained overwhelmingly dominant and resisted attempts at reform. This lack of change in the public sector resulted in reform that was far from comprehensive and very disruptive. Consequently, there was a further slowdown in economic growth, and shortages of goods led to frequent panics and protests. Gorbachev's new policies resulted in worsened economic turmoil, building up to a contraction of the USSR's gross national product (GNP) in 1990.

The perestroika policies enabled a wide range of government reform to take place, and there was a push for competitive elections with multiple-candidate ballots throughout the early months of 1987. At a national conference of the Communist Party, Gorbachev's plan for government restructuring was approved, promoting the freedoms of expression, assembly,

and organization. Soon after, the constitution of the USSR was amended to replace the Supreme Soviet legislative body with the Congress of People's Deputies, a new legislative body with 2,250 members. In the spring of 1989, elections were held across the USSR, and though the majority of the seats were occupied by Communist Party members, many dissidents were able to obtain seats as well.

As a result of his reforms, Gorbachev alienated himself from both sides of the political spectrum. Communist Party hard-liners and conservatives believed that he was a traitor to the Party. The liberals, led by Boris Yeltsin, a former member of the Politburo whom Gorbachev had passed over for leadership, attacked his actions for not instituting even more drastic reform. By 1990, opposition to Gorbachev had arisen in every republic within the USSR. Reacting to criticism, the Soviet Parliament and the Communist Party allowed non-Communist parties to participate in each republic's elections. In a surprising turn of events, Yeltsin's Democratic Russia Party won a narrow advantage in the Russian republic's parliamentary elections in March 1990. The success of the Democratic Russia movement continued, and on June 12, 1991, Yeltsin was elected to the presidency of Russia, winning over a field of five candidates.

The other Soviet republics began to benefit from the uncertainty in Gorbachev's administration and were now able to stand up to Moscow. The USSR no longer had the will or the power to prevent political transformations within its republics. Communist governments throughout the Soviet sphere of influence began to fall. The tearing down of the Berlin Wall was one of the most dramatic examples of this new reality. Across the USSR, different republics' legislatures, including Russia's legislature, passed resolutions asserting their sovereignty. Lithuania and Georgia were extreme cases; their legislatures asserted complete independence from the USSR.

For over a year, Gorbachev dwelled on whether to use oppressive or conciliatory measures to deal with the republics. In the spring of 1991, he selected the course of reconciliation and offered to renegotiate the original Union Treaty of 1922 that had created the USSR. In August 1991, a new draft Union Treaty had been agreed upon, and seven republics were prepared to sign the agreement on August 20, 1991. However, the signing never happened owing to a Communist hard-liner coup attempt on August 19, 1991, while Gorbachev was vacationing in the Crimea. The coup failed, the military withdrew its tanks from Moscow, and Gorbachev was completely discredited by the situation. Boris Yeltsin, who had rallied pro-democracy supporters in front of the Russian Parliament, was viewed as a hero of change. These events led to the resignation of Gorbachev as the general secretary of the Communist Party of the Soviet Union on August 24, 1991. By November 1991, Yeltsin had dissolved the Communist Party within Russia.

Between August 20 and 31, Estonia, Latvia, Ukraine, Belarus, Moldova, Kyrgyzstan, Uzbekistan, and Azerbaijan joined Lithuania and Georgia in declaring their independence from the USSR. By October, Tajikistan, Armenia, and Turkmenistan had also separated from the USSR, officially leaving only Russia and Kazakhstan in the union.

A few months later, in December, the Commonwealth of Independent States agreement was signed. On December 26, 1991, the powerless Soviet parliament passed its final resolution officially ending the Soviet Union. The purposes, functions, and structure of the new organization are outlined within the Charter of the CIS.

The Goals and Functions of the CIS

The CIS Charter outlines a wide range of purposes and principles in its first section and articles. It emphasizes the independence and equality of each member state of the CIS. It embraces cooperation between the independent states, specifically in economic, political,

environmental, humanitarian, and cultural areas. The charter also emphasizes the need for action on certain issues, calling for reductions in the military, the elimination of nuclear bombs and other weapons of mass destruction, and the promotion of human rights. All future agreements made under the auspices of the CIS must conform to these principles.

The main functions of the organization outlined in the charter are collective defense; conflict prevention and resolution; economic, social, and legal cooperation; and finance. The collective defense function protects international security, helps to achieve disarmament goals, and promotes cooperation and coordination among states. To attain this type of military relationship, the charter calls on member states to enact methods of consultation and plans for mutual defense in accordance with Article 51 of the United Nations Charter.

The conflict prevention and the peaceful resolution of dispute function of the CIS require all member states to undertake every possible diplomatic means for the resolution of a dispute. Member states must not act in a way that damages another state and must move toward peaceful coexistence. If two states wish to do so, they may submit their dispute to arbitration by the CIS Council of Heads of States, a committee made up of the leaders of each member state. Also, at any time the Council of Heads of States has the authority to recommend a solution to any given dispute among member states that threatens the organization.

Economic, social, and legal cooperation is stressed in the charter as one of the main goals of the CIS. The charter calls for the eventual establishment of a free trade area, incorporating all member states, based upon a common market economy. Socially, the development of joint programs is crucial to the integration of the CIS. The sharing of transportation and communications expertise and technology, as well as energy resources assistance, are listed in the charter in order to achieve higher levels of interdependence and cooperation. Legally, it highlights the need for the respect of intellectual property and respect for common environmental standards. Also, member states are directed to eliminate legal contradictions that exist from one member state to another, specifically relating to various government regulations.

The last major function applies to financing the organization. The CIS's expenditures are distributed among the participating members under the authority of the Council of Heads of States. The council is also responsible for replying to questions concerning the financial and administrative activities of the CIS. Also, member states are expected to individually pay the expenditures of their representatives and their assistants while attending to their duties at the CIS.

The Organs of the CIS

The aforementioned Council of Heads of States is just one body within the CIS. There are many other structures, or committees, which are charged with fulfilling the purposes and functions set forth by the charter. Scheduled to meet twice a year, the Council of Heads of States is the supreme authority within the CIS and is able to address principal issues. The Council of Heads of Governments, scheduled to meet four times a year, is the coordinating body directly below the Council of Heads of States in the line of authority. This council primarily deals with the promotion of cooperation on economic and social matters. On both councils, member states are represented equally and actions are decided by general consent. The councils have the authority to establish other permanent or temporary bodies to address CIS issues. Joint sessions of the two bodies may be conducted, and the councils reside permanently in the city of Minsk.

The Inter-Parliamentary Assembly is another body set forth under the CIS Charter that is made up of delegations from each member state. This assembly, established in March 1995, is a consultative body that deals with co-

operation issues and develops proposals to better achieve the goals of the CIS to bring before the councils of higher authority.

The Economic Court is a judicial body beneath the two top councils. Its main purpose is to ensure the attainment of previous economic commitments under the CIS framework. It deals with interstate economic issues and is given the power to interpret the economic provisions of CIS agreements.

The Council of Foreign Ministers works to ensure cooperation between CIS member states on foreign policies of mutual interest. This council acts primarily on orders from the Council of Heads of States and the Council of Heads of Governments.

The Council of Defense Ministers is responsible for coordinating CIS member states' military policies. To attain this goal, it prepares and holds meetings often to organize the activities of interstate military observers. Also, the council has the authority to plan for the creation of collective forces for peacekeeping operations. There is a Council of Collective Security as well, created under the Agreement on Collective Security of May 15, 1992, that works with the Council of Defense Ministers to deal with security issues. Along with this council, a Council of Commanders-in-Chief of Frontier Troops, a subsidiary body of the Council of Heads of States, is responsible for the coordination of troops guarding the frontiers of the CIS and its member states.

In the area of economic policy, the Economic Council is the main executive body. This council works to implement the economic decisions of the Council of Heads of States and the Council of Heads of Governments. Its primary goal is to work toward the creation of a CIS free trade zone, as well as to work on minor issues of economic cooperation. This council is made up of the deputy heads of government from each member state.

The primary administrative body of the CIS is the Executive Committee. It organizes the meetings and activities of all the major bodies of the CIS and also pursues an economic platform. Along with the Economic Council, the Executive Committee works toward the creation of a CIS free trade zone.

The major body within the CIS framework that deals with financial issues is the Interstate Bank. It organizes and implements interstate settlements between member states' central bank agencies, primarily on trade and currency issues.

The last major body of the CIS is the Interstate Statistical Committee, which was established by a decision of the Council of Heads of Governments in December 1991. It assists the statistical organizations from member states, promoting the use of similar statistical techniques throughout the Commonwealth. It also promotes information exchange among states and other international organizations and maintains a common CIS statistical database on the social and economic situations within the CIS and its member states.

The CIS since Its Establishment

Since Russian President Boris Yeltsin, Chairman Stanislav Shushkevich of Belarus, and Ukrainian President Leonid Kravchuk created the CIS on December 8, 1991, many CIS meetings and agreements have advanced the CIS along its path toward obtaining its goal of increased cooperation in many fields. Soon after the CIS's creation and following two foundational meetings, the Council of Heads of States and the Council of Heads of Governments met on February 14, 1992, to deal with the dismantling of the former USSR's military. They came to an agreement about the impermissibility of the use of force and the basic structure of CIS strategic forces. By the time of the next meeting, which took place in Kiev on March 20, 1992, the Council of Heads of States completed the formation of the CIS defense forces, the CIS United Armed Forces (UAF). Then, in a meeting at Tashkent, Uzbekistan, on May 15, 1992,

the Treaty on Collective Security was signed, providing the basic collective defense program and arms reduction plan for the CIS.

By October 9, 1992, the CIS was prepared to make commitments toward economic coordination. At a summit in Bishkek, Kyrgyzstan, a joint meeting of the Council of Heads of States and the Council of Heads of Governments was held, and the issues of a single monetary system, economic coordination policies, and the free movement of citizens of CIS member states were discussed. Then, at a later meeting in Minsk, Belarus, on April 16, 1993, the issues of a single free market and the protection of human rights were debated, primarily driven by Boris Yeltsin of Russia and Nursultan Nazarbayev of Kazakhstan. At a two-day summit in Moscow on May 14 and 15, 1993, the Council of Heads of States established the Economic Union, pending approval from individual member states. The Economic Union was based upon the free movement of goods, services, labor, and capital. It also coordinated tax policies, customs, and other fiscal programs. The council delegates hoped that the Economic Union would lead to the establishment of favorable conditions for economic growth. By April 15, 1994, all CIS states agreed to the eventual creation of the free trade zone, but it was not immediately established.

Meanwhile, CIS peacekeeping operations were under way in areas of Georgia and Tajikistan. Between 1996 and 1997, the primary councils focused on the creation of newer subsidiary bodies to deal with the goals of the CIS Charter more effectively. By April 29, 1998, efforts were still in progress to improve CIS procedures. New protocols were agreed upon, and leaders pushed for increased military cooperation.

On January 25, 2000, at a summit in Moscow, Boris Yeltsin's successor, Russian President Vladimir Putin, was elected as chairman of the Council of Heads of States. His priorities were to counter international terrorism and reduce organized crime. At a two-day summit on June 20 and 21, 2000, joint efforts were agreed upon to combat extremism within the CIS, and an Anti-Terrorism Center was created. The CIS also embraced Russia's recent approval of the Nuclear Test Ban Treaty.

At a joint meeting of the councils in Minsk, Belarus, on November 30, 2000, the Anti-Terrorism Center was given its full list of responsibilities: to struggle against extremism, to establish and maintain a database of terrorists and terrorist organizations, and to facilitate combined operations by CIS member states.

Some months later, at a meeting in Minsk on May 31, 2001, the Council of Heads of Governments made steady progress on many issues, including health care, information exchange, education, the economy, and technical cooperation. Numerous important documents were signed, including one on the creation of a Coordinating Council on taxation issues made up of the tax agency directors of individual member states.

By late November 2001, preparations were under way to celebrate the tenth anniversary of the CIS. At the Jubilee Summit on November 29 and 30, 2001, meetings were held by the Council of Foreign Ministers and the Council of Heads of Governments. Sixteen major issues were discussed by the foreign ministers, and the heads of governments debated over twenty major issues. The outcome of the meetings included an action plan by the foreign ministers to increase the efficiency of the coordination of foreign political activities, and the heads of governments adopted a decision on the plans for the sixtieth anniversary of the Great Patriotic War (World War II) memorial programs and made significant progress on educational cooperation agendas. Also, there was a CIS declaration at the summit strongly in favor of antiterrorist action in Afghanistan by the United States and its allies.

At the next major meeting, on October 7, 2002, in Chisinau, Moldova, the Council of Heads of Governments, chaired by Kazakhstan's prime minister, Imangaliy Tasmagambe-

tov, discussed an extensive agenda of twenty-five issues. Substantial agreements were made concerning energy cooperation, such as shared power supply and increased energy production effectiveness. Another agreement, detailing measures to improve interstate television and radio, was passed as well.

On the same date, a meeting of the Council of Heads of States also occurred. The council awarded Russian President Vladamir Putin an Honorary Badge of the CIS for his work to strengthen and develop the organization. There were further discussions concerning the establishment of the CIS free trade zone, and a special session of the council was proposed to deal solely with economic issues. Consequently, the Economic Council was given specific instructions to prepare for the summit. Also at the meeting, Armenia requested CIS observers for its elections in March 2003, and the request was granted.

Conclusion

Although the CIS has progressed substantially over the past decade, many problems remain. Each CIS member state is different from the others in areas such as literacy, higher education, human rights, natural resources, access to shipping, multiculturalism, and infrastructure. Some CIS states excel in a few of these areas, but none of the countries stand out in every area. Also, there are a few problems that all CIS countries face, including widespread corruption and nepotism, limited acceptance of the market economy, lack of capital, and ethnic discrimination. In spite of these problems, the CIS continues to work toward economic and social progress and prosperity into the twenty-first century.

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See Also Economic Integration; Emerging Markets and Transition Economies

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Council of Arab Economic Unity (CAEU)

On June 3, 1957, the Economic and Social Council of the Arab League established the Council of Arab Economic Unity (CAEU), also known as the Economic Unity Council. Decision Number 85, which was promoted by Jordan, Kuwait, Morocco, Syria, and the United Arab Republic, implemented the Arab Economic Unity Agreement, which had evolved from a decision made by the Political Committee of the Arab League in 1956. The motion to create the Council for Arab Economic Unity was ultimately approved by a majority vote of the Economic and Social Council. The CAEU Charter states that the organization's goals are to promote freedom of movement of people and capital within the Arab world; to enhance the freedom to exchange domestic and global commodities and products among member nations; to encourage freedom of residence, work, employment, and the practice of economic activity; to support freedom of transit and the use of common transportation measures at Arab seaports and airports; and to promote the rights of ownership and inheritance within the region.

In practice, the council has worked to promote greater economic cooperation among Arab countries and to bring an end to the intense competition among them that in the past tended to weaken the economies of the various Arab states. Because of enormous profits from oil resources, there has been increased emphasis on inter-Arab unity and development since the early 1970s, when Arab nations realized for the first time that oil gave the Arab world an influential voice in global politics.

The CAEU was a direct descendent of the Economic Council of the Arab League, which had begun as the Arab Joint Defence and Economic Cooperation Council in 1950. The Economic Council had originally been designated as the economic arm of its parent organization, the Arab League. The initial charter of the Economic Council had limited membership to members of the Arab League; an amendment that passed on June 2, 1960, extended Economic Council membership to nonmember states as well as to member states. The architects of the Economic Council believed that development was the key to advancing Arab interests and intended to focus resources on achieving this goal. Once the Council for Arab Economic Unity was developed, however, the Economic Council became virtually redundant, and political maneuvering within the Economic Council has seriously weakened the influence of this organization.

By May 30, 1964, CAEU was operating out of its headquarters in Cairo, Egypt. Over the next several decades, it continued to promote Arab self-reliance, creating a large number of companies and trade federations that were designed to foster Arab cooperation across the economic spectrum. Membership in the council is limited to members who have joined the Arab League, the parent organization of CAEU. The original CAEU Charter was signed by eleven countries—Egypt, Iraq, Jordan, Kuwait, Libya, Mauritania, Somalia, Sudan, Syria, United Arab Emirates (UAE), and Yemen—and the Palestine Liberation Organization.

In June 1973, CAEU met in Cairo and set up

a five-year plan aimed at furthering cooperation with other inter-Arab agencies and with global organizations such as the United Nations and the World Bank, both of which had already been instrumental in furthering the goals of Arab countries. The council's eventual goal was to develop an integrated Middle East Economic Community by 1981. In addition to pursuing its stated goals, the Council for Arab Economic Unity often serves as a liaison among regional organizations that deal with promoting greater economic cooperation in the Arab world.

Within the council, a vast disparity among levels of development among the member states has continued to exist, leading to constant internal friction. From the beginning, CAEU was weakened by the fact that only fourteen of the twenty existing Arab states opted for membership during the first decade and a half of the organization's existence. Financial problems also beset CAEU from its inception. At least 80 percent of the council's annual budget has traditionally been provided by four of its members, and the remaining members have frequently neglected to remit membership dues. As a result, the council has at times been unable to pay its staff for years at a time.

Despite the council's efforts, inter-Arab disputes have persisted throughout the history of the organization. For example, in 1962, when the Gamal Abdel-Nasser administration turned Egypt toward socialism, other Arab nations reacted by drawing away from the heavily industrialized nation. Tensions were further exacerbated when Egypt signed a peace agreement with Israel. Arab unity was subsequently threatened by the Iraqi invasion of Kuwait in 1991, which served as the impetus for the Gulf War in which the United States and its allies succeeded in forcing Iraq out of Kuwait. Arab unity is also weakened by economic factors: Although the population of the Arab world, 380 million, constitutes a major share of the global population, trading among Arab nations amounts to less than 10 percent of total world trade. Additionally, more than $800 million in Arab funds remains deposited in foreign banks.

Trade Unions and Joint Stock Companies

In the 1970s, CAEU began to bring a number of trade organizations under its authority in order to strengthen the economic unity of the Arab world. These organizations, which maintain branches in a number of Arab cities, included the Arab Steel Union, headquartered in Algiers; the Arab Textile Industries Union, based in Damascus; the Arab Union for Chemical Fertilizers, with offices in Cairo; and several unions headquartered in Baghdad, including the Arab Union for Engineering Industries, the Arab Union for Fish Producers, the Arab Union for Food Industries, and the Arab Union for Paper Industries.

Other unions included the Arab Sugar Union, with headquarters in Khartoum; the Arab Union for Land Transport, based in Amman; the Arab Union for Leather Industries (temporarily frozen); the Arab Union for Maritime Forwarders; and the Arab Railways Union, the Arab Union for Seaports, and the Arab Union for Cement and Building Material, headquartered in Baghdad. The impact of these unions has been enormous for both Arab and neighboring nations. For instance, the Arab Union for Cement and Building Material conducts training courses in non-Arab African countries. Additionally, this union has worked diligently to promote knowledge of the environment, holding conferences in which both Arab nations and international firms participate.

Over the next two decades, CAEU created the Arab Cooperative Union, which joined existing unions together under the auspices of the council. Other additions to CAEU unions included the Arab Union for Producers of Medicines and Medical Accessories and the Union of Arab Organisations of Tourism, both headquartered in Amman; the Arab General Union for Insurance, the Union of Arab Investors, and

the Union of Arab Contractors, all based in Cairo; the General Union of Arab Peasants and Agricultural Cooperatives, headquartered in Tripoli; the Arab Union of Hotels and Tourism, in Beirut; and the Arab Union for the Manufacturing of Tyres and Rubber Products, with offices in Alexandria. In 2000, CAEU added the Federation of Arab Businessmen's Council and the Councils of Plastic Production and Chemical Industries to the existing unions that operate under its authority.

The council has also created four joint stock companies that coordinate Arab economic activity: the Arab Mining Company and the Arab Pharmaceutical Company, both based in Amman; the Arab Company for Livestock Development, headquartered in Damascus; and the Arab Company for Industrial Investment, in Baghdad.

The Arab League

The League of Arab States, popularly known as the Arab League, was created in 1945 in the closing days of World War II. The league, open to all independent Arab states, was designed to strengthen security ties in the region by encouraging policies and activities among members that advance the well-being of the Arab world as a whole. From the outset, the Arab League planned to create spin-off agencies that would meet the specialized needs of its members. Despite the Arab League's emphasis on Arab unity, member states sometimes come into conflict with one another. In such cases, the league serves as mediator.

The original charter of the League of Arab States was signed on March 2, 1945, by Egypt, Iraq, Lebanon, Saudi Arabia, Syria, Trans-Jordan, and Yemen. The powers of the Arab League are lodged in an executive council composed of representatives from each member state, with each state having one vote. Activities of the league are divided among six committees, each designed to deal with specific Arab issues: economic and financial matters, communications, cultural relations, nationality and passports, social affairs, and health problems. Some of the founders of the Arab League cherished an underlying but never-realized hope that all Arab states might someday join together under a single Arab government.

In addition to supporting the Council for Arab Economic Unity, the Arab League, under the guidance of the Economic Council, established the Arab Fund for Economic and Social Development (AFESD), which began operations in February 1972 with an initial capital outlay of 100 million Kuwaiti dinars, divided into 10,000 shares. The purpose of the AFESD was to fund Arab development projects that were seen as promoting Arab unity and development, particularly those that involved joint-Arab activities.

By December 1975, the Arab Fund, working in conjunction with the United Nations Conference on Trade and Development and the Council for Arab Economic Unity, set up a program to identify projects that would benefit from receiving AFESD contributions. The plan called for the Arab Fund, the United Nations, and individual Arab governments to make initial contributions of $9,396,000, $6,268,000, and $3,500,000, respectively. The project was modeled after an earlier joint project developed by the Economic Commission for Western Asia (ECWA) and the United Nations Industrial Development Organization (UNIDO) that evolved from a joint meeting in Beirut in November 1974. The Arab Fund/United Nations project, which worked in conjunction with the Council for Arab Economic Unity and other Arab organizations, was particularly aimed at advancing technical knowledge and cooperation in the Arab world.

By the beginning of the twenty-first century, the Arab League was composed of twenty-two member states, including all the countries of North Africa, most Middle Eastern states, and Djibouti and Somalia. The member states included Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine,

Qatar, Saudi Arabia, Somalia, the Sudan, Syria, Tunisia, United Arab Emirates, and Yemen. In addition to the Economic and Social Council, the Council for Arab Economic Unity, and the Arab Fund, the Arab League has also created a number of other agencies in response to particular needs that have developed within the Arab world, including the Arab Labor Organisation (ALO), the Industrial Development Centre for the Arab States (IDCAS), and the Arab Monetary Fund (AMF).

The new century brought major problems to the Arab League. In addition to dealing with Arab/Israeli tensions, global terrorism signaled an unprecedented interference in Arab affairs. When Taliban-supported terrorists attacked the World Trade Center in New York City and the Pentagon in Washington, DC, on September 11, 2001, the United States retaliated by attacking Afghanistan in November and followed this up with an attack on Iraq that was aimed at annihilating Saddam Hussein, who was accused of having ties with terrorist groups and harboring weapons of mass destruction. In March 2003, the United Arab Emirates asked Saddam Hussein to go into hiding. When other members disagreed, bitter divisions occurred within the Arab League. Further tensions developed when the United States–appointed Iraqi Governing Council asked to be granted membership in the Arab League. However, when the league granted membership to the Iraqi provisional government, only Libya boycotted the league.

Arab Common Market

In August 1964, the Council for Arab Economic Unity formed the Arab Common Market, modeled in large part on the European Common Market. Initially, Egypt, Iraq, Jordan, Kuwait, Syria, and the United Arab Republic signed the charter. These six countries were subsequently joined by Algeria, Morocco, the Sudan, Tunisia, and Yemen. Even though Kuwait was the first country to sign the agreement, the country never became an official member of the Arab Common Market, and Lebanon, Saudi Arabia, and Libya also refused to join. The Arab Common Market began official operations on January 1, 1965. Each member was given an equal vote, establishing a simple majority to approve most resolutions. Major decisions, however, require a two-thirds majority vote. Executive authority continues to be lodged in the Council for Arab Economic Unity. Separate committees were established to deal with particular functions such as administration, technology, and data collection and analysis.

The charter stated that although the headquarters of the Arab Common Market would remain in Cairo where the Council for Arab Economic Unity was headquartered, meetings could be held in any Arab city. Each member state was expected to contribute to the overall budget of the Arab Common Market. The charter established that the presidency would rotate among the member states each year. Over the next several years, Libya, Mauritania, the Sudan, and Palestine became members of the Arab Common Market, and North Yemen was allowed to take part as an observer.

The goals of the Arab Common Market, set up to be implemented over a six-year period, were to simplify customs activities under a single authority; to codify tariff legislation; to establish consistent import and export procedures among member states; to revise and unify transportation and transit laws; to oversee trade and payment agreements between foreign governments and Arab states; to coordinate agricultural, industrial, real estate, and monetary activities; to coordinate labor laws among member states; and to initiate social security legislation. Initial goals placed annual reduction of agricultural tariffs at 20 percent and those on manufactured goods at 10 percent.

Implementing the dictates of the Arab Common Market involved liberalizing domestic and foreign trade in both agricultural and industrial products. Member states were allowed to exempt certain goods and services

from the new trade liberalization policies. Initially, the member countries benefited from the tariff liberalization and bilateral agreements with other states within the Arab Common Market; however, it soon became apparent that liberalizing trade among the member nations provided greater benefits to the more developed nations within the Arab Common Market, creating discord among less developed nations. Some members, such as Jordan, also claimed that they were hurt financially from losing customs duties. Both Syria and the Sudan insisted that a mandated lack of competition with the Egyptian industrial sector could cause a rise in domestic unemployment.

Additional problems developed within the Arab Common Market because Kuwait refused to ratify the charter, and Jordan, Syria, Iraq, and Egypt chose to restrict the number of domestic products that were covered by Arab Common Market policies. Further problems developed as individual member states began to reinstate customs, tariffs, taxes, and fees that worked against a common Arab economy. The general consensus is that the Arab Common Market has made little progress toward accomplishing its goal of furthering Arab regional development. This failure to successfully create a completely functional Arab Common Market brought the CAEU close to total collapse in the early 1980s.

Arab Economic Cooperation

From the 1940s until the 1960s, Arab politicians and economists focused their attention on building Arab trade among members of the Arab League and paying off the foreign debts of member nations. Unfortunately, the architects of various schemes that were proposed lacked the ability to deal with the unique problems involved in fostering Arab economic cooperation. For reasons unique to each Arab nation, proponents of Arab economic unity were forced to fight an uphill battle and were ultimately unable to check the inherent inter-Arab competition that continued to thrive. Although member nations gave lip service to economic unity, various Arab countries continued to block efforts toward liberalizing trade and promoting cooperation. Additionally, a number of projects that might have helped to realize the goals of the Council for Arab Economic Unity never received the support they needed to get past the various committees that considered them.

CAEU works closely with other Arab organizations, such as the Gulf Cooperation Council (GCC), which was created in 1981 when Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates joined together to deal with the economic, political, and military sectors within the Gulf region with an overall goal of promoting Arab unity and prosperity.

Arab scholar Khalil Ibrahim Al-Kanaani believes that the greatest obstacle to Arab integration has been backwardness or underdevelopment and dependency on foreign governments. He maintains that all Arab countries that are still considered underdeveloped have been consistently "exploited by others" (Al-Kanaani 2002). This dependency on foreign nations, in his view, has led to a continued weakness in Arab economic relationships, a vast disparity in the industrialized and nonindustrialized Arab economies, enormous gaps in the expansion of Arab industrial economies, and a detrimental foreign interference in Arab public policy.

The Twenty-First Century

By the beginning of the twenty-first century, there again seemed to be some doubt as to whether the Council for Arab Economic Unity would survive. The council had been seriously weakened by the tensions generated during the Gulf War of the early 1990s. After Iraq invaded Kuwait, the latter responded by withdrawing from the council. When the United Arab Emirates left the council in 1999, CAEU was left with no representation among the Gulf states.

The loss of the economic support of these two oil-producing nations substantially contributed to CAEU's economic breakdown.

Critics claim that the Council for Arab Economic Unity has never reached its full potential, and some detractors insist that the whole history of the organization has been marked by failure. The lack of capital has been an obstacle to the realization of CAEU goals since its inception. The fact that since the early 1990s CAEU has been hindered economically by the failure of some Arab states to pay dues has added to the organization's financial woes. A number of problems have arisen because some CAEU members are not completely loyal to the goals of the council, and competition among member states has continued to hamper efforts to reach the goal of Arab economic unity. Since membership is voluntary, CAEU lacks the authority to punish violations of the council's rules or to prevent member states from signing agreements with nonmember countries that serve to defeat the stated purposes of the council. Nevertheless, the Council for Arab Economic Unity is known for its perseverance. In 2002, it developed a plan to expand the economies of fifteen Arab states through investment in thousands of Arab entrepreneurs within the Arab world.

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See Also Economic Integration; Gulf Cooperation Council (GCC); League of Arab States (LAS)

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East African Community (EAC)

The East African Community (EAC) is a regional bloc in East Africa consisting of Kenya, Uganda, and Tanzania. The current "new" EAC was established in 2001 at a ceremony held in Arusha, Tanzania, reviving an earlier effort of regional integration in East Africa that had been abandoned in 1977. The EAC Treaty foresees an ever closer economic and ultimately policy union of its member states, a group that is not confined entirely to the founding members—currently, Burundi and Rwanda enjoy observer status in the EAC, and both countries have applied for accession to the community. The accession of Rwanda is planned for 2006.

A further treaty signed in March 2004 set up a customs union and entered into force on January 1, 2005. The EAC operates on the basis of five-year development strategies that spell out the policy guidelines, priority programs, and implementation schedules of the organization. The first EAC Development Strategy, in 1997–2000, was implemented during the formation of the revitalized EAC and before the EAC Treaty was signed. The second phase took place in 2000–2005. Both plans emphasized economic cooperation and development with a strong focus on the social dimension. The role of the private sector and civil society is considered as central to the regional integration and development of an internationally competitive single market and investment area in East Africa.

In 2004, the East African Community covered a region of 1.8 million square kilometers (about 695,000 square miles), with a combined population of some 80 million people and a combined gross domestic product (GDP) of US$33 billion. The region includes vast natural resources, and the three member states, Kenya, Tanzania, and Uganda, are relatively prosperous compared to their neighbors, which include the Democratic Republic of the Congo, Ethiopia, Sudan, and Somalia.

Rules of the Treaty Establishing the EAC and EAC CU

The treaty establishing the EAC was signed by heads of state of the partner states on November 30, 1999, in Arusha, Tanzania, and entered into force on July 7, 2000; the formal launch of the EAC followed on January 15, 2001. The treaty is organized along twenty-nine chapters that lay out the principles and objectives of the community; establish its organs; and specify priority areas of cooperation, calling for ever closer integration in the form of a customs union, to be followed by a common market and monetary union. The ultimate objective is to establish a political federation of East African States.

Negotiations for the customs union protocol had begun shortly after implementation of the EAC and were finally concluded in March 2004 with the signature of the EAC Customs Union Protocol by the heads of state and government. After ratification by the three member states, the EAC Customs Union (CU) entered into force on January 1, 2005. Its main underpinnings are a common EAC Customs Management Act and a common external tariff applied

to all imports into the customs union. The common external tariff has three tariff bands—0, 10, and 25 percent—that apply to all imports except for a list of ten sensitive products that carry additional protection. Intraregional tariff liberalization will be achieved after a five-year transition period during which Uganda and Tanzania will gradually phase out tariffs on a selected list of Kenyan imports. Imports from Uganda and Tanzania already enter duty free into all partner states.

The EAC Treaty and CU Protocol name only Kenya, Tanzania, and Uganda as members of the community and customs union but provide for the possibility of granting membership, association, or observer status to other countries upon agreement by the original member states.

Structure and Objectives of the EAC

Structure

The community's main organs are the Summit of Heads of State and Government, the Council of Ministers, the Coordinating Committee, Sectoral Committees, the East African Court of Justice, the East African Legislative Assembly, and the Secretariat.

- The summit, comprising heads of state and government of partner states, gives general direction toward the realization of the objectives of the community and customs union. It meets at least once a year to consider the annual progress report and may hold extra meetings as necessary.
- The Council of Ministers, the main decisionmaking institution, is made up of ministers from the partner states responsible for regional cooperation. Among its functions, the council promotes, monitors, and keeps under review the implementation of the programs of the community and ensures the proper functioning of the regional organization.
- The Coordinating Committee consists of permanent secretaries and reports to the Council of Ministers; it is responsible for regional cooperation and coordinates the activities of the Sectoral Committees.
- The Sectoral Committees conceptualize programs, set priorities in the various sectors, and monitor implementation of the programs; the Council of Ministers establishes the committees on the recommendation of the respective Coordinating Committee.
- The East African Court of Justice has jurisdiction over the interpretation and application of the EAC Treaty.
- The East African Legislative Assembly consists of twenty-seven elected members, nine from each partner state plus the three ministers responsible for regional cooperation, the secretary general, and the counsel to the community; it provides a democratic forum for debate and has a watchdog function.
- The Secretariat is the executive organ of the community. It is based in Arusha, headed by the secretary general, and ensures that regulations and directives adopted by the Council of Ministers are properly implemented.

The EAC also includes a number of autonomous institutions that have been established upon the initiative of the Council of Ministers. Currently, the EAC's autonomous institutions are:

- The Lake Victoria Development Program,
- the East African Development Bank,
- the Lake Victoria Fisheries Organisation, and
- the Inter-University Council for East Africa.

Objectives

The EAC aims to improve and strengthen cooperation on the basis of the historical ties and understanding between the peoples of East Africa—that is, of Kenya, Tanzania, Uganda,

and any other East African state that may accede to the community and customs union. The community focuses on cooperation in trade liberalization and development, investment and industry, harmonization of standards, monetary and financial cooperation, infrastructure and services, human resources, science and technology, agriculture and food security, environment, natural resources management, tourism and wildlife management, and health, social, and cultural activities.

The EAC Treaty emphasizes that regional integration be people centered, market driven, and aimed at the provision of an adequate enabling environment. The vision is to create an "export oriented economy in which there shall be free movement of goods, persons, labor, services, capital, information and technology" guided by "the principle of subsidiarity with emphasis on multilevel participation and the involvement of a wide range of stakeholders in the process of integration."

To achieve its vision and goals, the EAC has made a commitment to:

- promote sustainable growth and equitable development of partner states, which includes promoting rational utilization of the region's natural resources and protection of the environment;
- strengthen and consolidate long-standing political, economic, social, cultural, and traditional ties by partner states and between the peoples of the region, thereby promoting a people-centered, mutual development;
- enhance and strengthen participation of the private sector and civil society;
- promote mainstreaming of gender in all EAC programs and enhancement of the role of women in development;
- promote good governance, including adherence to the principles of democratic rule of law, accountability, transparency, social justice, and equal opportunities and gender equality; and
- promote peace and stability within the region and good neighborliness among the partner states.

History of the East African Community

The East African Community is the oldest regional arrangement in sub-Saharan Africa, dating back to 1917, when Kenya and Uganda set up the first African Customs Union. These nations were later joined by Tanganyika in 1927 to form the East African Customs Union under British colonial rule. Subsequent agreements gave birth to the East African High Commission (1948–1961), the East African Common Services Organization (1961–1967), and the East African Community (1967–1977)—now often referred to as the "first EAC." Disputes among the three East African countries regarding the unequal distribution of benefits stemming from the customs union, coupled with ideological differences among their leaders, resulted in the dissolution of the first EAC in 1977.

On November 30, 1993, regional cooperation efforts were resumed with the signature of the Agreement for the Establishment of the Permanent Tripartite Commission for East African Co-operation. In 1997, negotiations started for the upgrading of the Tripartite Commission, leading to the signature of the Treaty for the Establishment of the East African Community in Arusha on November 30, 1999. The treaty entered into force on July 7, 2000, but the EAC was launched formally on January 15, 2001.

The EAC's Agenda

Since its relaunch, the overall performance of the revitalized EAC has been fairly satisfactory, even remarkable in some respects. Among its main achievements, the EAC has established an institutional architecture; achieved convertibility of East African currencies; enhanced coordination in macro and budgetary policies; reduced internal tariffs; set up a common external tariff and an EAC Customs Union; and

revived regional cooperation in a number of important fields (Lake Victoria, natural resources, immigration, and the like).

The implementation of the various phases of regional integration since the entry into force of the "new" EAC has been translated into action in multiyear strategies. The first EAC Development Strategy, launched in 1997, covered a period of four years, 1997–2000. It focused on setting up the institutional and legal architecture of the East African integration process. The strategy in place for 2001–2005 emphasizes two main areas: (1) achieving a customs union and a common market, which should set the foundations for a strong and internationally competitive single market and an investment area in the region; and (2) enhancing the supply capacity in the region, with a focus on agriculture, industry, tourism, and natural resources—in particular, management of Lake Victoria. As a result, the three member states have concluded ten protocols and agreements since 1997; however, only two of them (the Protocol on Standardization, Quality Assurance, Metrology and Testing, and the Protocol on the Establishment of the East African Community Customs Union) have been ratified and entered into force.

So far, EAC integration progress has relied primarily on intergovernmental cooperation, based on consensus and assigning a very limited role to supranational organizations, particularly the EAC Secretariat. However, with the entry into force of the EAC Customs Union, the role of the Secretariat needs to be strengthened so that it can effectively monitor and follow up on the implementation of the CU Protocol and the new Common Customs Management Bill. In this regard, a new Customs and Trade Directorate has been created that will be staffed by up to twelve people.

Structure and Performance of the EAC and EAC Economies

In 2004, the three EAC member states, Kenya, Tanzania, and Uganda, had a collective GDP of US$33.2 billion. Kenya is the largest of the three economies, with a GDP of US$15.1 billion and a population of 31.3 million; it is also the richest, with US$390 per capita gross national income (GNI—Atlas method). Tanzania's GDP is US$10.6 billion, its population 35.2 million, and its GNI per capita US$290. Uganda's GDP is US$7.5 billion, its population 24.3 million, and its GNI per capita US$240 (IMF 2004c; The World Bank has a database available online: http://www.worldbank.org/data/countrydata/countrydata.html .)

The differences in GDP and per capita GNI among the EAC economies have been declining in the past decade. Several reasons lie behind this trend toward regional economic convergence. Uganda and Tanzania have experienced relatively high rates of GDP growth in the past ten years, averaging 6.5 percent and 4.8 percent, respectively (IMF, 2004c). Major advances in macroeconomic stabilization and structural reforms, as well as the impact of higher foreign direct investment, have driven economic growth in both countries. For instance, inflation has fallen steeply, from two-digit rates in the 1970s and 1980s to stable average rates of around 5 percent in 1994–2004. In stark contrast, Kenya's economic performance has been disappointing for the past three decades. The GDP rate of growth has been on a sustained declining trend over this period. The annual rate of real GDP growth fell from 7.5 percent in the 1970s to only 1.9 percent in the 1990s. Although significantly lower than in the 1980s, inflation is still closer to two-digit rates, and foreign direct investment remains at very low levels. This sluggish performance is primarily the reflection of pervasive governance problems and the slow pace of structural reforms (see IMF 2003, 2004a, 2004b).

International trade plays a crucial role for the three EAC economies. Kenya is the most open of the three countries, with a trade in goods ratio to GDP of 44.5 percent; Uganda is second with 36.7 percent, and Tanzania is the last with 27.1 percent (World Bank 2004). The European Union is the main trading partner of

Table 1: Change in the Structure of the EAC's Economies

	Kenya			*Tanzania*			*Uganda*		
(% of GDP)	*1984*	*1994*	*2004*	*1984*	*1994*	*2004*	*1984*	*1994*	*2004*
Agriculture	30	28	13	n.a.	42	41	50	46	29
Industry	16	15	16	n.a.	14	15	10	13	19
Manufacturing	10	9	11	n.a.	7	7	6	6	8
Services	41	42	52	n.a.	37	35	31	34	43

Source: World Bank's staff calculations based on National Authorities data.

EAC countries, absorbing around 30 percent of its total exports in 2003. EAC imports are more diversified: Around a quarter come from the EU, about 20 percent from Asia, and about 20 percent from the Middle East. Trade between EAC members has grown significantly over the past decade. Between 1991 and 2003, the share of exports to the region increased sixfold, reaching 19 percent in 2003. The share of regionally sourced imports increased sevenfold over the same period, accounting for about 8 percent in 2003. Intraregional trade is dominated by exports from Kenya to Uganda.

Foreign direct investment (FDI) directed to the EAC countries has increased significantly over the past decade, from only US$72 million in 1994 to a historical record of US$517 million in 2004. Tanzania is the frontrunner in attracting FDI, with three-fifths of the total investment in the region; Uganda is second, with one-third, and Kenya is the laggard, with only 12 percent (IMF 2004a, b).

Poverty remains an important concern for the EAC countries, despite the recent positive economic performances of Uganda and Tanzania. As a result of three decades of extremely weak economic growth, poverty incidence in Kenya is currently over 50 percent. After a steady decline in poverty during the 1990s, income poverty has recently worsened in Uganda, rising up to 38 percent of the population in 2003 from 34 percent in 2000. Tanzania's sharply improved growth performance has had, in contrast, a notable impact on poverty, which has declined consistently over the past decade. However, despite these significant improvements, the percentage of the population below the national poverty line was still around 35 percent.

Data on Pertinent Economic Sectors

There are major differences in levels of economic development between the EAC countries. Kenya remains the most industrialized of the three economies, with a manufacturing sector that accounts for 11 percent of its GDP. Although Uganda's industry has expanded significantly over the past ten years, from 13 percent of the GDP in 1994 to 19 percent in 2004, manufacturing remains small in comparison with Kenya's.

The importance of agriculture varies significantly across the three EAC economies. The rural sector remains the largest in Tanzania, with 41 percent of the GDP, whereas Uganda and Kenya have exhibited a sharp decrease over the past decade. The share of agriculture in the GDP declined by more than half in Kenya and by 37 percent in Uganda. Services have shown a vigorous growth in Uganda and Kenya but have declined slightly in Tanzania in this period.

Manufacturing has been the most dynamic economic sector in Uganda and Tanzania, with average rates of growth of 11.6 percent and 5 percent, respectively, in 1993–2003. Services and government consumption, in contrast, have been the main drivers of economic growth in Kenya, with 5.5 percent and 2 percent, respectively.

Table 2: Structure of the Economy

	Kenya	*Tanzania*	*Uganda*
Average annual growth 1993–2003			
Agriculture	1.6	3.7	3.9
Industry	1.4	6.5	11
Manufacturing	1.4	5	11.6
Services	2	4.4	7.6
Private consumption	1.7	5.4	6.2
General government consumption	5.5	-0.4	6.5
Imports of goods and services	7.2	4.8	10.7

Source: World Bank's "At-a-Glance Tables" 2004

Table 3: EAC Statistical Profile

	Kenya	*Tanzania*	*Uganda*
Poverty and Social			
2003			
Population, mid-year (millions)	32.2	36	25.5
GNI per capita (Atlas method, US$)	400	290	250
GNI (Atlas method, US$)	12.8	10.6	6.2
Most recent estimate			
Poverty (% of population below national poverty line)	55	35	38
Urban population (% of total population)	36	36	12
Life expectancy at birth (years)	45	47	42
Infant mortality (per 1,000 live births)	77	85	88
Child Malnutrition (% of children under 5)	20	44	38
Access to an improved water source (% of population)	57	56	55
Illiteracy (% of population age 15+)	15	21	69
Gross primary enrollment (% of school population)	96	105	127
Key Economic Ratios and Long-term Trends			
2003			
GDP (US$ billions)	14.3	10.1	6.3
Gross domestic investment/GDP	12.9	18.6	20.7
Exports of goods and services/GDP	24.9	18.3	12.3
Gross Domestic Savings/GDP	8.2	9.5	6.6
Gross National Savings/GDP	12.8	9.3	7.1
Total debt/GDP	47.2	74	62.5
Total Debt service/exports	15.8	5.2	11
Present value of debt/GDP	31.2	19.2	30.8
Present value of debt/exports	123.4	109.4	269.2

Source: World Bank's "At-a-Glance Tables"

Major Issues Facing the EAC

In spite of the important achievements made during the first few years since the revival of the East African Community in 1997, progress in regional integration has slowed down in recent years. One of the reasons for this slowdown is that regional issues have not always been a priority for national bureaucracies, and the regional authorities lacked the means to further the agenda faster. One example is that, out of the ten protocols and agreements signed since 1997, eight are still not ratified: the Agreement for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion; the Protocol on Decision-Making by the EAC Council; the Protocol on Combating Drug Trafficking in the East African Region; the Tripartite Agreement on Road Transport; the Tripartite Agreement on Inland Waterway Transport; the Protocol on the Establishment of the Inter-University Council for East Africa; the Search and Rescue Agreement; and the Protocol for the Sustainable Development of Lake Victoria Basin.

To address this problem, in August 2004 the EAC members established a Committee on Fast Tracking Regional Integration to examine ways and means to deepen and accelerate the process of integration. By October, the committee had adopted a timetable that recommended: (1) the formation of the EAC Common Market, the achievement of free movement of EAC citizens and persons, and the establishment of an EAC identity card by 2007; (2) the formation of an EAC monetary union by 2010; (3) the approval of an EAC Constitution and election of an EAC president by 2012; and (4) the establishment of an EAC Federation by 2015.

The committee also highlighted the need to restructure and strengthen the EAC Secretariat as a matter of urgency if the organization was to fulfill its mandate. A new system of direct financing for EAC institutions was proposed by which member states would remit either 1 percent of their customs revenue or 0.0025 (one-quarter of 1 percent) of their external imports directly to the EAC.

At this stage, it is clear that the long-term success of the community will also involve finding mechanisms to better redistribute the benefits deriving from the integration process. It is important to remember that at the root of the breakup of the community in 1977 there was a disagreement over the sharing of costs and benefits from regional integration. These issues are currently reemerging, with Uganda and Tanzania raising concerns that Kenyan producers will gain from duty-free access to their markets while the Tanzanian and Ugandan governments will lose tariff revenues. In the long run, unless the benefits of regional integration are perceived as being fairly distributed, the whole process may again be derailed.

Furthermore, moving toward deeper integration will require a solution to conflicts caused by the overlapping membership of EAC countries in other regional integration agreements. Currently, Kenya and Uganda belong to the Common Market for Eastern and Southern Africa (COMESA), and Tanzania is a member of the Southern African Development Community (SADC). Both COMESA and SADC have signed free trade agreements and are negotiating the formation of customs unions. Since countries cannot participate in more than one customs union, EAC members will have to make some critical decisions to avoid risking the benefits of further regional integration in East Africa.

Finally, in the long run, if the community is to reap the full benefits of integration it will need to fully embrace the idea of open regionalism, gradually liberalizing its markets to improve economic competitiveness and ensure a better insertion into the global economy. This process should be reinforced by an acceleration of the "deep integration" agenda toward the establishment of a real common market and by stepping up regional cooperation in other areas, such as regional transport networks, standards harmonization, energy and telecommunications, and the like.

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See Also Economic Integration; Common Market for Eastern and Southern Africa (COMESA); East African Community (EAC); Economic Community of Central African States (CEEAC); Southern African Development Community (SADC); Franc Zone

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Economic and Social Council (ECOSOC)

The United Nations Economic and Social Council (ECOSOC) was established at the inception of the UN in 1945 under the UN Charter. It comprises fifty-four members elected by the UN General Assembly for three-year terms based on the principle of geographical representation.

ECOSOC's goals and objectives are deeply rooted in the primary reason for the UN's existence. The Preamble to the UN Charter states, "We the peoples of the United Nations are determined to save succeeding generations from the scourge of war, which twice in our lifetime has brought untold sorrow to mankind, and to reaffirm faith in fundamental human rights, in the dignity and worth of the human person, in the equal rights of men and women and of nations large and small." ECOSOC thus is charged with initiating studies and reports concerning international economic, social, educational, cultural, and health matters. Specifically, it coordinates the work of fourteen specialized and regional commissions as well as several UN agencies. These duties correspond to the main stated aims of the United Nations: the maintenance of international peace and security; the improvement of relations between nations; the promotion of social progress; and the advancement of living standards and human rights.

Structure and Functions of ECOSOC

There are six chief organs of the UN established under the UN Charter. These are the General Assembly, the Security Council, the International Court of Justice, the Trusteeship Council, the Secretariat, and the Economic and Social Council. The establishment of ECOSOC under the founding UN Charter was a significant addition to the organizational framework inherited from the League of Nations. Its creation reflected a new preoccupation among the Allied nations of World War II about the potential for unmet economic and social needs to become a source for future conflict. ECOSOC thus contributed to the UN's overarching goal of preventing war through the promotion of the economic and social development of member nations.

The sections of the charter establishing ECOSOC as a principal organ of the United Nations include Article 7 and Chapters IX and X. ECOSOC is principally responsible for the economic and social activities of the United Nations and its specialized agencies. It operates under the authority of the General Assembly.

The rules governing ECOSOC membership allocate fourteen representatives to African states, eleven to Asian states, six to Eastern European states, ten to Latin American and Caribbean states, and thirteen to Western European and other states.

Article 62 of the Charter empowers ECOSOC to "make or initiate studies and reports with respect to international economic, social, cultural, educational, health, and related matters" and to make recommendations regarding these issues to the General Assembly, member nations, and specialized agencies. In addition to reports and recommendations,

ECOSOC may prepare draft conventions for submission to the General Assembly.

On economic and social issues, which include the environment and development, the United Nations operates under certain constraints. Its founders were unwilling to allow the United Nations to carry out economic and social activities in a country without the nation's consent. They thus specified that "nothing contained in the present Charter shall authorize the United Nations to intervene in matters which are essentially within the domestic jurisdiction of any state or shall require the Members to submit such matters to [dispute] settlement under the present Charter (http://www.un.org/esa/coordination/ecosoc/bwi2003/BWIInfoNote.pdf).

The General Assembly and ECOSOC have established well over fifty programs and subsidiary organs, many of which critically affect development and environment issues. ECOSOC coordinates the activities of this system, but, like the General Assembly, it can only recommend actions to the agencies and to member governments, not dictate policy or programs. ECOSOC also receives regular reports from these programs and organs and examines their administrative budgets (http://www.un.org/esa/coordination/ecosoc/about.htm).

ECOSOC coordinates the activities of the International Labour Organization (ILO); the Food and Agriculture Organization (FAO); the World Health Organization (WHO); the United Nations Educational, Scientific and Cultural Organization (UNESCO); and the World Intellectual Property Organization (WIPO). It also oversees nine functional commissions, including the Commission on Human Rights, the Commission on Narcotic Drugs, and the Commission on the Status of Women; and five regional economic commissions, including commissions for Africa, Europe, Latin America and the Caribbean, Asia and the Pacific, and Western Asia. It also receives reports from eleven UN funds and programs, including the United Nations Children's Fund (UNICEF), the United Nations Development Programme (UNDP), and the United Nations Environment Programme (UNEP) and issues policy recommendations to the UN system and to member states. Thus, ECOSOC is responsible for promoting higher standards of living, full employment, and economic and social progress; identifying solutions to international economic, social, and health problems; facilitating international cultural and educational cooperation; and encouraging universal respect for human rights and fundamental freedoms (http://www.un.org/esa/coordination/desc.htm).

Indeed, ECOSOC's purview extends to over 70 percent of the human and financial resources of the entire UN system (http://www.un.org/esa/coordination/ecosoc/about.htm). In its quest for long-term development and welfare establishment, ECOSOC works closely with academics, representatives from large business sectors, and more than 2,100 registered nongovernmental organizations (NGOs). In this way, ECOSOC differs from the other UN bodies that mostly involve member governments only.

Each year the council holds a four-week session in July, alternating between New York and Geneva, that is attended by national ministers, chiefs of international agencies, and other high-ranking officials. The focus of these annual sessions are themes of global significance. The theme of the 2003 session, for example, was "promoting an integrated approach to rural development in developing countries for poverty eradication and sustainable development." The 2005 meetings held in New York made further progress towards ECOSOC's commitment to meeting the goals of the UN Development Agenda. At this annual session, the council usually adopts a declaration providing policy guidance and recommendations for action.

The subsidiary bodies, commissions, and committees of ECOSOC carry out their work year round. Apart from the substantive session convened annually in July, supplementary for-

mal meetings as well as informal panels on topical issues are held throughout the year.

ECOSOC and Nongovernmental Organizations

The Committee on Non-Governmental Organizations, a standing committee of ECOSOC, was established by Council Resolution 3(II) on June 21, 1946. Its membership consists of representatives from nineteen countries, including five from African states, four from Asian states, two from Eastern European states, four from Latin American and Caribbean states, and four from Western European and other states.

The committee's mandate is set out in Council Resolution 1996/31. The main tasks of the committee are to consider applications for consultative status and requests for reclassification submitted by NGOs; consider quadrennial reports submitted by NGOs; implement the provisions of Council Resolution 1996/31 and monitor the consultative relationship; and deal with other issues at ECOSOC's request (http://www.peacewomen.org/un/ngoadvocacy/ngostatus.html).

ECOSOC offers consultative status to NGOs working on issues discussed as part of ECOSOC's brief, such as the rights of women. ECOSOC's website describes NGOs in consultative status as "technical experts, advisers and consultants to governments and Secretariat." All NGOs with consultative status can attend all UN conferences and meetings and designate UN representatives.

Requests for consultative status are handled by the Non-Governmental Organizations Section of the Department of Economic and Social Affairs (DESA) of the United Nations in New York. Organizations applying for consultative status fill out a questionnaire, which is then forwarded to the Committee on Non-Governmental Organizations. This committee makes its recommendations to ECOSOC, which makes the final decision.

Depending on the scope of their work, NGOs can have three different types of consultative status with ECOSOC:

- General status is for NGOs who work on most of ECOSOC's issues. These NGOs can propose agenda items to ECOSOC and speak in front of ECOSOC and its subsidiary bodies, and can circulate statements at ECOSOC and subsidiary body meetings. Organizations such as the Muslim World League, Rotary International, and the International Planned Parenthood Association all have General Status.
- Special status is for NGOs who work on a few areas of ECOSOC's mandate. They can speak at ECOSOC's subsidiary bodies and circulate short statements both at ECOSOC and subsidiary body meetings. The All-India Women's Conference, the African Women Jurists' Association, the Hong Kong Federation of Women's Centres, Amnesty International, and the Women's International League for Peace and Freedom are all examples of NGOs in Special Consultative Status.
- Roster status is for NGOs whose work has limited relation to ECOSOC, and whose work is normally more technical than an NGO with another status. While being in consultative status, they cannot speak or circulate statements at meetings. The Confederation of German Forest Owners Associations, the International Association of Hydrogeologists, the International Confederation of Midwives, and the Latin American Plastics Institute all have Roster Status (http://www.peacewomen.org/un/ngoadvocacy/ngostatus.html).

Policy Leadership

ECOSOC has taken a lead role in key policy areas in recent years. In 1999, it issued a "Manifesto on Poverty" that in many respects antici-

pated the formulation of the Millennium Development Goals that were approved at the UN Millennium Summit in New York. The council's Ministerial Declaration in 2000 proposed specific actions to address the digital divide, leading directly to the formation in 2001 of the Information and Communication Technologies (ICT) Task Force. In 2002, ECOSOC's consideration of African development resulted in the first formal international endorsement of the New Partnership for Africa's Development (NEPAD).

Since 1998, ECOSOC has held a special high-level meeting with the Bretton Woods institutions immediately following the spring meetings of the World Bank and the International Monetary Fund (IMF). These meetings originated with UN reform measures adopted at the fiftieth session of the General Assembly, specifically Assembly Resolution 50/227, and are meant to facilitate a free-flowing dialogue among ministers of finance returning from the Washington meetings, on the one hand, and ministers of development cooperation and ministers and high-level officials of foreign affairs, on the other. Civil society and private-sector representatives have also participated in these meetings.

The 1998 meeting was held against the backdrop of the Asian financial crisis, and ministers discussed how to maintain the focus on long-term development amidst economic and financial upheavals. The next meeting, in 1999, addressed the functioning of international financial markets and stability in financing for development in the broader context of issues related to promoting recovery, ensuring cross-sectoral coherence, and mobilizing the cooperation of all actors in the development process. In 2000, the meeting discussed the theme of strengthening international financial arrangements and eradicating poverty, whereas in 2001 the meeting addressed two themes: (1) development financing, in particular poverty eradication, official development assistance, and debt; and (2) a development-friendly international financial system with public and private responsibility in the prevention of financial crises.

The title of the 2002 meeting was "Dialogue on the Outcome of the International Conference on Financing for Development and of the Meetings of the Development Committee and International Monetary and Financial Committee." This meeting, held just one month after the International Conference on Financing for Development, which adopted, in March 2002, the Monterrey Consensus, was the first opportunity to lay down the foundation for "staying engaged" as called for in the consensus. The 2003 meetings focused on social development, while the 2004 meetings emphasized human rights.

These ECOSOC meetings have been considered important for deepening the dialogue between the United Nations and the Bretton Woods institutions and for strengthening their partnership for achieving the development goals agreed upon at the global conferences of the 1990s. In the Millennium Declaration, heads of state and government declared their resolve to further strengthen ECOSOC, building on its recent achievements, to help it fulfill the role ascribed to it in the UN Charter. The Assembly subsequently encouraged the deepening of the dialogue between the council and the Bretton Woods institutions in the special high-level meetings (http://www.un.org/esa/coordination/ecosoc/bwi2003/BWIInfoNote.pdf).

Strengthening ECOSOC for the Twenty-first Century

Several studies have been carried out reviewing the United Nations system, its successes and shortcomings, and the changes and reforms that might allow it to function in a more systematic and effective manner. The end of the Cold War led to expectations of a UN renaissance. This, however, has not happened. Instead, the end of the Cold War saw the exacerbation of political, ethnic, economic, and social

tensions. New information and communications technologies have fostered the dissemination of inspiring concepts of civil, political, economic, and social human rights across the world but at the same time have created a much greater awareness of the disparities between rich and poor.

Adequate policies to address global poverty and deprivation are lacking. Global population is increasing, and unemployment is growing rapidly. Food security, health concerns, and environmental degradation have become pressing issues of concern. The result has been that the UN system is operating in a world of much greater complexity and is in greater demand than ever before. It is often stretched to the limits of its capacity (http://www.ncrb.unac.org/unreform/selected/Childers-Urquhart.html; see also Childers and Urquhart 1994). Bridging the divide between rich and poor nations has been one of the cornerstones of the UN's social and economic policy. But the "economic and social advancement of all peoples" is farther away today than before, as can be witnessed from the inequities of the North-South divide.

Although the UN Charter vested responsibility for coordinating "the activities of specialized agencies" with ECOSOC, it has been pointed out that over time, the membership of ECOSOC has become too large to be effective. This has led to a certain degree of failure in its attempts to play its designated role of coordinator among the various organizations of the UN system. Moreover, the council has too many items on its agenda to be able to do full justice to all of them, especially now that it meets for only one session each year. Failure to allow sufficient time to carry out its business has held back the proper implementation of ECOSOC's reforms.

Some remedies have been suggested. For instance, in theory there have been suggestions of "a revived ECOSOC, empowered by Member States to coordinate the UN's economic and social policies across a broad front, with a smaller membership and regular operating procedures working throughout the year to supervise the progress made toward sustainable development" ("A Report of the Independent Working Group on the Future of the United Nations"). In practice, however, this may never happen.

The Independent Working Group on the Future of the United Nations reported correctly that economic and social activities must go hand in hand, and that what is required for this is an integrated, comprehensive approach. While preserving this overall coherence and purpose, however, the UN must have a structure that will permit effective and focused deliberation. To achieve this, the group suggested that "the functions of the ECOSOC be taken over by *two* UN bodies that will fulfill the Charter's original purposes, but with a very different structure, authority, mandate and membership," recommending "a new Economic and a new Social Council," each with a specific portfolio of responsibilities. Together, the working group said, "they would then constitute the Global Alliance for Sustainable Development" (ibid.; see also "Maintaining Peace through the United Nations in the Twenty-first Century").

The Independent Working Group report further suggested that the Economic Council could focus on "coordinating monetary, financial and trade policies at the global level, as well as addressing the economic aspects of sustainable development including job creation, poverty alleviation and protection of the environment, responsibility for which it would share with the Social Council." The Social Council, in turn, would be responsible for "supervision and integration of all UN agencies, and international institutions, programs and offices involved with all social issues, including social development, humanitarian questions, human rights and restoration of states under stress" (ibid.). Since the work of the councils would be interrelated by nature, they could work closely together, and also with the Security Council when the occasion required it. Other UN agencies, such as the UNDP, UNICEF, and the United Nations Population Fund, would report to these two new councils.

The working group, and many others, believe that the reformulation of ECOSOC into

two councils, jointly functioning as the Global Alliance, would help to counter the criticisms that have been leveled against ECOSOC because it would reflect the profound transformations that have taken place in the world since the founding of the United Nations.

Conclusion

It is evident that ECOSOC, under the larger umbrella of the United Nations, plays an enormous role, with many difficult and diverse tasks at hand. Unfortunately, many of the achievements and major tasks of the UN are currently overshadowed by its image as an organization that is failing to meet the challenges of a new security situation, particularly in international disputes. Understandably, many believe that there are areas where the UN is in need of improvement and reform, and that ECOSOC is one of these. One must bear in mind, however, that the UN can only achieve what its member states allow it to. The United Nations will face many fresh challenges in the new millennium. It can meet these challenges through greater cooperation among nations, greater awareness of the world's population, and the continued work of concerned people around the globe.

Shoma Munshi

See Also United Nations Conference on Trade and Development (UNCTAD); Sustainable Development

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The Economic Community of Central African States (ECCAS)/ *Communaute Economique des Etats d'Afrique Centrale (CEEAC)*

It has long been recognized that regional integration is an important key to socio-economic development, especially where the markets of individual countries may not be large enough to facilitate effective trade. Thus it is not surprising that each of the world's major continental or sub-continental regions has at least one major regional integration arrangement. Primary examples include the Association of South East Asian Nations (ASEAN), the Latin American Integration Association (LAIA), and the European Economic Community (EEC). Africa is no exception. Indeed Africa has a long history of regional cooperation and integration initiatives dating back to colonial times when the British established the East African Community, and the French, the *Union Douaniere de l'Afrique de l'Ouest.* Realizing the benefits of regional integration, some African countries, soon after independence, established alliances such as the Ghana-Guinea-Mali alliance to facilitate co-operation among them. However, it was not until the UN Economic and Social Council (ECOSOC) adopted its Resolution 671 (XXV) on Apri1 29, 1958, to establish the United Nation Economic Commission for Africa (UNECA) that the foundation was laid for the evolution and growth of regional integration in Africa (Adedeji 2002). Currently there are 14 regional economic communities in Africa, which includes the Southern African Development Community (SADC); the Economic Community of West African States (ECOWAS); the Common Market for Eastern and Southern Africa (COMESA); and the Economic Community of Central African States (ECCAS), which is the subject matter of this article.

The Economic Community of Central African States (ECCAS) / *Communaute Economique des Etats d'Afrique Centrale (CEEAC)* is a regional bloc made of the 11 countries in Central Africa. The member countries include Angola, Burundi, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of Congo, Equatorial Guinea, Gabon, Rwanda, Sao Tome, and Principe. The current headquarters of the ECCAS is based in Gabon.

Brief History and Present Status

The decision to establish a Central Africa–wide economic community was hatched at the summit of the Central African Customs and Economic Union (UDEAC) held in December

1981. However, the community was not established until October 18, 1983, when the UDEAC members and the members of the Economic Community of the Great Lakes States (CEPGL) (Burundi, Rwanda, and then Zaire) as well as Sao Tome and Principe, came together to form the organization. Angola retained an observer status until 1999, when it became a full member (Cosme and Fiacre 2001).

ECCAS began operations in 1985. However, after operating for about seven years, it fell into inactivity from 1992 until 1998, a situation that resulted primarily from the non-payment of membership fees by the member states. At the Second Extra-Ordinary Summit of ECCAS held in Libreville on February 6, 1998, ECCAS was re-launched under the chairmanship of President Pierre Buyoya of Burundi. The Heads of State/Government present at the summit committed themselves to the resurrection of the organization. Since then, the community has been quite active on a number of fronts.

In January 1999, a mini-summit of ECCAS leaders held in Gabon deliberated on the problems facing the community. They agreed on the creation of a third Deputy Secretary-General Post, specifically designated for Angola. Angola formally joined the community during this summit. In 1999, ECCAS made formal contact with the African Economic Community (AEC) and signed the Protocol on Relations between the AEC and the RECs, thus re-establishing the community's role as one of the designated pillars of the AEC. The AEC again confirmed the importance of ECCAS as the major economic community in Central Africa at the third preparatory meeting of its Economic and Social Council (ECOSOC) in June 1999.

The Tenth Ordinary Session of Heads of State and Government took place in Malabo, Equatorial Guinea, in June 2002. This summit decided, among other things, to adopt a protocol on the establishment of a Network of Parliamentarians of Central Africa (REPAC), and to adopt the standing orders of the Council for Peace and Security in Central Africa (COPAX), including the Defense and Security Commission (CDC), Multinational Force of Central Africa (FOMAC), and the Early Warning Mechanism of Central Africa (MARAC). Rwanda was also officially welcomed upon its return as a full member of ECCAS (http://www.iss.co.za/AF/RegOrg/unity_to_union/eccasprof.htm).

The Eleventh Ordinary Session of Heads of State and Government in Brazzaville during January 2004 welcomed the fact that the Protocol Relating to the Establishment of a Mutual Security Pact in Central Africa (COPAX) had received the required number of ratifications to enter into force. The summit also adopted a declaration on the implementation of NEPAD in Central Africa as well as a declaration on gender equality.

The Twelfth Session was held in Brazzaville, the Republic of Congo, on June 8, 2005. The session challenged member countries to resolve their differences and work together to face the common challenges facing the community. Among other things, the members focused on transport and communication problems, which have stifled any meaningful integration. A key agreement was the request to donor agencies to help fund the Sangmelima-Djoum-Sanké-Ouesso road, which would link the Republic of Congo and Cameroon.

ECCAS has been designated a pillar of the African Economic Community (AEC) alongside the Economic Community of West African States (ECOWAS), Common Market for Eastern and Southern African (COMESA), Southern African Development Community (SADC), and Arab Maghreb Union (AMU).

Primary Aims and Objectives

Like other regional integration arrangements, ECCAS intends to eliminate customs duties and any other charges having an equivalent effect levied on imports and exports between member states. To facilitate further cooperation among member states it seeks to abolish quantitative restrictions and other trade barriers. Similarly, progressive abolition of obstacles to the free movement of persons, goods, services, and capital and to the right of establish-

ment between member states is outlined. A comprehensive trade policy vis-à-vis third states necessitates the establishment and maintenance of an external common customs tariff. The ECCAS aims to promote rapid development in States that are landlocked, semi-landlocked, island or part-island and/or belong to the category of the least advanced countries. To achieve this goal it seeks to establish a Co-operation and Development Fund and harmonization of national policies in order to promote community activities, particularly in industry, transport and communications, energy, agriculture, natural resources, trade, currency and finance, human resources, tourism, education, culture and science, and technology. Achieving collective self-reliance, raising the standard of living of its peoples, increasing and maintaining economic stability, fostering close and peaceful relations between member states, and contributing to the progress and development of the member states remain prime objectives of this bloc.

Structure of ECCAS

To achieve its objectives, ECCAS is governed by several institutions such as the Conference of Heads of State and Government; the Council of Ministers; the Court of Justice; the General Secretariat; the Consultative Commission; and finally any specialized technical committee or organ set up or provided for by the establishing treaty.

The Conference of Heads of State and Government is the supreme organ of the organization and responsible for implementing the goals of the community. Among other things, it defines the general policy and major guidelines of the community and directs and harmonizes the socio-economic policies of member states. It has been granted the right to take any action under this treaty for achieving the aims of the community and to establish its rules of procedure and approve the rules of procedure of the Council of Ministers. It approves the organization chart of the General Secretariat of the community. It is vested with the power to appoint the Secretary-General, the Deputy-Secretaries-General, the Financial Controller and the Accountant; and to delegate to the Council of Ministers, if it wishes, the authority to take decisions and issue directives on matters within its competence; and to refer a matter to the Court of Justice when it confirms by a two-thirds majority vote that a member state has not met one or more of its obligations arising from the treaty, from a decision or a directive of the conference or from a regulation of the Council of Ministers.

The conference meets once a year in regular session, although special sessions may be convened by its chairperson or at the request of a member state, provided such a request is supported by two thirds of the conference members. The office of chairperson is held every year by one of the Heads of State in the French alphabetical order of the member states specified in the treaty.

The conference is assisted by the Council of Ministers in the performance of its duties. The council, which meets twice a year, is made up of ministers responsible for economic development matters, or of any other minister appointed for the purpose by each member state. It makes recommendations to the conference on any action aimed at achieving the aims of the community in the context of the general policy and major guidelines defined and adopted by the conference; guides the activities of the other subordinate institutions of the community; submits the draft budget of the community to the conference and proposes to the conference the annual contribution of each member state; prepares its rules of procedure and submits them to the conference for approval; and exercise any powers granted to it under the treaty and any powers that may be delegated to it by the conference.

Relevant Treaties/Protocols/Accords

ECCAS or its members have been signatories to several treaties and accords since its inception.

These include (1) Protocol on Relations between the African Economic Community and Regional Economic Communities; (2)treaty establishing the African Economic Community; (3)the trilateral agreement on peace and military cooperation between Angola, the Congo and the Democratic Republic of the Congo; (4) the bilateral agreement on military cooperation between Cameroon and Chad; (5) border agreements between Gabon, Equatorial Guinea, and São Tomé and Principe; Equatorial Guinea and Cameroon; and Cameroon, Chad, and the Central African Republic; and (6) creation of the Council for Peace and Security in Central Africa (COPAX) in February 1999 to promote, maintain, and consolidate peace and security in Central Africa.

First, most of these treaties aim at fixing accurate sea and land borders between the member states, an important step in bringing peace and stability to the region considering the fact that border disputes have been one of the major causes of conflicts in the region. Second, the member states hope that through these agreements, they can jointly control and defend their borders and curb armed incursions, thereby making life safer for their nationals who live along the borders.

The creation of COPAX, a forum for political dialogue that meets in the event of a serious threat to peace and security in one or several countries, is a good way of dealing conflicts. The signing of a pact of non-aggression in 1996 by the heads to restore confidence between the various heads of state of the subregion will go a long way to prevent conflicts. Another important dimension to the treaties is the linkage to the African Economic Community. This is in fact the long range objective of all the regional integration arrangements in Africa.

The ECCAS' Agenda

According to Article 6 of the ECCAS treaty, the community was to be established progressively over a period of twelve years, subdivided into three four-year stages:

Stage 1: Establishment of stability of the fiscal and customs regime existing at the date of entry into force of the treaty, and the carrying out of studies to determine the timetable for the progressive removal of tariff and non-tariff barriers to intra-community trade; and setting a timetable for increases or decreases in the customs tariffs of member states with a view to the adoption of a common external tariff.

Stage 2: Creation of a free trade area, once application of the timetable for the progressive elimination of tariff and non-tariff barriers to intra-Community trade is achieved.

Stage 3: Establishment of the customs union with the adoption of a common external tariff.

Laudable as the agenda is, most of it is yet to be implemented more than two decades after the community was established.

An Overview of the Economic Performance of ECCAS

An assessment of all the 14 regional arrangements in Africa by ECA staff indicates that ECCAS is one of the least integrated. Trade among member states is still insignificant. In 1999, exports to and imports from member countries accounted for only 1.3 percent and 2.6 percent of total trade, respectively. Such results are not satisfactory when compared to 12.1 percent and 11.3 percent, respectively, for ECOWAS.

Overall, the community's economic growth has been mixed. Recent statistics from the Central African States Development Bank (BDEAC) indicate that economic growth in the sub-region dropped 7.7 percent in 2004 to 6.3 percent in 2005. Inflation rates in the subregion, however, were estimated at 2 percent over the same period.

ECCAS has been making efforts to build its capacity. In May 2004, ECCAS signed a grant arrangement of $2 million with the African Capacity Building Foundation (ACBF) to build

and strengthen the institutional capacity of the community.

Major Issues Facing ECCAS

Despite the re-organization and the apparent activities going on in the community, lack of unity among member states still remains a stumbling block to the organization's operation. For instance, the recent War in the Democratic Republic of Congo saw Rwanda and Angola supporting opposing sides.

The current most important issues with regard to ECCAS are conflict resolution, promotion of peace and stability, good governance, and economic reconstruction and development. The region has experienced, and continues to experience, more strife than all the other regions put together. The constant conflicts have undermined development efforts and made it difficult for the region to come down to real peacemaking as the conflicts have been spilling across the borders and some states have had to get involved in the conflicts of their neighbors. These issues, among others, prevented ECCAS from achieving its primary objective of establishing a common market area by the year 2000.

Integration has also been hampered by lack of efficient transportation systems in the region. Twenty years after formal integration was launched, none of the capital cities of the region are linked by good highway or railway systems between member states. Efforts at establishing a regional airline, Air CEMAC, have not been fruitful. This is a major hindrance to the movement of people and goods within and across the borders of member states.

Another key challenge is peace and stability. There is no gainsaying that socio-economic development cannot take place in an atmosphere of chaos and political instability. While Africa as a whole has faced wars, social upheavals, and conflicts, the ECCAS area has experienced more instability than any of the other regions. Until peace and political stability are secured in the area, socio-economic development will continue to elude the region.

ECCAS in Numbers

Angola
The country of Angola encompasses an area of 481,354 square miles (1,246,700 square kilometers). Its population is 13.3 million with a GDP of $11.6 billion (1999). The labor force is 5 million (1997 est.), with approximately 85 percent employed in agriculture and 15 percent in the industry and service sectors combined. The GDP per capita of Angola is $1,038. Angola has the following natural resources: petroleum, diamonds, iron ore, phosphates, copper, feldspar, gold, bauxite, and uranium. Major industries include petroleum; diamonds, iron ore, phosphates, feldspar, bauxite, uranium, and gold; cement; basic metal products; fish processing; food processing; brewing; tobacco products; sugar; and textiles. With respect to agriculture, Angola produces bananas, sugar cane, coffee, sisal, corn, cotton, manioc (tapioca), tobacco, vegetables, plantains; livestock; forest products; fish. Its main exports are crude oil, diamonds, refined petroleum products, gas, coffee, sisal, fish and fish products, timber, and cotton. Angola's main export trading partners include the United States (with a 63 percent share of total exports), France, Chile, and China. Its primary imports are machinery and electrical equipment, vehicles and spare parts, medicines, food, textiles, and military goods. Angola's main import partners include Portugal, the United States, South Africa, France, Brazil, and Spain.

Burundi
The country of Burundi encompasses an area of 10,745 square miles (17,299 square kilometers). Its population is 6.2 million with a GDP of $4.2 billion (1999). The labor force of 1.9 million is mainly employed in agriculture (93 percent share of total workforce), with the remaining employed in the following sectors: government, industry and commerce, and ser-

vices. The GDP per capita of Burundi is $730. Burundi has the following natural resources: uranium, rare earth oxides, peat, cobalt, and copper. Major industries include: light consumer goods such as blankets, shoes, and soap; assembly of imported components; public works construction; and food processing. With respect to agriculture, Burundi produces coffee, cotton, tea, corn, sorghum, sweet potatoes, bananas, manioc (tapioca); beef, milk, and hides. Its main exports are coffee, tea, sugar, cotton, and hides. Burundi's main export partners are Switzerland, Benelux, Germany, and the United Kingdom. Its main imports are capital goods, petroleum products, and foodstuffs, while its main import partners are Japan, Kenya, Germany, Zambia, and France.

Cameroon

The country of Cameroon encompasses an area of 183,567 square miles (475,440 square kilometers). Its population is 16.1 million with a GDP of $31.5 billion (1999). The labor force is mainly employed in agriculture (70 percent share of labor force) and in the industry and service sector (13 percent share), and the remaining employed in other sectors. The GDP per capita of Cameroon is $2,038 (1999). Cameroon has the following natural resources: petroleum, bauxite, iron ore, and timber. Major industries include petroleum production and refining, food processing, light consumer goods, textiles, and lumber. With respect to agriculture, Cameroon produces coffee, cocoa, cotton, rubber, bananas, oilseed, grains, root starches, livestock, and timber. Its main exports are crude oil and petroleum products, lumber, cocoa beans, aluminum, coffee, and cotton. Its main export partners are Italy (25 percent share of exports), Spain (20 percent), France (16 percent), and the Netherlands (7 percent). Its primary imports are machines and electrical equipment, transport equipment, fuel, and food. Cameroon's main import partners are France (25 percent share), the United States (8 percent), Nigeria (8 percent), and Germany (6 percent).

Central African Republic

The Central African Republic (CAR) encompasses an area of 240,535 square miles. Its population is 3.7 million with a GDP of $5.8 billion (1999). The GDP per capita of the Central African Republic is $1,684. It has the following natural resources: diamonds, uranium, timber, gold, and oil. Major industries include diamond mining, sawmills, breweries, textiles, footwear, and the assembly of bicycles and motorcycles. With respect to agriculture, the CAR produces cotton, coffee, tobacco, manioc (tapioca), yams, millet, corn, and bananas. Its main exports are diamonds, timber, cotton, coffee, and tobacco, and its main export partners are Benelux (36 percent share of exports), Côte d'Ivoire (5 percent), Spain (4 percent), Egypt (3 percent), and France. The CAR's main imports include food, textiles, petroleum products, machinery, electrical equipment, motor vehicles, chemicals, pharmaceuticals, consumer goods, and industrial products. Its main import partners are France (30 percent share of total imports), Côte d'Ivoire (18 percent), Cameroon (11 percent), and Germany (4 percent).

Chad

The country of Chad encompasses an area of 495,755 square miles. Its population is 9.5 million with a GDP of $7.6 billion (1999). The labor force is mainly employed in agriculture (85 percent), with only 15 percent in the industry and service sectors combined. The GDP per capita is $1,006. Chad has the following natural resources: uranium, kaolin, and fish. Major industries include cotton textiles, meat packing, beer brewing, natron (sodium carbonate), soap, cigarettes, and construction materials. With respect to agriculture, Chad produces cotton, sorghum, millet, peanuts, rice, potatoes, and manioc (tapioca). Its main export partners are Portugal (30 percent) and Germany (14 percent), as well as France, South Africa, Costa Rica, and Thailand. Its main import partners include France (41 percent), Nigeria (10 percent), Cameroon (7 percent), and India (6 percent).

Democratic Republic of Congo

The Democratic Republic of Congo (DRC) encompasses an area of 905,446 square miles (1,457,768 square kilometers). Its population is 53.6 million with a GDP of $35.7 billion (1999). The labor force is primarily employed in agriculture (65 percent share), with 16 percent in industry and 19 percent in the service sector. The GDP per capita of the DRC is $707 (1999). The DRC has the following natural resources: cobalt, copper, cadmium, petroleum, gem diamonds, gold, silver, zinc, manganese, tin, uranium, radium, bauxite, iron ore, coal, and timber. With respect to agriculture, the DRC produces coffee, sugar, palm oil, rubber, tea, quinine, cassava (tapioca), palm oil, bananas, root crops, corn, and fruits. Its main exports are diamonds, copper, coffee, cobalt, and crude oil and its main export partners are Benelux (52 percent share of total exports), the United States (14 percent), South Africa (9 percent), and Finland (4 percent). Its primary imports are foodstuffs, mining and other machinery, transport equipment, and fuels, and the DRC's main import partners are South Africa (25 percent), Benelux (14 percent), Nigeria (7 percent), and Kenya (5 percent).

Republic of Congo

The Republic of Congo encompasses an area of 132,046 square miles (342,000 square kilometers). Its population is 3.8 million with a GDP of $4.15 billion (1999). The GDP per capita of Congo is $1,530. Congo has the following natural resources: petroleum, timber, potash, lead, zinc, uranium, copper, phosphates, and natural gas. Major industries include petroleum extraction, cement kilning, brewing, sugar milling, palm oil, soap, and cigarette making. With respect to agriculture, Congo produces cassava (tapioca), sugar, rice, corn, peanuts, vegetables, coffee, and cocoa. Its main exports are petroleum, lumber, plywood, sugar, cocoa, coffee, and diamonds, while its primary imports are petroleum products, capital equipment, construction materials, and foodstuffs. Congo's main trading partners are the United States, Benelux, Germany, Italy, Taiwan, China, France, Belgium, and the United Kingdom.

Equatorial Guinea

The country of Equatorial Guinea encompasses an area of 10,830 square miles (28,051 square kilometers). Its population is 0.5 million with a GDP of $960 million (1999). The GDP per capita of Equatorial Guinea is $2000. Equatorial Guinea has the following natural resources: oil, petroleum, timber, small unexploited deposits of gold, manganese, and uranium. Major industries include petroleum, fishing, sawmilling, and natural gas. With respect to agriculture, it produces coffee, cocoa, rice, yams, cassava (tapioca), bananas, palm oil, and nuts. Its main exports are petroleum, timber, and cocoa, while its export partners are the United States (62 percent), Spain (17 percent), China (9 percent), Japan (3 percent), and France (3 percent). Its primary imports are petroleum and manufactured goods and equipment, and its main import partners include the United States (35 percent), France (15 percent), Cameroon (10 percent), Spain (10 percent), and the United Kingdom (6 percent).

Gabon

The country of Gabon encompasses an area of 103,346 square miles (267,667 square kilometers). Its population is 1.4 million with a GDP of $7.9 billion (1999). The labor force is about 600,000 with the sectoral shares being agriculture (60 percent), services and government (25 percent), and industry and commerce (15 percent). The GDP per capita of Gabon is $6,444. Gabon has the following natural resources: petroleum, manganese, uranium, gold, timber, and iron ore. Major industries include food and beverage, textile, lumber and plywood, cement, petroleum extraction and refining, and chemicals. With respect to agriculture, Gabon produces cocoa, coffee, sugar, palm oil, and rubber. Its main exports are crude oil (75 percent), timber, manganese, and uranium, while its main export partners are the United States (68 percent), China (9 percent), France (8 percent),

and Japan (3 percent). Its primary imports are machinery and equipment, foodstuffs, chemicals, petroleum products, and construction materials with France (39 percent), the United States (6 percent), the Netherlands (5 percent), and Cameroon (5 percent), being its main import partners.

Rwanda

The country of Rwanda encompasses an area of 10,169 square miles (26,338 square kilometers). Its population is 8.4 million with a GDP of $5.9 billion (1999). The labor force is 3.6 million (1997 estimate) with 90 percent employed in agriculture. The GDP per capita of Rwanda is $720. Rwanda has the following natural resources: gold, cassiterite (tin ore), wolframite (tungsten ore), and methane. Major industries include cement, small-scale beverages, soap, furniture, shoes, plastic goods, and textiles. With respect to agriculture, Rwanda produces coffee, tea, pyrethrum (insecticide made from chrysanthemums), bananas, beans, sorghum, and potatoes. Its main export is cocoa (90 percent) while its primary export partners include Kenya, Spain, Pakistan, Belgium, Germany, and Brazil. Rwanda imports foodstuffs, machinery and equipment, steel, petroleum products, cement, and construction material, mainly from France, Benelux, the United States, Tanzania, and Kenya.

Sao Tome and Principe

The country of Sao Tome and Principe encompasses an area of 386 square miles (1,001 square kilometers). Its population is 200,000 with a GDP of $169 million (1999). The labor force is mainly employed in agriculture. The GDP per capita of Sao Tome and Principe is $1,100. Major industries include textiles, soap, beer, and fish processing. With respect to agriculture, Sao Tome and Principe produces cocoa, coconuts, palm kernels, copra, cinnamon, pepper, coffee, bananas, and papayas. Its main export is cocoa (90 percent) mainly to the Netherlands (51 percent), Portugal (6 percent), and Germany (6 percent), while its primary imports are machinery and electrical equipment, food products, and petroleum products from Portugal (26 percent), France (18 percent), Japan, Belgium, and Angola.

Kwadwo Konadu-Agyemang

See Also Economic Integration; Common Market for Eastern and Southern Africa (COMESA); East African Community (EAC); Economic Community of Central African States (CEEAC); Southern African Development Community (SADC); Franc Zone

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Economic Organization of West African States (ECOWAS)

Historical Background

The treaty of Lagos, establishing the Economic Commission of West African States (ECOWAS), was signed in May 1975 by 15 states, with the objective of promoting economic and political co-operation and integration, leading to the establishment of an economic union in West Africa.

Many African countries had gained independence by the 1960s. At that time the Organization of African Unity (OAU) and the United Nations Economic Commission emphasized to independent African leaders the necessity for economic integration for African countries. In a bid to respond positively to this demand these leaders made assiduous efforts to achieve that goal. Unfortunately their efforts did not yield the desired result. "Most countries which had just become independent were not willing to surrender their sovereignty to such an organization. Furthermore, these African countries had strong ties with their former colonial Masters, which they considered more important than integration in Africa" (Venn 2000, 171). Equally the leaders of these countries had divergent political and economic ideological beliefs and, thus, lacked sincere confidence in one another.

Despite the lack of commitment of some African leaders to set up an economic organization, Uganda, Kenya, and Tanzania formed the East African Community in 1967 with the aim of creating a common market and good trade relationships among themselves. Unfortunately this community collapsed in 1977. Subsequently in October 1973 the West African countries Sierra Leone and Liberia formed the Mano River Union (MRU). Guinea, a neighboring country, joined in 1980. The formation of this union was intended to be an experiment in interstate cooperation with the ultimate objective of creating an economic integration among the three countries. It was assumed that this would be a lesson for member countries of the OAU in order to establish an African Economic Community.

Despite the aforementioned problems, Nigeria and Togo were instrumental in establishing an economic community in West Africa. Therefore, the treaty setting up the Economic Community of West African States was signed in Lagos on the May 28, 1975. Fifteen countries were the original signatories. Cape Verde registered in 1977, which increased the membership to sixteen at which time the treaty of ECOWAS commenced full operation. The ECOWAS headquarters is located in Lagos and at the time of establishment the total combined population of the countries was about 125 million.

After the formal establishment of ECOWAS, the leaders realized the necessity to intensify their undertakings to include more treaties: a treaty was drafted in 1991–1992 to increase political co-operation and economic integration. This revision was signed in July 1993. The revised treaty aims at the provision of a com-

Map of ECOWAS Members

mon market and a single currency, while politically it is determined to establish a West African parliament, an economic and social council, and an ECOWAS court of justice to replace the existing Tribunal and enforce community decisions. The treaty also formally assigns the community with the responsibility of preventing and settling regional conflicts. A protocol of nonaggression was signed at the third Conference of the Heads of State and Government. In 1990 a Standing Mediation Committee was formed to mediate disputes between member states. ECOWAS is also intended to maintain and enhance economic stability, foster relations among member states, and contribute to the progress and development of African-continent trade, cooperation, and self-reliance.

Member Nations

ECOWAS is comprised of member nations that can be categorized into three groups, based on their colonialization history: Anglophone, Francophone, and Lusophone. The Gambia, Sierra Leone, Liberia, Ghana, and Nigeria comprise the Anglophone group. Mauritania, Mali, Senegal, Guinea, Cote d'Ivoire (Ivory Coast), Burkina Faso, Togo, Benin, and Niger are members of the Francophone group, whereas Guinea-Bissau and Cape Verde make up the Lusophone group.

The Gambia

The Gambia became independent from Britain on February 18, 1965. It formed a short-lived federation of Senegambia with Senegal between 1982 and 1989. In 1991 the two nations signed a friendship and cooperation treaty. A military coup in 1994 overthrew The Gambia's president and banned political activity, but in 1996 a constitution was created and a presidential election successfully occurred, followed by parliamentary balloting in 1997. This completed a nominal return to civilian rule. The capital city is Banjul.

The Gambia lies between the north part of the Atlantic Ocean and Senegal. The climate is tropical with a hot, rainy season from June to November and a cooler, dry season from November to May. The Gambia has an area of 11,300 square kilometers and has a population of 1,501,050. African-language speakers com-

prise 99 percent (Mandinka 42 percent, Fula 18 percent, Wolof 16 percent, Jola 10 percent, and Serahuli 9 percent) and others 4 percent. The official languages are English, Mandinka, Wolof, Fula, and other vernaculars. The literacy rate is 40.1 percent.

The Gambia is a republic under multiparty democratic rule divided into five administrative regions: Central River, Lower River, Bank, Upper River, Western.

The Gambia has a limited agricultural base without important mineral or natural resources. For their livelihood 75 percent of the population depends on crops and livestock. Small scale manufacturing activity depends on processing of peanuts, fish, and hides. Reexport trade constitutes major segment of economic activity, as does tourism. The main exports are peanut products, fish, cotton, lint, palm kernel, and re-exports of goods. The GDP derives from 33 percent agriculture, 13 percent industry, and 54 percent service oriented. The currency is the Dalasi (GMD).

Sierra Leone

In 1462 a Portuguese Explorer called Pedro da Cintra discovered Sierra Leone. Initially he called the country "Sierra Lyoa" in Portuguese, which means Lion Mountain, due to the topographical configuration and climatic conditions experienced by the explorers.

Sierra Leone was used as a slave trade outpost for many years until Granville Sharpe, the English philanthropist, abolished the slave trade. Part of the legacy of the slave trade can still be seen in the United States among the Gullah, who still retain many cultural traits from their origins in Sierra Leone.

Sierra Leone served as the seat of government for other British colonies along the West Africa Coast. The first college for higher education was called Fourah Bay College, which was established in 1827. This enabled the country to become known for its early achievements in medicine, law, and education, giving it the reputation as the "Athens of West Africa." Sierra Leone became independent on April 27, 1961, from Britain.

Sierra Leone's recent history has been marred by a rebel war, which began in 1991 and lasted until July 7, 1999, when a peace agreement was signed between the government and the Revolutionary United Front (R.U.F) the group that waged war for eleven years.

The country lies north of the Atlantic Ocean, between Guinea and Liberia. The capital city, Freetown, provides natural anchorage and berthing facilities for ships at the Queen Elizabeth II Quay, the third largest natural harbor in the world. The climate is tropical with a hot, humid summer rainy season from May to December, and a winter dry season from December to April. Sierra Leone has an area of 71,740 square kilometers and a population of 5,732,681. English is the official language but the people speak Krio as the lingua franca. The literacy rate is 18 percent. Sixty percent of the population is Muslim, 10 percent is Christian, and indigenous beliefs comprise 30 percent.

Sierra Leone's government is a constitutional democracy made up of four administrative regions: the North, East, South, and the Western Area, which includes Freetown, the capital city. It is a very poor country with tremendous inequality in income distribution but does have substantial mineral, agricultural and fishing resources. The economy and social infrastructure are not well developed and serious social disorders continue to hamper economic development owing to the civil war. Plans continue to reopen the rutile and bauxite mines that were shut down during the war. Diamond mining is the major source of hard currency. The economy depends upon the maintenance of domestic peace and continued receipt of substantial aid from abroad, which is essential to offset the severe trade imbalance and supplement government revenues. Sixty-eight percent of the population is below the poverty line. Exports are diamonds, rutile, bauxite, coffee, cocoa, and fish. The GDP is comprised of 49 percent agriculture, 31 percent industry, and 21

percent service. The official currency is leones (le).

Liberia

Portuguese explorers established contacts with Liberia as early as 1461 and named the area the Grain Coast because of the abundance of grains of malegueta pepper. In 1663 the British established trading posts on the Grain Coast, but the Dutch destroyed these posts a year later. There were no further reports of European settlements on the Grain Coast until the arrival of the freed slaves in the early 1800s.

Freed slaves from the United States founded Liberia, which means "land of the free," in 1820. Called Americo-Liberians, they first arrived in Liberia and established a settlement in Christopolis, now named Monrovia after U.S. President James Monroe on February 26, 1820. These 86 immigrants formed the nucleus of the settler population of what became known as the Republic of Liberia, with its capital city being Monrovia.

Thousands of freed slaves from America soon arrived during the proceeding years, leading to the formation of more settlements culminating in a declaration of independence on July 26, 1847, from the United States. The Republic of Liberia adopted America styles of life and established thriving trade links with other West African countries.

Liberia borders the Atlantic Ocean, between Cote d'Ivoire and Sierra Leone. Its climate is tropical with a hot, humid dry winter full of hot days and cool to cold nights. Summers are wet and cloudy with frequent heavy showers. It has an area of 111,370 square kilometers and has a population of 3,317,176 made up of 95 percent indigenous tribes (including Kpell, Bassa, Gio, Kru, Grebo, Mano, Krahn, Gola, Gbandi, Loma, Kissi, Vai, Dei, Bella, Mandingo, and Mende), 2.5 percent Americo-liberians (descendants of immigrants from the United States who had been slaves), and 2.5 percent Congo people (descendants from immigrants from the Caribbean who were slaves). English is the official language, but there are also 20 ethnic group languages, of which a few can be written and used in correspondence. The literacy rate is 15 percent. Twenty percent of the population are Muslim, 40 percent are Christian, and 40 percent maintain indigenous beliefs.

Liberia is a republic. It is endowed with rich water, mineral resources, and forests and climate favorable to agriculture. It is a producer and exporter of basic products—primarily raw timber and rubber. Civil war and misgovernment have destroyed much of the economy, especially the infrastructure in and around Monrovia. Many businessmen have fled the country, taking capital and expertise with them. The restoration of the infrastructure and the raising of income in this ravaged economy depend on the settlement of the civil war, the implementation of sound macro- and micro-economic policies, including the investment of foreign investments and generous support from donor countries. Exports are rubber, iron, timber, diamonds, coffee, and cocoa. The GDP is composed of 74 percent agriculture, 7 percent industry, and 19 percent service. The currency is Liberian dollars (LRD).

Ghana

Ghana initially was formed from the merger of the British colony of the Gold Coast and Togoland trust territory. On March 6, 1957, Ghana became the first country in Africa to gain its independence. Its capital city is called Accra. A series of coups resulted in the suspension of the constitution in 1981 and the banning of political parties. A new constitution, restoring multiparty politics, was approved in 1992. Lieutenant Jerry Rawlings, head of state since 1981, won the presidential elections in 1992 and 1996 but was constitutionally prevented from running for the third term in 2000. John Kufour, who defeated the former Vice President Atta Mills in a free and fair election, thus suc-

ceeded the president. Ghana has a constitutional democracy.

Ghana borders the Gulf of Guinea, between Cote d'Ivoire and Togo. It is smaller in size than Oregon and has ten administrative regions: Ashanti, Brog-Ahafo, Central, Eastern, Upper, Greater Accra, Northern, Western, and Volta. The climate is tropical, that is, warm and comparatively dry along the southeast coast, hot and humid in southwest, and hot and dry in the North. Ghana's total population numbers 20,467,747, which is broken down into 98.5 percent Black African, 44 percent Akan, 3 percent Gurma, 1 percent Yoruba, 16 percent Moshi-Dogomba, 13 percent Ewe, and 8 percent Ga. The official language is English. Sixteen percent of the population is Muslim, 63 percent Christian, and 21 percent maintain indigenous beliefs.

Well endowed with natural resources, Ghana has roughly twice the per capita output of the poorer counties in West Africa. However, Ghana remains heavily dependent on international and foreign financial and technical assistance. The domestic economy still revolves around subsistence agriculture, which accounts for 36 percent of the Gross Domestic Product (GDP) and employs 60 percent of the work force. Export products include gold, cocoa, timber, tuna, bauxite, aluminum, manganese, ore, and diamonds. Import products include capital equipment, petroleum, and foodstuff.

Nigeria

Nigeria became independent on October 1, 1960. The capital city is Abuja since December 12, 1991, when the capital was formerly transferred from Lagos. It divides administratively into 36 parts and one territory.

Nigeria borders the Gulf of Guinea, between Bennin and Cameroon. The climate varies from equatorial in the south, to tropical in the center, and arid in the north. Nigeria has an area of 923,768 square kilometers and has a population of 133,881,703. As Africa's most populous country, Nigeria has more than 250 ethnic groups. The most politically influential are the Hausa and Fulani (29 percent), Yoruba (21 percent), Ibo/Igbo (18 percent), Ijaw (10 percent), Kanuri (4 percent), Ibibio (3.5 percent), and Tiv (2.5 percent). The official languages are English, Hausa, Yoruba, Ibo, and Fulani, and the literacy rate is 68 percent. Fifty percent are Muslims, 40 percent are Christians, and 10 percent maintain indigenous beliefs.

The oil-rich Nigerian economy, long hobbled by political instability, corruption and poor macroeconomic management is undergoing substantial reform under the new civilian government. Former military rulers failed to diversify the economy away from over dependence on the capital-intensive oil sector. Exports are petroleum and petroleum products (95 percent), cocoa, and rubber. The currency is the naira (NGN).

Mauritania

Independent from France as of November 28, 1960, Mauritania annexed the southern third of the former Spanish Sahara (now called Western Sahara) in 1976, but relinquished it after three years of raiding by the Polisario Guerrillas Front seeking independence for the territory. It is a one party state and also continues to experience ethnic tensions between its black minority population and the dominant Maur (Arab-Berber) populace.

Mauritania borders the north Atlantic Ocean, between Senegal and Western Sahara. The climate is desert, constantly hot, dry, and dusty. It is 1,030,700 square kilometers in size and has a population of 2,912,584, made up of 40 percent racially mixed Maur and Black ethnicity, 30 percent Maur, and 30 percent Black. One hundred percent of the population is Muslim. The official languages are Hassaniya Arabic, Pulsar, Soninke, Wolof, and French and the literacy rate is 41.7 percent.

The country is a republic divided into 12 re-

gions and 1 capital district: Adrar, Assaba, Brakna, Dalkhlet-Nouadhibou, Golgol, Guidimaka, Hodh Ech, Chargui, Tagant, Inchiri, Nouakchott, Tiris Zemmour, and Trarza,

Half of the population depends on agriculture and livestock for livelihood, though many of the nomads and subsistence farmers were forced into the cities by recurrent droughts in the 1970s and 1980s. Mauritania has extensive deposits of iron ore, which accounts for nearly 40 percent of total exports. Decline in the world demand for ore, however, has led to cutbacks in production. Mauritania's coastal waters are among the richest fishing areas in the world, but overexploration by foreigners threatens the key source of revenue. The first deep water port opened near Nouakchott in 1986. In 2001 exploratory oil wells in the tracts 80 kilometers offshore indicated potential extraction at current oil prices. Exports are iron ore, fish and fish products, and gold. The GDP is made up of 25 percent agriculture, 29 percent industry and 46 percent service. The national currency is the ouguiya (MRD).

Mali

The Sudanese Republic and Senegal became independent of France in 1960 as the Mali Federation. When Senegal withdrew after only a few months, what formerly made up the Sudanese Republic was renamed Mali, with a new capital city of Bamako. Dictatorship ended in 1991 with a transitional government, and in the 1992 general elections Alpha Konare came to power.

Mali is situated southwest of Algeria and is 1.24 million square kilometers. The climate is subtropical to arid; hot and dry from February to June; rainy, humid, and mild from June to November; and cool and dry November to February. It has a population of 11,626,219 that is comprised of 50 percent Mande (Bambara, Malinke, Soninke), 17 percent Peul, 12 percent Voltaic, 6 percent Songhai, 10 percent Tuareg and Moor, and 5 percent others. Ninety percent of the population is Muslim, 11 percent is Christian, and 9 percent maintain indigenous beliefs. The official language is French, Bambara (80 percent) and numerous African languages, and the literacy rate is 46.6 percent.

Mali is a republic. It is among the poorest countries in the world, with 65 percent of its land area desert or semi desert and with a highly unequal distribution of income. Economic activity is largely confined to the riverine area irrigated by the Niger. Ten percent of the population is nomadic and 80 percent of the work force is engaged in farming and fishing. Mali is dependent on foreign aid and vulnerable to fluctuations in world prices for cotton and gold. Exports are cotton, gold, and livestock. The GDP is made up of 45 percent agriculture, 17 percent industry, and 38 percent service. The national currency is the Communaute Financiere Africaine franc (XOF).

Senegal

Senegal became independent from France on April 4, 1960, when it joined with The Gambia to form the nominal confederation of Senegambia in 1982. However, the envisaged integrity of the two nations was never carried out and the union dissolved in 1989. The country Senegal then remained on its own and chose Dakar as its capital city. Since 1982, despite peace talks, a southern separatist group sporadically clashes with the government forces. There is a long history of international peacekeeping participation in Senegal.

Senegal lies along the southern Atlantic Ocean, between Guinea-Bissau and Mali and is 196,190 square kilometers in area. The climate is tropical with a hot, humid, rainy season from May to November with strong southeast winds and a dry season from December to April dominated by hot, harmattan wind. It has a population of 10,580,307 comprised of 94 percent Muslims, 5 percent Christians (Roman Catholic), and 1 percent retain indigenous beliefs. The official languages are French (official),

Wolof, Polaar, Jola, and Mandinka, and the literacy rate is 40.2 percent.

A republic under multi-party democratic rule, it is divided into ten administrative regions: Dakar, Diourbel, Fatick, Kaolack, Koida, Louga, Saint Louis, Tambacounda, Thies, and Ziguinchor, plus another area called Matam.

In January 1994, Senegal undertook an ambitious economic reform program with the support of the international donor community. This reform began with a 50 percent devaluation of Senegal's currency, the CFA franc that was linked at a fixed rate to the French franc. Government price controls and subsidies have been steadily dismantled. After seeing its economy contract by 2.1 percent in 1993, Senegal made an important turnaround, with real growth in GDP averaging 5 percent annually from 1995 to 2002. Annual inflation was pushed down to less than 1 percent, but rose to an estimated 3.3 percent in 2001 and 3.0 percent in 2002. 1993 Investment rose steadily from 13.8 percent of GDP to 16.5 percent in 1997. As a member of the West African Economic and Monetary Union (WAEMU), Senegal is working toward greater regional integrity with a unified tariff. Exports are fish, groundnuts (peanuts), petroleum products, cotton, and phosphate. The GDP is made up of 18 percent agriculture, 27 percent industry and 55 percent service. The national currency is the Communaute Financiere Africaine franc (XOF).

Guinea

Independent from France since October 2, 1958, Guinea only had her first democratic elections in 1993 when General Lansana Conte, head of the military government, was elected president of the civilian government. He was reelected in 1998.

Guinea is bounded by the northern part of the Atlantic Ocean, and it lies between Guinea-Bissau and Sierra Leone. From June to November the climate is a hot and humid, monsoon-type of rainy season with southwesterly winds, and from December dry season with northeasterly harmattan winds. It is 245,857 square kilometers in area and has a population of 9,030,220 of which 40 percent are Peuhl, 30 percent are Malinke, 20 percent are Sousou, and 10 percent are smaller ethnic groups. Eighty-five percent of the population is Muslim, 8 percent is Christian, and 7 percent maintain indigenous beliefs. The official language is French.

The country is a republic divided into 33 prefectures and one special zone: Beyla, Boffa, Boke, Conakry, Coyah, Labe, Fria, Faranah, Dabola, Dalaba, Dabola, Dinguiraye, Dubreka, Yomou, Tougue, Macenta, Lola, lelouma, Kissidougou, Koubia, Kindia, Telimele, Pita, Siguiri, Kankan, Kerouare, Gueckedou, Mali, Mandina, Nzerekore, Kouroussa, Gaoual and Forecariah.

Guinea possesses mineral, hydropower and agricultural resources, yet remains an underdeveloped nation. It boasts over 30 percent of the world's bauxite reserves and is the second-largest bauxite producer in the world. In 1999 the mining sector accounted for 75 percent of exports. Exports are bauxite, aluminum, gold, diamonds, coffee, fish, and imports are primarily petroleum products, metals, transport equipment, textiles, and foodstuff. The GDP is made up of 25 percent agriculture, 37 percent industry, and 38 percent service. The currency is the Guinean franc (GNF).

Cote d'Ivoire

Cote D'ivoire's has maintained a close relationship with France since it achieved independence. The development of cocoa production for export and foreign investment made Cote d'Ivoire one of the most prosperous of the tropical African states, but did not protect it from political turmoil. In December 1999, the first military coup in the history of the country overthrew the government of President Henri Konan Bedie. Junta leader Robert Guei held elections in 2000, but excluded prominent op-

position leader Alassane Ouattara by blatantly rigging the polling results and declaring himself winner. Popular protest forced Guei to step aside and brought runner-up Laurent Gbagbo to power. Gbagbo spent two years consolidating his weak mandate but was unable to appease his opponents, who launched a failed coup attempt in September 2002. Rebel forces claimed the north half of the country and in January granted minority positions in a unity government. There are several thousand French and West African troops in Cote d'Ivoire to maintain peace and the peace accord.

Cote d'Ivoire borders the North Atlantic Ocean between Ghana and Liberia.There are only three seasons: warm and dry from November to March, hot and dry from March to May, and hot and wet from June to October. The climate is tropical along the coast and semiarid in the far north. It has an area of 322,460 square kilometers and has a population of 16,962,491 divided into 42.1 percent are Akan, 17.6 percent Voltaiques or Gur, 17.6 percent Northern Mandesx, 11 percent Krous, 10 percent Southern Mandes, and 7.8 percent of other origins (130,000 Lebanese and 20,000 French).

In 1960 Cote d'Ivoire established a Republic multi-party presidential regime, divided into 58 departments. The capital city is Yamoussoukro, but since 1983, Abijan remains the commercial and administrative center. The United States and other countries have their embassies in Abijan. It is among the world's largest cocoa, coffee, bean, and palm oil producing countries. Consequently the economy is highly sensitive to fluctuations in international prices for these products and to weather conditions. Despite the government's attempts to diversify, the economy is still largely dependent on agriculture and related activities, which engage roughly 68 percent of the population. After several years of lagging performance, the Ivorian economy began a comeback in 1994. Exports are coffee, cocoa, beans, bananas, palm kernel, corn, sweet potatoes, sugar, cotton, rubber, and timber. The national currency is the Communaute Financiere Africaine franc (XOF).

Togo

French Togoland became Togo and independent on April 27, 1960. In 1967, General Gnassingbe Eyadema was installed as military ruler. He was Africa's longest-serving head of state. Despite the façade of multi-party elections instituted in the 1990s, the government continues to be dominated by President Eyadema, whose rally of the Togolese People Party (RPT) has maintained power almost continually since 1967. Dictatorship formally ended in 1991 with transitional government, and the 1992 general election brought Alpha Konare to power.

French Togo sits between Bennin and Ghana. The capital city is Lome. It is 56,785 square kilometers in area and has a population of 5,429,299. There are 37 ethnic groups but the most important are the Ewe, Mina, and Kabre, who make up 99 percent of the population. Europeans and Syrian-Lebanese comprise less than 1 percent. Twenty percent of the people are Muslim, 29 percent are Christians, and 51 percent maintain indigenous beliefs. The official language is French.

This sub-Saharan economy is heavily dependent on both commercial and subsistence agriculture, which provides employment for 65 percent of the population. Cocoa and coffee generate 40 percent of export earnings and cotton is the most important cash crop. Togo is the world's fourth largest producer of phosphate, but 2002 production fell to 22 percent due to power shortages and cost of developing new deposits. The GDP is 42 percent agriculture, 21 percent industry, and 37 percent service.

Niger

Although Niger gained its independence from France 33 years ago, it was not until 1993 that there were free and fair elections. A 1995 Peace accord ended a five-year Tuareg insurgence in the north. Coups in 1996 and 1999 were followed by the creation of a national reconciliation council that effected a transition to civilian

rule by December 1999. The capital city is Niamey.

Niger is southeast of Algeria and is 1.267 million square kilometers in area. The climate is that of a desert: mostly hot, dry, dusty, tropical in the extreme south. It has a population of 11,058,590 that is made up of 56 percent Hausa, 22 percent Djerma, 8.5 percent Fula, 8 percent Tuareg, 4.3 percent beriberi (Kanouri), 1.2 percent Arab, Toubou and Gourmantche, and about 1,200 foreign expatriates. Eighty percent of the population is Muslim and the remainder are Christians and indigenous believers. The official languages are French, Hausa, and Djerma. Niger is a republic divided into seven administrative departments, Agadez, Diffa, Dosso, Maradi, Niamey, and Tillaberi and the capital district of Zinder.

As a poor, landlocked nation, Niger's economy centers on subsistence agriculture, animal husbandry, and re-export trade, and increasingly on depleted uranium mining because of declining world demand. Exports are uranium ore, livestock, cowpeas, and onions, and imports are foodstuff, machinery, vehicles and parts, petroleum, and cereals. The GDP is 39 percent agriculture, 17 percent industry, and 44 percent service. The national currency is the Communaute Financiere Africaine franc (XOF).

Bennin

Dahomey achieved independence from France in 1960. The name changed to Bennin in 1975. From 1974 to 1989, the country was socialist; free elections were reestablished in 1991.

Bennin borders Bennin, between Nigeria and Togo and is 12,620 square kilometers in area. The climate is tropical, and hot humid in the south while semiarid in the north. It has a population of 7,041,490 that is declining because of the devastation of HIV/AIDS. Twenty percent of the people are Muslim, 30 percent are Christian, and 50 percent maintain indigenous beliefs. The official languages are French, Fon, and Yoruba (south), and various tribal dialects (6 in the North). The literacy rate is 40 percent.

In December 1989 the multiparty democratic rule dropped Marxism and Leninism and in February 1990 adopted democratic reforms. On April 4, 1991, Bennin officially made the transition to a multiparty system. It is divided into 12 provinces: Atakora, Alibori, Atlantique, Borgou, Collines, Couffo, Donga, Littoral, Mono, Oueme, Plateau, and Zou.

Bennin's economy remains underdeveloped and dependent on subsistence agriculture, cotton products, and regional trade. Exports are cotton, crude oil, palm products, and cocoa; and imports are foodstuffs, capital goods, and petroleum. The GDP growth rate is 5.04 percent. The national currency is the Communaute Financiere Africaine franc (XOF).

Burkina Faso

Burkina Faso, formerly known as Upper Volta, became independent from France on August 5, 1960. Government instability in 1970s and 1980s was followed by multi-party elections in the early 1990s. Several hundred thousand farm workers migrate south every year to Cote d'Ivoire and Ghana. It is 274,200 square kilometers in area and has a population of 13,228,460. North of Ghana, its capital city is Ouagadougou. The nationality of the people is Burkinabe. The climate is tropical with a warm, dry winter and a hot, wet summer. The Mossi comprise over 40 percent of the population, followed by Gurusi, Senufo, Lobi, Bobo, Mande and Fulani. Fifty percent of the people are Muslim, 10 percent are Christian, and 40 percent maintain indigenous beliefs. French and native African languages belonging to the Sudanic family are spoken by 90 percent of the population. The literacy rate is 26.6 percent.

Burkina Faso is a parliamentary republic divided into 30 administrative regions. It is one of the poorest countries in Africa. Landlocked, it has few natural resources, a fragile soil, and a

highly unequal distribution of income. About 90 percent of the population is engaged in agriculture (mainly subsistence), which is vulnerable to variations in rainfall. Industry remains dominated by unprofitable government-controlled co-optations. Following the African franc currency devaluation in January 1994, the government updated its development program in conjunction with international agencies, and exports and economic growth have increased. Maintenance of macroeconomic progress depends on continued low inflation, reduction in the trade deficit, and reforms designed to encourage private investment. International crisis in Cote d'Ivoire continues to hurt trade and industrial prospects and deepens the need for international assistance.

Guinea-Bissau

Guinea-Bissau became unilaterally declared independence on September 24, 1973, but was not recognized by Portugal until September 10, 1974.

In 1994, 20 years after independence from Portugal, the first multi-party legislature and presidential elections were held. A bloody civil war in 1998 created hundreds of thousands of displaced persons. A military junta ousted the government in 1999. The interim government turned over power in February 2000 when the opposition, Kumba Yala, took office following two rounds of transparent elections. Transition back to democracy is complicated due to a crippled economy devastated during the war.

Guinea-Bissau lies between Guinea and Senegal. The climate is tropical with a generally hot and humid monsoon-type rainy season from June to November and a dry season from December to May. It has a population of 1,360,827, of which 45 percent is Muslim, 5 percent is Christian, and 50 percent maintain indigenous beliefs. The official language is Portuguese, but Crioulo is widely spoken.

It is a republic divided into nine regions: Bafata, Biombo, Bissau, Bolema (or Bolama, Bijagos), Cacheu, Gabu, Oio, Quinara, and Tombali. The capital city is Bissau.

Guinea-Bissau is one of the poorest countries in the world. Bissau depends mainly on farming and fishing. Intermittent fighting between Senegalese-backed government troops and a military junta have destroyed the government infrastructure and seriously damaged the economy. Exports are fish, cashew, palm kernel, and peanut. Although it has potential for gold, phosphate, bauxite, and oil mining, the exploration cost is more than the country presently can afford.

Cape Verde

These inhabited islands were discovered and colonized by the Portuguese in the fifteenth century and subsequently became trading centers for African slaves. They later became an important coal restocking and supply stop for whaling and transatlantic shipping. Most Cape Verdeans have both African and Portuguese ancestors. Cape Verde achieved independence from Portugal on July 5, 1975.

A group of islands in the North Atlantic Ocean, west of Senegal, Cape Verde is 4,033 square kilometers in area. The population of 412,137 of which 71 percent are Creole (Mulato), 28 percent are African, and 1 percent are European. The country is mostly Roman Catholic infused with indigenous beliefs, and Protestant (mostly Church of Nazarene). The official languages are Portuguese, Crioulo (a blend of Portuguese and West African words) and the literacy rate is 76.6 percent. The climate is temperate with warm, dry summers and meager and very erratic precipitation.

Cape Verde is a republic whose economy suffers from a poor natural revenue base including serious water shortages exacerbated by cycles of long-term droughts. The economy is service-oriented, with commercial, transportation, tourism and public services activity accounting for 72 percent of the GDP. Although nearly 70 percent of the population lives in the

rural areas, the share of agriculture in GDP in 2001 was only 11 percent, of which fishing accounts for 1.5 percent. Eighty-two percent of the country's food is imported. Fishing potential (mostly lobster and tuna) is still not fully exploited, thus the economy is financed by foreign aid and remittance from immigrants.

Goals and Objectives of ECOWAS

ECOWAS was developed to accomplish the following objectives: (1) Abolish custom duties levied on trade among member states. (2) Eliminate quantitative and administrative restrictions on trade among member states, and moreover to establish a common tariff for non-member countries and eliminate tariffs and other trade obstructions, and to establish a common external tariff among member countries. (3) Eliminate obstacles restricting people's free movement, services, and capital among member states. In 1979 a protocol for free circulation of the region's citizens and rights of residence and establishment of commercial enterprises was signed. (4) Harmonize agricultural policies and promotes of common projects in member states, in the field of marketing, research and agro-industrial enterprises. "An Agricultural Development Strategy was adopted in 1982, aiming at sub-regional self-sufficiency by the year 2000. The strategy included plans for selecting seeds and cattle species, and called for solidarity among member states during international commodity negotiations. Seven seed selection and multiplication centers and eight livestock-breeding centers were designated in 1984" (http://www.focusintl.com/whos0004.htm). It establishes a common policy in joint development of transportation communications, energy, and other infra-structural facilities. A work program for energy development, involving a regional analysis of energy issues and plans for increasing efficiency and finding an alternative source, was planned in 1981. The creation of an Energy Resources Development Fund was approved in 1982. (6) Harmonize economic, industrial, and monetary policies and eliminate disparities in income levels of member states. (7) Establish a fund for co-operation, compensation, and development. (8) Prevent and settle regional disputes. (9) Undertake the responsibility to protect, preserve, and enhance the natural environment of the region and co-operate in the event of natural disasters. Article 29 of the ECOWAS Treaty justifies this point. (10) Urge member states to harmonize and co-ordinate their policies and programs in the field of natural resources. Article 31 of ECOWAS Treaty substantiates this fact.

Structure of ECOWAS

The Authority is the highest institution of the community. Composed of heads of states and government or their accredited representatives, it meets once a year. It essentially directs and controls the performance of the executive functions of the community. All of its decisions are binding on all the community's institutions. The Office of the Chairman of ECOWAS is based on an annual rotation among members of the Authority.

The Council of Ministers is made up of two representatives of each member state. The council meets twice a year, although there is provision for extra-ordinary meetings. The office of the Chairman of the Council of Ministers also rotates annually. It is responsible for reviewing the functioning and development of the community. The council makes recommendations to the Authority on the efficient functioning of the community and gives directions to all subordinate community institutions.

The Executive Secretariat is headed by the Executive Secretary, who is the principal executive officer of the community. The Authority, on the recommendation of the Council of Ministers, appoints the Executive Secretary and two Deputy-Executive Secretaries. The Executive Secretary is elected for a four-year term, which can be renewed once. The position is re-

sponsible for the daily administration of the Community. Past Executive Secretaries of ECOWAS include: Aboubakar D. Quattara, 1977–1984, from Ivory Coast; Momodu Munu, 1985–1989 from Sierra Leone. The current Secretary General is Dr. Muhammad Ibn Chambers, Nigerian by nationality.

The Tribunal is responsible for the maintenance of law and justice as enshrined in the Treaty of ECOWAS. It is called upon to settle all disputes of ECOWAS. *The Technical and Specialized Commissions* have been created to focus efforts on particular venues. These are the the Trade, Customs, Immigrations, Monetary and Payments Commission; the Industry, Agriculture and Natural Resources Commission; the Transport, Telecommunications and Energy Commission, and the Social and Cultural Affairs Commission. Each member state provides one representative to the commissions, who periodically submit reports and recommendations through the Executive Secretary to the Council of Ministers.

Advantages of ECOWAS

Establishment of ECOWAS has created a larger market for the sale of goods among member countries. Invariably this has led to the appreciation of the economies, incremenal increase in marketing levels, and large-scale production in some member countries. The treaty provides for the free movement of persons, services and capital, which has enhanced members' ability to benefit from skills and expertise of advanced member counties. Membership in ECOWAS is reducing the high incidence of smuggling, which has historically caused serious loss of revenue for the country into which the goods have been smuggled.

Harmonization of prices of goods among member states has put member countries in an advantageous and effective bargaining position with regard to their products and thus afforded them better terms of trade negotiation with the outside world. Setting up an economic community of this nature gives ECOWAS countries the likelihood of increasing foreign investment in many business areas.

Problems of ECOWAS

There is inequality in terms of population, geographical size, and resource endowment among ECOWAS countries. In this regard there is a fear by other members that Nigeria, with vast size, large population, and resources could dominate the community.

Presently the levels of trade are low, therefore political leaders need to increase trade among member countries if ECOWAS is to succeed as an economic union.

Prospect of trade among member countries is still poor as there is a huge currency barrier. "The multiplicity of currencies among members is a serious drawback. Presently most West African States settle their accounts in foreign currencies such as the US dollar, pound sterling and CFA franc"(Venn 2000, 175). It could be advantageous to remove these currency barriers.

Lack of direct communication lines among ECOWAS countries is a hindrance to the community. This is negating co-operation and integration among West African countries. The road, rail, and telecommunications systems were built to serve individual countries instead of linking them.

As most of the member countries were colonies of France and Britain, there is still a prevailing problem of common ideological orientation and common language. Also within the ECOWAS are rival groupings, such as the French-speaking West African Economic Community (CEAO).

Free movement of citizens of member states of the community is creating problems of migration of labor from states experiencing economic hardship into the more affluent states. Nigeria asked over a million citizens of ECOWAS without proper documents to leave the country or face legal action.

Since the formation of ECOWAS, leaders of member countries intended to prioritize environmental issues, but success is yet to be attained. "Even though ECOWAS has laudable policies in favor of the environment, not much has been done to mobilize resources to tackle problems confronting member states in their quest for sustainable development. A number of countries have embarked on a course of structural adjustment and trade liberalization and with programs on serious environmental and socio-economic problems" (http://www.focusintl.com/whos0004.htm). It appears much effort is required to successfully achieve the objectives of this treaty.

Saffa-woya Rogers

See Also Economic Integration; Common Market for Eastern and Southern Africa (COMESA); East African Community (EAC); Southern African Development Community (SADC; Franc Zone

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European Economic Area (EEA)

The European Economic Area (EEA) is the result of a cooperative economic agreement reached in 1991 between the European Community (forerunner of the European Union) and the seven member countries of the European Free Trade Association (EFTA). The EEA treaty was signed by the foreign ministers of the member states in May 1992 and came into effect on January 1, 1994. Treaty provisions allow the free movement of goods, persons, services, and capital among EEA countries. Lichtenstein, Switzerland, Norway, and Iceland are able to trade with the member states of the European Union without restriction and without having to pay tariffs at their borders. These countries therefore enjoy access to the single European market while not assuming the full responsibilities of a European Union membership.

Genesis of EFTA and EEA

The idea of a free trade agreement in Europe goes back to the early 1950s and the European Economic Community (EEC). After World War II, several European countries sought closer political, economic, and social ties to achieve higher economic growth on a continent that was largely destroyed by the war itself. In 1951, the leaders of six governments and states, namely Belgium, France, Italy, Luxembourg, the Netherlands, and West Germany, signed the Treaty of Paris with the aim of ensuring a lasting peace and security in Europe, especially to reconcile France and West Germany. The Treaty of Paris established the European Coal and Steel Community (ECSC). This treaty became the cornerstone of European integration and economic liberalization and ultimately led to the creation of the European Union with the Maastricht Treaty in 1993. The ECSC created a free trade area among the signing members in areas such as coal, steel, scrap, and iron. It also established several institutions to better manage coordination of the new community. Among these institutions was an administrative authority, a Council of Ministers to act as a legislative body, an Assembly to formulate common policy, and a Court of Justice to solve disputes and interpret the treaty.

In 1957, the six signing countries of the ECSC created the European Economic Community (EEC). From then on, a common market shaped the political landscape, abolishing economic borders among the member states. The EEC also held the door open to other countries wishing to join the community. Furthermore, it abolished trade barriers such as tariffs and inspections to guarantee the free movement of goods, labor, services, and capital within the community. This liberal ideology prevails today in the European Economic Area. Moreover, the community developed its own external trade and agricultural policy. The signing of the EEC made it mandatory for member states to revise domestic legislation in order to abolish internal tariffs and adopt the new supranational provisions of the treaty. In 1968, the member states were required to replace policies that discriminated against goods, services, and people to promote domes-

tic industries with policies giving foreign investors equal rights to domestic ones.

Most important, the EEC created four institutions that have remained in place: (1) the European Commission, the administrative body of the community (and now the European Union); (2) the Council of Ministers, the legislative organ; (3) an Assembly, an early form of the European Parliament; and (4) the European Court, the judicial entity. The commission created for the EEC and the one for the ECSC were merged into a single commission by the Treaty of Brussels in 1965. Ever since, the commission has consisted of a permanent civil service staff governed by commissioners, who are appointed by the member states for a five-year term.

The treaties fostered the process of European integration and created far-reaching competencies for the member states, but thus far they had left out those European countries that had not yet joined the EEC. Although the United Kingdom, Denmark, Ireland, Greece, Portugal, Austria, and Spain belonged to Europe geographically, and historically had close economic relationships with the rest of Europe, their economies were not fully integrated into the single European market because they had not signed the treaties. This created an enormous economic disadvantage for those countries because they still had to pay tariffs and customs at the borders of EEC countries. In order to eliminate this economic hardship, EFTA was created on May 3, 1960, among both EEC member states and states that had resisted joining the EEC for domestic political reasons. The Stockholm Convention, adopted on January 4, 1960, granted EFTA countries the same economic rights as the EEC member states, allowing free movement of goods, services, people, and capital and creating the largest single market in Europe, with only one customs union.

In the 1970s and 1980s, the EEC, which had become the European Community (EC) in 1967, enlarged to include new members. The United Kingdom, Denmark, and Ireland joined in 1973, Greece in 1981, and Portugal and Spain in 1986. The EC was transformed into the European Union by the Maastricht Treaty in 1993, and on January 1, 1995, Sweden, Austria, and Finland joined, leaving only Iceland, Switzerland, Liechtenstein, and Norway outside the group of Western European nations that had become EU member states. However, these countries continued their membership in EFTA. Norway has held two national referendums, one in 1972 and the second in 1994, about its application for membership in the EU, and on both occasions the voters rejected the Norwegian government's attempt to join.

The European Economic Area replaced EFTA in 1994. Norway, Liechtenstein, and Iceland, in particular, initiated the consultations leading to the agreement. EEA member states today include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, and the United Kingdom, to make up the largest free trade zone in Europe. Besides the privileges based on freedom of movement, membership gives Norway, Liechtenstein, Switzerland, and Iceland the right to consult with the European Commission during policy and legislation formation processes. In other words, they enjoy consultative status on commission matters in Brussels, but not the right to vote on policy decisions, which is an exclusive right held only by EU member states.

Social policy, consumer protection, environmental regulations, business law, and statistics are policy areas affected by the EEA. In these fields, Norway, Iceland, and Liechtenstein must adopt the rules and regulations of the European Union. The EEA agreement's primary function is to ensure equal conditions for competition among European businesses, people, and goods. The European Union's "Acquis Communautaire," which lists the rules and regulations for business cartels, state monopolies, and state aid (subsidies) for specific businesses, markets, or regional blocks, leans on the articles of the EEA dealing with competition laws.

Free Movement Policies

The freedom-of-movement principles embodied in the EEA treaty are fundamental to the success of the single European market. They cover freedom of movement in four areas: goods, services, capital, and people.

Goods

One of the major requirements for the free flow of goods is the elimination of customs duties and other qualitative restrictions at the border. Free movement of goods has its roots in the European Coal and Steel Community; however, the EEA agreement extended the principle to harmonize legislation related to technical regulations and to remove technical barriers to trade. The EEA agreement also identifies the principle of mutual recognition of standards and testing.

Services

The EEA agreement guarantees the free flow of services for businesses, eliminating the requirement of nationality to offer business services in any EEA state. Also, businesses can offer services across borders without restrictions and without the fear of repercussions or punishment by the state. These services include financial services, information and technology services, audiovisual services, and postal services.

Capital

The free flow of capital is one of the foremost requirements to ensure the completely free flow of goods and services. It includes free capital transfers across EEA borders, cross-border investments, and transborder loans. The provisions of the EEA agreement not only ensure exchange controls but also require nondiscrimination against foreign investors in domestic legislation pertaining to capital movement. In other words, in any EEA member country, investors from other EEA nationalities possess the same rights as domestic investors. Only under exceptional circumstances, such as domestic currency devaluations, can the free flow of capital be restricted.

People

The EEA agreement adopted similar provisions to the Schengen Agreement in 1985, which also ensures the free movement of people. The free movement of people has thus become one of the fundamental rights of the people of Western Europe. Citizens of EEA member countries may live, work, study, and establish businesses anywhere within the borders of the region.

EEA Institutions

The decisionmaking process within the EEA is characterized by what may be called a "two-pillar system." EEA/EFTA countries—Norway, Iceland, Switzerland, and Liechtenstein—did not transfer legislative competencies to an EEA organ; in other words, the EEA institutions do not accept direct decisions by the European Commission or even the European Court of Justice. In order to fill this gap, the EEA agreement set up specific EEA/EFTA bodies matching their counterparts in the European Community. They include an EEA Court, a Surveillance Authority, and a Standing Committee.

Joint EEA Bodies

EEA Council. The EEA Council's primary responsibility is to support the policy formation process and to lead the implementation and development of the EEA agreement. Its counterpart on the EU side would be the European Council, which meets to discuss and develop EU policies. The foreign ministers of the EEA/EFTA countries meet twice a year for consultation. The meeting is supplemented by the European commissioner for external relations, the high representative for the European Union's common foreign and security policy, and the current and forthcoming presidents of the EU. The composition of the council already insinuates that the consultations in the council go beyond traditional economic policies and in-

clude a political dialogue about general external policies, including security policies. The presidency of the council rotates between the EU side and the EFTA side every term. The council also deals with recommendations and resolutions of the EEA Joint Parliamentary Committee and the EEA Consultative Committee.

EEA Joint Parliamentary Committee. The Joint Parliamentary Committee debates and discusses a wide range of issues and policies. It seeks to contribute to a better understanding among EU and EFTA states in fields defined by the EEA agreement through increased dialogue and consultations. The European Parliament as well as the parliaments of the EEA/EFTA countries send parliamentarians to this committee, which meets twice a year. The chairmanship of the committee rotates each year between the European Parliament side and the EFTA side.

It is the task of the parliamentarians to scrutinize and monitor the legislation of the European Community that touches upon the fields negotiated in the EEA agreement. The parliamentarians enjoy the right to ask the EEA Council (in writing or orally) about policies or policy intentions. Once the Joint Parliamentary Committee has finalized its discussions and reached a conclusion on an issue, it publishes its views and recommendations in the form of a written report or resolution. Between 1998 and 2002, the committee published more than twenty-two resolutions.

EEA Consultative Committee. The Consultative Committee is largely a voice for workers, employers, and other nongovernmental organizations of the EEA member countries and meets once a year. It is composed of members of the European Economic and Social Committee (EESC) and EEA representatives from the EFTA Consultative Committee and provides a forum in which social partners have a chance to meet and discuss policies. The EESC is a nonpolitical body that gives representatives of Europe's socio-occupational interest groups and others a formal platform to express their points of view on EU issues. Its opinions are forwarded to the larger institutions, including the EEA Council, the Commission, and the European Parliament. It thus has a key role to play in the European Union's decisionmaking process. Article 96 of the EEA agreement asks this committee to evaluate the economic and social aspects of the EEA and to provide guidance and recommendations to other EEA bodies.

EEA Joint Committee. The EEA Joint Committee is responsible for the daily management of the EEA agreement and serves as the primary decisionmaker in the EEA. In this committee, representatives from the European Union as well as the EEA/EFTA countries jointly develop policies regarding the EEA treaty. This forum of political exchange is not just consultative in character; it may incorporate European Community legislation into the EEA agreement. Because of its importance, the committee meets once a month on the ambassador level of the EEA/EFTA countries, with representatives of the European Commission and the European Union member states. Four subcommittees assist the EEA Joint Committee in making informed decisions. Each subcommittee deals with an aspect of the freedom of movement. The subcommittees are supported by outside consultants such as academics and think-tank representatives.

However, constitutionally the EEA/EFTA countries are not allowed to adopt legislation of the EC into their national legislation. Therefore, whenever the original EEA agreement needs to be changed, a separate annex to the original agreement has to be drafted. This process is seen as an essential step to ensuring the homogeneity of the EEA.

EEA and EFTA Bodies

EFTA Standing Committee. The EFTA Standing Committee provides a forum in which all EEA/EFTA states may consult with each other on a regular basis. Here EEA/EFTA countries can freely discuss important economic and political issues and reach a common agreement

prior to meeting with their counterparts from the European Union in the EEA Council. Therefore, only representatives from Iceland, Liechtenstein, and Norway are members of the committee. The chairmanship of the Standing Committee rotates among these three countries. However, representatives from Switzerland and the EFTA Surveillance Authority enjoy observer status.

The EFTA Standing Committee is subdivided into four committees that assist the general committee in the decisionmaking process. Each subcommittee focuses on one area of the freedom of movement principles. In addition, a legal and institutional subcommittee assists the Standing Committee in constitutional questions.

EFTA Surveillance Authority

The EFTA Surveillance Authority is responsible for overseeing uniform implementation of the EEA agreement. It ensures that the rules and procedures outlined in the EEA agreement are not breached or interpreted differently by different entitites and monitors implementation of EEA regulations in national legislation. In the two-pillar system, the EFTA Surveillance Authority is the controlling authority for EEA/EFTA states that are not EU members, and the European Commission is the central authority for EU states. The EFTA Surveillance Authority possesses control and investigative mechanisms similar to those of the European Commission.

EFTA Court

The EFTA Court operates in parallel to the European Court of Justice, handling matters that affect the EEA/EFTA states. Therefore, it has jurisdiction only in EEA/EFTA states, mostly in matters dealing with infringement actions. Its main responsibility is to settle disputes between two or more EEA/EFTA states.

EEA Enlargement

The European Union enlarged on May 1, 2004, to comprise twenty-five member states. The enlargement process has a direct impact on the EEA agreement, which states in Article 128 that countries that apply for EU membership should also apply for EEA membership. Therefore, the EEA countries negotiated EEA applications for Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovenia, and the Slovak Republic in 2003. These states became members of the EEA on May 1, 2004, creating an internal market of more than 450 million people. However, the legislation that provides for EEA enlargement still awaits ratification by all twenty-eight member states.

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See Also Economic Integration; European Union

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European Union

The European Economic Community, later restyled the European Union, was one of many attempts to reduce tensions in a Europe recovering from World War II. It has developed into a loose confederation of 25 member states bound together through common trade, social, and economic policies. The European Union came into being on November 1, 1993, as a result of the 1992 Treaty on European Union (Maastricht Treaty). It has at its heart a three-pillar structure to support the project of European cooperation. The three policy areas covered by this structure were primarily existing areas of European interest subdivided to provide a compromise solution to treaty issues rather than to create new powers.

The first pillar covers policy responsibility for agriculture, economic and monetary union, immigration and asylum, and internal markets. The second pillar deals with common foreign and security policy (CFSP) and international cooperation and policies to preserve the peace and the security of the European Union. The third pillar covers Justice and Home Affairs (JHA), with responsibility for cross-border crime, police cooperation, and criminal law. The new treaty also set out a timetable for economic and monetary union and for the introduction of a single currency, the euro.

Historical Overview

The idea of European unity, born in the aftermath of World War II, was based on the desire to preserve peace, promote free trade, and guarantee the free movement of people within Europe. The concept of a European community evolved from the early days of the European Coal and Steel Community in 1952. The European Economic Community (EEC), established in 1957 by the Treaty of Rome, brought together six European countries (France, West Germany, Belgium, the Netherlands, Luxembourg, and Italy) in an attempt to abolish customs duties and trade barriers among the member states and in the process create a common market for goods and services. It was renamed the European Community in 1967. The original six members were joined in 1973 by Britain, Denmark, and Ireland, with further enlargement in 1981 when Greece joined, followed by Spain and Portugal in 1986.

In 1993, as the result of the Treaty on European Union, the European Community was reborn as the European Union. Austria, Finland, and Sweden joined in 1995, and in 2004. The admittance of the Eastern European countries culminated a lengthy process involving a study of the applicants' politics, culture, economic development, human rights records, and so on. The 1993 European Council in Copenhagen opened the door of EU membership to Central and Eastern European countries and set out clear requirements for attaining it, including the stability of institutions guaranteeing democracy, the rule of law, human rights and respect for and protection of minorities, the existence of a functioning market economy, and the capacity to cope with competitive pressures and market forces within the union. The ability to take on the obligations of membership, in-

cluding adherence to the aims of political, economic, and monetary union, is also a qualifying factor. In addition, the EU itself must have the ability to absorb proposed new members without endangering the momentum of European integration.

EU Institutions

The EU consists of four main institutions: the European Commission, the European Parliament, the European Court of Justice, and the Council of Ministers.

The European Commission

The European Commission is the administrative and executive body of the EU and is headed by twenty commissioners who serve for a period of five years. There is one commissioner from each of the smaller member states and two from each larger one. They are nominated by the respective national governments and approved by the European Parliament. The commissioners have a duty to act in the interests of the EU and independently of their national governments. Only by showing such impartiality can they effectively mediate points of conflict between member states when they arise. The purpose of the commission is to further the goals of the EU and to implement policy and legislation. It fulfills three distinct roles: initiating proposals for legislation, acting as the guardian of the treaties, and serving as the manager and executor of EU policies and international trade relationships. Its draft proposals for legislation are subject to approval by the Council of Ministers and the European Parliament. The commission is based in Brussels, Belgium, with a staff of 16,000.

The commission is the initiator of the legislative process; indeed, EU law cannot be made without a proposal from the commission. In preparing its proposals, the commission must take account of its main objectives: to consult with pressure groups, trade unions, industry, and individual governments; to identify the European interest—that is, to ensure that a proposal reflects what is best for Europe as a whole rather than what is best for any individual member state; and to respect the principle of "subsidiarity" by taking action only when it is decided that a matter can be dealt with more effectively at the EU level than at the national level.

The commission acts in a watchdog capacity to ensure that individual states do not breach their treaty obligations. It has the power to initiate legal proceedings against member states in the Court of Justice; it can also take action against individuals and corporations that break EU treaty law.

As manager and executor, the commission oversees the EU's annual budget and enforces the treaty's competition rules. It regulates acquisitions and mergers and can take action to prevent third countries from dumping surplus goods on the community market.

The European Parliament

Members of the European Parliament (MEPs) are democratically elected to five-year terms. There are 626 MEPs representing the 370 million people of the fifteen member states. The parliament employs 3,850 people and is primarily based in Brussels; the headquarters of the parliament's civil service is based in Luxembourg, but for one week every month it decamps to Strasbourg, France. The most important powers of the parliament can be divided into three distinct categories: supervision of the executive function, legislative duties, and power over the budget. Among other things, MEPs approve the European budget, question European commissioners, approve international agreements, and approve the appointment of the European Commission.

The importance of the role fulfilled by parliament in supervising the executive function is highlighted every five years when it appoints the president and members of the commission. The parliament conducts political supervision

of EU policies through comprehensive questioning of the representatives of the commission and the Council of Ministers, who jointly share the executive power of the EU.

Under the original Treaty of Rome, the parliament was given a purely consultative role in legislative matters. However, subsequent treaties have amended and strengthened its powers to the degree that it can now amend and adopt legislation; in the process, it has assumed a power-sharing role with the Council of Ministers. There are several ways in which this power-sharing role has been put into place. First, the consultation procedure regarding legislative proposals requires the parliament to issue opinions on commission proposals before they can be adopted by the council. Second, the parliament is allowed to amend proposals in the interest of improving them. Proposed legislation is given two readings in the European Parliament in order to provide ample opportunity for review and amendment. Decisionmaking power is shared equally by the parliament and the Council of Ministers through a procedure that aims to secure consensus on the texts so that they can be endorsed by both the council and the parliament. Finally, international agreements, such as those outlining the tasks and powers of the European Central Bank, or the accession of new member states, must obtain parliamentary assent.

The EU's annual budget is approved by the European Parliament. Initial budgetary proposals are submitted by the commission but are subject to modification and amendment by the parliament. The parliament, in cooperation with the Council of Ministers, is responsible for determining expenditures on environmental projects, education, regional funds, and social programs. The parliament does not have any budgetary powers over costs arising from international agreements or agricultural spending, however. The parliament's Committee on Budgetary Control continuously monitors expenditures in an effort to ensure that money is spent toward the agreed purposes.

Much of the parliament's work is done by its twenty special committees, which scrutinize the activities of other EU institutions and oversee proposals for new EU laws. The topics covered by special committees include citizens' freedoms and rights; justice and home affairs; employment and social affairs; fisheries; regional policy; transport and tourism; women's rights and equal opportunities; foreign affairs; human rights; and common security and defense policy. European citizens have the right to petition the parliament on matters that fall within the EU's area of responsibility. The parliament works in eleven official languages and employs more than 1,000 translators.

European Court of Justice

The European Court of Justice is based in Luxembourg and adjudicates all legal issues and disputes involving EU law. Its decisions fall into two main categories. Preliminary rulings are rulings of interpretation of law and are held in the language of the national court that referred the case in the first instance. The court's other rulings are in response to various kinds of direct actions initiated by institutions against other institutions; in these, the language of the case is chosen by the applicant. The court is composed of fifteen judges and nine advocates general appointed by common accord from the member states for renewable periods of six years. The court sits in chambers of three or five judges, or in plenary session if requested and if the case merits such action.

Council of Ministers

The Council of Ministers, made up of ministers from the member states, approves EU legislation and policy, establishes political objectives, coordinates national policies to ensure that they are in line with EU policies, and resolves differences between the council itself and other institutions. The presidency of the council rotates every six months among member states, with one term from January until June, and another from July until December. The country

holding the presidency hosts a meeting of the heads of state, known as the European Council, every six months. In recent years these meetings have become the scene of violent, large-scale environmental demonstrations.

The Council of Ministers has its headquarters in Brussels, where most of its work is done, though council meetings take place in Strasbourg three times a year. Some matters are decided by unanimous decisions, but the vast majority are decided by qualified majority voting. There are a number of policies related to the first pillar (agriculture, transportation, environment, and energy) that are decided in council by qualified voting with member states carrying different weights. France, Germany, the United Kingdom, and Italy carry ten votes each; Spain carries eight votes; Portugal, the Netherlands, Belgium, and Greece five votes each; Austria and Sweden four votes each; Denmark, Finland, and Ireland three votes each; and Luxembourg two votes, for a total of eighty-seven votes. At least sixty-two votes must be cast in favor when a commission proposal is involved, and in other cases, although sixty-two votes are still required, these must be cast by at least ten member countries. Those policy areas from pillar one that require unanimity include taxation, industry, and culture. Unanimity is the rule in the other two pillars, CFSP and JHA. EU law adopted by the council may take one of several forms: regulations, which are directly applied without the need for national measures to implement them; directives, which bind member states to the objectives to be achieved while leaving the national authorities some leeway in implementing them; decisions, which are binding in all their aspects upon those to whom they are addressed; and recommendations and opinions, which are not binding.

Common Agricultural Policy

Established in 1962, the Common Agricultural Policy (CAP) was intended to increase agricultural production, provide a fair standard of living for those working within the agricultural community, stabilize markets, guarantee supplies to the consumer, and ensure product availability at a reasonable price. The CAP is based on three interdependent principles: (1) the initial concept of a single market with common market rules, which was followed in 1968 by the unification of prices, marking the completion of a single agricultural market; (2) the requirement for member states to show preference to products grown within the community, which results in the imposition of import duties on foreign goods, making them too expensive to compete in the European marketplace (in tandem with this, EU export subsidies allow community products to compete on the world market); and (3) financial subsidies to farmers, which are administered through a central pool to ensure that no individual member country is able to utilize the subsidies to unfairly prop up its own national agricultural community.

The CAP allows a wide range of products to be brought into member states, providing a high degree of choice for the consumer. It sets common quality standards for fruit and vegetables throughout the European Union, permits cross-border trade in which traders need not be present when buying goods, and guarantees consistent quality. This standardization of products, along with regulations governing the labeling of products, means a high level of protection for the European consumer.

The downside is that European prices are kept artificially high to compensate producers. Prices are usually set at the level of the member state where production is dearest, resulting in an artificially large gap between European prices and the prices on the world market. Farmers are guaranteed a minimum price for their products, and if there is a surplus, the community undertakes to stockpile that surplus for sale on the world market at a later date, even if that means selling at a price below that paid by community citizens. As a result, the community often subsidizes the sale of goods

on the world market at a loss rather than enjoying a reduced price in Europe, which, it is felt, might threaten the fixed price system. The stockpiling of surplus agricultural goods has brought about the "beef mountain," "butter mountain," "wine lake," and so on. The policy of guaranteeing a price and a market for goods has led to overproduction, with some farmers being paid not to grow crops and to leave large sections of land fallow, while some large corporate farmers are able to earn sums in excess of a million euros from community subsidies. With the enlarged membership that took place in 2004, especially of Eastern European agricultural countries, the European Union is in the early consultative stages of restructuring the CAP.

Common Fisheries Policy

The Common Fisheries Policy (CFP) is intended to ensure a sustainable fishing industry within the union. This is to be achieved by limiting the number of each species caught by vessels in community waters, using a licensing system and quotas set each year by the Council of Ministers, based on scientific advice on the state of existing fish stocks. These quotas, or total allowable catches (TACs), are divided among the member states according to historic fishing patterns, with the individual members assuming responsibility for ensuring that the quotas are respected and stocks are not overfished. The CFP has had mixed results, prompting widespread protest from within the fishing community. There is continuing conflict among member states, as CFP rules allow vessels from one member state to obtain a license to fish in the territorial waters of another member state, thereby reducing the fish stocks available for home vessels.

The Spanish and Portuguese, in particular, have been heavily criticized for fishing in UK waters, using large vessels and large nets that threaten to destroy future breeding stock. Within EU waters, fishing is now totally banned in some areas in an attempt to regenerate stock. There are also limits to the length of time a fishing vessel can spend at sea within any one year; rules about the type of fishing gear that can be used, including net size; and minimum sizes for each species of fish. The decommissioning of fishing vessels, which in effect reduces the size of national fleets, is one method of conservation encouraged by the EU, but the results have been varied, as owners who choose to accept large payments to scrap older vessels sell their licenses for sums as high as half a million euros, allowing large modern vessels, usually with corporate owners, to operate on several fishing licenses, thus obtaining almost unlimited access to fishing stocks.

Monetary Union

On January 1, 1999, the euro replaced the national currencies of eleven member states: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and Spain. Greece joined this group on January 1, 2001. Not all member states chose to adopt the euro as their currency. The exceptions were the United Kingdom, and Sweden, which chose not to join the euro group. On January 1, 2002, euro banknotes and coins were introduced, and national currencies were phased out as existing coins and notes were withdrawn from circulation.

There were many reasons for the monetary union. It was thought that a common currency would ensure that a reunified Germany would remain tied to the ideal of European integration within an expanding EU, that it would ensure economic efficiency within the EU and improve the standard of living, and that it would help to develop a greater sense of European identity—the major stumbling block to total European federalization. It was hoped that the introduction of a single currency would increase the trading of goods and services between the participating countries and strengthen the single market, and that travelers would benefit from

the introduction of the euro because they would no longer need to worry about currency exchange. However, the decision of the EU to produce euro notes with twelve regional designs caused confusion. Some European shopkeepers initially refused to accept notes issued in other member countries (especially in Greece, Italy, and Spain). This problem has since been resolved, but it serves to demonstrate that at the grassroots level Europeans are still not operating as a single European state.

The adoption of the euro as a single currency has made the EU a major international monetary power. More important, countries that have adopted the euro no longer have an independent monetary policy. Individual governments no longer have control over interest-rate levels. These and all other decisions affecting EU monetary policy are now set by the European Central Bank (ECB) from its headquarters in Frankfurt. The ECB was established on June 1, 1998, and has as its main objective price stability in the euro area, which it achieves in part by influencing the interest rate. Those countries joining the EU in the future must adopt the euro eventually but have to wait at least two years from the time of joining the EU before they can apply to join the European monetary union. They must also meet a number of economic criteria if they wish to join at a later date, including low interest rates, sound public finances, stable exchange rates, and low inflation.

Common Foreign and Security Policy

Common foreign and security policy (CFSP) is contained within the second pillar of the EU. Although member states are expected to act in cooperation and through consensus to formulate common foreign and security policy goals, they are not required to adhere to a single foreign policy. While enshrining the single market and European integration, the Treaty of Rome did not endow the EEC with any external powers except to conclude international trade agreements. European foreign policy derives directly from the national foreign policies of the member states and, since it is achieved primarily by consensus, need not necessarily be followed by all. An example of this principle may be seen in the mixed reaction within the EU over the U.S.-led invasion of Iraq in 2003. There was a common EU policy condemning the Iraqi regime and supporting United Nations intervention, and, when action was taken, the bulk of European states were supportive. However, France and Germany were vehemently opposed to any military action and called for the withdrawal of coalition forces. In other words, there is no single, unified EU foreign policy; rather, individual member states still have the ability to fall back on national interests.

The EU has become a major player on the world political stage, although at times this has been hindered by conflicting messages from the individual member states. The political divide over the invasion of Iraq in 2003 demonstrated the deficiencies of a system lacking political uniformity. In an effort to present a cohesive single voice on world issues, proposals were put forward in June 2003 to create an elected European president and foreign secretary. Sanctions on Iraq, involvement in Eastern Europe, and the almost unanimous European reaction to the terrorist attacks of September 11 have shown that Europe can act as a single force when required to do so.

Defense Policy

There has been little advance in creating a unified European defense policy despite some attempts to do so. In the aftermath of the Cold War, cuts in national defense budgets limited any advance in this direction, with a continued reliance on the North Atlantic Treaty Organization (NATO) as the dominant stabilizing military force in Europe. The crises in Kosovo and

Bosnia showed that Europe was unable to produce either a coherent policing policy or the means to enforce any form of peacekeeping policy. Britain and France are both members of the UN Security Council and both nuclear powers, which would give any common European defense policy credibility on the world stage.

The problem has been with the coordination of ground forces. Various attempts have been made over the years to create a single European military force, but although the member states are quite prepared to coordinate their efforts to achieve a unified economic policy, they have not been prepared to relinquish independent control of their armed forces. A unified military must have a unified central command answerable to the European Commission and not to the individual member states. This realignment has been the stumbling block. With a combined strength of more than 2 million troops and 6,000 combat aircraft, even before the membership of the EU increased in 2004 the potential was there for the EU to assume the role of a superpower, a counterbalance to U.S. dominance. This potential increased when the new members were admitted and the military potential of Poland, Hungary, and the Czech Republic was added to the EU.

There is no common EU defense policy, and in fact there has never been a common view of European defense. Several member countries, including Britain, Portugal, and Holland, view the continuing security relationship with the United States as of prime importance; others, such as Germany, France, Spain, and Italy, advocate an independent Europe operating free of U.S. intervention or assistance. While the Cold War dominated world politics, the Atlanticist policy was followed, and NATO was the European defense arm of choice. Since the collapse of the former Soviet Union and the removal of the threat to Europe, policy has been changing, and the Europeanist point of view has been gaining ground. There is a growing desire within the EU to move from Cold War dependence on the United States to a new partnership of equals. In tandem with this, several individual member states maintain loyalty and special interest in their former colonies and reflect this in their national defense policies.

The Western European Union (WEU) was revived in the 1990s as a means to creating a centralized military presence in Europe. Originally created as the Western Union by the 1948 Brussels Treaty and consisting of Britain, France, Belgium, the Netherlands, and Luxembourg, the Western Union became the Western European Union in 1954 when Italy and West Germany joined. The WEU was always in the shadow of NATO, and the organization lay dormant until it was revived to stimulate European military cooperation. In 1992, following a meeting of WEU foreign and defense ministers at Petersburg, near Bonn, the responsibilities of the revived WEU were clearly outlined. Military units from the member states could be deployed under the authority of the WEU for a variety of peacekeeping and humanitarian tasks. These forces are known collectively as the Forces Answerable to the WEU (FAWEU) and include troops from Britain, Holland, France, Italy, Spain, and Portugal. The force has operated in Serbia and Montenegro to monitor the UN embargo and has helped train the Croatian and Albanian police forces.

However, as might have been expected, the fragmented security policy of the EU has caused problems for the FAWEU. In an attempt to move toward a European Army, Germany and France took the step of creating the Eurocorps in 1992. The 60,000-strong Eurocorps has been operational since 1995, and Germany and France have been joined by Belgium, Spain, and Luxembourg. It was originally conceived with three main aims: to lead to a credible European Army that would provide the backbone of the CFSP, to give the EU an independent military arm, and to supply a military alternative for the EU in the event that the

United States decided to withdraw from its commitment to defend Europe.

Justice and Home Affairs

The third pillar of the EU covers the field of justice and home affairs, bringing together the justice departments of the fifteen member states to increase dialog, mutual assistance, and joint effort and cooperation among their police, customs, and immigration departments. Cooperation in civil matters deals with divorce, child custody, and bankruptcy where these matters overlap into two or more member states. Criminal matters covered include illicit trafficking in drugs, arms, toxic waste, and nuclear materials. Europol, the European police office based in The Hague in the Netherlands, was created to combat all forms of international crime. It is intended to play a major part in furthering cooperation among individual police forces in the fight against terrorism, drugs, and organized crime. It became fully operational in July 1999.

Welfare and Social Policy

The social policy of the European Union dictates that EU bodies serve mainly in a regulatory capacity. Social welfare programs are thus still administered and delivered at the national level, as are programs in education, housing, and health care. This is in keeping with the EU's policy of becoming involved only when it is deemed that such action would be more effective than action at the level of the individual member state. European social policy has evolved as a by-product of European integration and was not included in the Treaty of Rome, as the original six signatories had broadly similar social systems. Over the ensuing years, national welfare systems have expanded enormously, both in the provision and the extent of services, and continual expansion has created greater diversity of social policy within the EU. The idea that a common social welfare policy can be created from such diversity has become increasingly impractical as well as undesirable. However, in a Europe that is achieving ever greater economic and political integration, there is still a call for greater coordination and compatibility across systems. The new role of social policy is to enable the process of economic integration to take place. For example, in health care, a practical result of social coordination is that surgical patients can be transferred from one member state to another—say, from Britain to France—to reduce the time patients have to wait for treatment.

Faced with the prospect of ten additional member countries in 2004, issues such as jobs, schools, health care, and quality of life began to form a key part of the European debate. It is inconceivable that a centralized European welfare state would take over the financing and delivery of health care systems, education, housing, or environmental protection from individual member-state governments. Welfare provision will continue to be the responsibility of national and subnational bodies, but greater integration of policy could become part of the developing political process. The task facing EU social policy makers is enormous. An integrated European social policy will be achieved not by enforcing a single unified standard but by linking together the many diverse systems and standards that already exist within the expanding EU.

Global Relations

With the introduction of a common currency and the creation of a Central European Bank, the EU has come of age as a global power. It was already the world's largest trading bloc before the expansion to twenty-five member countries in 2004, and with the expansion it became a dominating force in world trade. It is the biggest industrialized marketplace, with, at present, a population of 375 million, just over 6 percent of the world's population, accounting

for 28 percent of global gross domestic product (GDP). Owing in part to the accessibility of the single market, the EU has become increasingly important to those multinationals that hitherto concentrated on the North American market. Moreover, the EU is home to some of the world's largest companies. The common economic and trade policies are at present major factors in the economic power of the EU. Once a common policy has been reached by the member states through the Council of Ministers, the European Commission undertakes trade agreements and negotiates on behalf of the EU as a whole, thereby operating from a position of strength and presenting a single European voice.

The United States and Europe

The EU is the largest market for U.S. goods, with 20 percent of U.S. exports destined for member states. At the same time, the United States is also the largest external market for EU goods, receiving over 24 percent of EU exports. The two largest economies in the world, the European Union and the United States together account for about half of the entire world economy, with a combined global trade amounting to 40 percent of world trade. Although there are similarities in their foreign policy, there is a continuing divide between the European Union and the United States, with the differences of opinion increasing and becoming more substantive in recent years.

This gap has been caused in part by the emergence of the EU as a powerful political voice on the world stage and the corresponding reduction in U.S. influence, especially in Central and Eastern Europe. There have been major trade and policy disputes, including one over the Cuban Liberty and Democracy Act, which was introduced by the United States in 1996 as a result of the downing of two civilian aircraft by the Cuban military. The act made provision for foreign companies investing in Cuba to be sued in U.S. courts. The reaction of the EU was to threaten sanctions against U.S. companies and individuals. The dispute was resolved in May 1998 when the United States agreed to lift the sanctions on European companies. This was followed in 1999 by the end of the so-called "Banana War" when the EU conceded to U.S. demands to open up its internal market to bananas produced in Latin America by U.S. companies. Until then, preference had been given to bananas produced in former colonies of European states. In 2001, President George W. Bush signaled his intention to renege on the U.S. commitment to the Kyoto Protocol agreement of 1997, which was aimed at the reduction of global levels of carbon dioxide emissions. The relationship between the European Union and the United States is rocky at best, with both parties following protectionist economic principles. Although the United States has good relationships with a number of individual member states, it has been unable to come to terms with the concept of a common market and European integration.

The Future

The focus of the European Union has changed in recent years, especially with the expansion of its membership to include former Soviet bloc countries in 2004. The direction of EU policy is changing from one emphasizing Atlantic cooperation to one that takes account of wider European expansion, and in the process the EU is becoming a dominant power in Eastern Europe. The EU signed trade and cooperation agreements with almost all Eastern European states even before their membership became a reality, and investment loans and food aid were made readily available. The inclusion of Eastern European states within the EU, and EU involvement in Central and Eastern Europe, have served to focus EU interest and foreign policy in that direction. The union is no longer led by a small group of Western European countries, and no longer dominated by the relationships among France, Germany, and Britain.

The enlargement of the EU should bring significant benefits to existing member states as well as to new ones. The addition of new, rapidly growing economies and a rise in population of over 100 million are expected to stimulate employment and economic growth. European integration is being extended through widened cultural diversity. Social policy will be extended eventually to those sections of European society most in need of assistance. With the addition of the poorer East European states, the short-term burden of economic stability will fall on the established members, especially since some of the new members depend heavily on inefficient agrarian economies. The EU gross domestic product increased by only about 4 percent with the addition of the ten new members. But with the underlying EU principle of freedom of movement, the crisis will come with the westward migration of cheap Eastern European labor and those seeking an instant improvement in social and working conditions. The existing health and social services structure will struggle to cope with the influx. The recent failure to ratify the European Constitution is a major setback to the efforts of the EU to move towards greater political and social unification.

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See Also Economic Integration; European Economic Area (EEA); North American Free Trade Agreement (NAFTA); Organisation for Economic Co-operation and Development (OECD)

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Franc Zone

At present the Franc Zone consists of France; its overseas departments, territories, and territorial communities, including Mayotte, Saint Pierre et Miquelon, Monaco, and the Comoros; and the countries of two African monetary unions. Membership in the Franc Zone has not remained constant over the years of its existence. Initially, the zone consisted of France and its colonies. In the nineteenth century, it consisted of France, the Sarre, Monaco, and French colonies around the world. As the former colonies achieved independence, on different dates over several years, some chose to leave the zone. In 1954, the three states of the former French Indochina, Cambodia, Laos, and Vietnam, left the zone after four years of participation. The Maghreb countries soon joined them in exiting the zone, with Tunisia and Morocco leaving shortly after independence in 1958 and 1959, respectively. Algeria left in 1963.

The Franc Zone persisted in Africa. With the independence of African countries in the 1960s, only Guinea, under Sekou Toure, and Mali, under Modibo Keita, opted to create their own currencies and abandon participation in the West African Monetary Union (Union Monétaire Ouest-Africaine, UMOA) that united the other countries of the former French West Africa. Mauritania left the UMOA in 1972, but Mali eventually returned in 1984. Guinea-Bissau joined in 1997. In Central Africa, no country left the zone, and Equatorial Guinea joined in 1985.

In Africa, the Franc Zone is divided into two distinct groupings. The West African countries are members of the West African Economic and Monetary Union (WAEMU, or Union Economique et Monétaire de l'Afrique), whereas the Central African countries are members of the Central African Economic and Monetary Community (Communauté Economique et Monétaire de l'Afrique, CEMAC). WAEMU members include Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo. Members of CEMAC include Cameroon, Central African Republic, Chad, Congo Brazzaville, Equatorial Guinea, and Gabon. The monetary system, which operates via two central banks, the Central Bank of West African States (Banque Centrale de l'Afrique de l'Ouest, BCEAO) for WAEMU and the Bank of Central African States (Banque des Etats de l'Afrique Centrale, BEAC) for CEMAC, has no equivalent elsewhere.

The CFA franc is used by more than 80 million people in West and Central Africa. The currency was created by France for use in its African colonies as early as 1939, but it only became widely implemented on December 26, 1945, the date when France ratified the Bretton Woods Agreement and made its first declaration of parity to the International Monetary Fund (IMF). At the time of its institution, CFA stood for Franc des Colonies Françaises d'Afrique (Franc of the French Colonies of Africa). In 1958, it came to stand for Franc de la Communauté Financière d'Afrique (Franc of the African Financial Community). Today the acronym stands for Communauté Financière Africaine in the WAEMU and for Cooperation Financière en Afrique Central in the CEMAC.

The Franc Zone supports an agenda of currency cooperation between France's Ministry of the Treasury and the fourteen African member states. It was developed to facilitate the transfer of funds; the conversion of currency at a fixed rate; and the centralization of all monetary reserves of the African countries in the French Treasury. Proponents argue that this provides members with three primary advantages: an increased degree of currency stability, which encourages decreased rates of inflation; a direct channel for foreign trade; and increased interdependence among African member countries.

Under the arrangement, African state members of the Franc Zone surrendered the management of their foreign exchange reserves to the French Treasury in exchange for convertibility of the CFA franc. A single currency was maintained, but trade barriers were erected between countries and the single market of colonial times was dismantled. Thus, the CFA money supply was primarily based on the volume of trade between France and its African partners.

For half a century, the zone was characterized by stable rules of function that were subject only to limited adjustments. Three primary features marked the monetary and exchange rate regime for CFA francs. The currencies, which were issued by the two multinational central banks in Africa, maintained a fixed and adjustable rate defined first in French francs and more recently in euros. Their convertibility was guaranteed by France through an operational account opened by the French Treasury in the name of the African central banks of the zone.

The African countries of the Franc Zone agreed to deposit 65 percent of their foreign exchange reserves in this operational account within the French Treasury in exchange for France's guarantee of the CFA franc's convertibility. They also granted France a veto over the monetary policy of the Franc Zone's monetary policy whenever this special account was overdrawn. Critics suggest that this relationship has had dire consequences for African Franc Zone members over the past half-century.

The Franc Zone benefited France by providing a broad market for its products, a regular supply of inexpensive raw materials, political influence, a strategic military presence in Africa, and allies in international arenas. In addition, a great share of local savings was transferred to France. Critics contend, however, that in return African countries have been hampered by weak trade performance, tight money, high interest rates, large-scale capital flight, and massive debt repayments that prevent investment in health, education, housing, food production, training, and industry.

Over the course of its existence, the Franc Zone has transformed from a protective zone in the 1950s, practicing strict exchange control for the French franc along with import quotas for countries outside of the zone, to an instrument in opening African countries to foreign trade. From independence to the mid-1980s, the Franc Zone members showed positive economic results encouraged by rising prices for raw materials and the results of a weak French franc. The Franc Zone showed satisfactory real gross domestic product (GDP) growth in the immediate postindependence period by comparison with other sub-Saharan countries.

With the move to floating international exchange rates in 1973, and the resulting instability of exchange rates for major world currencies, the Franc Zone provided African member countries with a relatively stable exchange rate in relation to their primary trading partners. This partly explains why the economies of African countries of the Franc Zone were relatively more open than other African economies in the 1960s and 1970s. Between 1975 and 1985, average annual real GDP growth in the CFA Franc Zone rose to 4.6 percent.

Throughout the 1980s, African Franc Zone countries were subjected to structural adjustment programs, under the IMF and World Bank, directed toward addressing deficits in balance of payments and public finances. Between 1985 and 1993, the Franc Zone experi-

enced a period of deep crisis, sparked by the decline in raw materials prices beginning in 1976, and extended by France's strong franc policy begun in 1985. Traditional exports, especially cacao, coffee, cotton, and oil, fell into deficit, and revenue from export taxes dwindled. At the same time, the appreciation of the French franc led to price increases on imports. Currency reserves for African members decreased regularly until France intervened as a lender of last resort.

Between 1986 and 1993, budget deficits moved from an average of 5 percent of GDP to 7.4 percent of GDP. Governments responded by pursuing internal adjustments, such as wage restraints, tax increases, and price guarantees for farmers, rather than external adjustments such as altering the CFA franc/French franc exchange rate. Beginning in 1988, capital flight became a major and ongoing problem. Anticipation of devaluation, in 1993, amplified this particular situation.

Prior to January 1994, adjustments were achieved primarily through budgetary policies rather than devaluation, an often difficult process given that with a monetary union such policies required the agreement of all member governments. Successive devaluations of the French franc and the appreciation of the dollar in the early years of the 1980s assisted the implementation of this strategy. In the second half of the decade, the situation of the African Franc Zone countries deteriorated considerably.

In preparation for participation in the European monetary union, the French government tied the franc to the German mark. This led to an appreciation of the CFA franc against the dollar and against several European currencies. At the same time, the terms of exchange for African Franc Zone members suffered a dramatic deterioration resulting from the decline of international market prices for their primary export products. This occurred at a time when industrial products from Franc Zone countries in Africa were competing with products from neighboring countries that had experienced massive devaluations of their currencies. This encouraged a reversal of the growth seen in previous decades as exports in the zone failed to keep up with those of other African countries.

Unwilling to finance public deficits in the zone, France requested intervention by the IMF and the World Bank, which demanded a devaluation of the CFA franc as a precondition for the granting of any aid. In January 1994, the CFA franc experienced a devaluation of 50 percent, and the Comoran franc was devalued by 33 percent. The rate of exchange had remained fixed for forty-eight years.

It has been noted that, though currency devaluation is a common phenomenon in much of Africa, this move was specifically intended to send African leaders a message that France was adopting a new and potentially more disciplinary and stringent stance toward economic management. France threatened to slash the aid to any country that did not adopt the devaluation. At the time of devaluation, only Côte d'Ivoire had been able to prepare any studies dealing with the possible economic effects of devaluation. The IMF, along with the World Bank and especially the U.S. State Department, had long been pressing both France and the African Franc Zone states to devalue the currency. The devaluations of the CFA franc were primarily payments-improving, unlike devaluations in Anglophone Africa, which were trade-liberalizing. Devaluation has typically been used, owing to inflationary consequences, to change the real value of debt and wage contracts, especially to reduce real wages in those sectors where nominal wages were not decreasing.

The devaluation of the CFA franc was only accepted by African heads of state under the joint pressures of the IMF and the French government. This led some African member governments to question France's commitment to the Franc Zone and caused some doubt about the future of the zone. Indeed, the devaluation of the CFA franc had a devastating effect on the economies of the African countries. It resulted in deteriorating economic conditions leading to

rising unemployment and skyrocketing prices. The devaluation also provided an opportunity for foreign investors to benefit from a widespread privatization of state assets. Under the auspices of the IMF and the World Bank, lucrative sectors, including energy, water supplies, telecommunications, and banks, were privatized at very low prices to Western companies.

At the time of devaluation, the Franc Zone countries in Africa decided to develop the two monetary unions into economic and monetary unions. These economic unions included three main planks: the gradual implementation of a common market; multilateral monitoring of public finance, accompanied by harmonized tax policies; and the institution of regional policies. Recently countries of western Africa have expressed intentions to develop a broad monetary union integrating the countries of the Economic Community for West African States (ECOWAS) and the members of WAEMU.

At the beginning of 2002, the Franc Zone was faced with a major change as the French franc was replaced by the euro. The CFA franc became pegged to the new European currency. The exchange rate against the euro was automatically determined under this substitution. Because the exchange rate between the euro and the French franc, one euro for 6.55957 francs, was fixed by the Council of the European Union on December 31, 1998, and because the CFA franc was exchanged at the rate of 100 CFA francs for one French franc, the fixed rate of the CFA franc became one euro for 655.957 CFA francs.

At the time of adoption of the Maastricht Treaty in 1993, the French government asserted that the monetary arrangements of the Franc Zone could not be affected because the French Treasury, rather than the Banque de France, guarantees the convertibility of the CFA franc. This was in keeping with Article 109, paragraph 5, of the treaty, which affirms that member states of the European Union retain the right to conclude international agreements where they do not contravene the economic and monetary agreements of the EU.

France's relations with the Franc Zone countries was not dealt with in the Maastricht Treaty, but the treaty did provide for the possibility of monetary and foreign exchange arrangements with third countries through Article 109 (3). On July 1, 1998, members of the Monetary Committee of the EU presented a recommendation allowing France to maintain the main features of its agreement with the Franc Zone. The reasoning for this recommendation was that the guarantee of convertibility of the CFA franc against the French franc was based on a budgetary commitment from the French Treasury without involvement from the Banque de France. The French Treasury would guarantee an unlimited convertibility of the CFA franc into euros without monetary implications for the Banque de France or the European Central Bank. Furthermore, the impact of the guarantee of convertibility of the CFA to the euro on monetary conditions in the euro area was judged to be limited, considering the relative sizes of the euro area and the Franc Zone.

While the CFA franc was pegged to the French franc, most investment in the zone was French. It is now expected that with the currency pegged to the euro, more investment will come from other European countries. In 1996, trade with the EU accounted for 51 percent of the total external trade of CFA Franc Zone countries. France's share stood at 25 percent. IMF estimates suggest that a 1 percent increase in euro area GDP impels an increase of the CFA franc countries' exports of 0.6 percent and an increase in GDP of 0.2 percent.

The maintenance of price stability in the euro area is expected to allow the Franc Zone to sustain relatively low inflation with positive impacts on the real exchange rate and on external competitiveness. In the longer term, proponents expect that the Franc Zone countries, because they mainly export primary commodities priced in U.S. dollars, will benefit from an expanded use of the euro in quoting prices on commodity markets. It is also expected that in the long term capital movements between the Franc Zone and the euro area, not

only France, will experience ongoing trade liberalization. This would be coupled with ongoing trade liberalization within the Franc Zone. Critics, however, suggest that this will be impelled through neoliberal macroeconomic policies and through the restructuring of domestic financial systems in ways that will not benefit local populations in the African member countries.

This transformation also made the admission of new countries into the Franc Zone more complex, since it required any potential candidate for entry to negotiate not only with France and the union to which it sought admission but also with the other states of the EU. Indeed, any change in the scope of the agreement, including the admission of new members, or in the character of the agreement, such as in the guarantee of convertibility of the African franc at a fixed rate, would require a decision of the Council of the European Union. France was given the responsibility of informing other EU members about the ongoing functioning of the zone.

Critics contend that the guarantee of the operational account both under the French franc and the euro has implied monetary and budgetary discipline that has negatively impacted the populations of Franc Zone countries. Proponents argue that the convertibility of currencies and the stability of exchange rates are essential to the development of external trade for African countries that do not otherwise have easy access to prospective markets. This is seen to be all the more promising with access to the European markets for industrial products. Proponents also argue that the guarantee of convertibility at a fixed rate provided by the operational account also buffers African Franc Zone countries, with primarily raw material exports, against violent external shocks that would impel a dramatic depreciation in exchange rates. Assumptions about positive growth and price effects are predicated on improved access of Franc Zone countries to European financial markets.

Political instability, matched with increasingly unfavorable terms of trade, the recent rise in the euro, and the ongoing threat of massive capital flight, have called into question the future of the Franc Zone. Overall, and crucially, the zone remains marked by increasingly impoverished populations and unfavorable trends in GDP. Lack of diversification in external trade, difficulties financing productive investment, and the amount of external debt remain crucial matters facing the zone. Trade has not encouraged growth in the zone, as it has consisted primarily of exports of unprocessed raw materials, subject to volatile prices, and imports of manufactured goods and services. The highly valued CFA franc has discouraged exports while encouraging imports of foodstuffs and manufactured goods. Rural areas and agriculture have not benefited from development programs, and major contributions to GDP from industry have come almost exclusively from oil.

Europe has taken in approximately 35 percent of the zone's exports while providing 45 percent of its imports. Trade within the zone has been consistently weak, representing less than 10 percent of total formal trade. The reliance on foreign markets is reflected in the banking system, which offers little toward addressing the development needs of local economies. The primary business of the banks remains the financing of the needs of international trade rather than investment.

The African countries of the zone suffer crushing debt burdens, which greatly limit budget policies and states' financing of growth. On average, the external public debt represents approximately 100 percent of GDP for African member countries, with the figure for Congo Brazzaville at approximately 200 percent of GDP and for Guinea-Bissau at more than 400 percent. The West African countries, including Côte d'Ivoire and the deeply impoverished Sahel countries of Mali, Burkina Faso, and Senegal, depend on exports of cotton and gold, as well as some light industrial production in Côte d'Ivoire. These countries have followed IMF programs of structural adjustment and have suffered years of economic pain.

The Central African countries are in a different position. Gabon, a major oil producer with a population of just over 1 million people, suffers from debt and budgetary problems exacerbated by dependence on petroleum. Cameroon accounts for half of the economic weight of the Central African part of the zone but has suffered an extended period of economic decline. Congo Brazzaville, an oil-dependent nation, has been the world's most indebted country per citizen and has suffered decades of civil war. Chad has few economic links with its neighbors in the monetary union. Terms of trade for the Central African countries plummeted by more than 20 percent with the collapse of oil prices in 1998.

There have been signs of an increasing gap between the economic developments of West and Central Africa. In the West African region in 1998, growth occurred at a rate of 5.1 percent, whereas Central African countries recorded growth of 4.3 percent. Both figures were lower than those for the previous year. Since 1999, the WAEMU has suffered a difficult period, in part because of the political and economic crises in Côte d'Ivoire. Successive coups in the country, which accounts for 40 percent of the zone's GDP, along with a decline in export prices for agricultural commodities and increases in the price of oil, have combined to reduce growth in the WAEMU. Conversely, the CEMAC, which includes oil-producing countries such as Cameroon, Chad, Congo Brazzaville, Equatorial Guinea, and Gabon, has experienced economic improvement due to the increase in oil prices. GDP growth in the WAEMU dipped to 0.8 percent in 2000, while the CEMAC saw growth reach 3.5 percent.

These large discrepancies lead some commentators to suggest that the two halves of the zone may not be able to remain together. Some have suggested that the fixed value of the currency is removed from reality and that either a split in the zone or another large devaluation will occur. Reliance on exports of primarily unprocessed raw materials, low levels of savings for financing the economy, and the possibility of increases in the value of the euro suggest ongoing obstacles to growth. The prospects of slow growth for the African members of the zone suggest to some that changes may occur in the agreements governing the zone. Recommendations have included allowing greater flexibility in the exchange rate, decoupling the two main groups in the zone, or undertaking both of these approaches at the same time.

Critics note that the policies of constraint in the name of price stability have been harsh for these extremely poor countries, which have experienced decades of depressed demand. The policies have meant that African Franc Zone countries have experienced a combination of factors fueling speculation and capital flight, including currency convertibility, growing interest rates, and low inflation. Others argue that the entire arrangement is a neocolonial anachronism. This is a sentiment that is beginning to find an audience in France.

Jeffrey Shantz

See Also Economic Integration; Common Market for Eastern and Southern Africa (COMESA); East African Community (EAC); East African Community (EAC); Economic Community of Central African States (CEEAC); Southern African Development Community (SADC)

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General Agreement on Tariffs and Trade (GATT)

The General Agreement on Tariffs and Trade (GATT) was the outcome of an international conference held in Geneva in 1947 with twenty-three countries as signatories (see Table 1). Established as part of the preparatory negotiations for an International Trade Organization (ITO) that would stipulate rules for freer and less discriminatory trade, it was intended to be merely a temporary treaty to serve until the ITO was implemented. But signatory countries, notably the United States, never ratified the ITO; thus, by default, the GATT became the basis on which successive rounds of negotiations were conducted (see Table 2). Hence, the GATT was not formally an international organization, but an intergovernmental treaty. Consequently, instead of member states, it had contracting parties. With no formal institutional structure and very little publicity, the GATT persisted in making a revolutionary demand upon the nation-state—to perpetually relinquish its sovereign right to raise tariff rates. The endurance of an international regime on such a basis, for so long, was without precedent (see Table 3).

The GATT was conceived as one leg of a tripod that was to manage postwar international economic relations. The International Monetary Fund (IMF) was assigned to repair the disintegration that had befallen the international monetary system prior to the war; the International Bank of Reconstruction and Development (IBRD, or World Bank) was to offer long-term capital assistance; and the GATT was intended to reverse the protectionist and discriminatory trade practices that had become widespread during the prewar years of the Great Depression.

The Great Depression and New Perspectives

During the Great Depression of the 1930s, tariff levels soared, reflecting the sentiment of economic nationalism after World War I. Countries expressed economic nationalism during the interwar period through protectionism, exchange controls, and competitive devaluation of national currencies. In the United States, Congress passed the Hawley-Smoot Tariff Act of 1930, establishing the highest tariff rates in the nation's history. By 1932, the average tariff rates on dutiable imports had reached almost 60 percent. Coupled with the economic depression of the time, the high trade barriers caused U.S. imports to decline sharply. Merchandise imports fell from $4.3 billion in 1929 to $1.3 billion in 1932. Also, exports fell as U.S. trading partners mounted retaliatory tariffs. Even the British, who had been the champions of free trade, passed an import duties act in 1932 that increased tariffs on goods imported from countries outside the British Commonwealth. In fact, more than sixty countries raised tariffs within two years.

The devastating experience of the early 1930s awakened many countries to the economic realization that trade is mutually beneficial. In the developed world, it was widely believed that the most important lesson of the 1930s was that peace, prosperity, and free trade

Table 1: GATT Participants, 2005

Country	Date	Country	Date	Country	Date	Country	Date
Angola	April 8, 1994	Egypt	May 9, 1970	Macau	January 11, 1991	Singapore	August 20, 1973
Antigua and Barbuda	March 30, 1987	El Salvador	May 22, 1991	Madagascar	September 30, 1963	Slovak Republic	April 15, 1993
Australia	January 1, 1948	Fiji	November 16, 1993	Malawi	August 28, 1964	Slovenia	October 30, 1994
Austria	October 19, 1951	Finland	May 25, 1950	Malaysia	October 24, 1957	Solomon Islands	December 28, 1994
Bahrain	December 13, 1993	France	January 1, 1948	Maldives	April 19, 1983	South Africa	June 13, 1948
Bangladesh	December 16, 1972	Gabon	May 3, 1963	Mali	January 11, 1993	Spain	August 29, 1963
Barbados	February 15, 1967	Gambia	February 22, 1965	Malta	November 17, 1964	Sri Lanka	July 29, 1948
Belgium	January 1, 1948	Germany	October 1, 1951	Mauritania	September 30, 1963	St. Kitts & Nevis	March 24, 1994
Belize	October 7, 1983	Ghana	October 17, 1957	Mauritius	September 2, 1970	St. Lucia	April 13, 1993
Benin	September 12, 1963	Greece	March 1, 1950	Mexico	August 24, 1986	St. Vincent & the Grenadines	May 18, 1993
Bolivia	September 8, 1990	Grenada	February 9, 1994	Morocco	June 17, 1987	Suriname	March 22, 1978
Botswana	August 28, 1987	Guatemala	October 10, 1991	Mozambique	July 27, 1992	Swaziland	February 8, 1993
Brazil	July 30, 1948	Guinea	December 8, 1994	Myanmar (Burma)	July 29, 1948	Sweden	April 30, 1950
Brunei Darussalam	December 9, 1993	Guinea Bissau	March 17, 1994	Namibia	September 15, 1992	Switzerland	August 1, 1966
Burkina Faso	May 3, 1963	Guyana	July 5, 1996	Netherlands	January 1, 1948	Tanzania	December 9, 1961
Burundi	March 13, 1965	Haiti	January 1, 1950	New Zealand	July 30, 1948	Thailand	November 20, 1982
Cameroon	May 3, 1963	Honduras	April 10, 1994	Nicaragua	May 28, 1950	Togo	March 20, 1964
Canada	January 1, 1948	Hong Kong	April 23, 1986	Niger	December 31, 1963	Trinidad & Tobago	October 23, 1962
Central African Rep.	May 3, 1963	Hungary	September 9, 1973	Nigeria	November 18, 1960	Tunisia	August 29, 1990
Chad	July 12, 1963	Iceland	April 21, 1968	Norway	July 10, 1948	Turkey	October 17, 1951
Chile	March 16, 1949	India	July 8, 1948	Pakistan	July 30, 1948	Uganda	October 23, 1962
Colombia	October 3, 1981	Indonesia	February 24, 1950	Papua New Guinea	December 16, 1979	United Arab Emirates	March 8, 1994
Congo, Rep. of	May 3, 1963	Israel	July 5, 1962	Paraguay	January 6, 1994	United Kingdom	January 1, 1948
Costa Rica	November 24, 1990	Italy	May 30, 1950	Peru	October 7, 1951	United States	January 1, 1948
Côte d'Ivoire	December 31, 1963	Jamaica	December 31, 1963	Philippines	December 27, 1979	Uruguay	December 6, 1953
Cuba	January 1, 1948	Japan	September 10, 1955	Poland	October 18, 1967	Venezuela	August 31, 1990
Cyprus	July 15, 1963	Kenya	February 5, 1964	Portugal	May 6, 1962	Yugoslavia	August 25, 1966
Czech Republic	April 15, 1993	Korea, Rep. of	April 14, 1967	Qatar	April 7, 1994	Zaire	September 11, 1971
Denmark	May 18, 1950	Kuwait	May 3, 1963	Romania	November 14, 1971	Zambia	February 10, 1982
Djibouti	December 16, 1994	Lesotho	January 8, 1988	Rwanda	January 1, 1966	Zimbabwe	July 11, 1948
Dominica	April 20, 1993	Liechtenstein	March 29, 1994	Senegal	September 1963		
Dominican Republic	May 19, 1950	Luxembourg	January 1, 1948	Sierra Leone	May 19, 1961		

Source: World Trade Organization, 2004.

Table 2: GATT Trade Rounds, 1947–1995

Name of Round	*Period & Number of Parties*	*Subject and Modalities*	*Outcome*
Geneva	1947 23 countries	Tariffs; item-by-item offer-request negotiations.	Concessions on 45, 000 tariff lines
Annecy	1949 29 countries	Tariffs; item-by-item offer-request negotiations.	5,000 tariff concessions; 9 accessions
Torquay	1950–1951 32 countries	Tariffs; item-by-item offer-request negotiations.	3,700 tariff concessions; 4 accessions
Geneva	1955–1956 33 countries	Tariffs; item-by-item offer-request negotiations.	Modest reductions
Dillon	1960–1961 39 countries	Tariffs; item-by-item offer-request negotiations, motivated in part by need to rebalance concessions following creation of the EEC.	4,400 concessions exchanged; EEC proposal for a 20 percent linear cut in manufactures tariffs rejected
Kennedy	1963–1967 74 countries	Tariffs; formula approach (linear cut), and item-by-item talks. Nontariff measures: antidumping, customs valuation.	Average tariffs reduced by one-third to 6 percent for OECD manufactures imports; voluntary codes of conduct agreed for all nontariff issues except safeguards
Tokyo	1973–1979 99 countries	Tariffs; formula approach with exceptions. Nontariff measures: antidumping, customs valuation, subsidies and countervailing duties, import licensing, product standards, safeguards, special and differential treatment of developing countries.	Average tariffs again reduced by one-third on average; agriculture and textiles and clothing subjected to rules; creation of WTO; new agreements on services, and TRIPs; majority of Tokyo Round codes extended to all WTO members
Uruguay	1986–1994 103 countries in 1986, but 117 as of end of 1993	Tariffs; formula approach and item-by-item negotiations. Nontariff measures: all Tokyo issues, plus services, intellectual property, preshipment inspection, rules of origin, trade-related investment measures, dispute settlement, transparency, and surveillance of trade policies.	

Source: Bernard M. Hoekman and Michel M. Kostecki, eds., *The Political Economy of the World Trading System* (Oxford: Oxford University Press, 2001), p. 101.

Table 3: From GATT to WTO: A Chronology

Date	*Events*
1947	The GATT is drawn up to record the results of tariff negotiations among twenty-three countries. The agreement enters into force on January 1.
1948	GATT provisionally enters into force. Delegations from fifty-six countries meet in Havana, Cuba, to consider the final draft of the ITO; fifty-three countries sign the so-called Havana Charter establishing an ITO in March.
1949	Annecy Round of tariff negotiations.
1950	China withdraws from the GATT. The U.S. administration abandons efforts to seek congressional ratification of the ITO.
1951	Torquay Round of tariff negotiations. The intersessional committee is established to organize voting by airmail ballot on issues concerning use of trade measures to safeguard the balance of payments. Germany (Federal Republic) accedes to the GATT.
1955	A review secession modifies numerous provisions of the GATT. A move to transform the GATT into a formal international organization fails. The United States is granted a waiver from GATT disciplines for certain agriculture policies. Japan accedes to the GATT.
1956	Fourth Round of MTNs is held in Geneva.
1957	Creation of European Economic Community.
1960	A council of representatives is created to manage day-to-day activities. The Dillon Round is started (concluded in 1961).
1961	The Short-Term Arrangement permitting quota restrictions on exports of cotton textiles is agreed upon as an exception to the GATT rules.
1962	The Short-Term Arrangement becomes the Long-Term Agreement on cotton textiles. It is renegotiated in 1967 and extended for three years in 1970, then replaced by the Multi-Fiber Agreement (MFA) in 1974.
1964	The Kennedy Round begins (concluded in 1967).The United Nations Conference on Trade and Development (UNCTAD) is created to press for trade measures to benefit developing countries.
1965	Part IV (on Trade and Development) is added to the GATT, establishing new guidelines for trade policies of—and toward—developing countries. A Committee on Trade and Development is created to monitor implementation.
1967	Poland becomes the first centrally planned country to accede to the GATT.
1973	The Tokyo Round is initiated (concluded in 1979).
1974	The Agreement Regarding International Trade in Textiles, better known as the Multi-Fiber Agreement (MFA), enters into force, restricting export growth to 6 percent per year. It is negotiated in 1977 and 1982 and extended in 1986, 1991, and 1992.
1982	A GATT ministerial meeting—the first in almost a decade—fails to agree on an agenda for a new round. A GATT work program is formulated with a view to establishing an agenda for a new MTN.
1986	The Uruguay Round begins (concluded in 1994).
1988	A GATT ministerial meeting to review progress in the Uruguay Round is held in Montreal in December. The mid-term review is completed only in April 1989.
1990	Canada formally introduces a proposal to create a Multilateral Trade Organization that would cover the GATT, the GATS, and other multilateral instruments agreed upon in the Uruguay Round. A ministerial meeting is Brussels fails to conclude the Uruguay Round.
1993	In June, the U.S. Congress grants fast-track authority to the U.S. administration—under which it cannot propose amendments to the outcome of negotiations—setting a December 15 deadline for talks to be concluded. The Uruguay Round is concluded on December 15 in Geneva.
1994	In Marrakech, on April 15, ministers sign the Final Act establishing the World Trade Organization (WTO) and embodying the results of the Uruguay Round.
1995	The WTO enters into force on January 1.

Source: Bernard M. Hoekman and Michel M. Kostecki, eds., *The Political Economy of the World Trading System* (Oxford: Oxford University Press, 2001), pp. 39–41.

were inextricably linked. The GATT's guiding principles reflected the prevailing liberal consensus on free trade as a generator of world prosperity and as conducive to stable peace. As early as 1934, America took steps in the direction of free trade with the Reciprocal Trade Agreements Act. Secretary of State Cordell Hull offered to reduce American tariffs in exchange for equivalent concessions from its trading partners. Any such reduction would be extended to other countries enjoying most-favored-nation (MFN) treatment by virtue of preexisting trade treaties. With the United States moving into a position of leadership and the declining role of Great Britain, the global trading order changed shape. Whereas Britain had sustained a policy of unilateral free imports regardless of its trade deficit, the United States would seek contractual and reciprocal freeing of trade.

The GATT borrowed two elements from the model laid out by U.S. tariff bargaining, reciprocity and MFN treatment. In the preamble, the contracting parties to the GATT agreed to enter into reciprocal and mutually advantageous arrangements directed toward the substantial reduction of tariffs and other barriers to trade and to the elimination of discriminatory treatment. These two basic principles—MFN treatment and reciprocity of concessions—were further specified in Article I and Article XXVIII (see Table 4).

Postwar Planning and the GATT

Soon after the entry of the United States into World War II, talks were started between the United States, the rising power, and Britain, the declining power, on trade and monetary collaboration to be conducted after the war. In the backdrop was the Keynesian revolution, which had led to an acceptance at the national level of two related ideas: that market forces were not automatically self-regulating, and that certain forms of government intervention were therefore required from time to time. Concurrently, it was also conceded at the international level that government management was necessary; disagreement was confined to the extent of such intervention, not whether it was called for. It was widely accepted by both sides that the collapse of the 1930s was largely due to the lack of international consultative mechanisms, which had left economic affairs at the mercy of unregulated market forces.

The postdepression era paved the way for fundamental changes in the international trade and monetary system. In this context, the aim of the Bretton Woods Agreements was to reestablish by international agreement a reasonable reproduction of the gold-standard system, that is, the conditions for an international system that would secure the combination of currency convertibility, capital mobility, and free trade. Three major institutions—the IMF, the World Bank, and the ITO—were planned to achieve this objective. They were also to be given powers of multilateral surveillance to ensure that rules were not capriciously breached. It was thought that with multilateral surveillance, a reenactment of the collapse of the 1930s could be averted.

The first two institutions were created as a result of the conference held at Bretton Woods, New Hampshire, in 1944. There, the signatories undertook to maintain the interconvertibility of their currencies and to refrain from competitive devaluations and from bilateral currency arrangements that would discriminate among trading partners in current transactions. The appropriate financial arrangements were thus laid out for multilateral trade and free exchange to develop. Commercial policy, however, was not directly involved, and negotiations on this particular issue went much more slowly. There were two reasons for this: differences in the British and American views, and internal differences within each government. In the United States, the more ardent free-traders in the Department of State, inspired by Cordell Hull's global vision, confronted sectoral interests in the Department of Agriculture as well as in Congress.

Table 4: Major GATT Articles

Article	Summary
I	General MFN requirement.
II	Tariff schedule (binding).
III	National treatment.
V	Freedom of transit goods.
VI	Allows antidumping and countervailing duties. Superseded by the GATT 1994 Agreement on Antidumping and the Agreement on Subsidies and Countervailing Measures.
VII	Requires the valuation of goods for customs purposes be based on actual values.Superseded by the GATT 1994 agreement on the implementation of Article VII.
VIII	Requires that fees connected with import and export formalities be cost based.
IX	Reaffirms MFN for labeling requirements and calls for cooperation to prevent abuse of trade names.
X	Obligation to publish trade laws and regulations; complemented by the WTO's Trade Policy Review Mechanism and numerous notification requirements in specific WTO agreements.
XI	Requires the general elimination of quantitative restrictions.
XII	Permits trade restrictions if necessary to safeguard the balance of payments.
XIII	Requires quotas to be administered in a nondiscriminatory manner.
XVI	Establishes the GATT 1947 rules on subsidies.
XVII	Requires that state trading enterprises follow MFN.
XVIII	Allows developing countries to restrict trade to promote infant industries and to protect the balance of payments.
XIX	Allows for emergency action to restrict imports of particular products if these cause serious injury to the domestic industry.
XX	General expectations provision—allows trade restrictions if necessary to attain noneconomic objectives (health and safety).
XXI	Allows trade to be restricted if necessary for national security reasons.
XXII	Requires consultations between parties involved in trade disputes.
XXIII	GATT's main dispute-settlement provision, dealing with violation or nonviolation complaints.
XXIV	Sets out the conditions under which the formation of free trade areas or customs unions is permitted.
XXVIII	Allows for renegotiation of tariff concessions.
XXVIII	Calls for periodic MTNs to reduce tariffs.
XXXIII	Allows for accession.
Part IV	Calls for more favorable and differential treatment of developing countries.

Source: Bernard M. Hoekman and Michel M. Kostecki, eds., *The Political Economy of the World Trading System* (Oxford: Oxford University Press, 2001), pp. 146–147.

Negotiations for the International Trade Organization began in 1946. Successive conferences took place from 1946 to 1948 in London, New York, Geneva, and Havana. The final version of the ITO Charter was drawn up in Havana in March 1948, but it never came into effect. The initial proposal for the ITO was largely conceived by Department of State officials; however, anticipating a strong rebuff, President Harry S. Truman never submitted it to Congress for ratification. In fact, only two countries, Australia and Liberia, ever ratified it.

In 1947, President Truman was determined to use his congressional power to negotiate under the Reciprocal Trade Agreements Act, which had been renewed in 1945 for a period of three years. This law authorized the president to reduce import duties by up to 50 percent in return for equivalent concessions by other countries. The administration proposed to negotiate such trade agreements simultaneously and to embody them in one multilateral treaty. The General Agreement on Tariffs and Trade was drawn up as the general framework of rights and obligations for the twenty-two countries—of which nine were less developed countries (LDCs)—participating in tariff negotiations sponsored by the United States. The GATT came into being before the Havana Conference but in accordance with the draft ITO Charter that was being discussed. It was originally envisaged as the first of a number of agreements that were to be negotiated under the auspices of the ITO. When it became clear that the Havana Charter would not be ratified by the United States, the General Agreement became, by default, the underpinning of an international institution.

Thus, the GATT is not technically an organization of which countries become members, but a treaty with contracting parties. Nevertheless, it has assumed the commercial policy role that was planned for the ITO, without incorporating the wider provisions of the Havana Charter on restrictive business practices, commodity agreements, economic development, and full employment policies. It mainly deals, instead, with the reduction of tariffs on trade in manufactures.

Fundamental Principles of the GATT

Although the text of the GATT is highly technical, consisting of thirty-eight articles covering everything from MFN treatment in tariff concessions to details about quotas, subsidies, and other trade policies, its broad outlines are simple enough. In essence, the GATT contains three fundamental principles regulating trade policy.

The first principle is that trade should be concluded on the basis of nondiscrimination. Accordingly, contracting parties are bound by the most-favored-nations clause in the application of import and export duties and changes in their administration. In addition, the use of import quotas is permitted under the rules, but these are to be administered on a nondiscriminatory basis. Any departure from these fundamental rules is hedged with conditions and safeguards. Thus, countries may protect themselves against unfair competition—for example, dumping and export subsidization—by implementing measures limited to imports from the countries employing the unfair methods, but the conditions under which such measures can be taken are strictly limited and defined. When countries are compelled to restrict the volume of imports in order to safeguard foreign exchange reserves, the strict application of the rules of nondiscrimination might lead to a greater degree of discrimination than the financial situation in fact requires. Here again—but within narrow limitations and subject to international consultation—the rule of nondiscrimination is relaxed. However, the MFN clause is also qualified so as to permit contracting parties to enter into genuine customs unions and free trade areas, the purpose of which is to facilitate trade between the constituent territories and not to raise barriers, and a series of criteria is laid down designed to ensure that arrangements are "trade creating" and not "trade diverting."

The second major principle is that protection should be afforded to domestic industries exclusively through customs tariffs and not through other commercial measures. Thus the use of import quotas as a means of protection is explicitly condemned. The use of import quotas for other purposes—notably to safeguard the balance of payments—is governed by a formidable series of criteria and conditions, coupled with procedures for consultations. There are also numerous provisions designed to prevent the use of administrative techniques as a means of protection additional to the tariff, as well as provisions designed to prevent the use of subsidies as a means of obtaining unfair advantages in export markets or as a means of hampering imports.

The third principle is inherent throughout the GATT. The sum total of detail rules, which are built around the basic framework, constitutes a code that is voluntarily accepted by GATT contracting parties to govern their trading relationships. The importance of this code can be measured by the fact that it is accepted and applied by forty-two countries whose foreign trade accounts for some 85 percent of the total volume of world trade. Among the twenty-three founding parties of the GATT, nine were LDCs. GATT participants are drawn from all parts of the world, and have interests as diverse as their geographical locations, but most of them are united in the conviction of the beneficial effects of expanding world trade on an orderly basis.

GATT's Operational Structure

When discussing the basic principles and mechanisms of the GATT, it is important to consider that it operates on two interrelated levels. On the first level, the GATT brings together a body of principles. It is an international, contractual agreement by which each signatory commits itself to treat all other signatories according to the MFN standard. On the second level, the GATT is a forum where countries negotiate tariff reductions according to the legal framework provided by the agreement. GATT countries are not required to abolish the tariff automatically; rather, tariffs are the negotiable item. Countries make specific agreements to reduce particular tariffs in exchange for a reciprocal reduction from a trading partner. In the absence of such an agreement, a contracting party is not obliged to make a reduction.

The key component of the General Agreement is the MFN clause, which imposes on the contracting parties the obligation to grant each other equality of treatment. The MFN clause was specifically designed to outlaw preferential arrangements, and as a corollary, to prevent the struggle to obtain and secure such arrangements. The widespread use of discriminatory trade and currency arrangements was believed to have contributed to the political tension of the prewar era, and consequently, to war. The GATT expressed the belief that a liberal trading system would convert competition aimed at controlling territories into competition for price. If every country undertook to apply the same tariff to all its foreign suppliers, competition for markets would be open but confined to prices; it would therefore contribute to economic efficiency rather than leading to economic warfare. Many of the proponents of the GATT and intellectuals of the postwar economic order believed that there was a link between free trade and the possibility of international peace.

Besides regulating competition in the international market, the GATT also aimed to regulate the methods and mechanisms by which a country could protect its domestic producers from international competition. In theory, countries were supposed to have no other form of protection but tariffs. Being the sole legal device, tariffs are also, in principle, the sole negotiable item in the GATT. Protection through nontariff measures (NTMs), such as import quotas, was to be banned. No provision was therefore made for negotiations to reduce NTMs. Furthermore, a new class of provisions

was added in 1964 to incorporate some of the innovations that LDCs had lobbied for. These provisions were brought together under Part IV. The core provision of this part was that LDCs would no longer be required to offer reciprocity in tariff negotiations.

In contrast to the IMF and the World Bank, which operate under a system of weighted voting, in the GATT each country is entitled to only one vote. Voting rules vary according to the subject under discussion. An amendment to Part I (containing the obligation to grant MFN treatment) and to Articles XIX (safeguard action in imports) and XXX (amendments) can only be passed if it is unanimously agreed upon. Amendments to other parts become effective once they have been accepted by a two-thirds majority, but are only effective among those who have agreed to them. This highlights the contractual rather than mandatory nature of the GATT. Equally, a two-thirds majority is required to grant a waiver to a government wanting to take measures that are incompatible with its obligation—for example, an import surcharge. All other decisions are taken by a majority of votes cast (Article XXV).

The accession of a new GATT country requires a two-thirds majority vote. No one country can exercise the power of veto. Majority rule was preferred over unanimity to obviate a situation in which the accession of a country might be impeded by a GATT country with little interest in the proposed country's market or by one competing with it. However, GATT signatories that have not assented to the accession of a particular country are not obliged to apply the provisions of the agreement vis-à-vis the new participant (Article XXXV). In other words, countries are not forced to grant equal treatment to all participating countries, although this is the desired end result.

The GATT's core function is to arrange periodical conferences, or "rounds," at which the participants bargain for mutual concessions. In the early stages, there were no provisions for secretariat services; the secretariat was provided by the Interim Commission of the ITO, which was made available to the GATT by the United Nations in 1952. A Committee for Agenda and International Business was formed in 1951 to exercise surveillance functions, and a Council of Representatives, with broader decisionmaking powers, replaced this committee in 1960. The Council of Representatives holds regular sessions concerned with the granting of waivers, the application of the GATT rules, the accession of new signatories, and general trade policy issues.

Altogether, these provisions aimed to establish as open and liberal a system as possible that would allow trade to increase global efficiency. The GATT aimed to codify this system, which was thought to be more realistic than absolute free trade. The founding GATT countries considered absolute free trade the first best policy but acknowledged that it would not be politically feasible to enforce it at all times or regardless of domestic employment levels. The GATT was regarded as a pragmatic compromise, a "second best" solution, by which domestic interests were offered some protection from the international market, but foreign suppliers would be allowed to compete for a share of the domestic market. With the creation of an appropriate institution, there would, moreover, be a framework for collective discipline. With such collective rules, it was hoped that the international trading system would strengthen in order to avoid strains similar to those of the 1930s, which had resulted in a scramble for self-protection.

The GATT adopted the traditional MFN principle of nondiscrimination with two innovations. The first innovation was that negotiations for tariff reductions in GATT take place simultaneously. The second was that these reductions are safeguarded against future rises. Whereas Article I ensures that tariff concessions are to be extended to all contracting parties, Article II provides future stability to these concessions. The agreed rates are "bound" and put together in "schedules" for each country. Once bound, the rates can only be raised following renegotiation with the country holding

the "initial negotiating rights" (Article XXVIII), that is, the country that has bargained and "paid" for the concession in the first place, as well as with those that might have become principle supplying countries since that time. Concessions thereby become the collective right of the contracting parties, regardless of which country has negotiated them. A contracting party that wishes to raise the bound tariff must be prepared to offer compensation or risk retaliation (Article XIX).

Given that legally bound tariffs are an integral part of the General Agreement, a new GATT country automatically benefits from the cumulative effect of all concessions negotiated prior to its arrival. The new country is therefore expected to pay an "entry fee" on accession, and it must enter into tariff negotiations with established contracting parties before becoming a full participant. The general thrust of activities in the GATT is to maintain a balance of concessions.

To ensure that all foreign suppliers would stand on equal footing in their competition for a part of the domestic market, the General Agreement only accepted the tariff as a legitimate device for safeguarding the domestic market. There was yet a second reason for the legitimacy of the tariff as opposed to quantitative restrictions. In the minds of those who had done most to initiate and push forward the GATT project, a strong dislike of quantitative regulation, as something inconsistent with, and inimical to, a self-adjusting price system, played a prominent part in the GATT formulation. The quantitative restrictions on trade were prohibited on the grounds that they allow discrimination among foreign exporters and, by predetermining the volume of trade, alter the "correct" price relations. In principle, they could only be applied in strictly limited, carefully defined circumstances.

A further provision designed to ensure nondiscrimination stipulated that once foreign goods passed the frontier, they would be ensured equal rights of competition with domestic goods. They were to be given "national treatment" (as defined in Article III), that is, they would not be subject to measures of a discriminatory nature, such as higher taxes, vis-à-vis those goods produced domestically.

The major trading countries were successful in putting these provisions into practice. Trade liberalization among them was accomplished through removal of quantitative restrictions, as convertibility of their currencies was restored, and through a series of multilateral trade negotiations under the GATT. The GATT has sponsored seven rounds of negotiations, following the pace set by U.S. trade legislation. In other words, the GATT is largely an international counterpart of U.S. tariff policy. Various rounds of negotiations have concentrated primarily on tariff reduction, but gradually, broader issues concerning the problems of LDCs and nontariff measures have come to the fore. During the Tokyo Round, for example, a whole series of codes on nontariff measures was negotiated and concluded, apart from the tariff reductions, and the improvement of some elements of the General Agreement in favor of LDCs was also discussed.

Overview of Negotiation Rounds

GATT principles have guided the trade policies of the major industrial countries since the late 1940s. By the early 1990s, eight rounds of negotiations on tariff reductions and other multilateral trade issues had been held. These rounds had achieved remarkable success in lowering trade barriers, and particularly in reducing tariffs. The rounds are named after the places at which they were launched or the people who were influential in launching them, though, with the exception of the early sets of negotiations, held in Annecy, France, and Torquay, United Kingdom, the actual negotiations occurred in Geneva, where the GATT Secretariat is based.

The following rounds have been concluded: the first Geneva Round (1947), the Annecy Round (1949), the Torquay Round (1950–

1951), the second Geneva Round (1955–1956), the Dillon Round (1960–1961), the Kennedy Round (1963–1967), the Tokyo Round (1973–1979), and the Uruguay Round (1986–1994) (see Table 2). The first five rounds dealt almost exclusively with tariffs. The first round in Geneva achieved substantial multilateral tariff reductions through some 123 bilateral agreements that were extended on a most-favored-nation basis to all participants. The total of 45,000 tariff concessions represented about half of world trade. Tariff reductions in each of the four bargaining rounds held during the following fifteen years were relatively minor. The Annecy Round, the second Geneva Round, and the Dillon Round each resulted in modest tariff reductions. The Torquay Round accomplished a 25 percent tariff reduction in relation to the 1948 level. Starting with the Kennedy Round, attention began to shift toward nontariff trade restrictions and to the problem of trade in agricultural products. The Kennedy Round achieved remarkable multilateral trade negotiations. Inspired by the Trade Expansion Act of 1962 under the John F. Kennedy administration, this round of bargaining resulted in average tariff reductions of 35 percent for industrial products. In addition, it included much broader country coverage, as countries such as Japan and West Germany acceded to the GATT.

The Kennedy Round dealt exclusively with the nontariff measures that were already covered by the GATT, but the Tokyo Round addressed policies that were not subject to GATT disciplines—for example, product standards and government procurement. Also, the Tokyo Round concluded with major countries agreeing to cut average tariffs by 35 percent for industrial products. The tariff reductions amounted to more than $155 billion in 1977. An important feature of the Tokyo Round was a first-time agreement to limit the growth of nontariff barriers. The negotiations produced codes covering several nontariff trade barriers that included subsidies and countervailing duty code, government procurement code, technical standards code, customs valuation code, and import licensing code. A failure of the Tokyo Round, however, was the inability of participating countries to agree on safeguards code. Safeguards are temporary measures, such as higher duties, quotas, and voluntary export restraints, used to protect industries threatened by imports. Agreement on a safeguards code is vital for free trade because governments are often pressured by protectionist interest groups to impose such temporary measures.

The trend set by the Tokyo Round continued in the Uruguay Round, which included trade in services, intellectual property, and rules of origin. This round of negotiations aimed to eliminate trade barriers and domestic subsidies in agriculture, remove barriers to trade in services, establish patents and copyright agreements, and eliminate restrictions on international investments. The Uruguay Round led to further liberalization of international trade, including not only tariff reductions but also the elimination of tariffs for certain product groups, the reintegration of agriculture trade and textiles and clothing into the trading system, and the expansion of GATT disciplines. The GATT 1994 embodies a series of agreements on specific issues—many of them renegotiations of Tokyo Round codes. Criteria for a new GATT allowed contracting parties to bypass the need to formally amend the GATT 1947 and at the same time to ensure that the results of the round were a single undertaking that applied to all. In 1995, the World Trade Organization (WTO) was established to oversee the function of the GATT, the General Agreement on Trade in Services (GATS), and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

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See Also Antidumping and Countervailing Duties; Nontariff Barriers; Protectionism; Tariffs; Technical Barriers to Trade; World Trade Organization (WTO); Copyrights and Intellectual Property

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Group of 8 (G8)

The Group of Eight (G8) is an informal gathering of world leaders who meet each summer, usually in June or July, to discuss and deliberate on matters of mutual interest and of global ramification. The member countries are Canada, France, Germany, Italy, Japan, Russia, the United Kingdom, and the United States. The European Union is also represented, by the leader of the country holding presidency of the European Council and the president of the European Commission in a given year.

Historical Overview

In 1975, at the invitation of French President Giscard d'Estaing, leaders of Italy, West Germany, Japan, the United Kingdom, and the United States had an informal gathering at the Château of Rambouillet, near France. The leaders discussed major world issues of the time, particularly the 1973 Arab-Israeli conflict and the ensuing oil crisis that had ravaged several world economies. Canada joined this exclusive group as the seventh member at the 1976 summit held in Puerto Rico. Russia began to participate in 1991, though not as a full member, and only after the main summit was concluded. It was allowed to participate fully at the 1998 Birmingham Summit after a consensus was reached among the G7 nations to admit it to the group.

G8 leaders currently do not plan to expand the number of countries formally accepted to the group; however, in recent years, tangible efforts have been made to invite other countries and institutions to participate on a limited basis to advance particular initiatives, especially the developing and least developed countries of Asia and Africa. For example, the Kananaskis G8 Summit of 2002 invited the leaders of five African countries to participate in developing a new initiative known as the New Partnership for Africa's Development (NEPAD). Unlike the United Nations and other international forums, the G8 Summit has no official language policy, as the summit meetings are basically consultative in nature. The heads of state and government who attend the meetings speak in their own native languages, with simultaneous translation into English and French for the worldwide audience.

The chair of the G8 rotates among the member countries. Recent summits have been chaired by France (2003), the United States (2004), and the United Kingdom (2005); upcoming summits will be chaired by Russia (2006), Germany (2007), Japan (2008), Italy (2009), and Canada (2010). The country holding the chair proposes the summit location, sets the agenda, and takes care of logistics and related matters. The chair is the host for the summit and acts as the chief spokesperson for the G8 for the year (January through December). Meetings of the foreign ministers and finance ministers of the eight countries are also held each year preceding the G8 summit meetings.

Table 1: Group of Eight Country Statistics

Country	*Area*	*Population*	*GDP*	*GDP per Capita*	*Exports*	*Imports*
Canada	9,984,670 sq km (3,854,083 sq mi)	32,207,113	$934.1 billion	$29,300	Chemicals, plastics, fertilizers, wood pulp, timber, crude petroleum, natural gas, aluminum	Machinery and equipment, crude oil, chemicals, electricity, durable consumer goods
France	547,030 sq km (211,154 sq mi)	60,180,529	$1.558 trillion	$26,000	Machinery and transportation equipment, aircraft, plastics, chemicals, iron and steel, beverages	Machinery and equipment, vehicles, crude oil, aircraft, chemicals
Germany	357,021 sq km (137,810 sq mi)	82,398,326	$2.16 trillion	$26,200	Machinery, vehicles, chemicals, food stuffs, textiles	Machinery, vehicles, chemicals, textiles, metals
Italy	301,230 sq km (116,275 sq mi)	57,998,353	$1.455 trillion	$25,100	Engineering products, textiles and clothing, motor vehicles, production machinery, chemicals, food, beverages	Chemicals, transport equipment, energy products, textiles and clothing, food, beverages, and tobacco
Japan	377,835 sq km (145,844 sq mi)	127,214,499	$3.651 trillion	$28,700	Motor vehicles, semiconductors, office machines, chemicals	Machinery and equipment, fuels, foodstuffs, chemicals, textiles, raw materials
Russia	17,075,200 sq km (6,591,027 sq mi)	144,526,278	$1.409 trillion	$9,700	Petroleum and petroleum products, natural gas, wood and wood products, metals, chemicals	Machinery and equipment, consumer goods, medicines, meat, sugar, semi-finished metal products
United Kingdom	244,820 sq km (94,501 sq mi)	60,094,648	$1.528 trillion	$25,500	Manufactured goods, fuels, chemicals, food, beverages, tobacco	Manufactured goods, machinery, fuels, food stuffs
United States	9,629,091 sq km (3,716,829 sq mi)	290,342,554	$10.45 trillion	$36,300	Capital goods, automobiles, industrial supplies and raw materials, consumer goods, agricultural products	Crude oil and refined petroleum products, machinery, automobiles, consumer goods, industrial raw materials

Note: Population figures are 2003 estimates. Gross domestic product (GDP) and GDP per capita are 2002 estimates.

G8 Initiatives

The 2003 G8 Summit: Weapons of Mass Destruction

At the 2003 G8 Summit held in Evian, France, a G8 declaration recognized the increased proliferation of weapons of mass destruction (WMD) and other dangers posing a real threat to global peace and security. The G8 member countries resolved to tackle the WMD issue individually and collectively, working both among themselves and with other partners, including the United Nations and its specialized agencies. The declaration stressed the role of international treaty regimes, such as Nuclear Nonproliferation Treaty (NPT), the Comprehensive Test Ban Treaty (CTBT), and the Vienna-based International Atomic Energy Agency (IAEA), and highlighted the need for concerted efforts to prohibit the use of chemical weapons.

In light of the events of September 11, 2001, the G8 nations endorsed a set of principles to prevent the spread of WMDs and other materials of mass destruction to terrorists and those who harbor them. In the regional sphere, the G8 nations expressed grave concern about North Korea's enrichment of processed uranium, its plutonium production, and its failure to comply with IAEA safeguards, urging North Korea to desist from threatening its neighbors, particularly Japan and South Korea. A similar request was made to Iran, asking it to sign and implement IAEA protocols without delay or conditions and to fully comply with its obligations under the NPT.

International Terrorism

In light of increasing recent incidents of international terrorism the world over, the G8 nations have reassessed counterterrorism methods and conducted capacity-building assistance measures. With this mission in place after the 2003 summit, they have focused on three main areas of counterterrorism activity: (1) measures denying terrorists any safe haven or sanctuary anywhere and ensuring that they are brought to justice quickly; (2) measures denying terrorists the means to commit terrorist acts (for example, preventing the financing of terrorism); and (3) measures bolstering domestic security and creating fail-proof mechanisms for crisis and disaster management. The G8 nations lent support to the United Nations Security Council's Counter-Terrorism Committee (CTC), including providing assistance in drafting and enforcing customs and border-control legislation, assistance in drafting and enforcing immigration laws pertaining to interstate travel and in streamlining procedures related to asylum/refugee status, and assistance in developing procedures for counterterrorism law enforcement. It was hoped by the G8 countries that these measures would curb acts of terrorism, stem illicit drug trafficking and other forms of organized crime, and assist countries in drafting counterterrorism legislation.

Through its Counter-Terrorism Action Group (CTAG), established in 2003, the G8 is committed to creating the necessary political will to fight terrorism around the globe and to coordinating capacity-building with other nations. In this context, the G8 nations have decided to provide funding, expertise, and training facilities for this purpose and to prioritize needs and expand counterterrorism capacities.

Public Health Issues

In the new millennium, global health crises have reached epidemic proportions. G8 nations, in partnership with developing countries, the private sector, nongovernmental organizations (NGOs), and other multilateral organizations, are determined to develop a proactive approach.

It was decided at the 2003 Evian Summit to fight diseases such as HIV/AIDS, tuberculosis, and malaria by initiating actions in such areas as institution building, human resource development, public-private partnerships, medical research, and promotion of public health at the microcommunity level. A Global Fund was also proposed to develop strategies for mobilizing all available resources in order to secure sus-

tainable, long-term financing for management of health-care goals. For fighting diseases mostly affecting developing countries, including those on the African continent, G8 nations agreed to encourage research for developing effective, affordable, and safe drugs and vaccines and other forms of treatment and care for these diseases. In this context, G8 nations welcomed the long-term commitment of pharmaceutical companies in providing essential medicines, particularly those relating to HIV/AIDS, tuberculosis, and malaria, at affordable and discounted prices. In a renewed commitment to eradicate polio, the G8 decided to provide additional funding of US$500 million at the Kananaskis Summit of 2002. Severe Acute Respiratory Syndrome (SARS) received attention from G8 nations at Evian, where it was decided to develop global collaboration in containing the disease through disease surveillance; laboratory, diagnostic, and research efforts at various levels; and prevention, care, and treatment, working in close coordination with the World Health Organization (WHO) and other major health groups.

Water Policy

G8 nations are committed to developing an action plan on water because of its importance to public health and human security. In this context, emphasis was laid on promoting good governance and capacity-building to pursue a viable water policy and financial resources for the water and sanitation sector. In line with the World Summit on Sustainable Development (WSSD), convened by the UN, G8 nations gave high priority to ameliorating water and sanitation problems in developing nations. They expressed readiness in helping to mobilize domestic resources for water-infrastructure financing through the development and strengthening of capital markets and through encouraging financial institutions to consider such proposals liberally. Local water management systems in rural areas, sewage facilities in urban areas, and safe drinking water for all were given highest priorities. These matters were to be dealt with in part through a concerted effort geared toward empowerment of local communities and action groups. Apart from supporting water-monitoring capacity in partner countries, G8 nations also voiced support for enhanced collaboration in water-cycle research and other related efforts. G8 nations also encouraged coordination between the United Nations and the World Bank for streamlining the water sector.

Sustainable Development

G8 nations have recognized the need to support sustainable development around the world. At the 2003 summit, it was stressed that this could be achieved through cooperative efforts among various countries. These efforts, leaders agreed, should focus on cutting pollution, reducing greenhouse emissions, and finding other ways to address the onerous prospect of global climate change from an objective viewpoint. The discussion focused on three areas: (1) seeking cleaner, more sustainable, more efficient use of energy; (2) encouraging coordination of global observation strategies as they pertain to climate change and global warming; and (3) pursuing agricultural sustainability and productivity and the conservation of biodiversity resources. In accordance with the WSSD resolution, G8 nations also voiced support for promoting energy efficiency in the use of all types of resources and encouraged the diffusion of advanced, energy-efficient methods of pollution reduction as well as measures dealing with public procurement and the provision of economic incentives and information. It was also decided by G8 nations to develop a workable strategy to promote rapid innovation and marketing of clean technologies by working in unison with the Milan Conference of the Parties of the United Nations Framework Convention on Climate Change, the International Energy Agency, the UN Economic Convention for Europe, the Expert Group on Technology Transfer, and other entities.

G8 nations are committed to accelerating the development of fuel-cell and hydrogen-

related technologies (in transportation and power generation), working in close collaboration with industry to remove impediments to making fuel-cell-based vehicles at competitive prices; to developing internationally usable codes and standards in appropriate existing energy-related organizations; and to working toward cleaner, more efficient fossil fuel technologies. To achieve these objectives, it was decided at the Evian Summit to create a Global Environment Fund that could help finance energy-efficient, renewable, cleaner fossil fuel technologies and sustainable use of energy.

In the areas of agriculture and biodiversity, at the 2003 summit, the G8 nations agreed to support the International Treaty of Plant Genetic Resources for Food and Agriculture by conducting negotiations over an agreement for facilitating access to plant genetic resources for agricultural research. In this context, G8 nations are determined to contribute significantly to the Consultative Group for International Agricultural Research (CGIAR), the Global Forum for Agricultural Research (GFAR), and other North-South and South-South partnerships, with priority assigned to helping the rural poor of Asia and Africa. The expectation, from the G8 perspective, is that by promoting sustainable agricultural technologies and practices, famine can be prevented and productivity and nutrition enhanced. Recognizing the urgent need to tackle problems of food security, coupled with the need to address other structural problems, such as chronic poverty, the alarming rate of HIV/AIDS cases, poor governance, and economic mismanagement, the G8 nations at Evian 2003 created the G8 Africa Action Plan in support of the New Partnership for Africa's Development.

Since the 2002 Kananaskis Summit, G8 nations have provided US$3.3 billion in emergency assistance to mitigate Africa's pressing needs, including US$1.7 billion for sub-Saharan Africa. Another US$3.2 billion has been committed for long-term agricultural and food security assistance. Working in close collaboration with various governments in Africa as well as with UN relief agencies, nongovernmental organizations, and other entities that are part of the international community, G8 nations have instituted plans for improving the efficiency and timeliness of aid committed to Africa. For longer term initiatives to address food security problems in Africa, G8 nations have focused on core areas, such as rural and agricultural development, as well as ways to deal with poverty and national development, adopting a strategic approach that relies less on official development assistance and more on increasing trade opportunities for developing countries. By creating new, innovative agricultural policies at the national and regional levels, G8 nations hope to develop a climate of productive investment in agricultural infrastructure that will promote food crops and encourage improved agricultural technologies across the African continent.

Other Issues

At the Evian 2003 Summit, it was decided to develop models for promoting efficiency and transparency in the day-to-day governance of the developing countries of Asia and Africa through the use of new information technologies. In view of the impact and benefit of the computer on the information superhighway in the new millennium, emphasis was laid on promoting information and communications technologies to a wider global audience. At the 2000 Okinawa Summit, the potential of these technologies for enabling global economies, including those of developing countries, to expand, for enhancing public welfare in all sectors, and for promoting social bonds among people of different cultures was emphasized. In keeping with the process of globalization, and in the hope of bridging the digital divide, G8 nations decided to create a Digital Opportunities Task Force, in collaboration with the Global Digital Divide Initiative of the World Economic Forum and the Global Business Dialogue on Electronic Commerce. To maximize the benefits of IT and ensure that the new technologies are spread to one and all, including those with

marginal or no resources, G8 nations created the Okinawa Charter on the Global Information Society, which aims to bring the computer revolution to the developing world on an equitable and affordable basis. At the same time, G8 nations, aware of the limitations and rapid pace of IT and its potential negative impacts on global society, asked the task force to weigh carefully all the pros and cons of IT.

On the debt issue, G8 nations at Evian 2003 reaffirmed their commitment to the Heavily Indebted Poor Countries (HIPCs) Initiative that was launched at the 1999 Cologne Summit. At the 2002 Kananaskis Summit, the member countries pledged to pay up to US$1 billion to support this project and expressed satisfaction that twenty-six of the world's poorest countries were benefiting from debt relief. It was also decided to accelerate the HIPC process by asking the International Monetary Fund (IMF) and the World Bank to identify the specific needs in each of these poor countries and to make recommendations as to the areas that should take priority. In keeping with the commitment made during the Kananaskis Summit, the G8 nations pledged US$850 million to an HIPC Trust Fund and have asked official and commercial creditors to participate in this initiative. However, concern was expressed over the fact that a number of HIPC countries were being affected by military conflicts that prevented full implementation of debt relief and poverty reduction measures. Some countries, such as Benin, Bolivia, Burkina Faso, Honduras, Mauritania, Mozambique, Senegal, Tanzania, and Uganda, were recognized for their efforts in implementing the HIPC Initiative by assisting the poor and continuing to work toward economic reforms, whereas other countries were encouraged to work steadily to devise more effective methods of financial resource management and new, innovative poverty reduction strategies.

Cultural diversity is recognized by G8 nations as a source of social and economic dynamism that has the real potential of enriching human life in the twenty-first century. In this regard, the role of the United Nations Educational, Scientific and Cultural Organization (UNESCO) in celebrating diversity through creative expression was welcomed by the G8 nations. At the 2000 Okinawa Summit, the leaders stressed the need for increasing interaction and dialogue among peoples, groups, and individuals to bring greater understanding among various cultures of the world. Preservation and promotion of cultural heritage were also given high priority, as they help to enhance cultural diversity and to foster creative cultural interaction. Along these same lines, G8 nations pledged to support projects dedicated to protecting and preserving art and archeological objects in developing countries, as well as UNESCO's projects on Masterpieces of the Oral and Intangible Heritage of Humanity. For nurturing interest, understanding, and respect for diverse cultures, the G8 nations supported an initiative for a new kind of educational curriculum that fosters understanding among different cultures and encourages educational institutions to promote exchanges of students, teachers, researchers, and scholars so as to derive maximum benefit from the richness of culturally diverse peoples.

Toward a twenty-first century of deeper peace of mind, issues such as crime and drugs have been given due emphasis by the G8 countries. In this respect, G8 nations at the 2000 Okinawa Summit supported the United Nations Convention Against Transnational Organized Crime and related protocols on firearms, smuggling of migrants, and trafficking in persons, as well as the establishment of an effective legal framework against transnational organized crime (TOC). High-tech crimes, such as cyber crimes, now have the potential to seriously threaten security and confidence in the global information order, and hence meaningful dialogue with computer-related industries was mounted by G8 nations in the Okinawa Charter on Global Information Society in 2000. On drug trafficking and abuse, the G8 nations

supported the recommendation of the 1998 UN Special Session on containing the world drug problem as well as other regional initiatives to reduce both the supply and demand of drugs, with the ultimate aim of ending narcotics production and trafficking. G8 nations have also shown a commitment to combating the illicit diversion of precursor chemicals for the production of illegal drugs and to addressing the growing new threat from amphetamines and other synthetic drugs that could have a very devastating impact on the world's youth. Financial crimes, including money-laundering across and within national boundaries, were also perceived as a serious threat, especially to economic stability, and hence G8 nations, working in concert with other countries, instituted an action plan to put a dent in this menace. Enhanced investigation, prosecution of crime, and judicial cooperation were recommended to various groups for bringing about maximum punitive impact.

On regional issues, G8 nations at the 2003 Evian Summit voiced support for peace in Iraq and reconstruction of the war-torn country. It was hoped that Iraq would soon emerge as a fully sovereign, stable, and democratic country at peace with its neighbors. Similar support was also extended by the G8 nations to President Hamid Karzai's government in Afghanistan.

On the Israel/Palestine issue, at the 2003 summit the G8 expressed a hope that the Roadmap to Peace would bring about viable improvements in the Middle East, with Israel and a new state of Palestine existing side by side in peace and harmony with one another.

On North Korea, at the 2003 summit the G8 nations supported multilateral efforts by the countries of Asia to reduce tensions. At Evian 2003, the G8 opted to seek a comprehensive solution to the crisis over North Korean nuclear proliferation and other humanitarian issues, such as the abduction of Japanese nationals by North Korea, through dialogue and peaceful means.

2004 G8 SUMMIT

The 2004 G8 summit took place in Sea Island, Georgia, USA, June 8-10, 2004. A foundation had been laid at the Evian 2003 summit, during which the G8 leaders had recognized the dangers emanating from the proliferation of weapons of mass destruction and international terrorism as the pre-eminent threat to international peace and security. At the 2004 summit, G8 countries adopted an Action Plan on Nonproliferation to reinforce the global nonproliferation regime. This Action Plan enhanced and expanded ongoing efforts, such as the Proliferation Security Initiative (PSI), which included all G8 members, and the G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. The Action Plan addressed transfers of enrichment and reprocessing equipment and technologies, and took tangible steps to strengthen Vienna-based International Atomic Energy Agency (IAEA) and to counter bioterrorism.

The challenges faced by Africa were discussed in-depth at the Sea Island summit. These included vital issues of enormous significance to Africa such as armed conflict, HIV/AIDS, famine, and poverty. The G8 leaders made a commitment (a) to launch a G8 Action Plan on Expanding Global Capability for Peace Support Operations; (b) to initiate a G8 Action Plan on Applying the Power of Entrepreneurship to the Eradication of Poverty; (c) to endorse and establish a Global HIV Vaccine Enterprise to accelerate HIV vaccine development; (d) to take all necessary steps to eradicate polio by 2005; (e) to launch a new initiative on Ending the Cycle of Famine in the Horn of Africa, Raising Agricultural Productivity, and Promoting Rural Development in Food Insecure Countries; (f) to reaffirm commitment to fully implement and finance the Heavily Indebted Poor Countries (HIPC) initiative; and (g) to continue the pace of sustainable development by endorsing the Reduce, Reuse, and Recycle ("3 R's") Initiative.

On regional issues such as North Korea, the G8 leaders addressed the DPRK nuclear issue by supporting the Six-Party Talks as well as efforts made by all concerned parties to achieve a comprehensive solution by diplomatic means. They also discussed other security and humanitarian issues, such as the abductions of Japanese nationals.

2005 G8 SUMMIT

The 2005 G8 summit took place in Gleneagles, England, July 6-8, 2005.

The G8 leaders reaffirmed that the proliferation of weapons of mass destruction and their delivery systems, together with international terrorism, remain the scourge in today's world. As at the previous 2004 Sea Islands summit, the leaders reaffirmed their commitments and called on all states to uphold in full international norms on non-proliferation and to meet their arms control and disarmament obligations. Emphasis was laid on meeting proliferation challenges decisively, through both national and multilateral efforts. In this respect, the G8 leaders expressed particular concern about the threat of proliferation in North Korea and Iran.

On Africa, the G8 leaders agreed (a) to provide extra resources for Africa's peacekeeping forces so that they could deter, prevent and resolve conflicts in Africa more effectively; (b) to give enhanced support for greater democracy, effective governance and transparency, and to help fight corruption; (c) to boost investment in quality health and education, and to take concrete action in combating HIV/AIDS, malaria, TB, and other killer diseases; and (d) to stimulate growth, to improve proper investment climate and to make trade work for Africa, including by helping to build Africa's capacity to trade and working to mobilize the extra investment in infrastructure that is needed for a pro-business environment. The G8 leaders also agreed to double aid for Africa by 2010. It was also agreed that the World Bank should have a leading role in supporting the partnership between the G8, other donors, and Africa, helping to ensure that additional assistance was effectively co-ordinated and utilized. It was also agreed at the Gleneagles summit that all of the debts owed by eligible heavily indebted poor countries to the International Monetary Fund and the African Development Fund should be cancelled.

On regional issues, G8 leaders reconfirmed their commitment to the Partnership for Progress and a Common Future with the Region of the Broader Middle East and North Africa, based on genuine co-operation between the G8 and the governments, businesses, and civil society of the region.

The G8 leaders also reviewed the international relief operations of the tsunami disaster of December 26, 2004, that ravaged a vast number of countries along the Indian Ocean. The leaders underlined their support for UN work on post-tsunami humanitarian aid and reconstruction, as well as confirming their long-term commitment to reduce the risk from future disasters and to encourage reform of human security.

Mohammed Badrul Alam

See Also Global Economic Growth; Organisation for Economic Co-operation and Development (OECD); Conflict, Cooperation, and Security; Human Rights

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Gulf Cooperation Council (GCC)

The Gulf Cooperation Council (GCC) is an international organization composed of six states in the Persian Gulf region: Saudi Arabia, the United Arab Emirates (UAE), Qatar, Bahrain, Oman, and Kuwait. It exists to try to provide a more multilateral approach to international relations, trading, and economics. The organization was created in 1981, partly in response to the Islamic Revolution in Iran and the Iran-Iraq War, which in different ways highlighted security issues in the Gulf region and demonstrated the weakness of individual voices and the need for increased cooperation. The headquarters of the GCC are in Riyadh, Saudi Arabia.

The states of the Gulf region share a common geography and climate. They are hot and dry and possess few natural resources apart from the oil available to some. The GCC is dominated in terms of size, population, and overall income by Saudi Arabia, which has some 84 percent of the total land area of nearly 2.7 million square kilometers (1,042,476 square miles), 79 percent of the total population of 27.9 million people, and 55 percent of the total regional gross national product of $340,971 million. Further, Saudi Arabia is accorded considerable prestige by virtue of its being the birthplace of the Islamic religion. Its ruler is considered the protector of the Holy Places, and all Muslims of sufficient means are required to conduct a pilgrimage (the Hajj) to Mecca in the kingdom at some stage.

Of the other members, Qatar and Bahrain are small island states with little other than oil and international banking to support themselves, while Kuwait is still recovering from the Iraqi invasion of 1990–1991. Oman lacks oil and is therefore the poorest of the states. Only the UAE has sufficient population, wealth, and status to offer much balance to Saudi Arabia in the organization. The UAE's federal governmental structure offers a vision of future governance in an integrated region, but it could only be made to work if Saudi Arabia devolved into smaller political units, which would be anathema to the ruling royal family.

Although the GCC leadership likes to stress the homogeneous cultural and ethnic background of the region, this emphasis disguises some important differences among and within states, and these are intensified somewhat by the presence of large numbers of migrant workers in the region (many of whom remain resident for a number of years), who are often excluded from benefits of GCC policy decisions. The strong Islamic nature of the states involved has led to similarities in legal systems, but the degree to which those strictures are applied to non-Muslims varies. One common factor is the nondemocratic nature of the states; although democratization is slowly proceeding in, for example, Bahrain, free speech and open political debate are often still discouraged in the region either by decree or by custom. The lack of democratic influences is connected with other factors, such as the lack of recognition of organized labor movements, which means that the GCC states individually and collectively are unable to join groups such as the International Labour Organization (ILO); this, in turn, means that GCC states have fewer op-

portunities to participate in multilateral international discussions.

Relations among the member states and between member states and their near neighbors are not always harmonious. A particularly contentious issue is that of border demarcation, especially with reference to the various small islands in the Gulf. Disputes over territory are rendered more important by the possible presence of oil and the potential wealth that it represents. Border disputes often result from the imposition of artificial boundaries by colonial powers such as Britain, whose controlling influence was not removed from the region until the 1970s. The history of the region as one of small communities open to the outside world and engaging with it through trade and cultural exchange, combined with the harshness of the climate and the small size of its populations, has meant that spatial boundaries came to be considered as less important than mutual ties and obligations between and among rulers and their families and connections.

Creation of the GCC

The Iranian Revolution of 1979, in which a hereditary, pro-Western ruler, the Shah of Iran, was replaced by a theocratic Islamic state under the spiritual and political leadership of Ayatollah Khomeini, demonstrated an actual threat to the monarchs of the Gulf region. The outbreak of the Iran-Iraq War, in which Western powers mostly supported the secularist aggressor Saddam Hussein against the Islamic victim Iran, also illustrated instability in regional security. This conflict was complicated by a variety of cross-border ethnic and ideological conflicts of interest that led to Iranian reprisals on Kuwaitis, for example, who were considered to be too helpful in providing materiel to the Iraqi military. Creating a regional forum and organization in such a context meant providing an arena in which solidarity could be demonstrated and expressed. Meanwhile, aspects of economic and technical cooperation could be expected to promote even higher standards of living sufficient to take peoples' minds off violent struggle.

The GCC Charter

The charter establishing the GCC is composed of twenty-two articles that outline the organization's basic purpose, constitution, and methods of operation. The introductory rubric supplies the philosophical basis for the GCC by describing member states as:

> Being fully aware of the ties of special relations, common characteristics and similar systems founded on the creed of Islam which bind them; and
>
> Desiring to effect coordination, cooperation and integration between them in all fields; and,
>
> Having the conviction that coordination, cooperation, and integration between them serve the sublime objectives of the Arab Nation; and,
>
> In pursuit of the goal of strengthening cooperation and reinforcement of the links between them; and
>
> In an endeavour to complement efforts already begun in all essential areas that concern their peoples and realize their hopes for a better future on the path to unity of their States; and
>
> In conformity with the Charter of the League of Arab States which calls for the realization of closer relations and stronger bonds; and
>
> In order to channel their efforts to reinforce and serve Arab and Islamic causes. (Gulf Coooperation Council Charter 1981)

In other words, the organization exists both to achieve economic objectives, such as reducing transaction costs and boosting investment, and as a means by which cultural, technological, and environment protection links can be enhanced. However, perhaps more important is

the emphasis placed upon the notion of an Arab nation that is Islamic in character. It is clear that these concerns are at least in part a response to the dangerus international events outlined above and help provide a common purpose for Arab states. Subsequent consistent agitation on behalf of the Palestinian people, however much it may be informed by genuine feeling and belief, has served the same purpose of uniting people against a common enemy so as to deter questioning of domestic rulers. Nevertheless, the rise to importance of fundamentalist Islam has highlighted the tensions implicit in the establishment of an international organization embracing the tenets of Western forms of globalization and integration of markets and also maintaining a distinctive Arab Islamic character.

The GCC Charter further states "that the basic objectives are to effect coordination, integration and inter-connection between Member States in all fields, strengthening ties between their peoples, formulating similar regulations in various fields such as economy, finance, trade, customs, tourism, legislation, [and] administration, as well as fostering scientific and technical progress in industry, mining, agriculture, water and animal resources, establishing scientific research centres, setting up joint ventures, and encouraging co-operation of the private sector." This is a very wide-ranging charter that would require considerable detailed multilateral discussions among well-informed experts in a wide range of fields. Consequently, not all areas of the charter have been fully explored. The nondemocratic nature of most of the GCC states has meant that policy decisions may be taken very quickly but may therefore lack some popular and institutional support.

Structure and Objectives

The lead body of the GCC is the Supreme Council, which is composed of the heads of the member states and which meets annually (or more often for extraordinary sessions). This body determines substantive policy matters by unanimous vote or procedural issues by a simple majority of the six members (with four states representing a quorum). The presidency rotates among the heads of the states in an order determined by the position of each state's name in the Arabic alphabet.

The Supreme Council is supported by a number of administrative bodies, including the Consultative Commission, the Commission for the Settlement of Disputes, the Ministerial Council, and the Secretariat-General, which is composed of a number of bodies devoted to political and economic affairs, patents, delegation to the EU, and other matters.

An official communiqué describing the 83rd Ministerial Council Session, held in Jeddah, Saudi Arabia, on June 8, 2003, indicates which areas are receiving the most attention (GCC, Ministerial Council 2002). Economic aspects include proposals for a customs and monetary union, improvements and innovations in science and technology, research and the environment, and military cooperation issues. Meanwhile, political aspects are restricted to little more than platitudes about the dangers posed by any state threatening the status quo. Like the founders of the Association of Southeast Asian Nations (ASEAN), GCC member states know that their organization could not survive criticism—or even rigorous scrutiny—of each others' regimes.

Economic Issues

The basis of economic agreement between the GCC states has been the Unified Economic Agreement between the Countries of the Gulf Cooperation Council, established in November 1981. This was replaced twenty years later by the Economic Agreement among the GCC States (GCC, Supreme Council, 2001). The Unified Economic Agreement required the mem-

ber states to exercise nondiscriminatory treatment to all other members in areas such as trade exchanges, movements of capital and individuals, financial and monetary cooperation, and transportation and communications. These provisions relate to national subjects of member states and not the temporary migrant labor force that is such an important component of each member state. This helps to reinforce the privileged position of national subject–owned businesses and resources in the member state area. The Unified Economic Agreement set a basis for low tariffs and openness in trade relations that are usually considered advantageous for developing countries. However, economic matters are still frequently subservient to dogmatic political issues, and while this continues to be the case there is less opportunity for trade diplomacy (Wilson 1998).

One problem that the GCC faces in multilateral trade negotiations stems from the refusal of Saudi Arabia to deal with firms that also do business with Israel, which it does not recognize. This policy contravenes World Trade Organization (WTO) regulations, which require nondiscriminatory treatment, and means that GCC states must negotiate on a bilateral rather than a multilateral or organizational basis. This considerably weakens the positions of the smaller GCC states, in particular. A second problem, one that has been influential in previous attempts to organize cross-border Arab or Muslim trade blocs, is that trade patterns differ from cultural or religious boundaries. Moreover, the disparities in levels of development between member countries mean that flows of goods or capital tend to be unidirectional rather than bi-directional.

A meaningful Gulf-related trade system would need to include both Iran and Iraq, while special provisions would also need to be made for India. If that occurred, then complementarities of natural resource allocations would enable more complete flows to occur. The six members of the GCC currently have little opportunity to provide sustainable agricultural produce because of their geographical conditions, and the lack of labor means that manufacturing will always be on a small scale. Iran and Iraq, however, could (if international events did not interfere) provide agriculture, and India could provide labor; each of these three countries would also be suitable recipients of GCC outward capital investment.

More recent negotiations have focused on the possibility of a Gulf monetary union with a single currency. A summit meeting at the end of 2001 led to an announcement that such a union would be established on January 1, 2010. The union is expected to provide benefits to those states able to continue providing stable macroeconomic conditions, and to reduce transaction costs between states in an era in which diversification away from hydrocarbon production will be increasingly necessary. Nevertheless, considerable work remains to be done to ensure that the necessary financial infrastructures are in place throughout the region (Fasano and Iqbal 2002). This will be a demanding task, as the majority of the economy remains in the state sector, and governments are more likely to talk about the benefits of free trade for the organization than to try to achieve it (Smith 1998).

There is an increasing need for economic cooperation among GCC states to focus on diversification from oil-based industries to others in which they can develop some form of competitive advantage with existing labor markets. These industries must also be sustainable environmentally within a harsh climate. Moreover, GCC states need to identify best practices in managing the substantial overseas holdings that oil revenues have enabled some them to accumulate, especially to shield them from possible adverse future economic shocks. Future competitiveness in the oil and gas extraction industries will depend on enhanced capabilities in marketing and organization as much as technical skills (Al Sa'doun 2000).

Political Issues

The institutional weakness of the GCC is apparent in the communiqué issued at the conclusion of the 84th session of the Ministerial Council on September 3, 2002, which began: "The Ministerial Council condemned the ill-intentioned campaign by some Western media to which the Kingdom of Saudi Arabia was subjected, and which was designed to give an unbalanced and unfair image of the Kingdom's international relations and of its handling of the events" (GCC, Ministerial Council 2002).

This defensive tone suggests, at the very least, that piqued feelings have colored discussions in GCC meetings. The charges that may in fact have been made by "some Western media" are simply brushed aside; it is difficult to imagine a member state other than Saudi Arabia requiring a Ministerial Council communiqué to begin in such a way. This form of engagement with the outside world has the danger of making the GCC and its rulers appear out of touch and even irrelevant. In an international political environment in which it appears that the norms of international cooperation and engagement are about to be renegotiated, organizations are under greater pressure than ever to produce a clear and coherent message of their purpose and resolve.

The GCC and the First Gulf War

The invasion of Kuwait by Iraq followed from the bloodthirsty stalemate of the Iran-Iraq War and was also provoked by the desire of the regime of Saddam Hussein of Iraq for more oil. Historically, Kuwait was considered by some to be a part of Iraq and, prior to the invasion, some Kuwaitis at least had offered ambivalent signals about their support for Iraq. Kuwait had supplied Iraq with materials during the Iran-Iraq War and had suffered attack by Iran in retaliation. Arab countries generally deplored the act of aggression by Iraq, not least because it was by no means certain that further invasions might not be attempted in the Gulf region. Consequently, Saudi Arabia took a leadership role in supporting the U.S.-led military action to free Kuwait and, significantly, permitted U.S. troops to be stationed in the kingdom. Although U.S. forces have made use of other bases in the Gulf region without major incident, the presence in Saudi Arabia was immediately controversial, since that country is considered to be the home of Muslim holy places in which no nonbeliever should be permitted. This was cited by Osama bin Laden in partial explanation for his role in subsequent terrorist attacks on the United States.

The first Gulf war revealed the GCC to occupy a difficult and somewhat contradictory role in the international political environment: Although it would wish to propagate public policies demonstrating Islamic principles, it was forced for the sake of security to ally with Western powers considered by some to be improper partners. The leaders of member states have had to juggle the desire to provide freedom of religious expression with the threat of dissidence generally and some internal and external calls for greater democratization. At the same time, internal problems remain, as difficulties in border demarcation provide numerous grounds for bilateral disputes, and the possible presence of oil related to those disputes makes them all the more intense (Alnajjar 2000).

The GCC, Terrorism, and the Second Gulf War

The greater focus on the GCC region as a potential source of terrorism has highlighted problems in financial infrastructure and governance because of the dangers of money laundering and the sponsorship of terrorism. The second Gulf war has proved far more divisive of public opinion in the GCC region than the first and is likely to increase internal pressure for states to declare themselves at odds with the policies of the United States. One outcome has

been the relocation of U.S. military forces from Saudi Arabia to Qatar; the latter is a country with a much smaller population that in recent times has been easier to control.

One of the unexpected outcomes of globalization has been to enable people to come together and create communities with various common features and characteristics. This is mediated through information and communications technology as well as greater ease in moving people and items around the world. These communities are not always benign in nature, and governments and organizations, the GCC not least among them, will need to provide more transparency to minimize the risk that they are in some way conspiring with such groups. GCC member states fully appreciate the damage and dangers of terrorism, in part because it threatens their own continuance. They will need to compromise their own traditional secrecy to communicate this understanding.

The need to respond to calls for democratization, to create a coherent foreign policy platform, and to integrate more states into the GCC are all likely to be defining features of a future GCC.

Future Prospects

A post–Saddam Hussein Iraq is a potential entrant to the GCC, as is Yemen. It is possible for integration in the GCC to become both wider (spatially) and deeper (functionally) (Asoomi 2003). The GCC would face enhanced difficulties under such circumstances in maintaining its focus as a genuinely regional force while looking for greater opportunities through broader and more meaningful membership in the same way that the European Union is doing. This will prove a significant challenge, especially as it appears that the United States is currently bent on forcing change in the region at a much greater pace than the region itself would otherwise be likely to pursue.

John Walsh

See Also Economic Integration; Council of Arab Economic Unity (CAEU); League of Arab States (LAS)

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International Bank for Reconstruction and Development (IBRD)

The International Bank for Reconstruction and Development (IBRD), popularly known as the World Bank, was a product of the waning days of World War II as forward-thinking individuals realized that unprecedented measures were needed to rebuild countries around the world that had been devastated by the war. Although the first loans were directed toward this purpose, the IBRD soon evolved into the foremost provider of low-interest and no-interest loans with liberal repayment plans to developing countries that were unable to obtain loans through regular channels, particularly poor countries in Asia, Africa, and Latin America. IBRD loans have been granted for a variety of needs that encompass the construction of electric power plants, roads, railways, ports, and natural gas pipelines as well as the advancement of telecommunications, agriculture, industry, water supplies, education, health, and debt relief. Because the bank maintains an AAA credit rating, it has little trouble generating funds to provide loans to developing countries.

In order to remain relevant, the IBRD has constantly reinvented itself through internal restructuring and the creation of new agencies and initiatives designed to meet the specific needs of the developing world. One way that the IBRD has done this is by furnishing technical and research assistance as well as financial assistance to developing countries. Although loans are generally made in U.S. dollars, the IBRD now pays local contractors, suppliers, and workers in their own currencies in an effort to further stimulate local economies.

The expanded organization, known as the World Bank Group, is made up of the International Bank for Reconstruction and Development, the International Development Association (IDA), the International Finance Corporation (IFC), the Multilateral Investment Guarantee Agency (MIGA), and the International Centre of Settlement for Investment Disputes (ICSID). The focus of the World Bank Group has shifted toward concentrating on the eradication of poverty by cutting the vast disparities in the high-income and low-income countries of the world. As a continued part of its efforts to remain more responsive to member nations, the IBRD maintains offices in Washington, DC, in the United Nations building and in the financial center in New York City, and in Paris, France. Additionally, the IBRD has offices in a number of host counties.

The United States has been the largest shareholder in the International Bank for Reconstruction and Development since the inception of the organization and was the motivating force behind it. The IBRD was particularly the brainchild of Harry Dexter White, who served as an adviser to U.S. Secretary of the Treasury Henry Morgenthau, and the internationally known British economist John Maynard Keynes. Although the bank has no official language, English is the official working language. Spanish and French translators are

available at IBRD meetings, and reports are often published in several languages.

Although much criticism has been leveled at the IBRD throughout its history, no other organization has come close to achieving such far-reaching goals in the areas of eradicating poverty and promoting development in the poorest countries of the world. The success of the IBRD is best documented through the fact that since its inception the organization has lent approximately $1 trillion to countries around the world. During 2002 alone, the IBRD lent approximately $11.2 billion to support ninety-nine operations in thirty-seven separate countries. The bank has also committed itself to the Millennium Development Goals that were announced at a September 2000 United Nations summit. The Millennium Goals aim to promote school enrollment, decrease child mortality, improve maternal health, eradicate disease, and provide access to clean water for developing nations.

Membership and Subscriptions

The International Bank for Reconstruction and Development currently has 189 member nations, constituting most of the nations of the world. Any country that chooses can apply for membership in the IBRD. Thirty nations signed the Articles of Agreement at the inception of the IBRD in December 1945; ten others joined in 1946, and more in the years that followed. Poland joined in January 1946 but withdrew from the IBRD in March 1950. Czechoslovakia's membership has been permanently suspended according to stipulations of the Articles of Agreement, which state that membership can be withdrawn whenever a member fails to live up to its obligations to the bank. After a one-year grace period, suspension is put into effect through a majority vote of the Board of Governors.

Each member country is required to pay a subscription to join the IBRD. Two percent of all subscriptions must be paid in gold or in U.S. dollars, and this entire amount is always available to the bank for lending. An additional 18 percent of each country's subscription may be paid in its own currency and is available for bank lending only upon approval by that country. The final 80 percent of each subscription is earmarked as a backup in case the IBRD needs to call on it to meet its financial obligations. In this way, the International Bank for Reconstruction and Development has been able to make loans to high-risk countries at low or no interest. The bulk of the funding for IBRD activities is provided by the forty richest countries. Periodically, bank funds are replenished by member countries and by other industrialized countries, such as Switzerland and New Zealand, that donate money to help developing countries. For example, in 2002, replenishment funds amounted to close to $9 billion. These funds were further supplemented by $6.6 billion generated from various bank activities.

Voting Rights and Governance

Once a country becomes a member of the International Bank for Reconstruction and Development, the country automatically receives 250 votes. Member nations can buy additional votes by purchasing shares at $100,000 each. IBRD decisions are generally decided by majority vote; therefore, those countries with large shares of stocks find it easy to influence decisionmaking. The United States is the major shareholder, holding almost a quarter of the voting power.

The Board of Governors of the IBRD is technically at the top of the governing hierarchy of the bank. It meets annually in September, at the same time that the governors of the International Monetary Fund (IMF) meet. In practice, most of the power of the IBRD is lodged in the hands of the five executive directors, a group appointed by the largest stockholders (the United States, Great Britain, France, China, and India), and the eleven directors elected from the remaining member nations. Each

director is required to maintain close ties with an alternate director who can make decisions when necessary. In a meeting held at IBRD headquarters, executive directors are elected for two-year terms. The power of the executive directors stems from the fact that each one represents the interests of the members in his or her voting bloc and may promote or block legislation that protects or harms the interests of his or her constituents.

The administrative body of the IBRD is made up of a president, vice presidents, officers, and staff members. The president is elected by the executive directors for a five-year term that is renewable only once. The staff members are appointed by the president to oversee particular functions of the bank. Major IBRD departments include Operations Evaluation, Institutional Integrity, and Internal Auditing. The administration of the bank is charged with carrying on the day-to-day activities. The president votes only in the case of a tie, even though he is charged with responsibility for establishing the agenda of the bank.

IBRD Loans

Once a nation becomes a member of the World Bank Group, the country is eligible to apply for a loan. Loans may be made to member governments, political subdivisions of member governments, and business, agricultural, or industrial organizations within each country. The Articles of Agreement of the IBRD mandate that any bank loan not made to a governmental entity must be guaranteed by the member government, a central bank, or some other legitimate agency within the project country. IBRD loans are generated from a number of sources, including member countries, bank missions, bank officials, resident representatives of the bank, resident missions, and United Nations agencies. Other provisions of the bank's charter require bank officials to make sure that IBRD-funded loans are used only for those purposes stated in the terms of the loan and that the loans could not be obtained from traditional commercial sources. The charter prohibits the IBRD from insisting that the project country spend loan funds in the countries or territories of other member nations.

Once a particular project has been suggested, IBRD officials appraise the project and analyze the loan according to established procedures. Specifically, World Bank loans are evaluated according to:

1. *Economic factors,* including domestic demands for goods and services and the availability of local resources.
2. *Technical factors,* centering on project details such as the scale, layout, design, and location of the project in addition to the process by which the project will be carried out, the availability of equipment, and a schedule of costs and timing for the project.
3. *Institutional factors,* chiefly concerning the availability and skills of local management and the possible presence of external project influences.
4. *Procurement and commercial factors,* dealing with the availability of project materials and the processes by which these goods will be bought and sold.
5. *Financial factors,* including an overall evaluation of the costs of the project.

Historical Overview

During the first three weeks of July 1944, forty-four nations and a number of observers and technicians came together at the United Nations Monetary and Financial Conference at the Mount Washington Hotel in Bretton Woods, New Hampshire, to draw up the Articles of Agreement for the International Bank for Reconstruction and Development (and the International Monetary Fund as a separate institution). The 730 delegates drew up an unprece-

dented plan for redefining global monetary transactions and scheduled IBRD operations to go into effect on June 25, 1946.

During the first week of March 1946, the Board of Governors met for the first time in Savannah, Georgia, and the positions of Executive Directors, representing the member nations, were established. By the fall of 1946, Eugene Meyer, the first IBRD president, announced that the bank had approved its first loan applications to Chile, Czechoslovakia, Denmark, France, Luxembourg, and Poland. By August 1952, former Allied enemies West Germany and Japan had also become members of the bank.

On May 9, 1946, the bank awarded its first loan, $250 million to the Crédit National of France. The following month, the bank's first fact-finding mission was dispatched to Poland, and three years later the bank initiated its first economic survey in Colombia. On July 15, 1949, the bank offered $250 million on the U.S. bond market. The first Asian loan was granted to India in August 1949, with $34 million earmarked for railway development. During the following year, the bank allotted its first Middle Eastern loan, with $128 million directed toward constructing a flood control system in Iraq.

By 1950, the IBRD had approved approximately $350 million in loans to developing nations but had actually disbursed less than one-third of those funds. During the following three years, it made loans that would be equivalent to $1.8 billion by twenty-first-century standards. By the end of fiscal year 1958, the IBRD had actually distributed around $700 million to developing nations, with approximately $200 million of those funds directed to India and Pakistan.

During the first couple of decades of its existence, the IBRD was focused on the reconstruction of nations still recovering from World War II and on promoting increased attention to international investment and trade. In practice, this meant that the bank raised money by borrowing through bond markets and from central banks of high-income nations as well as through subscriptions from member countries. In turn, the bank lent money, provided advice on various development issues, and coordinated financial investment from private sources.

Bank Presidents

Eugene Meyer, the first president of the IBRD, resigned in December 1946 after only six months in office. Most of his time in office had been spent in administrative duties such as setting up offices, recruiting personnel, and generating funds for the bank's operations. According to the Articles of Agreement, the operational power of the bank was lodged in the executive directors, who were chosen by member nations. However, when John J. McCloy was invited to become the second president of the World Bank, he refused to accept the position unless executive power was given to the president. This designation was made, McCloy took office on March 17, 1947, and all future presidents of the bank retained the extended power.

In July 1949, Eugene Black became the third president of the IBRD. It was during Black's presidency that the emphasis of the bank's activities shifted from administration and reconstruction to development. The bank began financing the construction of electric power plants, ports, roads, and railways. In October 1952, the IBRD announced a major restructuring, and Area Departments and a Technological Operations Department were added to the bank's existing structure. Under Black's leadership, the Economic Development Institute (EDI) was established on March 11, 1955, and began operating in January of the following year.

In January 1963, George D. Woods became the fourth president of the IBRD. Woods was considered to be one of the most innovative of the bank's presidents. It was Woods who in-

sisted on using local currency to pay the ongoing expenses of projects as a means of stimulating local economies. The first loans made to advance education were also made under Woods, and he relaxed the bank's position on making loans to state-owned industries and development finance companies. Woods directed major bank resources toward agriculture for the first time in its history. The result was that a number of loans were made to wealthy farmers with the idea that the poorest people would benefit from increased jobs and production.

On April 1, 1966, Robert McNamara began what became one of the most influential IBRD presidencies. The fact that McNamara brought his experience as U.S. secretary of defense to the position enhanced the bank's reputation. During his term, he also enhanced his own reputation. McNamara effectively redirected the bank's activities, making it more a development agency committed to alleviating worldwide poverty than a rigid financial institution. Under his administration, the bank increased its lending capabilities from around $1 billion to over $12 billion per year. In an often-quoted speech in Nairobi in 1973, McNamara first identified the concept of "absolute poverty," which he defined as "a condition of deprivation that falls below any rational definition of human decency." From that point onward, the entire direction of aid to developing countries was changed.

In July 1981, Alden W. Clausen became the sixth president of the World Bank Group, initiating a reorganization plan that involved the bank's analysis, research, and policy activities. Subsequent changes included the creation of new positions, including vice presidents for economics and research, operations policy, and energy and industry. Clausen's administration was somewhat hampered by the worldwide economic crisis of the 1980s.

In July 1986, Barber Conable became the seventh president of the World Bank Group. Over the next year, Conable launched a major reorganization of the bank, separating all functions into operations, finance, administration, and policy, planning, and research, with a senior vice president in charge of each department. In December 1987, under Conable's guidance, the bank launched the Special Program of Assistance (SPA), which focused on debt relief in sub-Saharan Africa, and the Social Dimensions of Adjustment (SDA), a joint program with the African Development Bank and the United Nations Development Programme (UNDP). In March 1990, the World Bank established the Global Environment Facility (GEF), a pilot program to provide grants for various investment and technical projects, in conjunction with the UNDP and the United Nations Environment Programme.

Toward the end of Conable's presidency, an international controversy developed over the bank's financing of the India Narmada River Sardar Sarorar dam. In response, Conable appointed an independent commission to investigate the bank's role in the scandal. The commission reported that both the World Bank and India were guilty of "gross delinquency" that had resulted in the displacement of more than 200,000 of India's poorest farmers.

Investigations into the World Bank's activities continued after September 1991, when Lewis T. Preston was named the eighth president of the World Bank Group. What became known as the Wapenhans Report, named after World Bank Vice President Willi Wapenhans, who directed the study, identified a "culture of loan approval" deeply entrenched throughout the management of the bank that was detrimental to the quality of bank operations and to the overall reputation of the World Bank Group. The Wapenhans Report stated that more than one-third of all projects thus far financed by the bank had been failures.

On June 1, 1995, James D. Wolfensohn was named the ninth president of the World Bank Group. Concerned about the bank's reputation in the wake of the Wapenhans Report, Wolfensohn hired a consulting firm to suggest ways that the bank could be restructured to become more efficient, responsive, and effective. This

reorganization created a number of technical networks that made the bank staff more productive. Initially, these networks included sections on Human Development; Poverty Reduction and Economic Management; Private Sector Development and Infrastructure; and Environment, Rural and Social Development. A fifth network, Core Services, was added later. The reorganization also called for downsizing the regional departments located in various member countries and replacing them with fifty-five to sixty country managers, who were given administrative and operational responsibilities. Wolfensohn has been credited with directing the bank toward more humanistic goals.

World Bank Group Institutions

The World Bank Group consists of five institutions, with each institution playing a distinct role in support of the mission to fight poverty and improve living standards for people in the developing world. The term "World Bank Group" encompasses all five institutions. The term "World Bank" refers specifically to two of the five, IBRD and IDA.

International Finance Corporation (IFC)

To its chagrin, the World Bank realized in the early 1950s that some developing nations were refusing to borrow from the bank because of its insistence on involving national governments through loan guarantees. The fact that the governments of some host countries were unresponsive to local needs, while others were corrupt, often resulted in undesired governmental interference in IBRD projects. The bank responded by creating the International Finance Corporation, which did not require government guarantees of bank loans. On July 20, 1956, the Articles of Agreement for the IFC went into effect. Any IBRD member was eligible to become a member of IFC. Each member country purchases shares in IFC, and voting is based on the number of shares held, just as it is with the IBRD. Similarly, the board of directors of the IFC has conceded a good deal of power to the executive directors. Even though the IFC acts independently of IBRD, the president of the World Bank Group serves as the president of the IFC. A few months after it began operation, the IFC announced that its first investment would be to the firm Siemens do Brasil to expand manufacturing.

The IFC was created specifically to work with the private sector in developing countries to alleviate poverty and speed up development. The seventy-five member countries of IFC have generally directed projects toward promoting private-sector development, aiding the financial mobilization of private companies, and providing technical advice and assistance to governments and businesses.

International Development Association (IDA)

At the insistence of the United States and out of a new understanding of the part that poverty plays in preventing progress in developing nations, in 1960 the IBRD created the International Development Association to provide a means of making concessionary loans to the poorest member-nations unable to meet the standards for bank loans. For a number of years, the poorest developing countries had been asking the IBRD to liberalize loan policies so that they could qualify for loans for essential projects. Membership in the IDA is open to any country. Initial subscriptions amounted to $912.7 million; on May 12, 1961, IDA extended its first credit to Honduras. During the first few years of its existence, the IDA distributed around $1 billion a year to developing nations. During this period, the United States began to play a lesser role in World Bank activities, and the reputation of the bank rose in response.

By 1970, the IDA could claim 107 members. The countries were divided into two categories: Part I Countries, which are considered high-income and developed, and Part II Countries, which are poorer and less well developed. The rules governing subscription in the two cate-

gories are designed to be most responsive to the needs of poorer countries. IDA loans are interest-free and are payable over a fifty-year period, with a grace period of ten years before any payments are due at all. Over the following ten years, Part II Countries repay the loans at a 1 percent rate. For the remaining thirty years of the loans, payments are made at 3 percent. The only cost above the actual loan is a payment of three-fourths of 1 percent for administrative costs.

The entire subscription for Part I Countries is made available to IDA. However, only one-tenth of Part II Countries' subscription funds are available for lending. The other nine-tenths is composed of the individual country's own currency and is available to the IDA only upon approval by that country. The IDA is therefore able to call upon four methods of funding: member subscriptions; replenishments from Part I Countries and nonmember contributors such as Switzerland and New Zealand; transfers from the IBRD; and its own generated income.

The success of the IDA is best illustrated by the amount distributed annually to low-income countries—for example, $8.1 billion to sixty-two countries in 2002. Most of the funds were directed toward poverty-reduction efforts, the development of social services, environmental protection measures, and economic growth. Established IDA policy places strong emphasis on providing loans to enhance economic growth, supporting the social sectors, improving governance, protecting the environment, helping countries to recover from conflict, and promoting trade and regional integration.

International Centre of Settlement for Investment Disputes (ICSID)

On October 14, 1966, the International Centre of Settlement for Investment Disputes was established under the Convention on the Settlement of Investment Disputes between States and Nationals and Other States. The specific function of the ICSID is to deal with disagreements that arise between investors and the various host countries. Before the creation of the ICSID, the president of the World Bank Group and various bank employees dealt with disputes on a case-by-case basis, resulting in such a burden that bank officials were unable to devote proper attention to other matters. The ICSID is governed by an Administrative Council, which is chaired by the president of the World Bank Group, and a secretary general. It meets only when the IBRD and the IMF hold their regular annual meeting. Members of the ICSID are also members of the IBRD.

Cases are referred to the ICSID on a purely voluntary basis. Once both parties in a dispute agree to accept the ICSID decision, neither can unilaterally withdraw from the agreement. All states that contract with the IBRD are required to accept and enforce all ICSID decisions, which may be based either on conciliation or on arbitration. The ICSID maintains close ties with other arbitrating authorities, including the Permanent Court of Arbitration, the Regional Arbitration Centres of the Asian-African Legal Consultative Committee, the Australian Centre for International Commercial Arbitration, the Australian Commercial Disputes Centres, the Singapore International Arbitration Centre, and the Gulf Cooperation Council Commercial Arbitration Centre.

Multilateral Investment Guarantee Agency (MIGA)

In April 1988, the fifty-seven member Multilateral Investment Guarantee Agency became an essential component of the World Bank Group. MIGA's chief purpose is to work with the private sector to facilitate financing for development projects by guaranteeing loans that could not otherwise be obtained. MIGA operates under four guiding principles:

1. It must keep its focus on its clients.
2. It serves the interest of investors, lenders, and host countries by supporting private enterprise and promoting foreign investment.

3. It is required to work with other insurers, government agencies, and relevant international organizations to promote its goals.
4. It must constantly strive to better the lives of people in emerging economies by working with host countries to promote their individual goals.

In practice, MIGA supports an improved infrastructure that includes construction and improvements to roads, power plants, hospitals, schools, and access to clean water. Since its inception, MIGA has guaranteed more than 500 loans to seventy-eight developing countries, with total coverage exceeding $10 billion.

New Paradigm

As part of the bank's new paradigm that focuses on making the organization more responsive and accountable, bank-financed projects now call for individual countries to take active roles in alleviating poverty and furthering development. Since 1999, the bank has worked with the International Monetary Fund to create Comprehensive Development Frameworks (CDFs). Under the leadership of President James D. Wolfensohn, the IBRD established four goals for these CDFs:

1. All projects must focus on achieving long-term, holistic development.
2. All projects are results directed.
3. The host countries own all projects.
4. All projects are considered partnerships between the IBRD and host countries.

Agriculture

A major part of the new paradigm for the International Bank for Reconstruction and Development is a shift in its position on agriculture. Between 1949 and 1984, the bank pursued what was known as a policy of "benign neglect" toward agriculture because it lacked an understanding of the importance of the agricultural sector in the economies of the developing nations. During the 1960s, approximately 6 percent of the bank's total loans were directed toward agriculture; over the next fifteen years, that percentage more than quadrupled.

By 1984, the IBRD had committed more than $30 billion to agricultural development. As part of this new emphasis on agriculture, the bank began to invest in tractors, irrigation structures, and other means of improving productivity on farms, particularly in Latin America and sub-Saharan Africa. During the 1980s, loans to India and Mexico, the two major borrowers from the World Bank, surpassed $500 million. On May 1, 1971, the Consultative Group on International Agricultural Research (CGIA) was established, and in May 1985 the Special Facility for Sub-Saharan Africa began operations.

Disease Control

In addition to contributing to agriculture, the International Bank for Reconstruction and Development has begun to realize the importance of eradicating disease in member countries. For instance, it worked with the Soros Foundation and almost 200 other organizations in 1997 on a project aimed at eradicating tuberculosis in Russian prisons after the Soros team identified a strain of tuberculosis that was resistant to traditional drug treatment and had the potential to generate a major outbreak of tuberculosis in the Soviet Union. The plan to circumvent this outbreak, known as the Global Plan to Stop TB, was announced at World Bank headquarters in October 2001. The proposal called for appropriations of $9.3 billion for the program, with $4.8 billion coming from affected and donor countries.

After health experts announced that approximately 14,000 people around the world were being infected by the HIV virus each day, the IBRD pledged a major portion of its resources toward eradicating HIV/AIDS. The bank cosponsors UNAIDS, the international umbrella group that works toward eliminating

this highly infectious disease. The IBRD also created the Multi-Country HIV/AIDS Program (MAP) in partnership with African and Caribbean governments to provide resources to civil and community organizations committed to fighting the HIV/AIDS epidemic. By the beginning of the twenty-first century, the bank had directed over $1.6 billion toward fighting HIV/AIDS, with half of that amount being spent in sub-Saharan Africa. A large part of the funding is directed toward educating the public about HIV/AIDS, especially in that region, and guaranteeing bank funding to any country with an effective HIV/AIDS strategy.

Debt Relief

Through the Heavily Indebted Poor Countries program, the IBRD has become heavily involved in providing debt relief to developing countries. Through HIPC, twenty-six countries have received funding that allows them to save more than $40 billion in debt payments. This enables these countries to allocate more money toward improving the lives of local citizens with enhanced housing, education, health, and welfare programs. Examples of improved social benefits include an initiative to increase elementary school enrollment in Rwanda, improved access to maternal and child health care in Honduras, and sex education programs for groups that are considered at high risk for HIV/AIDS in Cameroon.

Education

In its new persona, the bank has become an active player in improving access to education in developing countries, including the use of distance learning to make knowledge more accessible. Since education became a major focus, the bank has awarded around $33 billion in loans and credits to 83 countries to be used for 157 educational projects. In Bangladesh, for example, bank funds have been used to promote the education of girls who were previously denied access to education. In India, the bank has funded the India District Primary Education Program aimed at increasing the female literacy rate. In Latin America, the bank has been instrumental in helping Brazil, El Salvador, and Trinidad and Tobago to set up assessment programs that target educational areas that need improvement.

Corruption

The International Bank for Reconstruction and Development has frequently been accused of financing corruption in developing countries by continuing to lend money to governments that are well known for their corrupt practices. Jeffrey Winters, for instance, claimed that "since its founding, the World Bank has participated mostly passively in the corruption of roughly $100,000,000,000 of its loan funds intended for development" (Winters 2002, 101).

Most critics point to the Indonesian loans as the epitome of IBRD-financed corruption, suggesting that the bank could somewhat redeem its tarnished reputation by granting the current Indonesian government debt relief from loans that were obtained by the notoriously corrupt Suharto administration, which was defeated by a democratically elected government in 1999. Over a period of several years, investigators learned that bank funds had been systematically stolen by the corrupt government, leaving the taxpayers of Indonesia responsible for the government-guaranteed loans that were never used in development projects.

The democratically elected government of Indonesia announced plans to pursue the matter before the International Court of Justice in order to seek debt relief. Indonesian officials charged the bank with lending approximately $30 billion to the corrupt Suharto regime. Some independent sources contend that the World Bank was aware of deep corruption in the Indonesian government as early as 1968 but that it nevertheless continued to extend loans to the corrupt regime.

For several years after the Indonesian scandal broke, the bank cut funding to Indonesia from about $1 billion a year to around $400

million per year. However, in December 2003, the bank announced a new funding plan for Indonesia, even though documentation for continued government corruption was readily available. Evidence of corruption included the siphoning of 30 percent of a $76 million urban development fund paid to government officials in Sulawesi and a kickback scam in Garut wherein local officials were demanding that schools remit payments to them before they could be considered as eligible for bank funds.

Bank officials announced that new funding was dependent on the Indonesian government creating an anticorruption commission and improving government procurement methods. The IBRD planned to begin loan allotments at $580 million a year and increase them by up to $850 million a year by 2007. If, however, the Indonesian government initiates total compliance with bank terms, that amount could reach $1.2 billion a year by 2007. The World Bank defended its actions by arguing that despite the country's rich natural resources, too many people in Indonesia were suffering from poverty to deprive them of much-needed assistance.

In an effort to cut down on corruption in host countries, in 1996 the International Bank for Reconstruction and Development began a concentrated effort to promote anticorruption programs. The bank has initiated stricter oversight of projects in host countries. Furthermore, in approximately 100 developing countries, the bank has engaged in such diverse anticorruption activities as training judges and teaching journalists investigative reporting skills.

The Role of the United States

Throughout the history of the International Bank for Reconstruction and Development, the bank has been criticized for being too heavily influenced by the United States. Although this dependence on American funding was necessary in the years after World War II, when the United States was the only major world power that had not been ravaged by the war, continued dependence generated a good deal of resentment. The bank has been known to sacrifice both human and natural resources in host countries in order to promote progress in developing counties. In response to this tendency, the U.S. Congress instructed the American executive director to vote against using bank funds in any country that consistently violates human rights. Subsequent proposed amendments to the original International Financial Institutions Act of 1977 have attempted to prohibit assistance to countries that work against the interests of the United States.

At the beginning of the twenty-first century, without offering additional funding from the United States, President George W. Bush began to push the bank toward a system of grants rather than loans, arguing that since grants would not have to be paid back, recipient countries would be less burdened. The problem with this approach is that the bank's charter has limited the availability of bank funds for grants. For example, grant funding for the International Development Association is only $100 million.

In November 1999, the U.S. Congress established the Meltzer Committee and charged it with generating recommendations on the role of the United States in the future of the World Bank. The Meltzer Committee issued a report in March 2000 that accused the bank of being too heavily bureaucratic, insisting that many of the bank's functions could be taken over by the private sector. Furthermore, the committee recommended that countries with per capita incomes of more than $4,000 be made ineligible for bank loans and that limits be placed on those countries with incomes of $2,500 or more. Essentially, the International Bank for Reconstruction and Development as it exists would be disbanded under the Meltzer Committee plan by merging the International Development Agency and the IFC and dissolving the MIGA entirely. Critics claim that such a plan would benefit highly industrialized nations such as the United States at the expense of still developing countries.

Criticisms of the World Bank

From its inception, the International Bank for Reconstruction and Development has been the target of heavy criticism. Critics on the Left have accused the bank of being an "imperialist institution for imposing one view of the development process," whereas detractors on the Right insist that the bank is a "hangover from the interventionist early post-war era" (Gilbert and Vines 2000, 10–11). Whatever one feels about the World Bank, the bottom line is that the organization has served a purpose that no other organization or country has been willing or able to fill.

In her 1982 critique of the World Bank, Cheryl Payer identified ten functions that the World Bank has historically filled:

> The Bank has served to accelerate the flow of funds from wealthier nations and the private sector to developing nations.
>
> The Bank has provided a means of directing funds for investment, transportation, and communications to previously remote locations.
>
> The Bank has promoted the activities of multinational corporations, including the mining sector.
>
> The Bank has functioned as a channel for improving the legal principles that govern foreign investment in developing nations.
>
> The Bank has improved production of foreign exports within developing countries.
>
> The Bank has protected its own legitimacy by denying loans to any country that has a history of repudiating international debts or nationalizing foreign property.
>
> The Bank has opposed minimum wage laws, trade union activity, and other measures of improving national income of developing nations.
>
> The Bank has purchased project materials through international competitive bidding, resulting in favoritism of large multinational companies.
>
> The Bank has continually expressed opposition to protection for locally owned businesses and industry.
>
> The Bank has favored project goals that deny control of basic resources of land, water, and forests to local residents. (Payer 1982, 19)

Even by the bank's own standards, its projects have not always been successful. For example, in a study published in 2001, the World Bank admitted that out of ten projects undertaken in Africa, only two were absolute successes. The bank identified two other African projects as failures; the other six were deemed to be only partially successful.

The harshest critics of the International Bank for Reconstruction and Development contend that from the beginning the reconstruction goals of the bank were too lofty to be achieved because other programs and institutions, such as the Marshall Plan implemented by President Harry S. Truman, were better suited to reconstructing war-ravaged countries. Other critics suggest that whatever original purpose the bank might have served has long become obsolete, maintaining that it has not responded quickly enough or extensively enough to the changing needs of globalization.

Critics have also charged that members of the IBRD career staff have been prone to fall into mindsets that often work against efficiency and responsiveness. George Soros, for example, has suggested that IBRD's staff should be limited to five-year terms of employment, renewable only once, and that continued employment should be based entirely on the quality of performance rather than the amount of loans disbursed (Soros 2002). A number of critics have suggested that the bank needs to revise its charter in order to bring an end to the influence that certain governments exercise within the bank's governing structure. They claim that voting power sometimes allows self-interested governments to push through loans that promote their own interests or to block

those loans that have the potential to create opposition to their interests.

Elizabeth Purdy

See Also Global Economic Growth; Inequality; International Financial Markets; Financial Services; International Monetary Fund (IMF); Foreign Aid

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International Labour Organization (ILO)

The International Labour Organization (ILO), established as an autonomous institution in 1919 by the Treaty of Versailles, became, in 1946, the first specialized agency associated with the United Nations. It brings together representatives of workers, employers, and governments with the goal of improving worldwide working conditions by formulating benchmark international labor standards, encouraging countries to adopt these standards, and shining a spotlight on those that violate the most basic norms. Advocates see it as "the conscience of the world"—an important voice for achieving harmony between workers and employers and helping to improve workers' lives. Critics, however, view it as an ineffectual debating society that has had little impact on labor issues.

Origins of the ILO

The ILO traces its origin to the European movement to adopt international protective labor legislation in the first half of the 1800s. Among the leaders were Scottish industrialist Robert Owen, who proposed international labor standards at the 1818 Congress of Aix-la-Chapelle, and Alsatian Daniel Legrand, who tirelessly lobbied government leaders throughout Western Europe to adopt child-labor restrictions, limitations on night work, Sunday rest provisions, and other labor laws. Much of the support for these laws came from socialists, academic social scientists, and religious groups—especially after Pope Leo XIII's encyclical *Rerum Novarum* (1891) justified and encouraged the adoption of labor standards. A meeting of social reformers led to the establishment of the International Association for Labor Legislation (IALL) and a permanent International Labour Office in 1900. In 1906, the IALL arranged a diplomatic conference, which approved the first two labor "conventions"—one prohibiting night work for women, and the other prohibiting the use of white phosphorus in matches—both of which were widely enacted in Western Europe.

At the end of World War I, the establishment of a more powerful international labor commission was considered urgent by many of the victorious allies, who saw the passage of protective labor legislation as "insurance" against the threat of communism. The Versailles Peace Conference appointed a Labor Commission of fifteen members from the United States, Britain, France, Italy, Japan, Belgium, Cuba, Czechoslovakia, and Poland. Chaired by Samuel Gompers, president of the American Federation of Labor (AFL), the commission agreed to create the International Labour Organization, which they envisioned as a unique body with a "tripartite" structure. Each nation would have four voting delegates—two representing their government, one representing workers, the other representing employers.

However, the new organization was given little power. Although the ILO Constitution (which was adopted April 16, 1919, becoming part XIII of the Treaty of Versailles) warned that "the failure of any nation to adopt humane conditions of labour is an obstacle in the way of other nations which desire to improve the con-

ditions in their countries," the ILO was only granted the power to adopt conventions on specific labor issues (by a two-thirds vote)—it could not enforce them. ILO members promised to submit conventions before their national lawmaking bodies and to report on their status and enforcement. In addition, they officially bound themselves under international law to abide by any convention they ratified. Despite these provisions, however, the ILO could do little to induce nations to adopt these conventions or to enforce them in nations that did ratify them.

The ILO between World War I and World War II

Thirty-nine countries sent delegations to the ILO's first conference, held in Washington, DC, in October 1919, which selected the organization's leadership and adopted conventions on maximum hours of work, unemployment, maternity protections, night work for women, and child labor. However, divisions between rich and poor countries were evident, and a month later, the U.S. Senate voted against membership by the United States. U.S. business advocates, and many labor advocates as well, were skeptical of the ILO because of the socialist ideas of many of its leaders, including its first president, Frenchman Albert Thomas. Although the United States eventually joined in 1934, the ILO was primarily a European concern during its first two decades. Its headquarters were in Geneva, and most of its funding and staff were European—with much of its personnel coming from its predecessor, the International Labour Office.

Despite its initial prestige, the ILO immediately had trouble convincing nations to ratify conventions that legally raised their labor standards. International competitors refused to go first, fearing that ratifications would raise labor costs and give their rivals an advantage. Some proponents of labor legislation in the United States hoped that they could circumvent court rulings against these laws by having the Congress ratify ILO conventions, which would then have the status of treaty obligations. However, the United States ratified only a handful of ILO conventions, most dealing with maritime issues, and none very important. Thus, the ILO had little success in achieving its most fundamental mission of raising legal labor standards via coordinated international action, and critics dismissed it as an impotent debating society.

Soon the organization was wracked by another persistent problem. In 1923, the credentials of the Italian workers delegate, who was appointed by the fascist labor union, were challenged on the grounds that he did not represent a workers organization in accordance with ILO rules, but instead a mixed organization of employers and workers. He was nevertheless seated. However, Italy clearly did not recognize freedom of association among its workers, and the ILO struggled in vain to adequately define this condition.

In 1930, the ILO adopted an important convention, No. 29, requiring the suppression of forced and compulsory labor in all forms (with exceptions for military services and emergencies). This became the most widely ratified convention in its history. During the 1930s, the organization turned its attention to offering solutions to the economic slump, especially work sharing and shorter hours, but it became virtually impossible for it to push for higher labor standards. In addition, it began to offer "technical assistance" to less developed nations. The first of these missions, in 1930, assisted Greece in establishing a government-run social insurance system. The following year, China sought help in organizing factory inspections, whereas Egypt invited the ILO to advise it on the best methods of setting up a labor department.

The outbreak of World War II devastated the ILO, cutting its funding and prompting its remaining staff to move from Geneva to Montreal. Its major task during the war years was to plan for the peace, in the realization that it would be unlikely to play an important role in the postwar reconstruction unless it captured

the limelight. Despite its leaders' best efforts and a renewed focus on the ILO as "revolution insurance," the ILO failed again in its aim of becoming a major postwar player. Some would argue that it never really had a chance—what nation could cede power and sovereignty to this divided organization in which national governments received only half the votes? In addition, the ILO was seen by some as an embarrassing reminder of the failed League of Nations. As the postwar international landscape emerged, the United Nations and its agencies (such as the United Nations Relief and Rehabilitation Administration) took upon themselves tasks that the ILO had hoped to undertake. Analysts argue that both the United States and the Soviet Union sought to downplay the ILO's role because neither had adequate power or influence in the organization.

The Declaration of Philadelphia

As these events unfolded, the ILO held its twenty-sixth annual conference from April 20 to May 12, 1944, in Philadelphia, where it issued a declaration expanding its tasks and restating the fundamental principles of the organization: "that a) labor is not a commodity, b) freedom of expression and of association are essential to sustained progress, c) poverty anywhere constitutes a danger to prosperity everywhere, and d) the war against want requires to be carried on with unrelenting vigour within each nation, and by continuous and concerted international effort in which the representatives of workers and employers, enjoying equal status with those of governments, join with them in free discussion and democratic decision with a view of the promotion of the common welfare."

The declaration then asserted that "all human beings, irrespective of race, creed or sex, have the right to pursue both their material well-being and their spiritual development in conditions of freedom and dignity, of economic security and equal opportunity" and recognized "the solemn obligation" of the ILO to further programs around the world aiming to achieve full employment and increased living standards; job satisfaction; training and mobility of labor; fair sharing of the fruits of progress and a minimum living wage to all; recognition of the right to collective bargaining; the extension of social security measures providing basic income and comprehensive medical care to all; adequate protection of life and health among workers in all occupations; child welfare and maternity protection; adequate nutrition, housing, and facilities for recreation and culture; and equality of educational and vocational opportunity. Finally, the declaration pledged cooperation with other international bodies in accomplishing these goals. The declaration implicitly envisioned expanded and activist governmental programs, and it clearly repositioned the ILO's agenda beyond its initial negative task of banning abusive work conditions.

ILO leaders knew that this declaration was a vague expression of hope and a consciously crafted assertion of the agency's potential. However, the powers meeting in San Francisco to establish the United Nations gave virtually no attention to the ILO, and despite its acceptance in December 1946 as the first international agency to officially associate with the UN, the ILO was unable to achieve the power, influence, and funding of other postwar organizations, such as the World Bank or the International Monetary Fund. Likewise, despite its continued hopes to coordinate international labor standards, it was never able to achieve the cooperation of the General Agreement on Tariffs and Trade (GATT), which did achieve substantial progress in coordinating a movement toward reduced international trade barriers.

The ILO during the Cold War

Like many other international agencies, the ILO was torn by the tensions of the Cold War. It continued in its traditional mission of encouraging countries to enact more stringent labor

legislation, expanded its technocratic missions to less developed countries, and increased its efforts to collect and interpret data on labor conditions around the world. For such efforts, the ILO was award the Nobel Peace Prize on its fiftieth anniversary in 1969.

Although its membership, budget, and staff grew, however, debates became even more divisive and the viability of its tripartite structure was called into question. The United States and other nations complained that newly independent developing countries and Communist one-party states used ILO meetings as a stage to attack developed countries. They protested that these nations' worker and employer representatives were government mouthpieces lacking the independent voice envisioned in the organization's charter, and that they failed to respect the organization's pivotal goal of freedom of association. The conflict escalated after the Soviet Union's decision to join the ILO in 1954 and culminated in the mid-1970s, when a Russian was nearly elected chair of the ILO's Governing Body. The Arab-Israeli conflict further politicized the organization.

At the urging of AFL President George Meany, the United States, whose dues amounted to one-quarter of the ILO's budget, announced its withdrawal (effective two years later) from the organization in 1975, citing its "appallingly selective concern" for human rights. In response, ILO leaders moved to refocus the organization toward its stated goals and pressed the issue of freedom of association more strongly—for example, condemning Soviet treatment of labor dissidents. The United States rejoined the ILO in 1980, with the Ronald Reagan administration seeing it as one more weapon in the battle against Soviet ideology. True to its new direction, in 1984 the ILO Conference accepted a report from a special commission of inquiry concluding that Poland had violated ILO conventions regarding union and workers rights in suppressing the Solidarity labor movement.

Throughout these decades, U.S. business leaders were skeptical of the ILO. In 1952, for example, American employer representative Charles McCormick criticized the organization as "hostile to the American free competitive enterprise" system. Employer representatives complained that the ILO's Convention No. 87 on Freedom of Association (adopted in 1948) and Convention No. 98 on the Right to Organized and Collective Bargaining (1949) were so broad that they would give undue power to organized labor, and that they clashed with provisions of the Taft-Hartley Act of 1947. They decried the socialism implicit in ILO conventions, including those on the need for universal health insurance. Employer representative William McGrath was openly hostile to the ILO and worked to adopt the Bricker Amendment, which would have instituted constitutional protections against adopting laws via ratification of ILO conventions.

Additional ILO activities during this period included the establishment of the International Institute for Labour Studies in Geneva in 1960, an educational research institute bringing together international experts on social and labor policy. In 1965, the ILO opened the International Training Center in Turin, Italy. It provides training programs for directors in charge of technical and vocational institutions, managers in private and public enterprises, trade union leaders, and technicians, primarily from developing countries. Some 90,000 people have received training there since its establishment. The ILO's technical and development assistance programs were also expanded. ILO experts have traveled around the globe providing technical advice on the improvement of systems of labor statistics, methods of labor inspection, arrangements for employment services, systems of pensions, unemployment benefits, and the like.

The ILO in Recent Years

In the past two decades, the ILO has become more harmonious and has refocused its attention on raising the lowest of labor standards

around the world. During the 1990s, concerns about the effects of "globalization" brought a renewed attention to international labor standards and the role of the ILO. The ILO has shared these concerns, worrying aloud about the penchant of governments and employers to dilute work standards in order to compete with cheaper labor in other parts of the world.

In accordance with this rising concern, the ILO approved in 1998 a Declaration on Fundamental Principles and Rights at Work. The declaration advocates freedom of association and the effective recognition of the right to collective bargaining; the elimination of all forms of forced or compulsory labor; the effective abolition of child labor; and the elimination of discrimination in respect to employment and occupation. Perhaps the strongest push came in the area of child labor. Convention No. 182, on the Worst Forms of Child Labor, called for immediate and effective measures to secure the prohibition and elimination of forms of child labor such as slavery, forced recruitment in armed conflict, prostitution and pornography, and work likely to harm the health, safety, or morals of children. In less than three years, 132 countries ratified this convention—the fastest ratification rate ever. In attacking child labor, the ILO took a coordinated approach with other organizations as part of the International Programme on the Elimination of Child Labour (IPEC). The ILO's media-savvy campaign included publication of *Global Report 2002: A Future without Child Labour,* a World Day against Child Labour (June 12, 2003), and even a collaboration with FIFA (the Federation Internationale de Football Association) bringing child labor to the attention of soccer fans through the "Red Card to Child Labor" campaign. Similarly, the ILO launched a coordinated international publicity campaign in 2003—the Global Campaign on Social Security and Coverage for All—to encourage countries to extend social security to more of their citizens.

In 1999, for the first time in its history, the ILO imposed penalties on a member state—Burma (Myanmar)—for allowing forced labor. These penalties, though largely symbolic, are part of a larger international campaign of moral suasion and trade sanctions. Along these lines, nations have begun turning to the ILO to help administer labor standards tied to trade agreements. For example, the United States paid the ILO to monitor conditions in the Cambodian garment industry when it expanded Cambodia's import quota in 1999.

Despite these developments, the ILO's standing continues to be weak in the United States, which has ratified only 14 of the ILO's 184 conventions. This compares with 105 ratifications by Spain, 97 by France, and 65 by Britain. However, ratifications don't always mean much in practice—Iraq under Saddam Hussein had ratified 59 conventions, and Cuba has ratified 73.

Current Status and Structure of the ILO

The ILO maintains its original tripartite structure. The International Labour Conference is its supreme deliberative organ and meets annually to adopt international labor conventions and recommendations. The Governing Body (elected by the conference for a three-year term) is the executive council and meets three or four times a year to implement policies and programs and supervise the work of the International Labour Office (which serves as the ILO's secretariat, operational headquarters, research center, and publishing house). The Governing Body has the same tripartite (government-worker-employer) structure, with fifty-six regular members. Of the twenty-eight representing government, ten are appointed by the members of "chief industrial importance" (presently Brazil, China, France, Germany, India, Italy, Japan, Russia, the United Kingdom, and the United States).

The International Labour Office is headed by a director-general and employs 1,900 officials, representing more than 110 nationalities, at its Geneva headquarters and in forty field of-

fices around the world. Regional offices are located in Abidjan, Lima, Beirut, and Bangkok. The director-general of the ILO (since 1999) is Juan Somavia of Chile. His predecessors have been Albert Thomas of France (1919–1932), Harold Butler of the United Kingdom (1932–1938), John Winant of the United States (1939–1941), Edward Phelan of Ireland (1941–1948), David Morse of the United States (1948–1970), Wilfred Jenks of the United Kingdom (1970–1973), Francis Blanchard of France (1973–1989), and Michel Hansenne of Belgium (1989–1999).

The director-general's global reports, prepared in a four-year cycle, cover freedom of association, forced labor, child labor, and discrimination. These reports are credited with the decision in 2001 to allow the formation of worker committees in Saudi Arabia and unions in Bahrain. Other widely distributed publications include *World of Work* (a quarterly magazine in fifteen languages aimed at a popular audience), the scholarly *International Labour Review,* the *Bulletin of Labour Statistics,* and *Key Indicators of the Labour Market.* In addition, the ILO continues to publish hundreds of specialized studies with titles such as *Safety and Health in the Use of Chemicals at Work: A Training Manual* (1993), *Sending Workers Abroad: A Manual for Low- and Middle-Income Countries* (1997), *Localizing Global Production: Know-How Transfer in International Manufacturing* (1997), *HIV/AIDS and Employment* (1998), *Employment Revival in Europe Labour: Market Success in Austria, Denmark, Ireland and the Netherlands* (2000), *Social Security Pensions: Development and Reform* (2000), *Current International Recommendations on Labour Statistics* (2000), *Action against Sexual Harassment at Work in Asia and the Pacific* (2001), and *Combating Child Labour: A Handbook for Labour Inspectors* (2002).

ILO conventions are attended by roughly 2,000 delegates from 176 member states each year and have again attracted the attention of world leaders. The 2003 conference, for example, was addressed by King Abdullah II of Jordan; President Thabo Mbeki of South Africa, who used the forum to push for global income redistribution; and Brazilian President Lula da Silva, who criticized rich countries for their agricultural subsidies.

The ILO's total income in its 2000–2001 budget was $467 million, with the top contributors being the United States (22 percent), Japan (19 percent), Germany (10 percent), France (6 percent), and Britain (5.5 percent).

Proponents argue that the need for the ILO has never been greater and point to its recent activities as evidence for its potential. However, even strong advocates of international labor standards question the organization's effectiveness. Kimberly Ann Elliott and Richard B. Freeman, for example, concluded that "most reasonably informed people have little idea what the letters I-L-O stand for"; they were not optimistic about the ability of this "90-pound weakling of UN agencies" and "toothless tiger" to raise and enforce labor standards. The ILO's power is seemingly still limited to shining a spotlight on the world's worst labor conditions and hoping that this leads to change.

Robert Whaples

See Also Labor Markets and Wage Effects; Labor Rights and Standards

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International Monetary Fund (IMF)

The International Monetary Fund (IMF) is an independent international organization established by the Bretton Woods Agreements of 1944. It is responsible for ensuring the stability of the international monetary and financial system and has had an important impact on the world economy and its member countries. To meet its objectives, the IMF performs three main functions—surveillance, technical assistance, and financing. Originally, surveillance entailed ensuring that exchange rates stayed relatively fixed. Now it requires only that national exchange rate policies be consistent with the smooth functioning of the international monetary system (that is, that there are no beggar-thy-neighbor policies). The IMF also serves as the lender of last resort, lending large sums to countries in balance of payments difficulty. The IMF can perform regulatory functions up to a point in enforcing the Articles of Agreement by making its loans conditional on specified changes in the economic behavior of the borrowing country. This practice is known as "conditionality" and has drawn much criticism from around the world.

Objectives and Functions of the IMF

Although the IMF has sometimes been called a central bank for central bankers, its role is much more limited than this description implies. The formal objectives of the IMF are stated in Article I of its Articles of Agreement. These are:

1. to promote international monetary cooperation through a permanent institution which provides for consultation and collaboration on international monetary problems;
2. to facilitate the expansion and balanced growth of international trade, and to contribute thereby to the promotion and maintenance of high levels of employment, real income and the development of the productive resources of all members;
3. to promote exchange stability, to maintain orderly exchange arrangements among members, and to avoid competitive exchange depreciation;
4. to assist in the establishment of a multilateral system of payments in respect of current transactions between members and in the elimination of foreign exchange restrictions which hamper the growth of world trade;
5. to give confidence to members by making the general resources of the Fund temporarily available to them under adequate safeguards, thus providing them with the opportunity to correct maladjustment in their balance of payments without resorting to measures destructive of national or international prosperity;
6. to shorten the duration and lessen the degree of disequilibrium in the international balances of payments of members.

The purpose of the IMF was to establish a new world order based on an open exchange and trading system that would operate under international scrutiny and control. Following the competitive devaluations and exchange rate instability of the Great Depression, exchange rates were recognized as matters of international importance. The IMF created an international code of conduct to be observed by all members, and in turn, it would make funding available to smooth the balance of payments difficulties of members. Members would subscribe to and have available to them a pool of currencies that they could draw upon in times of external payments difficulties. Initially the Fund was to promote and enforce an international system of fixed exchange rates established in terms of the U.S. dollar (which was in turn set to gold). Apart from a cumulative initial change of 10 percent, par values could be changed only on a proposal by the member and subject to a finding by the Fund that the member's balance of payments was in fundamental disequilibrium.

Significant changes in the international monetary system have also led to changes in the IMF. One of the most significant changes was the move to floating exchange rates following the U.S. decision to close the gold window and de-link the dollar-gold exchange standard on August 15, 1974. The Second Amendment to the Articles of Agreement was drafted and agreed upon under the Jamaica Agreement of January 1976 and came into effect on April 1, 1978. By resolving issues that led to the second amendment, the Jamaica Agreement ended the negotiations for a reformed international monetary system. The second amendment then spelled out the main themes of a reformed international monetary order. Some of the main points were:

1. Each member could adopt the exchange regime of its choice; however, members were "to seek to promote stability by fostering orderly underlying economic and financial conditions" and to avoid manipulating the exchange rate to gain unfair advantage.
2. A system of par values (that is, global fixed exchange rates, as in Bretton Woods) could be introduced again if 85 percent of the total voting power of the membership agreed, but it would not be based on gold.
3. The role of gold would be permanently reduced through the elimination of gold as a common denominator of the monetary system, obligatory gold payments to the IMF, and the requirement that the IMF hold 50 percent of its reserves in gold.
4. The special drawing right was bolstered to become the principal reserve asset of the international monetary system.

The IMF remains a powerful international institution with an important role in maintaining a stable international economic order.

Governance, Membership, and Quotas

The IMF, like the World Bank, has a representative form of government. The senior decision-making body of the Fund is the Board of Governors. Day-to-day management of the IMF is in the hands of the managing director, who reports to the twenty-four-member Executive Board. The executive directors meet several times a week and represent all of the member states of the IMF. The largest creditors to the Fund are permitted to appoint one executive director each. Presently these are the United States, the United Kingdom, Germany, France, and Japan (the five nations originally assigned the largest amount of privilege and responsibility according to the IMF quota system, each of which has appointed an executive director since 1946), as well as Saudi Arabia, China, Russia, and Switzerland, which have been elected by their respective member state

groups. The managing director is ultimately responsible to the Board of Governors, which meets once a year. The votes of member states are weighted according to a formula embodied in the IMF quota system, which is designed to reflect both the importance of each country in the world economy and the importance of world trade for each economy.

The IMF Board of Governors meets jointly with the Board of Governors of the World Bank Group each year. Following an inaugural meeting held in Savannah, Georgia, in March 1946, the first official joint annual meeting of the two boards was held in Washington, DC, in September 1946. These annual meetings have taken place in September each year since. The second meeting was held in London in 1947. The third (1948), fourth (1949), fifth (1950), and sixth (1951) meetings were held in Washington, DC. The seventh (1952) was held in Mexico City. Thereafter, it became conventional to hold two consecutive annual meetings in Washington and every third meeting in another member country. For example, meetings have been held in Istanbul, Tokyo, Toronto, Belgrade, Berlin, Manila, Nairobi, and Rio de Janeiro.

Membership in the IMF is now almost universal, but this was not always the case. Representatives from forty-five countries attended the International Monetary Conference at Bretton Woods, New Hampshire, in July 1944. The IMF came into existence when twenty-nine of those countries ratified the agreement and sent representatives to the formal signing ceremony on December 27, 1945. Fifteen of the remaining sixteen countries ratified the agreement in subsequent years, with New Zealand (1961) and Liberia (1962) ratifying last. Germany and Japan both joined in 1952. The one exception to the rule was the Soviet Union, which did not ratify the Bretton Woods Agreement. The USSR was an active member at the 1944 conference and had been allocated a quota of $1.2 billion, the third largest behind the United States and the United Kingdom. Although the USSR did not become an IMF member, the fifteen sovereign countries created after the Communist collapse that were part of the former Soviet Union all became members in the period June 1992 to April 1993.

Three founding members withdrew from the Fund: Poland in 1950, alleging that the Fund had failed to fulfill the expectations of its founders; Czechoslovakia in 1955, in a dispute as to whether it was required to provide data to the Fund; and Cuba in 1964, following protracted negotiations on overdue payments to the Fund. Poland and Czechoslovakia rejoined in 1986 and 1990, respectively. China's request for the ouster of the Chinese National Government in Taiwan was rejected in 1950 but accepted thirty years later. Switzerland became a member in 1992 following a long association as a nonmember. The quotas of Yugoslavia and Czechoslovakia were reassigned to the component states that accepted membership following the breakup of those nations.

The Board of Governors is the only authority in the Fund that can approve membership applications, and it does this by a simple majority vote. There are three criteria for membership: The applicant must be a country, it must be in control of its external relations, and it must be willing to perform the obligations of membership contained in the Articles of Agreement. Geographic or economic size, population, the existence of a national currency or central bank, and type of political regime have no bearing on membership. Denial of membership to the Fund automatically entails denial of membership in the World Bank and thus cuts off development finance to the country.

Member countries must deposit their currencies in the IMF in an amount defined by a quota system that also defines each member nation's voting rights, its maximum access to financing, and its share of Special Drawing Right (SDR) allocations. A member's quota is expressed in SDRs and is equal to the subscription the member must pay in full to the Fund before the membership becomes effective. Up to 25 percent must be paid in reserve assets (SDRs or hard currencies); the remainder is paid in the member's own currency. Each

member has 250 basic votes plus one additional vote for each SDR 100,000 of quota. The size of a quota is determined by economic factors that reflect a member's relative position in the world economy, such as trade flows, reserves, and national income. Quotas are reviewed at least once every five years and reassigned as necessary. Initially, only the United States, France, the United Kingdom, Japan, and West Germany had enough voting rights based on quota to appoint a member to the Executive Board. Over time, specific countries were allocated higher quota responsibility and thus additional voting rights. In 1992, Switzerland, Saudi Arabia, China, and Russia each had enough votes to appoint a member to the Executive Board. Major policy decisions taken by the Board of Governors require a high majority vote—85 percent of all quota-based votes; certain other decisions require a 70 percent majority vote, but most decisions require only a simple majority.

IMF Programs and Activities

Surveillance

In its surveillance capacity, the IMF monitors the economic and financial policies of member states and provides consultation and regular dialogue about the national and international consequences of those policies. It also may offer economic and financial policy advice. Regular consultations between the Fund and each member country (developing and industrial) have been required under Article IV since passage of the Second Amendment of the Articles of Agreement in 1978 (prior to 1978 they were voluntary). These consultations may be held annually or once every two years. Since 1987, a "bicyclic" approach has been adopted where a full consultation takes place every two years and a simplified, interim consultation in the intervening year. During these consultations, IMF economists visit the member country to collect data and hold discussions with government and central bank officials, and often private-sector representatives, members of parliament, and leaders of civil society and labor unions. The consultations provide the data the Fund needs to exercise surveillance. The Fund analyzes a member nation's economic development and policies; examines its fiscal, monetary, and balance of payments accounts; and assesses how policies influence its exchange rates and external accounts. Discussions with member countries, staff reports on their economies, and the adjustment programs that are supported by the Fund are all confidential, with no limitations on the period of confidentiality.

The IMF also continuously reviews global economic developments in what is known as "multilateral surveillance." In its biannual *World Economic Outlook* (WEO), IMF staff analysts discuss prospects for the world economy and provide in-depth studies of specific issues and challenges. The IMF also publishes a biannual *Global Financial Stability Report* (GFSR), which provides assessments of the stability of global financial markets and identifies potential systemic weaknesses that could lead to crises.

One area of surveillance is monitoring of exchange rates. The Fund is charged under the Articles of Agreement with exercising "firm surveillance over the exchange rate policies of its members" to help assure orderly exchange arrangements and promote a stable exchange rate system. It has approved three principles to guide members in their conduct of exchange rate policy: (1) to refrain from manipulating the exchange rate or the international monetary system in order to gain an unfair advantage or prevent balance of payments adjustment (beggar-thy-neighbor policies); (2) to intervene in the exchange markets, if necessary, to counter disorderly conditions; and (3) to take the interests of other members into account in developing intervention policies, including the interests of countries in whose currencies they are planning to intervene.

In 1978, the Second Amendment to the Articles of Agreement produced several changes. One of the most significant was the expansion

of the Fund's surveillance function to include, de facto, all the monetary and financial policies of its members. Because countries could now elect the exchange regime of their choice and would not have to gain Fund approval to change parity, in other words, the Fund surveillance function was expanded to a broader but less specific arena of operation. In order for "firm surveillance" of the system to now be effective, the Fund needed to apply its monitoring and consultation activities not only to exchange rates but also to other national economic and financial policies, whether the country being monitored used the Fund's resources or not. Exchange rate, monetary, and fiscal policies remain at the center of IMF surveillance on issues ranging from the choice of exchange rate regime to ensuring consistency between the exchange rate regime and the stance of fiscal and monetary policy.

Structural policies were added to the IMF's surveillance agenda in the 1980s as economic growth slowed in many industrial countries in the wake of the second oil price shock. The debt crisis in the developing world and the fall of communism further underlined the need for structural change in many countries. Financial-sector issues were added to IMF surveillance in the 1990s following a series of banking crises in both industrial and developing countries. In 1999, the IMF and the World Bank decided to create a joint Financial Sector Assessment Program (FSAP) specifically designed to assess the strengths and weaknesses of countries' financial sectors. Other issues of concern are institutional issues, such as central bank independence, financial-sector regulation, corporate governance, and policy transparency and accountability. Assessment of risks and vulnerabilities has expanded from the traditional focus on the current account and external debt to include risks from large and volatile capital flows.

Training and Technical Assistance

The objective of IMF technical assistance, as described in Article I of the IMF's Articles of Agreement, is "to contribute to the development of the productive resources of member countries by enhancing the effectiveness of economic policy and financial management." The IMF Institute was established in 1964 to provide training in economic management to officials of the Fund's member countries and to help members design and implement effective economic policies. Since then, it has trained more than 13,000 officials at its headquarters in Washington, DC, and about 8,000 officials overseas from almost all of the member countries. The IMF provides technical assistance in its areas of expertise, including fiscal policy, monetary policy, and macroeconomic and financial statistics, mostly free of charge.

About three-quarters of IMF technical assistance goes to low- and lower-middle-income countries. Most of the institute's overseas training is conducted in regional training centers in Austria, Brazil, China, Côte d'Ivoire, Singapore, and the United Arab Emirates, and occasionally in large member countries and in countries with special circumstances. Courses at headquarters are offered in four languages—Arabic, English, French, and Spanish. In the regional training centers, courses are offered in English and in the primary language of the region. In January 2000, the institute launched its first distance learning program, with a course on financial programming and policy.

Financing

The resources of the Fund consist of gold, SDRs, currencies of members' paid in quota subscriptions, undistributed net income (interest payments) derived from the use of those resources, and borrowed funds from member governments, central banks, or the Bank for International Settlements. The value of those resources is in SDR, the Fund's unit of account. From these resources the IMF administers its financing facilities. The Fund does not provide development finance. Development finance is long-term financing directed to a specific project or sector of the economy. This is the function of the World Bank. The Fund provides

short-term to medium-term balance of payments financing in support of macroeconomic adjustment programs.

The Fund's financing is available at slightly below market rates and is generally repayable in terms of three to five years or slightly longer, but never more than ten years. Technically, IMF financing operations are purchases and repurchases of member currencies, not loans. When a member draws on the Fund's resources, it *purchases needed currencies* by exchanging its own currency. In repayments to the Fund, a member *repurchases its own currency* from the Fund with a designated currency usable in international payments (for example, U.S. dollars). The Fund pays interest on that portion of a member's currency holdings that it uses to meet the drawings of other members.

The Fund aims to be self-financing. The objective is to cover expenses from revenue, mainly from interest payments arising from loans and credits. The basic rate of interest applied to the use of the Fund's ordinary resources (distinct from borrowed resources, where the rate covers the cost to the IMF of borrowing the funds plus a small margin for the Fund) is set at the beginning of each financial year based on the estimated income and expenses of the Fund in the year ahead. The Fund also charges a uniform service charge of 0.5 percent on amounts purchased from the ordinary resources of the Fund beyond the reserve tranche (purchases from the reserve tranche, formerly called the "gold tranche," do not have a charge). The Fund has usually had a surplus income over expenditures.

The balance of payments adjustment is at the center of the use of IMF financial resources. Members may draw on amounts they have deposited with the IMF—based on their quota, in either their own currency or the currency of other countries, as needed—only when they have a balance of payments problem. Each member may draw up to 150 percent of its quota in one year and no more than 450 percent of its quota in total outstanding debt. For extensive drawings, a member country must work out a balance of payments adjustment program acceptable to the IMF. In time of crisis, quota limits may be waived by a vote of the Executive Board. The IMF may thus aid a troubled country up to its total available resources.

The IMF's resources were primarily used by industrial countries in the first twenty years after World War II. From 1966 to 1977, industrial and less developed countries made about equal use of Fund resources. Beginning in 1978, IMF total credits and loans to developing countries accelerated remarkably, rising from approximately SDR 6 billion in 1977 to a peak of nearly SDR 40 billion in 1984, before beginning to decline in 1985. In the same period, credits and loans to industrial countries dwindled from approximately SDR 6 billion in 1977 to approximately SDR 1 billion in 1986.

In the 1950s, IMF financing went almost entirely to industrial countries in need of postwar assistance. In the 1960s and until the first oil crisis of 1973, IMF financing to industrial and developing countries was roughly equivalent, at approximately SDR 1 billion to each in any given year. IMF financing to industrial and developing nations jumped equally following the first oil crisis, but after 1978 the face of IMF financing dramatically turned to developing countries, causing a definitive change in the Fund. The last year that a major industrial country made use of the Fund's resources was 1976, when eight industrial countries drew a total of SDR 2.6 billion. From 1976 to 1984, several small industrial countries made limited use of the Fund's resources, but since 1984 no industrial country has done so and all of the Fund's activity has been with less developed countries, who have continuously made increasing use of Fund resources.

In the 1980s, Fund policy with respect to delinquent debtors also began to shift. As more and more countries began running into debt servicing difficulties and began to default in their obligations to the IMF, the Fund was beginning to feel the effect of the debt crisis on its own operations. If a member fails to fulfill any

of its obligations under the Articles of Agreement, the Fund has the right to declare that member ineligible to use the Fund's general resources, and from 1985, the Fund began to do so in an unprecedented number of cases. The Fund may also issue a declaration of noncooperation or suspend a member's voting rights and representation in the Fund. If a member is judged not to be cooperating with the Fund, not paying off its debt, or even freezing its arrears, a series of further steps can eventually lead to the compulsory withdrawal of the member from the Fund. By April 1992, overdue obligations had risen from $1.2 billion in 1987 to a peak of $3.5 billion, and eight members were declared ineligible. No member has been forced to withdraw from the Fund, however.

The General Agreement to Borrow (GAB) was created in October 1962 when the Fund arranged to borrow, in certain circumstances, specified amounts of currencies from eleven industrialized countries, including ten members of the Fund (Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, the United Kingdom, and the United States) plus Switzerland, which was not a member at the time. The ten member countries of the GAB originated the Group of Ten, which was to become prominent in international monetary affairs in later years. The GAB provided the Fund with up to $6 billion in lenders' currencies to help finance purchases by GAB participants in the event of a financial crisis. GAB countries recognized that, owing to their financial size, in the event of a crisis for any one of them the Fund might not have the resources available to provide drawings of the magnitude that may be required. Between 1964 and 1970, the GAB was activated six times, to help finance four large drawings of the United Kingdom and two by France. In the 1970s, it was activated three times to help finance drawings by the United Kingdom (1977), Italy (1977), and the United States (1978). In 1982, among other reforms, arrangements were agreed with Saudi Arabia to associate that country on a bilateral basis with the GAB.

The first oil crisis of 1973 gave rise to balance of payments difficulties of unprecedented magnitude for most oil-importing countries. Drawings from normal credit tranches would have been inadequate. Financing, rather than adjustment, was the main objective. In 1974 and 1975, as a result of the sharp rise in oil prices in 1973, the Fund established a special oil-financing program to help members meet the increased import costs of petroleum and related petroleum products. The program involved recycling so-called petrodollars, that is, borrowing from those IMF members that had a balance of payments surplus (seventeen lenders, mainly the oil-exporting countries) and lending to oil-importing countries that were in deficit. Conditionality on the use of the oil facilities was minimal, and repayment terms were generous (repayments were to begin after four years and be completed within seven years). A total of fifty-five member countries drew SDR 6.9 billion under the program. A special Oil Facility Subsidy Account was created to reduce the cost of oil facility funds by half for the eighteen members most seriously affected by the oil crisis as determined by the secretary general of the United Nations.

In 1986, the Fund established the Structural Adjustment Facility to provide financial resources on highly concessional terms to support medium-term (three years) macroeconomic and adjustment programs in low-income countries facing protracted balance of payments problems. Within this program, annual policy programs are formulated by the member country and supported by financing from the Fund in annual disbursements. Interest rates on structural adjustment loans are set at 0.5 percent a year, and repayments are made in five to ten years. Other financing facilities include the Supplementary Financing Facility, the Supplementary Financing Facility Subsidy Account, and the Systemic Transformation Facility (established in 1993 and designed to assist former planned economies in transition). In 1963 and 1989, the Compensatory and Contingency Financing Facility was introduced to

extend the Fund's financing to members in balance of payments difficulties because of (1) temporary export shortfalls; (2) adverse external contingencies; (3) excess cost of cereal imports; and (4) excess cost of oil imports (temporarily). This program allows members to draw on the Fund to offset export shortfalls caused by factors largely beyond their control (such as crop failures or natural disasters). It may also cover workers' remittances and international buffer stocks.

The IMF is also actively working to reduce poverty in countries around the globe, both independently and in collaboration with the World Bank and other organizations. The IMF provides financial support through its concessional lending facility—the Poverty Reduction and Growth Facility (PRGF)—and through debt relief under the Heavily Indebted Poor Countries (HIPC) Initiative. In most low-income countries, this support is underpinned by Poverty Reduction Strategy Papers (PRSP). These papers are prepared by country authorities—in consultation with civil society and external development partners—to describe a comprehensive economic, structural, and social policy framework that is being implemented to promote growth and reduce poverty in the country. Since 1962, the IMF has also provided emergency assistance to member countries afflicted by natural disasters—such as floods, earthquakes, hurricanes, or droughts. IMF financing can help to offset resulting shortfalls in export earnings and/or increased imports for recovery and reconstruction and help countries to avoid a serious depletion of their external reserves.

The resources of a Trust Fund created in 1976 were to be used exclusively for the purpose of providing loans to poorer developing countries, subject to very light conditionality, with concessional interest rates of 0.5 percent and a maturity of ten years. The Trust Fund made its final disbursement in gold in 1981. Its business was converted into the Special Disbursement Account, the structural adjustment facility, in 1986, and the enhanced structural adjustment facility in 1987, with additional funds from loans and grants contributed by aid agencies of member countries. Lack of fulfillment of the agreed-upon program of restructuring in the first year required additional corrective measures with benchmarks in the subsequent years of the program. Reforms implemented under the enhanced structural adjustment facility were particularly far-reaching with regard to both macroeconomic policy measures and structural reforms, but allowed up to 255 percent of quota. Commitments under three-year programs ended in 1992 when the entire resources of the trust were committed (SDR 6 billion).

Special Drawing Rights (SDRs). The SDR system was the first international reserve asset arrangement to be created by international law. It came into existence through the First Amendment to the Articles of Agreement. SDRs are purely book entries maintained by the IMF and do not have any traditional reserve backings such as gold or hard currency reserves. They are used by members in settling accounts within the IMF, by some other international organizations (such as development banks), and in some private arrangements. SDR deposits in the IMF carry a market-weighted interest rate but are not traded in international capital markets (except for a brief period in 1980–1981). The principal characteristics of the special drawing right are:

1. It was voluntary but universal, open to all Fund members, and specified that allocations or cancellations would be made in proportion to each participating member's quota and remain stable for a period of five years.
2. It would be created on the books of the Fund backed by an international agreement (the Fund's Articles of Agreement).
3. It would be available for use through the Fund on a voluntary basis by mutual agreement of both transacting parties, by national monetary authorities, and by

a limited number of official holders, but was not for use in private markets.
4. Its value was initially determined in terms of gold, then (after 1978) by a basket of currencies.

Allocations of SDRs are made by the Fund to those members who agree to participate in the SDR Department. The first basic period of SDR allocation was for three years (1970–1972), with a total of SDR 9.3 billion allocated. The second basic period was 1973–1977, during which no SDRs were allocated. The third period was 1978–1981, when SDR 12.1 billion were allocated. On April 30, 1992, a total of SDR 21.4 billion were in circulation, of which SDR 20.8 billion were held by participants and SDR 0.7 billion were held by the IMF. To enhance the attractiveness of the SDR, the Executive Board decided in 1980 to reduce the basket from sixteen to five currencies (U.S. dollar, German mark, French franc, British pound sterling, and Japanese yen) and to raise the interest rate on SDR deposits to market rates. The largest weight in the basket belongs to the U.S. dollar (40 percent). Despite such measures, however, the role of the SDR in the international monetary system has been limited. At present it is only a minor supplement to international reserves, amounting to less than 3 percent of world reserves. Nor is it used extensively except in transactions with the IMF itself.

Conditionality

Before a member state can use the Fund's financial resources, it must represent that it has a need to make the purchase "because of its balance of payments or its reserve position or developments in its reserves." Three conditions—the requirement of a balance of payments need, temporary use, and adequate safeguards—distinguish the IMF's lending operations from those of the World Bank. When a country borrows from the IMF, its government makes commitments on economic and financial policies—a requirement known as "conditionality." Conditionality is the link between the approval or continuation of the Fund's financing and the implementation of specified elements of economic policy by the country receiving this financing. It provides assurance to the IMF that its loan will be used to resolve the borrower's economic difficulties and that the country will be able to repay promptly, so that the funds become available to other members in need.

The policies to be adopted are designed not just to resolve the immediate balance of payments problem but also to lay the basis for sustainable economic growth by achieving broader economic stability—for example, by containing inflation or reducing public debt. Policies may also address structural impediments to healthy growth, for instance price and trade liberalization, measures to strengthen financial systems, or improvements in governance. Together, such policies constitute a member country's "policy program," which is described in a letter of intent, which may or may not have a memorandum of economic and financial policies attached to it, that accompanies the country's request for IMF financing. The specific objectives of a program and the types of policies adopted depend on a country's circumstances.

Most IMF loans feature "phased disbursements." This allows the IMF to verify that a country is continuing to adhere to its commitments before disbursing successive installments. Program monitoring relies on several tools:

- *Performance criteria* are specific conditions that have to be met for the agreed amount of credit to be disbursed. There are two types: quantitative and structural.
- *Quantitative performance criteria* typically involve macroeconomic policy variables such as international reserves, monetary and credit aggregates, fiscal balances, or external borrowing. For ex-

ample, a program might include a minimum level of net international reserves, a maximum level of central bank net domestic assets, or a maximum level of government borrowing.

- *Structural performance criteria* vary widely across programs but could, for example, include specific measures to restructure key sectors such as energy, to reform social security systems, or to improve financial sector operations.
- *Indicative targets* may be set when there is substantial uncertainty about economic trends beyond the first months of the program. As uncertainty is reduced, these targets will normally be established as performance criteria, with appropriate modifications as necessary.
- *Structural benchmarks,* though less critical for meeting the program's objectives, may help the Board assess a country's progress on structural reforms. Failure to achieve them would not necessarily interrupt Fund financing, however.
- *Program reviews* serve as an opportunity for a broad-based assessment by the Executive Board of progress within the program and provide a forum in which to discuss policies and introduce changes that may have become necessary in light of new developments.

Although the use of IMF resources has involved some element of conditionality since the 1950s, formal guidelines were not developed until 1968, and the scope of conditionality has expanded particularly since the early 1980s. Up to the early 1980s, IMF conditionality focused primarily on macroeconomic policies. Subsequently, however, the complexity and scope of the structural performance criteria attached to IMF credit increased significantly. This broadening and deepening of conditionality reflected both an increased emphasis on the need for supply-side measures to strengthen the fundamentals underlying economic growth and the IMF's growing involvement in low-income and transition countries, where structural problems were particularly severe. In the process, tensions arose between the desire to cover aspects of policy central to program objectives and the importance of minimizing intrusion into national decisionmaking processes. Against this background, the 1979 Guidelines on Conditionality underscored the principle of parsimony and the need to limit performance criteria to the minimum number needed to evaluate policy implementation. They also stressed that the Fund should pay due regard to a country's social and political objectives, economic priorities, and circumstances.

Since 1979, a major expansion of conditionality has taken place, particularly in the structural area. Although structural measures were rarely an element in Fund-supported programs until the 1980s, by the 1990s almost all programs included some element of structural conditionality. The expansion of structural conditionality was also reflected in increasing numbers of performance criteria, structural benchmarks, and prior actions. These changes were the result of several factors. First, the Fund placed increasing emphasis on economic growth as a policy objective, with the recognition that raising growth on a sustainable basis requires strengthening the supply side through structural reforms. Second, the Fund became increasingly involved with groups of countries in which structural reforms were viewed as a particularly important part of an overall policy package, such as low-income countries and transition economies. Third, there was an increasing awareness that the monetary and fiscal policy objectives often depend critically on structural conditions—including the removal of extensive market distortions and the establishment of institutional underpinnings for effective policymaking in a market economy.

Members' drawing privileges on their reserves at the Fund are divided into tranches (or portions), each amounting to 25 percent of the total member's quota. The first 25 percent tranche can be drawn at any time without chal-

lenge (this was originally called the "gold tranche," as this portion of the quota was paid in gold). The second tranche requires moderate conditionality. The third and fourth tranches (the upper tranches) require substantial justification and agreement by the Fund on a sound corrective program. Use of the upper tranches is done through a standby arrangement that normally has repayment terms of one year (although members often renew this), quarterly phasing of drawings, and performance criteria to aid in program assessment.

History of the IMF

1944: Bretton Woods

From July 1 to 22, 1944, the International Monetary and Financial Conference was held in Bretton Woods, New Hampshire, with representatives from forty-four countries. At this conference the Articles of Agreement of the IMF and World Bank were drafted. On December 27, 1945, the IMF's Articles of Agreement entered into force, with twenty-nine governments, collectively representing 80 percent of the IMF's originally agreed-upon financial quotas, signing the agreement. From March 8 to 18, 1946, the inaugural meeting of the IMF Board of Governors was held in Savannah, Georgia. Here it was decided that the IMF's headquarters would be in Washington, DC. In addition, the by-laws were adopted and the first executive directors were elected. Camille Gutt of Belgium became the first managing director of the IMF on May 6, 1946.

The Bretton Woods par value system was a fixed exchange rate system based on gold. Changes could be made in the value of the currency only with the concurrence of the Fund. Otherwise, exchange rate movements were to be confined to a margin of 1 percent on either side of the declared parity. The concept of "fundamental disequilibrium" was central to the working of the system. A member was not allowed to propose a change in the par value of its currency without the need to correct a "fundamental disequilibrium." The term was not explicitly defined, and the Fund reviewed proposals on a case-by-case basis, allowing for significant flexibility in interpretation. The breakdown of the Bretton Woods par value system in 1971 led to a generalized system of floating exchange rates by 1973. A fundamental disagreement rapidly emerged (and still exists) among countries as to whether currencies should float freely (mainly the U.S. view) or the exchange rate should be influenced by central bank intervention (mainly the European view).

Despite ideological differences, two notable examples of international monetary cooperation and planning among the industrial countries occurred among the Group of Seven industrialized countries (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States) in 1985 and 1987: the Plaza Accord and the Louvre Accord, respectively. In the Plaza Accord, the Group of Seven agreed to cooperate in reducing the value of the dollar. At the Louvre Accord, they agreed to cooperate to foster stability around current currency levels at the time. Both accords involved significant central bank intervention and coordination in foreign exchange markets and monetary policy.

1947–1966: Building an Institution

On September 27, 1947, the first joint annual meeting of the Board of Governors of the IMF and the World Bank Board of Governors opened in Washington, DC. On December 18, 1946, initial par values of exchange rates to the U.S. dollar were agreed for most members. On March 1, 1947, the IMF began financial operations. France was the first member country to draw financial resources from the Fund when it received $25 million on May 8, 1947. On February 13, 1952, the Fund codified its policies on the use of its resources, establishing the tranche policies. The Fund also developed a general framework for the use of its financial resources in "standby arrangements." The Fund's first standby arrangement was with Belgium on June 19, 1952, which was followed by

arrangements with France and the United Kingdom in 1956. Also in 1952 the Fund began to have annual consultations with members maintaining exchange restrictions, as directed by Article XIV. Exchange restrictions were in place until December 29, 1959, when fourteen Western European countries made their currencies externally convertible for current transactions. This was the first major step toward an open multilateral trading system. In 1961, nine more West European countries joined convertibility, resulting in all major currencies being convertible.

In 1959, the first increase in Fund quotas became effective, raising total quotas from $9.2 billion to $14 billion. In 1962, the General Agreements to Borrow went into effect. Under these agreements, the ten largest industrial members, plus Switzerland, agreed to lend the IMF the equivalent of $6 billion immediately if called for to prevent a disruption of the international payments system. The arrangements inspired the formation of the Group of Ten. In 1963, the compensatory financing facility was established to allow members with temporary shortfalls in their export earnings to draw on the Fund's resources. Oil facilities, the buffer stock financing facility, the emergency assistance facility, and the structural adjustment facility were established later.

On September 27, 1963, in his opening address to the annual meeting, Managing Director Pierre-Paul Schweitzer of France announced the IMF's intention to become involved in international liquidity of the monetary system. This was a contradiction of the Group of Ten's efforts to make international liquidity a matter of concern only to the industrial nations and to limit any scheme for reserve creation to those countries. Six months later, on March 3, 1964, the IMF proposed the creation of a new reserve asset through the IMF. This proposal produced the Special Drawing Right (SDR) scheme three years later. In 1966, a second increase to IMF quotas was approved at 25 percent for each member, with special additional increases for sixteen members. The second wave of quota increases brought total available financing by the Fund to $21 billion.

1967–1979: Turbulent Times

In the late 1960s and for most of the next decade, the Fund oversaw the end of the international monetary order set up at Bretton Woods, attempted to reduce the effects of severe exchange rate crises, and saw a vastly increased membership as a result of the decolonization movement. Together, these events produced a substantial increase in the use of Fund resources as well as new policies governing their use. They also led to the First Amendment to the Articles of Agreement, to the SDR, and to new responsibilities and activities in technical assistance and training. In 1974, recognizing that the era of fixed exchange rates was over, the IMF produced its "Guidelines for the Management of Floating Exchange Rates."

The growing liquidity problems in the international monetary system were becoming evident in the mid-1960s. In an attempt to address the issue and alleviate pressures in the system, the Fund sought the creation of a new reserve asset, and it was agreed that the executive directors of the Fund, representing all Fund members, would hold a series of meetings with deputies of the Group of Ten to discuss reserve creation schemes. The initial meetings, which took place in Washington, DC, from November 28 to 30, 1966, brought representatives of less developed countries face to face with their counterparts from the industrial countries for the first time in discussing problems of international liquidity, bringing the IMF a step closer to the creation of a universal reserve scheme. A second meeting took place from January 25 to 26, 1967, in London, where delegates began to seriously consider a plan based on SDRs. The executive directors and deputies of the Group of Ten met two more times in 1967, from April 25 to 26 and from June 19 to 21. On August 26, the Group of Ten met in London and agreed on voting majorities and reconstitution provisions for an SDR facility.

In 1968, a two-tiered market for gold was established as a result of a decision by the central banks from seven industrial nations to buy and sell gold at the official price of $35 an ounce only in transactions with monetary authorities. Private transactions in gold were left to be determined by market forces. This marked the beginning of the end of the par value system of exchange rates based on gold. From June 4 through June 19, 1968, heavy use was made of the Fund's financial resources when France drew $645 million and the United Kingdom drew $1.4 billion under a standby arrangement approved in November 1967 under what many viewed as favorable terms. On September 20, 1968, executive directors representing the developing countries successfully pressed for the adoption of guidelines that would ensure uniform and equitable treatment for all members in the use of the Fund's financial resources.

On June 20, 1969, a new standby arrangement was approved for the United Kingdom for $1 billion. A few weeks later, on August 10, France devalued the franc by 11 percent and drew on a new standby arrangement for $985 million a month later. In the face of persistent balance of payments surpluses, in September the Federal Republic of Germany allowed the deutsche mark to float, but a month later it ended the float and revalued the currency by 8.39 percent. The Special Drawing Right Account was established that same year, setting the stage for a distribution of SDRs in 1970–1972. On October 2, 1969, the IMF Board of Governors approved the allocation of SDR 9.3 million to 104 participants over a period of three years beginning January 1, 1970. The United States was the largest participant, receiving an allocation of SDR 867 million. Botswana was the smallest, receiving SDR 504,000.

In 1970, a third general increase in quotas was approved, raising total quotas by 36 percent to $28.9 billion. On November 25 of that year, the International Tin Agreement became the first commodity agreement for which use of the buffer stock financing facility was authorized. From May 9 to 11, 1971, in the face of heavy capital movements, the Federal Republic of Germany and the Netherlands allowed their currencies to float. Austria revalued its currency, and Belgium and Luxembourg enlarged their free trade market for capital transactions. On July 16, 1971, the first purchases under the buffer stock financing facility were made by Bolivia and Indonesia.

On August 15, 1971, the United States announced that it would no longer freely buy and sell gold for the settlement of international transactions, thus suspending the convertibility of the dollar held by official institutions. The announcement in effect ended the Bretton Woods system. For the next four months, global exchange rates were in total disarray, with Fund members introducing various exchange rate arrangements, including free-floating rates. There was an attempt to maintain a fixed rate system for another eighteen months under the Smithsonian Agreement. On December 17–18, 1971, the Group of Ten concluded the Smithsonian Agreement, providing for the realignment of the major currencies and an increase in the official price of gold from $35 to $38 an ounce. It was the first time that exchange rates had been negotiated at an international conference. As part of the Smithsonian Agreement, the IMF formally established a temporary regime of central rates and wider margins set at 2.25 percent on either side of an established central rate, thereby providing for an overall margin of 4.5 percent.

On March 20, 1972, the IMF Board of Governors authorized the Fund to express its accounts in terms of the SDR instead of U.S. dollars. On April 24, the exchange rate mechanism of the European Monetary System went into effect for six currencies, limiting margins to 2.25 percent, half the margin established under the Fund's temporary regime of central rates—the so-called "snake-in-the-tunnel." On June 23, the United Kingdom floated the pound sterling. This was the first break in the pattern of rates established by the Smithsonian Agree-

ment. Switzerland floated the Swiss franc on January 23, 1973, and on March 19 of that year, the European Community countries introduced a joint float for their currencies against the U.S. dollar. This marked the beginning of generalized floating and the end of the attempt to maintain an international system of fixed exchange rates.

Between July 1972 and June 1974, several meetings were held by the Committee of Twenty (or the Committee of the Board of Governors on Reform of the International Monetary System and Related Issues) to reform the international monetary system. The Committee of Twenty produced an Outline of Reform but was not successful in implementing full-scale reform. In 1973, the first oil crisis hit as the six members of the Organization of Petroleum Exporting Countries (OPEC) increased prices for crude oil dramatically. The disruption to the world economy made any agreement on international monetary reform difficult. However, the committee agreed on a number of important points, such as an oil facility and medium-term assistance to developing countries. On August 22, 1974, the first use was made of the IMF's oil facility, and on September 13, 1974, an extended facility was established to give medium-term financing assistance to developing countries with terms of up to ten years in order to address structural changes in their economies (such as an oil price rise). In 1975, the United Kingdom drew SDR 1 billion under the oil facility, and in 1977 the IMF approved a two-year standby arrangement for the United Kingdom for SDR 3.36 billion—the largest amount ever approved.

To address developmental and structural issues within the developing world, IMF members agreed in 1975 to sell one-sixth of the IMF's gold (or 25 million ounces) for the benefit of developing members through the establishment of a Trust Fund. It also agreed to return one-sixth of the Fund's gold to all members, sold at the official price of SDR 35 an ounce, in proportion to their quotas. This process was completed in stages by 1980. In 1977, the first Trust Fund loans were made to twelve member nations. The Trust Fund was later folded into the structural adjustment facility and other programs.

1980–1990: New Direction

The 1980s showed a marked turn in the IMF toward financing the needs of less developed countries. In 1981, the Executive Board introduced a policy of "enlarged access." Under the new policy, the Fund could approve standby or extended arrangements for up to 150 percent of a member's new quota each year, for a period of three years, with a cumulative limit of 600 percent of quota. To make this enlarged access operative, the Executive Board authorized the managing director to borrow from the Saudi Arabian Monetary Agency. The Fund concluded an agreement for up to SDR 12 billion over a six-year period. At the same time, the compensatory financing facility was amended to cover financing to members that encountered balance of payments difficulties caused by an excessive rise in the cost of cereal imports that were largely beyond the control of the member. The amendment was expected to be of particular benefit to low-income countries.

On December 23, 1982, the Fund approved a three-year extended arrangement for Mexico of SDR 3.6 billion to support a medium-term adjustment program. The Group of Ten agreed to a major enlargement of the General Agreements to Borrow, from SDR 6.4 billion to SDR 17 billion, in January 1983, with additional lenders and revisions in its terms to allow all members to draw on the Fund. The same month, the Fund approved a standby arrangement and compensatory financing for Argentina totaling SDR 2 billion, and another SDR 1.7 billion in December 1984. The Fund approved an extended arrangement for Brazil for SDR 5 billion in February 1983. The same month, an increase in quotas was recommended to enlarge total Fund quotas from SDR 61 billion to SDR 90 billion. In May 1984, the Fund entered into a borrowing arrangement with Saudi Arabia for a maximum of SDR 1.5

billion. It also concluded four new short-term borrowing agreements that year totaling SDR 6 billion with the Saudi Arabian Monetary Agency, the Bank for International Settlements, Japan, and the National Bank of Belgium.

1991–2001: Increasing Criticism

In 1990, the managing director of the IMF, for the first time, outlined a timetable for dealing with members having overdue obligations to the Fund. This timetable included compulsory withdrawal from the Fund up to two years after the emergence of arrears. The Executive Board then adopted the "rights" approach to overdue obligations. A member in arrears to the Fund would be able to earn rights conditioned on a satisfactory performance under an adjustment program monitored by the Fund. This process would lead to a disbursement by the Fund once the member's overdue obligations had been cleared and upon approval of a successor arrangement by the Fund. In 1992, a Third Amendment to the Articles of Agreement provided for the removal of voting rights of "ineligible members," and the Fund terminated the "enlarged access" policy in effect since 1981 under which the Fund supplemented its quota resources with borrowed funds. Through various quota increases, Fund resources had now grown to SDR 145 billion ($200 billion).

Anastasia Xenias

See Also Balance of Payments and Capital Flows; Currency Crisis and Contagion; Exchange Rate Movements; Inequality; International Financial Markets; International Indebtedness; Asia Pacific Economic Cooperation (APEC); International Bank for Reconstruction and Development (IBRD)

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Latin American Free Trade Association (LAFTA)

Organizing the Americas into a regional free trade area has a long history. The vision of regional integration across all of Latin America can be traced back to Simon Bolivar and the nineteenth century. In more modern times, two waves of integration have encompassed the region as a whole. The first culminated in the mid–twentieth century with the creation of the Latin American Free Trade Area (LAFTA); the second began in the 1990s with the initiative to create a Free Trade Area of the Americas that would encompass Latin America, the United States, and Canada.

The Era of Regional Integration

Economic integration became popular in Latin America in the 1950s and 1960s, spearheaded by the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), then under the leadership of Secretary General Raul Prebisch. Prebisch was a staunch advocate of regional economic integration and import-substitution industrialization as a method of economic development. With the encouragement of ECLAC, a number of regional initiatives took shape in Latin America during this period encompassing small groups of countries (the Central American Common Market, the Andean Group, and Mercosur). These regional groupings survived and to varying degrees flourished into the twenty-first century. There was also an attempt at a free trade area that would encompass all of Latin America that preceded and in some cases gave rise to the smaller regional groupings. In 1960, the Latin American Free Trade Association was created by Argentina, Brazil, Chile, Mexico, Paraguay, Peru, and Uruguay with the Treaty of Montevideo. This group was later joined by Bolivia, Colombia, Ecuador, and Venezuela. A highly ambitious program, LAFTA covered 90 percent of the entire area, population, and gross national product (GNP) of Latin America.

From April 12 to 14, 1967, the Organization of American States (OAS) sponsored a meeting of the heads of state of Latin American countries and the United States at Punta del Este, Uruguay. At that meeting, the heads of state of the Western Hemisphere approved the Declaration of the Presidents of America (or the "Punta del Este Declaration"), an agreement that committed the countries of Latin America, supported by the United States, to proceed in launching a region-wide Latin American Common Market (LACM). The LACM was to be created beginning in 1970 and be "substantially in operation a period of no more than fifteen years." The goal was to turn all of Latin America into a single economy no later than 1985. The declaration received full approval from all OAS members (all countries of Latin America except Cuba plus the United States). According to the Punta del Este Declaration, the LACM would be "based on the complete development and progressive convergence of the Latin American Free Trade Association and of the Central American Common Market taking into account the interests of the Latin American countries not yet affiliated with these systems. . . . We will join in efforts to increase sub-

stantially Latin American foreign trade earnings."

In August 1967, at the annual meeting of LAFTA's Council of Ministers in Asunción, the first major attempt at implementation of the LACM, negotiations stalled. Problems encountered were attributable to the large differences in economic development of the member countries and the related conflicts of interest that ensued. The economies of Latin America varied widely in terms of industrialization, market size, transportation and communication infrastructure, and standard of living. The major concern was that economic integration might actually intensify, rather than resolve, existing inequalities. The seventh annual conference of LAFTA later in 1967 encountered similar negotiating difficulties on the inclusion of wheat and petroleum (which accounted for over 25 percent of intra-LAFTA trade).

LAFTA cut tariffs on about 7,500 items in its first two years, but after that initial burst of enthusiasm, negotiations became more difficult, and LAFTA's goal of eventual free trade became increasingly unrealistic. The main reason for the slowdown in tariff reductions was a lack of commitment to integration largely due to disparate levels of industrial development. Momentum for action on recommendations for tariff concessions slowed, and the number of concessions actually approved from among those recommended began to steadily decrease. Agricultural and metal products, which accounted for 70 percent of intra-LAFTA trade, proved the most difficult to provide concessions for, whereas manufactures (primarily chemicals, equipment, and machinery), accounting for only 20 percent of intra-LAFTA trade, provided over half of all concessions. Despite stated intentions to attain the opposite results, there were indications that LAFTA was promoting uneven development. Accumulating data showed that trade advantage was moving in favor of the more developed countries at the expense of the less developed ones.

There were also structural impediments to integration. The Punta del Este Declaration affirmed the need to "lay the physical foundations for a Latin American economic integration through multinational projects in transportation, telecommunications and power, and border regions." However, transportation and communications facilities were generally inadequate to promote regional integration and trade. Physical obstacles rooted in geography, such as vast distances, mountainous terrain, and dense jungles, entailed large financial investments overwhelming for most countries. Financial challenges such as access to capital, settlement of accounts, inflation, and currency instability added to problems in advancing integration. Moreover, Latin American countries traditionally relied heavily on customs receipts for government revenue. Reducing tariff barriers under regional integration had the effect of depriving governments of less developed countries of important sources of income that could otherwise be used for development projects.

Some financial assistance for regional integration was provided by the Inter-American Development Bank (IDB). The IDB was formed in 1959 at the initiative of Latin American countries to be the region's primary multicultural resource for channeling financial and technical resources to individual countries as well as the region. Colloquially, the IDB was referred to as the "Bank for Integration." The IDB sought to alleviate some of the structural impediments that were obstacles to integration, and it continues to support economic and social development and regional integration in Latin America and the Caribbean through loans to public institutions and private projects. IDB financing is typically in infrastructure and capital markets development, although a wide variety of projects have been funded. Headquartered in Washington, DC, it is owned by twenty-six borrowing member countries in Latin America and the Caribbean and twenty creditor industrialized countries. In 1965, the IDB added the Institute for Latin American Integration to its operations to carry out research, training, and advisory activities, and in 1966 it added the Pre-investment Fund

for Latin American Integration to arrange and finance feasibility studies related to multinational integration projects. The IDB's many funded projects could not sufficiently address the problems of divergent development and structural impediments to regional economic integration, although the situation has significantly improved over the forty-five years of its operations.

New Efforts at Pan-American Free Trade

The initiative for a Free Trade Area of the Americas began in the 1990s. On June 27, 1990, U.S. President George H. W. Bush spoke in favor of a free trade zone for North and South America. In December 1994, President Bill Clinton hosted the Miami Initiative for the American hemispheric free trade conference of all thirty-four states in the Americas except Cuba. At the same time, a new, smaller regional trade area was negotiated. The debate on the free trade area of the United States, Canada, and Mexico was concluded in 1993, and the North American Free Trade Agreement (NAFTA) was established on January 1, 1994. In 1996, the second hemispheric meeting of the trade ministers of the Americas added further momentum to the Free Trade Area of the Americas (FTAA) movement. Four ministerial meetings took place during this preparatory phase: the first was in June 1995 in Denver; the second in March 1996 in Cartagena, Colombia; the third in May 1997 in Belo Horizonte, Brazil; and the fourth in March 1998 in San Jose, Costa Rica. Formal negotiations were launched at the Second Summit of the Americas in Santiago, Chile, in April 1998. Annual ministerial meetings followed in Toronto in 1999 and Buenos Aires in 2000.

The Third Summit of the Americas took place in Quebec, Canada, in April 2001. At this meeting, the heads of state and government endorsed the decision of the ministers to prepare a first draft of an FTAA agreement in all four official languages (English, Spanish, Portuguese, and French) to be available to the public on the Internet. This task was completed on July 3, 2001 (see http://www.ftaa-alca.org). FTAA negotiations saw several meetings from 2001 to 2003. However, difficulties in reconciling the positions, mainly of the United States and Brazil, the cochairs and two main partners in the effort, resulted in stalled pan-American efforts and renewed interest by the United States in smaller agreements, such as the Central American Free Trade Area (CAFTA).

The differences that stalled the talks were similar to concerns of past efforts, which divided more developed and less developed nations in the Americas. Some countries, led by Brazil, wanted to exclude areas such as copyright and patent protection, investment, and government procurement. The United States wanted to exclude agricultural subsidies. The broader concern was that the FTAA not produce large benefits to the most developed states (especially the United States) to the detriment of the less developed ones. Though efforts to create an FTAA have slowed, the long history of attempts at a pan-American free trade area indicate that the initiative is likely to resurface in the future.

Anastasia Xenias

See Also Economic Integration; Andean Community; Common Market of the South (Mercosur); North American Free Trade Agreement (NAFTA)

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League of Arab States (LAS)

The League of Arab States (LAS), known informally as the Arab League, was established in 1945 and is considered the first initiative for regional organization in the twentieth century. The United Nations Charter was signed on June 26, 1945, whereas the LAS Charter was signed on March 22, 1945. The Organisation for European Economic Co-operation (OEEC), the forerunner to the Organisation for Economic Cooperation and Development (OECD), was launched in 1948.

The countries making up the LAS had a total population of 270 million in 1999 and covered an area of about 14 million square kilometers (5.4 million square miles). The strength of the league lies in the geographical and economic position of its member states. The LAS aims to bring the Arab nations into an independent unit that can have a significant influence in world affairs. From the seven founding countries, it has grown to include twenty-two member states.

Historical Overview

Arab thinkers have supported the idea of Arab unity since the eighteenth century. The concept gained popularity especially during the period from 1839 to 1897, when it was promoted by Mohammad Abdo and Gamal El-Din Al-Afghany. The desire for Arab unity intensified and grew over the years that followed. Political and economic barriers, particularly arising from colonialism, however, prevented these hopes from becoming reality. World War I–era efforts were frustrated by the Treaty of Sevres in 1920, which divided the Arab region into twenty-five separate entities, mostly under British and French domination. The idea of Arab unity was given new impetus by Britain, however, during World War II.

The first real steps toward Arab unity and the establishment of the League of Arab States took place in 1944 as many Arab countries were gaining their independence. Seven countries attended the Alexandria Conference in September to lay the groundwork for the LAS: Egypt, Iraq, Lebanon, Saudi Arabia, Syria, Transjordan (now Jordan), and Yemen, the organization's founding members.

In July of the same year, a preparatory committee had been charged with the task of arranging a General Arab Conference. The results of the conference confirmed the dynastic and nationalistic rivalries impeding unification or federation of the Arab states and testified as well to the growing influence of Egypt in the region. The Alexandria Protocol issued at the close of the conference made vague allusions to the possibility of eventual Arab unity but basically envisaged a loose grouping of states that would restrict its activities to the economic, cultural, and social spheres with respect to collective security; it was mentioned that the proposed organization of Arab states should deal with conflicts of an intra-Arab nature, coordinate the Arab states' "political plans," and safeguard their sovereignty.

The Alexandria Conference finished its work in October after issuing the Alexandria Protocol. The protocol set out Arab perspec-

tives on the League of Arab States, opportunities for its establishment, and the benefits and advantages the Arab countries could gain from such an organization. In March 1945, the seven founding members signed the final version of the LAS Charter in Cairo, officially launching the regional organization and taking Cairo as its headquarters.

Charter of the LAS

The LAS Charter includes twenty articles and the three annexes. The first annex discusses Palestine, and the second annex addresses cooperation with Arab states that are not LAS member states. The principles contained in the second annex have not, however, always been carried out as envisioned. The last annex established the appointment of Abdel Rahman Azzam as the first secretary general of the league.

According to the charter's articles, any independent Arab state has the right to join the League of Arab States. The league is to act as a mediator in disputes between members or between a member state and a nonmember state. Other articles deal with the duties of the secretary general, the functions of the League Council, preparation of the LAS budget, and so on. The charter also established a mechanism to amend the charter, which is by a two-thirds vote of the member states.

The purposes of the League of Arab States are also enumerated in the charter. They include strengthening relations between and among member states, coordinating their policies in order to further cooperation and to safeguard their independence and sovereignty, and engaging in other activities that arise out of a general concern for the affairs and interests of the Arab countries. Four principles are to govern the league, namely, nonintervention in the policies of member states, equality among member states, peaceful resolution of conflicts, and mutual support.

Principal Organs

The League of Arab States consists of three main organs: the League Council, the Arab Specialized Organizations (which replaced the earlier Permanent Committees), and the General Secretariat. Some additional bodies were established by resolution of the League Council to promote the Joint Arab Defense Treaty in 1950. Arab Unions were established at the founding of the LAS to deal with labor and industrial concerns.

The League Council, the supreme authority of the Arab League, has representatives from all LAS member states. The council determines how to implement agreements ratified by the member states, works to reduce or prevent actual or expected aggression against any member state, attempts to ensure peaceful settlement of conflicts, establishes channels of cooperation with international organizations, appoints the secretary general of the LAS, determines the budget, and lays down the basic internal statutes of the council and the other bodies within the LAS.

The Permanent Committees dealt with all forms of cooperation between and among member states. Committees established included the Political Committee, the Cultural Committee, the Transportation Committee, and the Social Committee, all established in 1946; the Economy Committee, established in 1945; the Law Committee, established in 1947, in part to deal with issues concerning visas and passports; and the Military Committee, the Health Committee, the Arab Media Committee, the Petrol Exports Committee, the Arab Committee for Human Rights, and the Finance and Administrative Affairs Committee, established in 1971.Because of the large role these committees played and their many duties, they were replaced by the Arab Specialized Organizations.

Eighteen Arab Specialized Organizations were established: the Arab States Broadcasting Union; the Arab League Educational, Cultural and Scientific Organization; the Arab Center

for the Study of Arid Zones; the Arab Organization for Agricultural Development; the Arab Industrial Development and Mining Organization; the Arab Administrative Organization; the Arab Labor Organization; the Arab Atomic Energy Board; the Arab Interior Ministers Council; the Arab Satellite Communications Organization; the Arab Civil Aviation Association; the Council of Arab Economic Unity; the Organization of Arab Petroleum Exporting Countries; the Arab Academy for Science and Technology; the Inter-Arab Investment Guarantee Corporation; the Arab Monetary Fund; the Arab Fund for Economic and Social Development; the Arab Bank for Economic Development in Africa; and the Arab Authority for Agriculture, Agricultural Investment and Development.

There are twenty-three Arab Unions: the Arab Association of Medical and Drug Equipment Manufactures; the Arab Association of Fish Producers; the Arab Association of Cement and Construction Materials; the Arab Association of Leather Works; the Arab Association of Iron and Steel; the Arab Association of Railroad Authorities; the Arab Association of Food Industries; the Arab Association of Maritime and Port Authorities; the Arab Association of Chemical Fertilizer Producers; the Arab Association of Maritime Carriers; the Arab Association of Textile Industries; the Arab Over-Land Transport Association; the Arab Association of Engineering Industries; the Arab Association of Printing and Paper Industries; the Arab Association of Air Transport; the Arab Association of International Airports; the Arab Banks Association; the Arab Association of Electric Power Producers and Distributors; the Arab Insurance Association; the Arab Association of Commerce, Industry and Agriculture; the Arab Accountants Association; the Arab Association of Accountants and Auditors; and the Arab Engineering Association.

The secretary general and assistant secretary general are appointed by a two-thirds majority of the votes of the member states for five-year renewable terms. From the founding of the LAS in 1945 to the present, six secretaries general have been appointed: Abdul Rahman Azzam, Mohamed Abdul Khalek Hassouna, Mohamed Riyad, Al-Shazly Al-Kaleiby, Esmat Abdul Maguid, and Amre Moussa. Amre Moussa, the present secretary general, was appointed in 2001.

The secretary general has a variety of responsibilities, including administrative, technical, and political duties. He determines the dates of Arab League Council sessions, organizes related secretarial work, prepares the Arab League budget, speaks on behalf of the league, attends to League Council matters and other matters concerning the member states, and attends the League Council sessions.

The league's headquarters were moved from Cairo to Tunis in 1979, when Egypt's membership in the LAS was suspended as a result of its peace treaty with Israel, signed that year by Egyptian President Anwar al-Sadat and Israeli Prime Minister Menachem Begin. Arab leaders renewed diplomatic ties with Egypt in 1987; it was readmitted to the league in 1989. Cairo again became the site of LAS headquarters, though some Specialized Organizations remained in Tunis.

In addition to the seven founding member states (Egypt, Iraq, Jordan, Lebanon, Saudi Arabia, Syria, Yemen), there are now fifteen additional member states: Algeria, Bahrain, Comoros, Djibouti, Kuwait, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Somalia, Sudan, Tunisia, and the United Arab Emirates.

Before 2000, the LAS held Arab Summit meetings upon request by member states or in response to other needs that arose. The Cairo Summit, held in October 2000, adopted a resolution to hold regular conventions to discuss economic and other issues. Arab leaders are confident that these periodic conventions will play an active role in consolidating and enhancing joint Arab actions in all spheres, especially those affecting economics.

The first Arab Summit was held in Cairo in January 1964 to address a dispute with Israel

over diversion of the Jordan River. The second summit was held in Alexandria in September of the same year.

Programs and Activities

The LAS plays a multidimensional role as its activities cover a variety of fields and interests, including economic affairs, conflict management, cultural and educational affairs, mass communications and the media, dialogue between and among cultures and peoples, Arab African cooperation, and human rights. These activities have involved the LAS in cultural exchange programs, youth and sports programs, programs pertaining to the role of women in Arab societies, and child welfare programs.

The LAS has played an important role in several areas of Arab development: In its early years, it took part in efforts by Arab countries to gain independence, especially in consolidating the liberation movements in Algeria, Oman, South Yemen (before Yemen unity), and Sudan. It also has advanced the peaceful settlement of intra-Arab conflicts, such as the Egyptian-Sudanese conflict in 1958, the Moroccan-Algerian conflict in 1963, and the Yemeni-Yemeni conflict in 1987. It has promoted Arab-Arab cooperation in the Specialized Organizations, and it has represented the Arab countries in various international organizations, such as the United Nations and the African Union (the organization that replaced the Organization of African Unity in 2002).

In summit conferences, the LAS has affirmed the importance of dealing with the main issues confronting Arab states: the ongoing Arab-Israeli conflict, nonproliferation of weapons, Arab consolidation, Emirates island occupation, water issues, the Iraqi-Kuwaiti problem, Arab-Chinese relations, and Arab-African relations. From its first phases, it has made the Arab-Israeli conflict a top priority, as demonstrated by the annex in the LAS Charter dealing with Palestine and the fact that it held its first Arab Summit in response to problems with Israel over diversion of the Jordan River. The variety of areas covered by the Arab Specialized Organizations also demonstrate the organization's relevance to current affairs affecting the region.

Cooperation between the LAS and the UN

Cooperation between the LAS and United Nations was initially a manifestation of the league's emphasis on a functional approach to peace and regional security. The founders of the Arab League understood the significance of fruitful mutual cooperation with the United Nations, especially in the economic, social, and cultural realms. This cooperation is in the context of adherence to the principles and purposes of the UN Charter for the benefit of the region and the member states.

Both the UN Charter and the LAS Charter assured the cooperation between the two organizations. The cooperation has taken place in a variety of ways—for example, through consultations and exchanges of information, through followup action on proposals agreed to at general meetings between the UN system and the League of Arab States, through programs and specialized organizations such as the UN Development Programme (UNDP), and through the league's associated agencies on specific initiatives. The two organizations together have implemented programs to combat desertification and increase the green area of the LAS region, to combat industrial pollution, to promote environmental education, to conserve the biodiversity of the region, and to establish a network of environmental information.

The LAS has cooperated with the UN Population Fund through its population research unit, a permanent structure of the league. The league's cooperation with the United Nations Relief and Works Agency (UNRWA) for Palestine Refugees in the Near East has been very close, as the latter has benefited from the league's support for its program and its efforts

to urge member states to increase voluntary contributions to UNRWA's budget.

There has also been cooperation between the United Nations Industrial Development Organization (UNIDO) and the league's Arab Industrial Development and Mining Organization (AIDMO). Moreover, the League of Arab States has some cooperative programs with the United Nations Environmental Programme, the World Health Organization (WHO), and the International Monetary Fund (IMF). In 1995, the World Bank joined the dialogue, initiated by the league in Cairo, on ways to mount joint activities in the region.

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See Also Economic Integration; Council of Arab Economic Unity (CAEU); Gulf Cooperation Council (GCC)

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North American Free Trade Agreement (NAFTA)

The purpose of the North American Free Trade Agreement (NAFTA) is to remove most barriers to trade and investment between Canada, Mexico, and the United States by January 1, 2008. Formal trade negotiations began on June 12, 1991, in Toronto, and ended on August 12, 1993, in Ottawa. In addition, two side agreements on labor and the environment were negotiated between March and August 1993 and implemented parallel to NAFTA. NAFTA was ratified by the Canadian Parliament on June 23; by the U.S. Congress on November 20; and by the Mexican Senate on November 23, 1993. It entered into force on January 1, 1994.

The NAFTA Negotiations

One of the challenges in negotiating the agreement had to do with the fact that NAFTA was the first free trade agreement between a developing country on one side and two industrialized countries on the other (Robert 2000; Cameron and Tomlin 2000). Another challenge arose from the asymmetry in terms of country size: The economies of Canada and Mexico are relatively small, whereas the U.S. economy is the largest in the world. Negotiation outcome has two determinants: structure (that is, power) and process (Robert 2000). Power is typically a function of resources, a fact that tends to favor larger and richer economies in international negotiations. However, in explaining success in negotiations, overall or aggregate resources appear to be less important than issue-specific power—that is, the amount of resources a country is willing to dedicate to a specific issue that is being negotiated. The concept of issue-specific power can explain why smaller countries may be able to "win" in trade negotiations with larger countries where winning is defined as "achieving a preferred outcome" (ibid., 7). By focusing their limited resources on a specific issue of great national importance, smaller countries can outspend larger ones whose governments spread their resources more evenly over a wide range of issues. Furthermore, it is possible that power is issue-specific and does not translate easily from one area to another (Keohane and Nye 1989). A powerful country able to win the "cold war," for example, may not be as successful in the "war on drugs."

The second important factor in explaining negotiation outcome is process. Process encompasses two components—bargaining skills and use of tactics. These components constitute a type of resource known as behavioral resources, which differ from economic resources in one important dimension: Whereas the latter are static, at least in the short run, the former are dynamic. Judging from four case studies of contentious NAFTA issues, Maryse Robert (2000, 21) concluded that small countries can "win" in negotiations if they have "both issue-specific power and strong tactics." He showed that Canada "won" on the issues of *culture,* where the country sought exemptions similar to the ones granted in the Canada-U.S. Free Trade Area (CUSFTA), and on *automotives,* where Canada fought successfully for a new rule of origin and its retroactive applica-

tion. In contrast, Canada "lost" in the case of the pharmaceutical industry, by agreeing to abolish its system of compulsory licensing, and in the case of the textile and apparel industry, where Canada accepted more restrictive rules of origin than existed under the CUSFTA.

The Content of NAFTA

NAFTA is divided into twenty-two chapters followed by seven annexes. It covers seven major issues: trade in goods, including rules of origin (chapters 3 to 7, 7A, and 8); trade in services (chapters 12 to 14); standards (chapters 7B and 9); government procurement (chapter 10); foreign investment (chapter 11); intellectual property rights (chapter 17); and dispute settlement (chapters 18 to 20). The agreement also contains stipulations on competition policy (chapter 15), temporary visas for business persons (chapter 16), and exceptions (chapter 21).

With regard to goods trade, the agreement stipulates that barriers must be eliminated for some products immediately, and for others over a five-, ten-, or fifteen-year schedule. However, only goods produced predominantly within North America are tariff-exempt. To fall into this category, a product must have 60 percent North American content (62.5 percent for vehicles). Whether a product meets this requirement is determined by precise rules of origin, and the process of obtaining this status is known as "NAFTA certification." Though the above specifications are generic, there are a number of industry-specific regulations and exemptions. With regard to trade in energy and related products, proportional export restrictions apply to the United States and Canada but not to Mexico. For example, if—for conservation reasons—Canada decided to reduce its energy export to the United States, domestic energy sales would have to be lowered proportionately. However, the same rule would not apply to Mexican energy exports to either the United States or Canada. Similarly, although the United States and Canada are constrained in their abilities to use national security as an argument to restrict energy exports or imports, the same does not apply to Mexico. Regarding agricultural tariffs, countries are allowed to impose temporary tariffs for up to ten years on certain products. With regard to nontariff barriers (NTBs), the agreement forces the United States to increase its quotas for textiles and non-wool apparel, but not for wool suits. In addition, all countries must convert their quantitative restrictions on certain agricultural imports to tariff rate equivalents. It is noteworthy that Canadian cultural industries are exempt from the agreement altogether.

NAFTA's main stipulations with regard to trade in services are the national treatment and the most-favored-nation (MFN) principle. The first principle states that suppliers of services from other NAFTA countries must receive the same treatment as domestic suppliers, whereas the second principle is simply the application of the General Agreement on Tariffs and Trade (GATT) MFN principle to trade in services. Another stipulation concerns the location of service providers: In order to supply a service, neither the establishment of an office nor residency in the foreign country is required. Two service-sector industries are given special considerations. Although the agreement requires that reasonable access and use of public telecommunication networks must be guaranteed, it does not cover radio and television broadcast or cable distributions. Due to the differences in market structure and government regulation of financial services between NAFTA countries, the scope of trade in financial services is limited (Hufbauer and Schott 1993). For example, due to U.S. restrictions on branch banking by foreign banks, and the subordination of NAFTA under U.S. state law, Mexico and Canada do not allow U.S. banks to establish branches, only subsidiaries. In addition, exceptions to free trade in financial services are allowed for prudential reasons such as the stability of the financial system.

NAFTA separates the issue of sanitary and phytosanitary (SPS) measures from all other

standards-related measures. With both standards, the agreement appears to take a precautionary approach (IISD 2004). All countries have the right to establish the level of protection they find appropriate, although scientific evidence should be used to determine the risks associated with an imported product, and in the case of SPS measures on nonhuman health issues, a type of cost-benefit analysis must be conducted and countries must choose the most cost-effective solution.

NAFTA also contains rules for government procurement. Above a threshold of $50,000 for federal government entities ($250,000 for federal government enterprises), government contracts for purchases of goods and services are open to competition. The U.S. Buy American Act can no longer be applied, except for small- and minority-owned businesses.

In terms of foreign investment, NAFTA stipulates that performance requirements, such as domestic content requirements, are prohibited both at the national and subnational government level. In addition, foreign investors are protected against losses through expropriation since they are entitled to adequate financial compensation. As the main exception to the principle of free international capital flows, Mexico is allowed to maintain certain restrictions on foreign investment in its petrochemical industries.

With regard to intellectual property right protection, the agreement defines specific protection for patent and copyright holders. Furthermore, countries are not allowed to issue compulsory licenses (that is, authorize a third party to make or sell a patented invention without the patent owner's consent), a practice frequently used by Mexico and Canada to promote development of generic pharmaceutical products.

The implementation and operation of the agreement is guaranteed through a number of institutions that provide dispute settlement procedures similar to those adopted by the World Trade Organization (WTO). Foremost, binational panels have the authority to determine whether countervailing duties and antidumping restrictions are applied appropriately, that is, that they are consistent with NAFTA and other trade agreements. Furthermore, the Free Trade Commission, which consists of cabinet-level representatives from each country and convenes only as required, supervises the implementation and further development of the agreement and oversees the work of NAFTA's more than thirty committees, working groups, and other subsidiary bodies. Finally, each country maintains a section of the NAFTA Secretariat, which is responsible for the administration of the dispute settlement provision.

The NAFTA Side Agreements

The purpose of the North American Agreement on Labor Cooperation (NAALC) is to stimulate a dialogue between the parties on labor issues and to promote the enforcement of existing labor laws in each member country. To implement the agreement, the parties agreed to establish the Commission for Labor Cooperation in 1994. The commission consists of an NAALC Council, composed of the ministers of labor, and the Secretariat, located in Washington, DC. The Secretariat provides technical and operational support for the commission's work. From 1994 to 1999, twenty-two public communications were received under the NAALC, of which fourteen were directed at Mexico, six at the United States, and two at Canada. Public communications are typically submitted by unions or other labor organizations and concern allegations relating to work conditions, occupational safety issues, freedom of association, and similar problems.

The goal of the North American Agreement on Environmental Cooperation (NAAEC) is to promote the enforcement of existing environmental laws, to help prevent conflicts relating to trade and the environment, and to ensure that member countries do not lower their environmental standards in order to attract foreign

investment. The implementation of the agreement is overseen by the Commission for Environmental Cooperation, created in 1994. The commission consists of an NAAEC Council composed of the environment ministers (or the equivalent) of each country, a Joint Public Advisory Committee, and a Secretariat located in Montreal, Quebec, Canada, that provides technical and operational support. Among other things, the commission reviews public submissions on cases where governments appeared to have failed to enforce environmental laws effectively. After a thorough investigation, it may publish a factual record of its findings.

NAFTA and the Canada-U.S. Free Trade Agreement

The Canada-U.S. Free Trade Agreement constituted an important predecessor to NAFTA as far as trade between the United States and Canada was concerned. In many ways, the composition and content of NAFTA were modeled after the CUSFTA, which was negotiated between June 17, 1986, and December 9, 1987, and went into effect on January 1, 1989. The agreement's main provisions were to eliminate all tariff barriers on merchandise trade over a period of ten years, to remove most NTBs over the same time period, and to end most restrictions on cross-border investments. In addition, the accord established basic rules concerning trade in services, such as the elimination of discrimination in services, forcing each country to treat foreign and domestic services equally—the so-called "national treatment" provision. Also, national preferences on government contracts in excess of $25,000 were eliminated (see Kreinin 2000).

The Public Debate about NAFTA

In the wake of the trilateral negotiations on the creation of NAFTA, a vigorous public debate ensued between supporters and foes of the agreement. U.S. opponents to NAFTA included political columnist Pat Buchanan, Green Party leader Ralph Nader, Texas businessman Ross Perot, organized labor (AFL-CIO), some research think tanks such as the Economic Policy Institute, some environmental groups such as Public Citizen, Greenpeace USA, and Friends of the Earth, and a large number of Democrats in Congress, including House Majority Leader Richard Gephardt. The proponents of NAFTA included most academic and business economists, business leaders, college-educated journalists, key political figures such as Presidents George H. W. Bush and Bill Clinton, and the vast majority of Republicans in Congress.

A central issue in the debates during the negotiations on NAFTA and in subsequent years has been the economic, environmental, and social effects of the agreement. Critics have argued that the agreement would destroy jobs in the United States because U.S. manufacturers would be unable to resist dollar-an-hour wages in Mexico. They have also predicted that American high-wage manufacturing workers would be the biggest losers in terms of job losses and/or reductions in wage income; that NAFTA would change the structure of Mexican industry, turning the country into one big maquiladora; that NAFTA would be a sort of Trojan Horse, giving Japanese firms unrestricted access to the U.S. market via Mexican-based production facilities; and that the agreement would trigger a migration of dirty industries from Canada and the United States to Mexico, where environmental standards are less stringent or not as effectively enforced (see Orme 1996).

Proponents of the agreement, in contrast, have insisted that NAFTA would create jobs on both sides of each border, with a net gain of up to 150,000 additional jobs in the United States alone over a period of five years (Hufbauer and Schott 1993). They expect NAFTA to increase exports, income, and productivity in each member country and say the increased prosperity in Mexico will weaken the urge for Mexican workers to migrate north. Furthermore,

they claim that NAFTA will protect existing U.S. investments in Mexico and stimulate additional investments (*Wall Street Journal* 1993). They also expect NAFTA to have attractive social consequences by demonstrating that industrialized and developing countries can not only coexist but also reduce standard-of-living gaps (Negroponte 1991).

Impact of NAFTA

Methodological Issues

A common approach in evaluating the economic effects of NAFTA ex ante is based on computational general equilibrium (CGE) models. These computer-based models simulate a certain number of national economies (or regions) that are connected through international trade and/or international capital flows. Each economy comprises various industries (or sectors). The sum of net supplies across all sectors within a country determines gross domestic product (GDP), which in turn is used for consumption, investment, and exports. Tariffs and NTBs can alter the international flow of goods, services, or capital across countries. Trade agreements such as NAFTA are modeled as a reduction in those barriers.

Early CGE models were static in nature and thus did not take account of the evolution of regions and sectors over time (see USITC 2003). More recent CGE models typically have a dynamic structure that allows the identification of trade-barrier effects (or the removal thereof) over time, such as changes in the growth rate of GDP (Young and Romero 1994; Kehoe 1994). In contrast to CGE models, econometric studies typically examine the ex post economic impact of trade agreements (Frankel 1997; Gould 1998; Krueger 1999, 2000; Baier and Bergstrand 2001; Romalis 2001). These studies estimate models that relate trade measures (such as the growth in the volume of trade) to a set of explanatory factors that vary from model to model. However, all specifications have in common that they include some direct or indirect measure of barriers to trade. The estimated coefficient on the trade-barrier variable can then be used to gauge the impact of a specific trade agreement on the selected trade measure.

Ex Ante Assessments

Aggregate Impact. Static CGE models of NAFTA calibrated to a pre-1994 base year (Brown et al. 1992a, 1992b; Roland-Holst et al. 1994; Trela and Whalley 1994) have found that the agreement should have a positive but modest effect on U.S. output and trade, with an average expected increase in exports and imports of 4 percent and 4.4 percent, respectively. In addition, these studies indicate that economic welfare should improve as well, with a change of about 0.7 percent on average. Comparable CGE studies for Mexico (Sobarzo 1994; Young and Romero 1994) and Canada (Cox 1994) have come to similar conclusions: Both countries should experience a rise in the overall volume of North American trade, with larger percentage increases for Mexico than for Canada.

Sector-Specific Impact. Some NAFTA-CGE studies have focused on the expected sectoral rather than the expected aggregate effects of the agreement. The main advantage of the sectoral approach is that it generates estimates of NAFTA-induced changes that can vary from industry to industry. However, the results from these studies have been quite varied and sometimes contradictory. For example, Drusilla Brown (1994, Table 5.3) reported U.S. production gains in textiles of 0.6 percent, whereas Irene Trela and John Whalley (1994, Table 9.6) expected U.S. textile production to decrease by 0.1 percent. Some studies predicted strong increases in output levels for certain industries due to NAFTA. For example, Mary E. Burfisher et al. (1994, Table 7.5) estimated an increase in production of U.S. corn of close to 7 percent, whereas David W. Roland-Holst et al. (1994, Tables 2.9–2.11) predicted production gains in the U.S., Canadian, and Mexican transport equipment sectors of 17.6 percent, 63.1 percent, and 10.5 percent, respectively. In contrast,

Florencio Lopez-de-Silanes et al. (1994, Table 8.12) predicted output gains of only 1 percent or less for North American auto and engine producers. Although most studies predict at least modest growth for the vast majority of U.S. industries as a result of NAFTA, some studies have identified industries likely to be adversely affected by NAFTA. Trela and Whalley (1994, Table 9.6), for example, predicted negative growth of 5 percent and 10.7 percent for apparel and steel, respectively.

With regard to NAFTA's impact on Mexican sectors, Horacio E. Sobarzo (1994, Table 3.5) estimated the largest positive effects for construction (+55 percent), nonelectronic machinery (+48 percent), and steel (+39 percent). Furthermore, with the exception of agriculture (–8 percent), all sectors were predicted to expand as the result of lower tariffs and NTBs. Using a dynamic CGE model to assess the impact of NAFTA on the Mexican economy, Leslie Young and Jose Romero (1994, Table 10.7) identified Mexico's automobile vehicles and parts industry as the winner with regard to long-term output growth (+25.8 percent) and estimated the strongest decline in growth for textiles and apparel (–48.3 percent). David J. Cox (1994, Table 4.6) estimated that most Canadian sectors would experience a modest increase in output levels, ranging from 0.17 percent for textiles and leather to 0.58 percent for machines and appliances. The only Canadian sectors expected to have negative output growth due to NAFTA were woods and paper (–0.03 percent) and forestry (–0.04 percent).

Ex Post Assessments

Aggregate Impact. Empirical ex post studies of NAFTA have produced more mixed results than CGE-based approaches. Although some have shown gains in the volume of regional trade (Romalis 2001; Burfisher et al. 2001), others have found little evidence that NAFTA has increased North American trade at the aggregate level (Krueger 1999, 2000). In between these extremes are studies that have found NAFTA to be effective in stimulating U.S.-Mexico trade in both directions, while leaving Canada-U.S. and Mexico-Canada trade essentially unchanged (USITC 1997, 2003; Gould 1998). The finding that NAFTA has had little impact on Canada-U.S. trade may not be that surprising given that the two countries had already lowered or even eliminated many trade barriers before NAFTA became effective with their bilateral free trade agreement (CUSFTA).

James F. Hollifield and Thomas Osang (2004, Table 2) showed that from the U.S. perspective, NAFTA's total trade share (that is, the sum of U.S. exports and imports to and from Mexico and Canada relative to exports and imports with all countries, including NAFTA partners) grew at an annual rate of 0.2 percent in the pre-NAFTA period 1986–1993, compared to a rate of 1.4 percent for the NAFTA period 1994–2003. This represents a sevenfold increase in the annual growth rate of the NAFTA trade share. Clearly, other factors, such as the devaluation of the Mexican peso, declining transport costs, and trade diversion effects (Romalis 2001), also contributed to this increase. Another study (USITC 2003, Table 6-2) estimated that the removal of trade barriers between the United States and Mexico due to NAFTA explains 16.8 percent of the observed 63 percent increase in Mexico's share of U.S. imports of manufactured products over the period from 1990–2001. Tariff reductions prior to NAFTA explain an additional 4.2 percent, and the devaluation of the Mexican peso and the reduction in transport costs explain 23 percent and 4.7 percent, respectively.

From Mexico's perspective, the impact of NAFTA on its U.S. trade share was equally significant. Hollifield and Osang (2004, Table 5) showed that from 1985 to 1993, the share of Mexico's trade with the United States relative to total trade with all countries was essentially flat, whereas the same share grew at an annual rate of 1.1 percent between 1994 and 2002 (the NAFTA period). A U.S. International Trade Commission (USITC) study (2003, Table 6-4) shows that the removal of Mexican trade barriers (before and after NAFTA) on manufactured

imports from the United States contributed to an estimated 13.7 percent increase in the import share, while the devaluation of the peso caused an estimated 11.5 percent decline. The two factors together can thus fully explain the observed 2.5 percent increase in the U.S. share of manufactured goods imported by Mexico between 1991 and 1999.

Finally, from the Canadian perspective, the impact of NAFTA on its trade share with Mexico and the United States was expected to be moderate, given the fact that CUSFTA preceded NAFTA and the relatively small volume of trade between Canada and Mexico. As shown in Hollifield and Osang (2004, Table 4), the share of total trade with Canada's NAFTA partners grew at an annual rate of 1.1 percent between 1988 and 1993 (pre-NAFTA period), compared to a rate of only 0.6 percent between 1994 and 2001 (NAFTA period). However, this surprising decline in the annual growth rate was largely driven by a steep decline in Canada's trade with the United States in 2001, which was caused to a large extent by the downturn in U.S. economic activity that year. Without this "outlier" year, the average annual growth rate of Canada's NAFTA trade share was 1 percent over the NAFTA period, nearly identical to the 1.1 percent pre-NAFTA growth rate.

Sector-Specific Impact. Since the level of tariff protection varies across industries, the impact of trade agreements such as NAFTA changes from industry to industry. Unless exemptions are granted, industries with high levels of protection prior to the agreement are likely to experience the most dramatic change in trade flows, value added, and employment as the result of an agreement.

Impact on Selected U.S. Industries. Among the ten U.S. sectors studied by the USITC (2003), forestry and fisheries, energy and fuel products, and transport equipment had the highest NAFTA exposure in 2001 (70 percent, 51.6 percent, and 43.6 percent, respectively; these and subsequent figures are calculated from USITC 2003, Tables 5-3 to 5-39). Sectoral NAFTA exposure is defined as the ratio of total sector trade with Mexico and Canada relative to total sector trade with all countries including NAFTA partners. U.S. sectors with low NAFTA total trade ratios include services, miscellaneous products, and textiles and apparel (14.8 percent, 18.1 percent, and 23 percent, respectively). In terms of NAFTA import penetration (defined as the ratio of U.S. imports from Mexico and Canada relative to all U.S. imports), the U.S. sectors most exposed to competition from Mexico and Canada are the same as those for total trade. With regard to NAFTA export dependence (defined as the ratio of sector exports to Mexico and Canada relative to total sector exports), the leading U.S. sectors are textiles and apparel, minerals and metals, and energy and fuel products (50.1 percent, 49.3 percent, and 48.5 percent, respectively).

Between 1993 and 2001, NAFTA exposure in terms of total trade shares increased for all but one of the ten industries studied by the USITC: Only services had a NAFTA total trade share that was smaller in 2001 (14.8 percent) than in 1993 (15.8 percent), a decline of 1 percent. Total trade shares grew fastest for textiles and apparel, forest and fisheries, and energy and fuel products (+63.7 percent, +59.1 percent, and +55.9 percent, respectively). On the other end, transport equipment (+10.2 percent), minerals and metals (+11 percent), and chemical and allied products (+11.2 percent) are among the sectors that were least affected by NAFTA. In terms of changes in import penetration, NAFTA had the biggest impact on textiles and apparel (+96.2 percent), forestry and fisheries (+52.5 percent), and machinery and electronics (+52.2 percent), and NAFTA export dependence increased the most for energy and fuel products (+116.5 percent), forestry and fisheries (+42.8 percent), and agriculture (+45.1 percent).

With respect to exports, the U.S. textile and apparel industry is strongly NAFTA dependent, with about half of total exports going to either Canada or Mexico in 2001. The picture is different for imports: Less than one-fifth of sector

imports come from NAFTA countries. However, imports from NAFTA partners grew at more than twice the rate of exports to NAFTA partners between 1993 and 2001, mostly as a result of strong increases in apparel imports from Mexico. In contrast, the U.S. textile industry has benefited from NAFTA by expanding exports to both Mexico and Canada, especially of high-quality textiles.

NAFTA trade, in particular with Canada, accounts for a substantial fraction of overall trade in U.S. forestry and fishery products. In 2001, more than four-fifths of U.S. sector imports came from Canada and Mexico, and more than two-fifths of U.S. exports went to NAFTA partners. In comparison, U.S. sector exports to Canada and Mexico accounted for slightly more than half of total exports in 1993, while sector imports from the two countries made up less than one-third of total imports. This strong growth in sector trade with NAFTA partners stands in contrast to a decline in trade with non-NAFTA countries. Between 1993 and 2001, U.S. sector exports to non-NAFTA countries declined by more than 50 percent, and imports fell by more than 20 percent. This diversion of trade flows cannot be explained by a change in U.S. tariff rates because rates were close to zero before NAFTA came into effect.

U.S. exports in energy and fuel products to NAFTA partners more than doubled between 1993 and 2001, while exports to non-NAFTA countries fell by one-third. Sector imports from NAFTA partners also more than doubled. In comparison, sector imports from non-NAFTA countries increased by less than a third. Most of the change in U.S. sector trade was driven by a large increase in imported crude petroleum from both Canada and Mexico, followed by a substantial increase in U.S. exports of refined petroleum to Mexico. Overall, half of U.S. sector imports and exports occurred with NAFTA partners in 2001, compared to about one-third in 1993.

For U.S. chemicals and allied products, there was a modest positive effect of NAFTA on U.S.-Canada total sector trade, which increased by 84.5 percent between 1993 and 2001 compared to an increase of 70 percent with all non-NAFTA countries. NAFTA had a more pronounced impact on U.S.-Mexico sector trade, increasing bilateral trade volume by 140.6 percent over the 1993–2001 period. As with other sectors, such as machinery and electronics, transport equipment, and miscellaneous products, the change in U.S. sector imports from Mexico (+192.1 percent) was stronger than U.S. sector exports to Mexico (+125.2 percent).

For U.S. machinery and electronics, NAFTA had a significant impact on U.S.-Mexican bilateral trade. The impact on U.S.-Canada trade has been less pronounced. Overall, total U.S. trade in machinery and electronics with non-NAFTA countries increased by 44.2 percent in 1993–2001. While total trade in sector products with Canada increased proportionately (+39 percent), total trade with Mexico increased by 162 percent (USITC 2003, Table 5-7). Although the reduction of Mexican tariffs is one reason for the increase in U.S.-Mexico sector trade, the other, more important explanation has to do with substantial sector-specific U.S. foreign direct investment in Mexico. Since NAFTA lowered the risk associated with investment in Mexico, the rise in U.S.-owned production facilities in Mexico has triggered a drastic increase in U.S. imports of machinery and electronics from Mexico.

U.S. agricultural trade with Mexico and Canada has grown rapidly: Between 1993 and 2001, total trade with Canada and Mexico increased by 48.5 percent and 71.8 percent, respectively (ibid., Table 5-11). In comparison, U.S. total agricultural trade with non-NAFTA countries increased by merely 2.1 percent over the same period. NAFTA had only a small impact for most agricultural commodities. Products with high rates of protection prior to 1994—rice, cotton, apples, and pears in Mexico; cotton in Canada; and sugar in the United States—have seen the most dramatic increase in trade, with a gain in volume of trade of 15 percent or more directly attributable to NAFTA (USITC 2003).

Impact on Mexican Agriculture. Contrary to conventional wisdom, NAFTA did not have a detrimental effect on Mexico's agriculture (Lederman et al. 2003). Both the value of Mexico's agricultural production and the share of agricultural products in total trade were higher in the post-NAFTA period than in the pre-NAFTA period (ibid., Fig. 6). Explanations for this outcome include strong overall economic growth in both Mexico and the United States since 1995; productivity gains in Mexico's agricultural production; and a more efficient use of agricultural subsidies in Mexico.

Conclusions

Though the debate on the economic and social ramifications and merits of NAFTA continues in all three member countries, it is clear by now that NAFTA achieved its primary goal, to increase the volume of trade among member countries, with two notable exceptions: Canada's total trade share with NAFTA partners declined, as did the U.S. service sector trade share. As far as other effects, such as changes in income, employment, investment, migration, and unionization, are concerned, the verdict is still out, though there is strong evidence that NAFTA contributed heavily to the observed increase in U.S. capital flows to Mexico in general, and to the rise in Mexico's maquiladora industrial production, in particular.

Two final observations are noteworthy. First, despite NAFTA and its dispute settlement mechanism, some trade conflicts between NAFTA partners are being settled by the WTO instead, either because they involve WTO but not NAFTA rules—as in the case of the U.S.-Mexican dispute over Mexican taxes on products containing high-fructose corn syrup imported from the United States—or because one of the parties decided to defend its interests through both institutions in cases involving both NAFTA and WTO rules—as in the case of the U.S.-Canada softwood lumber dispute. Second, some aspects of NAFTA's implementation have been tied up in the court system for years. Under NAFTA, Mexican trucks should have gained access to U.S. roadways beginning in 2000. But owing to a legal challenge from consumer groups, unions, and others who sued on safety and environmental grounds, entry was never granted. In June 2004, a U.S. Supreme Court ruling gave the U.S. president the right to immediately open U.S. highways to Mexican trucks. Nevertheless, Mexican trucks are not yet allowed to roll on U.S. roads, and it is unclear how long it will take for them to gain full access.

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Thomas Osang

See Also Economic Integration; Australia New Zealand Closer Economic Relations Trade Agreement (ANZCERTA); The Central American Common Market (CACM); European Union; Latin American Free Trade Association (LAFTA)

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Organisation for Economic Co-operation and Development (OECD)

The Organisation for Economic Co-operation and Development (OECD) is the modern successor to the Organisation for European Economic Co-operation (OEEC). Its thirty members are advanced market democracies producing some two-thirds of the world's annual economic output. The OECD's activities include gathering statistical information on economic performance to help member states cooperate in economic policy planning, coordinating development assistance to less developed countries (LDCs), and providing a forum for members to negotiate both legal and nonbinding policy agreements. Over the past decade, its efforts have grown to include outreach programs to LDCs and other nonmembers on governance and economic management.

Historical Overview

The current OECD is the product of a long organizational evolution. In the aftermath of World War II, the United States provided some $12 billion in reconstruction aid to Western Europe through the European Recovery Program (known as the Marshall Plan). One major condition of this aid was that funded projects should benefit more than one country and involve cooperation among recipients. Accordingly, recipients formed the Conference for European Economic Co-operation (CEEC), which was quickly institutionalized into the Organisation for European Economic Co-operation. When the OEEC was officially inaugurated on April 16, 1948, it had sixteen member states: Austria, Belgium, Denmark, France, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Sweden, Switzerland, Turkey, and the United Kingdom. A portion of Italy under Anglo-American control; the Free Territory of Trieste; and the American-, French-, and British-controlled sections of West Germany were also involved. The OEEC played a major role in the implementation of the American-funded European Recovery Program in the distribution of aid, and, after 1950, in the operation of an intra-European payment union designed to function until currencies returned to convertibility. In the last two years of the Marshall Plan, under American pressure, OEEC member states negotiated their first reductions in trade barriers. This resulted in a substantial freeing of private interstate trade by the end of the decade on a mutually agreed list of products, even prior to the negotiation of the Treaty of Rome founding the European Economic Community (EEC).

By 1960, Western Europe was firmly back on its feet, and the organization's focus steadily shifted from internal economic development to external development assistance. Even in the latter part of the 1950s, pressures from the Cold War ideological conflict between the United States and the Soviet Union had led

Western Europe and the United States to unite in providing development funding, often as a thinly disguised reward or bribe, to strategic or key LDCs. As former European colonial holdings became independent during the 1960s, this trend became even stronger. In 1961, the United States and Canada joined, along with Spain, and the OEEC was transformed into the Organisation for Economic Co-operation and Development to reflect this new global orientation. Japan joined three years later, in 1964, bringing total membership up to twenty-two.

Organizational growth and activities slowed in the late 1960s and 1970s, as the Cold War constrained the number of possible market democracies that could join. Economic difficulties mounted in developed countries, spurred on by U.S. abandonment of the dollar-gold parity in August 1971 and the oil shocks of 1973 and 1979. Nevertheless, several new members did join: Australia (1966) and New Zealand (1973).

The end of the Cold War and the economic boom of the 1990s saw a wave of new members from previously unrepresented parts of the world. Mexico joined in 1994, and South Korea in 1996; the former Soviet bloc was represented by Czechoslovakia (1995, succeeded by the Czech Republic), Hungary (1996), Poland (1996), and after the "Velvet Divorce," the Slovak Republic (2000). These latest additions brought the OECD's total membership to thirty countries. Membership is still heavily dominated by Western European and North American states, but the increasing inclusion of other nations, such as South Korea, Mexico, and the Central European states, bodes well for future expansion. Potential candidates in the first decade of the new century could well include South Africa and Brazil; Argentina may be considered shortly after that, depending on its recovery trajectory from its financial crisis of the late 1990s. Russia applied for membership in May 1996; its application is still pending.

Member Accession and Nonmember Partnership

Formally, membership in the OECD is limited only by commitment to pluralistic democracy and a market economy, though increasingly respect for human rights has become a third fundamental principle required for membership. In practice, accession is by invitation only and occurs after a lengthy series of negotiations in which the current members ascertain the candidate's willingness and capability to implement the organization's binding agreements. Of particular concern are the agreements on capital movement, international investment, and cross-border trade in services. These agreements are founded on the principles of equal treatment of nationals and foreigners, and nondiscrimination between members; together, equal treatment and nondiscrimination help provide a "level playing field" for international economic competition.

Sometimes, candidates may be reluctant or unable to implement some policies or agreements, whether from physical incapacity (lack of facilities to monitor such a policy, for example) or from political unwillingness (protection of certain strategically important or "infant industries," or specific concerns of a leader's key constituents). Candidate countries may submit reservations about agreements or parts of agreements that they will not or cannot implement. Requests for such reservations must be approved by the OECD's member states, meeting in the organization's chief governing body, the Council; these requests can often cause major delays in the accession process, since most decisions in the Council are by unanimity or consensus (lack of objections as opposed to unanimity's active approval).

More than seventy other nonmember countries cooperate with the OECD on various projects and initiatives through the Centre for Co-operation with Non-Members. These projects range from technical assistance provided by OECD directorates to consultation on proposed

OECD agreements, inclusion on select working committees, policy dialogues with the organization and its directorates, and various types of observer status at the organization itself. Cooperating nonmembers are often invited to sign binding agreements and adhere to voluntary principles devised and agreed upon by organization members. Middle-income developing countries have found this type of cooperation to be very beneficial; gradual but increasing adherence to the organization's rules and policies can help to prepare a country for future membership candidacy as well as increasing the compatibility of its regulatory system with those of larger economic powers, which promotes trade and investment.

Organizational Structure

The OECD's central decisionmaking body is the Council, which consists of an ambassador from each member state, a nonvoting representative from the Commission of the European Union, and the organization's secretary-general, who chairs the Council but has no official vote. The full Council meets regularly to monitor the work of the organization's directorates and committees, but between regular meetings it may delegate authority for routine decisions to an Executive Committee of members. The Council also meets at the ministerial level (member-state ministers of finance and foreign ministers, plus others as needed) at least once per year to set organizational priorities and settle unresolved disputes.

Policy work is spread over twelve functional directorates that study and help coordinate policy in specific sectors (see "Organization Activities" below for list and functions). These directorates are staffed by approximately 2,300 professionals, including some 700 lawyers, economists, scientists, and social scientists, recruited from the member states, who serve as international civil servants for the duration of their OECD posting (OECD Web site). From its Parisian headquarters in the Château de la Muette, this international secretariat has an annual budget of some US$200 million that it uses to provide research and analysis about member-state policies in order to help members to identify best practices, promising alternative policies, and emergent crises across a wide range of policy fields. Funding for organization activities comes from member-state contributions; the United States normally contributes around 25 percent of the annual secretariat budget, with Japan providing the next largest contribution. The organization's two official working languages are English and French.

Directorate staff provide research and analysis in broad policy areas and manage information exchanges between members. They also support the more than 200 specialized committees and working groups of member-state officials who meet regularly to discuss policy in narrow and particular policy areas. These officials review, discuss, and often contribute to ongoing organization research or work in a particular area. The OECD has also created an electronic information exchange network for these officials, so that even between committee meetings they can continue to share information and data.

Organization Activities

OECD organization activity at the start of the twenty-first century is spread over twelve functional directorates, each of which provides research and analysis in its particular policy area of expertise. With the rise of globalization and increased understanding of policy interconnectedness, however, OECD efforts at policy analysis are more and more frequently cutting across directorate lines. This is reflected in the OECD's reorganization of its work into "themes," which often include the work of more than one directorate. This capability for multidisciplinary analysis is one of the OECD's

strengths as a policy analysis organization. This section will provide more in-depth summaries of several key policy areas of OECD involvement, and then conclude with brief overviews of other sectors and programs.

Development Assistance Committee

The Development Assistance Committee (DAC) traces its roots back to the tumultuous period when the OEEC became the OECD. As Western Europe's economies stabilized and the Cold War intensified, the United States and European colonial powers became increasingly eager to assert or reestablish their influence in the rest of the world. The primary instrument under consideration was official development assistance (ODA), which takes the forms of loans, grants, or credits from one state to another state. This issue was so contentious, and seen as such a vital component of security policy, that it sparked a major debate over the appropriate forum for coordination of such aid, with the two major contenders being the OEEC and the North Atlantic Treaty Organization (NATO), under Article 2 of NATO's founding Treaty of Washington. The United Nations was also considered and rejected because of its inclusion of Communist states. NATO was ultimately rejected because it was too militarily focused, and use of it as the primary ODA coordination instrument risked alienating Western-leaning but technically neutral states such as Austria, Switzerland, Sweden, and Ireland.

Talks among the "Four Wise Men" representing the United States, Great Britain, West Germany, and France led in 1961 to the creation of the OECD, in which the OEEC's original seventeen members (including the new state of West Germany), Spain (which had joined in 1959), and the United States and Canada were members. Japan joined soon after, in 1964, and Australia in 1966. Continuing developments in the Cold War led to nominally Communist but Moscow-defiant Yugoslavia obtaining "observer status" at the OEEC and then the OECD; Finland, which was technically neutral but had a Soviet-friendly foreign policy (resulting from the geopolitical imperative of a long common border), was eventually listed as "participating in certain activities."

The DAC was created in 1960 as part of that initial reorganization, and its purposes and functions have remained generally the same throughout its existence. Unlike the World Bank and the International Monetary Fund (IMF), the DAC does not dispense aid funds directly. Instead, it serves to coordinate member-state funding efforts for maximum effect, as well as evaluating the effectiveness of various aid programs. The DAC also helps to identify best practices on the part of both donors and recipients, and then works to promote those practices to maximize growth and aid effectiveness.

Member states have also used the DAC as a forum to set target goals for ODA giving. Currently, the target is 0.7 percent of gross domestic product (GDP). Since the mid-1970s, the Scandinavian states of Norway, Sweden, Denmark, and Finland have regularly met, and have often exceeded, this target, giving an average of over 1 percent of GDP per year as official development assistance; very few others do. In 2001, the average across the DAC's twenty-two members was 0.46 percent of GDP given as ODA. The DAC's membership includes Austria, Australia, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal (which left the DAC and actually applied for aid-recipient status during the 1970s and 1980s, before rejoining in 1991), Spain, Sweden, Switzerland, the United Kingdom, and the United States. In addition, Mexico obtained observer status at the DAC in 1994, and the Commission of the European Union is also a member.

Finance and Investment

The finance and investment theme of OECD activity deals with capital and capital movements broadly conceived. It studies banking

systems and banking regulation, financial services liberalization, and best practices in both of these fields. Financial market practices and regulation, by securities firms as well as private and institutional investors, also fall under this category, with the OECD studying regulatory practices and reforms in these critical areas. The Asian financial crisis of 1997–1999 demonstrated vividly the importance of sound banking regulation combined with careful attention to investment practices in providing stable environments that are conducive to economic development. OECD work in this field seeks to understand the linkages among these issues and to provide states with guidance on effective ways to prevent similar crises.

Other special fields of interest include measuring and monitoring capital flows, with a special emphasis on the relationship between capital movements and economic development. In this vein, the OECD is particularly interested in foreign direct investment (FDI), both within member countries and by member-state firms in less developed countries. The OECD also works on issues related to the liberalization of investment in developed and developing countries that came out of the World Trade Organization's Doha Round, in 2001, with a focus on the benefits of transparency in international investment policies as well as on how bilateral and regional investment arrangements can be integrated into multilateral structures.

The OECD has monitored member-state behaviors in export credit finance since the late 1980s. After a rather serious row over state subsidies to exporting industries, which serve as a competitive boost by allowing a company to sell abroad at prices lower than its domestic production costs, OECD states negotiated a "gentlemen's agreement" on the most generous permissible terms for export credit. Though the agreement has no legal standing, the organization's monitoring of state behavior, and its publication of violations, provide an incentive for states to comply, if only to avoid damaging their reputations.

Countering Money Laundering and Corruption

The OECD's emphasis on good governance and sound economic policy makes the fight against money laundering and corruption a natural target for organization activity. Member states formed the Financial Action Task Force on Money Laundering in 1989. This body is housed within the OECD's secretariat and has a small support staff of its own. In 1990, the task force published forty nonbinding recommendations for member states and developing countries to combat money laundering. These recommendations were revised in 1997, when the first list of fifteen "uncooperative" countries—that is, countries that had not taken steps to prevent money laundering—was published, and again in 2003.

In December 1997, OECD members and five nonmembers (thirty-five states in all) signed an antibribery convention in an effort to reduce corruption. This convention, which entered into force on February 15, 1999, requires signatories to criminalize the offering of bribes for the purpose of retaining or gaining international business. In addition, such bribes are no longer tax-deductible. The goal of the agreement is to reduce corruption by eliminating the supply of bribes, since efforts to reduce the demand for bribes would place serious strain on the administrative structures of developing countries, where such demand is usually highest. An OECD working group is charged with monitoring implementation and issuing reports on signatory compliance. As of February 2003, thirty-four states, including several nonmember signatories (Chile, Brazil, Argentina, Bulgaria, and Slovenia), had ratified the convention and were at varying points in the implementation process.

Economics and Statistics

Since the OECD defines its primary mission as promoting economic growth, both in member states and nonmember states, it is no surprise that a substantial directorate has as its primary function economic reporting and forecasting.

The OECD publishes an economic outlook report twice a year, using current trends to forecast economic conditions. It also tracks general trends across member states in areas such as taxation and inflation rates, unemployment, growth rates, and overall GDP. These forecasts are quite influential and can help states and firms shape policy by providing an independent, third-party estimate of likely short- to medium-run economic conditions.

Indeed, the OECD is widely known for its excellent statistical services. Its statistics unit compiles data from members' national statistics agencies related to many facets of economic activity, and also collects data independently. Most substantive directorates also collect data and develop measurable indicators of relevant policy issues in their sectors for use in their own research and analysis reporting; much of this data, and a substantial amount of the resulting analysis, are made available to the general public via the organization's Internet site (www.oecd.org).

Governance and Management

The OECD works to analyze and promote principles of good governance and public management, namely democratic policymaking, the rule of law, efficient provision of public services, ethics, and transparency. This program is another where collaboration between members and nonmembers is high. Members work with nonmembers, providing technical assistance and coordination, to implement basic reforms toward better governance and public management. Recent innovations in this field have also included efforts to study and identify best practices in "e-government" and electronic provision of government services, work to integrate good governance into sustainable development, regulatory reform, and public-sector budgeting.

Other Policies

OECD officials have moved beyond studying purely economic factors contributing to development and economic growth. Other areas receiving attention include social issues such as health care, education, and labor practices. Issues of gender equality and child labor have been prominent in recent years. In education policy, the OECD has helped states compare educational practices by collecting a wealth of detailed statistical data and working to develop comparable indicators of educational progress and instructor competence and qualifications.

The OECD has also branched off from its traditional macroeconomic and firm-level microeconomic analysis to look at areas where these two fields meet. The OECD's directorates study issues of insurance and pensions, helping states examine their taxation and health care policies to provide for aging populations, because increased longevity threatens many member states with potentially bankrupt social-insurance and old-age schemes, while increased global competition pressures firms to minimize formerly generous pension schemes. These two contradictory forces represent a serious challenge to existing social welfare policies in a number of member states. A forum has been established to examine harmful tax practices, particularly tax havens and other offshore arrangements. These practices provide firms with incentives to establish operations in certain jurisdictions in order to evade taxation in other jurisdictions.

Efforts have been made to coordinate policy on electronic commerce (e-commerce), particularly with regard to transborder commerce taxation policy. E-commerce is seen as part of a viable strategy of sustainable development and also as part of a larger trend toward commercial reorganization, and so the organization works to facilitate international trade conducted via the Internet. Likewise, efforts in the traditional area of enterprise and industrial policy have shifted toward identifying best practices and offering practical advice for industrial restructuring at the local, national, and global levels in both manufacturing and service industries.

Among the more innovative and proactive areas of OECD work is the so-called "future

studies" theme, which examines emerging policy problems. By looking at nascent public policy issues and working to coordinate policy responses from the initial onset of the problem, the OECD hopes to help states avoid conflicting policy responses that exacerbate the problem, or policies that address only the surface symptoms rather than the underlying causes of the problem.

In line with the OECD's emphasis on economic growth are its efforts to study and promote sustainable development, which involves economic growth coupled with regard for social structures and needs, environmental considerations, and demographic trends. Integration into the global economy can be incredibly disruptive for a formerly protected society; efforts to transition to sustainable development hope to minimize the disruption, or at least make it more predictable, so that public support for growth is maintained. Sustainable development involves attention to issues of drinking water supply, sanitation, pollution, soil erosion, and forest protection. All of this must occur alongside the traditional issues of generating economic growth from an usually large, young, and poorly educated population.

Both future studies and sustainable development programs are excellent examples of the types of interdisciplinary work the OECD has begun to undertake in recent years. Both combine issues of economic analysis with social policy, pure science, and political analysis in ways that are not widely duplicated elsewhere.

In addition to these, the OECD is the home of the International Energy Agency (IEA), an autonomous agency created during the first oil crisis of 1973. The IEA pools national oil reserves and, in time of crisis, can help ensure that states get the minimum energy supply they need to stabilize their economies and prevent massive inflation or economic collapse.

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See Also European Union; Group of 8 (G8)

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South Asian Association for Regional Cooperation (SAARC)

An intergovernmental organization (IGO) consisting of seven states across South Asia, the South Asian Association for Regional Cooperation (SAARC) officially sprang into existence with a summit of regional heads of state in December 1985 held in the Bangladeshi capital, Dhaka. Founded with a view toward mitigating socioeconomic and developmental problems common to the states of South Asia, the organization has often been criticized for failing to live up to the goals set forth in its charter. SAARC is presently composed of representatives from the member states of India, Pakistan, Nepal, Bangladesh, Bhutan, Sri Lanka, and the Republic of the Maldives. Member states meet at the head of government/state level for annual summit meetings. Overall coordination of organization activities is achieved by the SAARC Secretariat, based in Kathmandu, Nepal.

Historical Overview

The states collectively constituting SAARC by and large share a common British colonial experience and administrative traditions. Regional cooperation, however, was delayed for decades following decolonization owing to a variety of factors, including persistent enmity and territorial conflict between the two largest states of the region, India and Pakistan. Also tending to delay the onset of interstate collaborative efforts across South Asia was the asymmetry in power relations between the aforementioned larger states and the smaller countries of the region (Gonsalves 1995, 34). Mutual distrust among South Asian states thus ensured that regional cooperation would obtain long after such projects had been launched in Europe (with the creation of the European Economic Community and, later, the European Union), Southeast Asia (under the Association of Southeast Asian Nations, ASEAN), and other sectors of the globe.

Although the actual establishment of SAARC was thus chronologically late compared with equivalent regionalist tendencies in other parts of the world, the idea of Asian or South Asian cooperation is of a relatively early vintage. Indeed, future Indian leader Jawaharlal Nehru expressed as early as 1945 the desire to someday form some sort of federation comprising India (which then included Pakistan), Iran, Iraq, Afghanistan, and Burma (Kumar 2002, 7). Political turmoil during the preceding independence era, as well as the establishment of regional alliances in the Middle East, prevented this dream from becoming reality. Heightened tensions between India and Pakistan, exacerbated by overarching Cold War conflict, limited cooperation between South Asian states throughout the 1950s and 1960s.

Conditions began to change during the 1970s as tensions eased between India and Pakistan (temporarily, as it turned out), and a new generation of South Asian leaders came to power. Such heads of state and government

proved more committed to achieving the aim of regional cooperation than previous ones had been. Chief among such advocates of collaboration was the Bangladeshi leader during this period, General Zia ur-Rahman. During a tour of South Asian capitals in the late 1970s, Rahman floated the idea of forming a cooperative body composed of the countries of the region (Kashikar 2000, 53–54). The idea was given a further boost by the proven effectiveness of such bodies as the European Economic Community and ASEAN (ibid., 54). The early efforts of Prime Minister Rahman culminated in the 1983 Declaration of South Asian Regional Cooperation (SARC), which paved the way for the official launch of SAARC two years later. In an era of growing international interdependence (a trend now termed "globalization"), it was believed that a collective approach to problem solving, as well as a means for the region to speak with one voice, could reap vast dividends.

The foundation of SAARC in 1985 also coincided with initial efforts to liberalize the economies of the individual member states. Throughout much of the postindependence era, many of the states across the area had established highly protective economic regimes under the broader rubric of import-substitution industrialization (ISI), which sought to decrease dependence on imports and correspondingly foster the growth of domestic industries. The (relatively) backward state of economies across the region increasingly impinged on the credibility of ISI regimes and led to gradual liberalization, a project that could be best pursued within a broader framework of regional cooperation (Hossain 1995, 117).

Structure and Operation

SAARC was designed with the intention of treating key issue areas such as poverty, meteorology, science and technology, and agricultural policy. Deliberately avoided were issues of bilateral conflict (chief among which, of course, was the ongoing Indo-Pakistani rivalry). Framers of the SAARC Charter operated under the assumption that the overall spirit of regional cooperation could be severely weakened unless outstanding diplomatic issues were left out of association discussions (Hussain 2000, 75).

The organization was thus geared toward dealing with some of the chief causes of underdevelopment in the region, with the hope that cooperation among states would lead to the socioeconomic advancement of all states of the region. A subsidiary goal was to lessen conflict among nations through cooperation on multiple fronts. The sources of bilateral conflict were thus to be avoided by the organization, and it was believed social and cultural cooperation would gradually bind all South Asian nations closer together. Article 10 of the SAARC Charter set down the principle of unanimity in all association decisions, a means by which issues pertaining to bilateral conflict could be largely (if not entirely) avoided (Kashikar 2000, 63).

Since the organization's founding, much debate has developed around the question of whether the avoidance of issues relating to bilateral conflict represents a help or hindrance when it comes to the overall efficacy of SAARC. Some, including the current president of Pakistan, Pervez Musharraf, claim the strategy serves to effectively "cripple" the regional body (Lawson 2002). Others, including the original framers of the founding charters, maintain that diplomatic conflict avoidance allows progress to be made across many other policy areas. Both agree that bilateral conflict has played a large role in the politics of the region since independence. Long-simmering tensions between India and Pakistan were recently (1998) punctuated by tit-for-tat nuclear weapons tests on the part of the two countries.

Though perhaps the most prominent among South Asian conflicts on the world stage, the ongoing Indo-Pakistani enmity is not the only such bilateral conflict between states of the region. Relations between India and Bangladesh, for example, have long been strained over the issue of cross-border migra-

tion. Another dispute has pitted India against Nepal, and India and Sri Lanka have fought wars of words over the latter's civil war and India's alleged role in it. The conflict led to the cancellation of the 1989 SAARC summit slated to be held in Colombo, the Sri Lankan capital (Kashikar 2000, 82).

Conflict between states has thus proven to be a formidable obstacle to closer regional integration. For several years, SAARC summitry has been overshadowed by speculations regarding the diplomatic activities of representatives from India and Pakistan. Indeed, although SAARC was not itself designed to handle such bilateral conflicts, summit meetings have provided an opportunity for South Asian leaders to meet informally, thus raising hopes of eventual conflict resolution. Leading officials continue to hope, moreover, that great social and cultural integration could lead to greater mutual understanding among nations, thereby reducing diplomatic tensions that have long paralyzed the region.

The functions of SAARC are carried out through several bodies, including a permanent Secretariat based in Kathmandu, the Nepalese capital, and regular meetings of heads of state and government and foreign ministers (Singh 1989, 149–150). The SAARC Charter calls for summit meetings at the heads of state and government level to be held at least once a year. Several years, however, have passed since the founding of the organization during which no such meetings were convened. Summit meetings occurred in Dhaka, Bangladesh, in 1985; Bangalore, India, in 1986; Kathmandu, Nepal, in 1987; Islamabad, Pakistan, in 1988; Male, Maldives, in 1990; Colombo, Sri Lanka, in 1991; Dhaka in 1993; New Delhi, India, in 1995; Male in 1997; Colombo in 1998; Kathmandu in 2002, and Islamabad in 2004 (SAARC Web site).

Controversy has often arisen from failures to hold summit meetings in a given year, but bilateral conflict is often the cause of such failure. A notable example was the failure of leaders to meet in 1989, an event (or nonevent) that nearly occurred again the following year in an atmosphere of controversy and mutual recriminations among states (Kashikar 2000, 82–83). Over three years elapsed following nuclear tests in the region in 1998 before another SAARC summit could be convened. The last summit meeting was held in January 2004. Meetings of foreign ministers and foreign secretaries have tended to be held at slightly more frequent intervals, and the SAARC Secretariat tends to day-to-day association activities between meetings of the region's heads of state and government.

The annual summit meetings set down under the SAARC Charter represent the highest tier of the organization's structure. Immediately below the heads of state level stands the Council of Ministers (composed of the foreign ministers of member states) and the Standing Committee (composed of foreign secretaries from the seven states of SAARC). Whereas the Council of Ministers makes policies under the broader grouping of goals set forth by successive summit meetings, the Standing Committee actually supervises the programs that the council creates while also coordinating these various programs. SAARC also sponsors other meetings of various groupings of top-level officials and government advisers. Some of the issues tackled by annual meetings at the ministerial level include housing, poverty, youth, information, and international economic issues (SAARC Web site).

In addition to the policymaking and monitoring bodies mentioned above, the SAARC Secretariat brings together the activities of technical committees. These currently include committees dedicated to agriculture and rural development; communications and transport; social development; the environment, meteorology, and forestry; science and technology; human resources development; and energy. The number of committees was brought down to seven, out of eleven original bodies, following the adoption of a revised SAARC Integrated Program of Action in 1999.

Regional centers are currently composed of an Agricultural Information Center, a Tubercu-

losis Center, a Documentation Center, a Meteorological Research Center, and a Human Resources Development Center. Regional apex bodies form another part of the overarching SAARC organizational structure. These groups foster contact between members of various professions across the region. Occupations currently represented by regional apex bodies include legal professionals, accountants, and leaders of commerce (through a regional chamber of commerce). Just below regional apex bodies in the SAARC hierarchy are SAARC-recognized organizations. These organizations, which are also composed largely of representatives from various professions, currently include the SAARC Cardiac Society, the SAARC Federation of University Women, and the SAARC Association of Town Planners, among others.

SAARC hosts a variety of programs designed to engender cultural unity across the diverse population of South Asia. Current cultural programs include an annual film festival (inaugurated in Sri Lanka in 1999), an awards program for aspiring young scientists, and a youth volunteer program. Working to coordinate communications policy across the region, SAARC hosts meetings of member state communications ministers. The organization also publishes various media materials, including those offered on its Web site (ibid.).

Programs and Accomplishments

After Dhaka, the first SAARC summit meetings were held in Bangalore, India, in November 1986 and Kathmandu in October 1987. These early summit meetings focused mainly on organizational and procedural issues. Declarations, issued at the end of each summit, always opened with a vast array of goals and ideals, including the aim of quickening the pace of development across the region and reducing the problem of poverty that faced (and, indeed, continues to face) each member state. Activities were given some structure through the early formulation of an Integrated Program for Action (IPA), revised in 1999, which set forth broad areas in which cooperation among member states might be achieved. Policy areas in which SAARC claimed some jurisdiction included rural development; health; gender; transportation and telecommunications; postal service; meteorology; science and technology; sports, arts, and culture; and drug trafficking and abuse.

A departure from this state of affairs occurred during the course of the 1990 Male summit. There SAARC members published a declaration outlining five "core areas" in which the organization sought to achieve progress. These included poverty alleviation, a goal partially addressed through the establishment of a regional foodgrain reserve, for which contributions were sought from each member state (Rieger 1995, 125). In the late 1980s and early 1990s, moreover, SAARC leaders sought an unprecedented level of involvement from members of civil society and nongovernmental organizations (NGOs) when they convened the South Asian Commission on Poverty Alleviation, following the submission of technical advice from the Independent Group of South Asian Scholars and Professionals (IGSAC) (Wignaraja 1995, 218).

The resulting declaration called on member states to work toward the eradication of poverty by 2002 (Hossain et al. 1999, 222). Member states were encouraged to radically change policies on poverty, replacing a state-centric approach with one that fostered greater involvement of the poor and their representatives. The development of mediating institutions was another focus of the declaration. Assumed in the document was continued economic growth among member states—the target of eradicating poverty within a decade was explicitly tied to a substantial expansion of gross domestic product (GDP) across the seven SAARC members (Wignaraja 1995, 224).

Among other notable activities on the part of the organization has been the development of a South Asian Preferred Trade Area (SAPTA) in 1993, followed by calls for a South Asian Free Trade Area (SAFTA) during the 1995 summit (Hossain et al. 1999, 149). Representing the

first step toward regional economic integration, SAPTA dictated reduction of tariffs between member states across hundreds of commodities (Bhalla and Bhalla 1997, 83). Various obstacles to closer trade relations have largely prevented further economic cooperation from taking place, even as successive SAARC summit declarations enunciate the desire of regional leaders to work toward this ideal.

The SAARC region has yet to come close to the level of economic integration achieved in Europe, or even across the states of Southeast Asia, where regional institutions have been in place for considerably longer periods of time (Mehrotra 1995, 24–25). Free and extensive trade among the nations of South Asia remains hobbled by a variety of factors, including the remnants of ISI regimes, a dearth of import financing mechanisms, and mismatched economic specialization (that is, many of the products imported from outside South Asia are simply not produced within the region) (Hossain 1995, 117).

The latter state of affairs is partly a holdover of the colonial era, when economies of the region were designed so as to promote the export of raw materials to Great Britain. There is, however, a considerable degree of variation in trade relations across the region. India and Pakistan, for example, trade only in very small quantities with other SAARC nations, whereas some of the smaller states of the region, such as Nepal, are closely tied to the larger regional powers economically (Bhalla and Bhalla 1997, 89). Nonetheless, the overall level of trade between SAARC member states remains very low in comparison to the amount attained by ASEAN and members of the European Union.

Scholars are split as to the steps SAARC and its constituent nations might take to most effectively deepen economic integration, with some pointing to a gradualist, step-by-step approach and others advocating a "leapfrog" method along the lines of that employed by the members of the European Common Market (Rieger 1995, 23). Others, also having compared the economic position of SAARC nations to that of other regional trade blocs, recommend that states of the region focus on building reserves of foreign direct investment (FDI) and continue to liberalize domestically before taking further steps toward regional economic integration.

Although SAARC has been faced with significant shortcomings with regard to economic integration and trade relations among member states, it has taken action across a wide array of functional areas. SAARC first took on the issue of terrorism in 1987 with association approval of a regional convention on the issue (Singh 1989, 155). Controversy surrounded the convention, with the issue of violence in Kashmir factoring into the debate surrounding it. Further tension marked more recent efforts to strengthen the protocol on suppression of terrorism in the wake of the terrorist attacks against the United States on September 11, 2001, and the attack on the Indian Parliament in December of that year. The issue of terrorism represents the area of SAARC activity tending to most closely touch on the issue of bilateral conflicts, with both India and Pakistan claiming that agents and surrogates of the other should be held accountable for what they perceive as acts of terrorism, particularly in the disputed region of Kashmir.

Heightened bilateral conflicts, as well as heightened global tensions over the past several years, have together tended to dampen the spirit of regional cooperation established with the founding of SAARC nearly two decades ago ("Unmagnificent Seven" 2002). Whereas the European Union and its forerunners were developed (and deepened) in the wake of two devastating world wars, and under the resulting assumption that unchecked national independence and ambition could prove dangerous in the long run, such sentiment is still lacking across many areas of South Asia (Elsenhans 1995, 238).

Future Directions

After failing to meet for over three years, South Asian leaders met for the eleventh SAARC

summit January 4–6, 2002, in Kathmandu. The declaration arising from the meeting set several goals, including the "harmonization" of national development programs across the region. Also discussed was the ongoing effort to stem (if not entirely eradicate) poverty, as well as the need for global cooperation toward the formulation of a Comprehensive Convention on Combating Terrorism. The body also took a moment to note certain of SAARC's recent achievements, which included efforts to encourage free and fair elections through meetings of the chief election commissioners of SAARC countries, last convened in February 1999 (Zia et al. 2001).

The last SAARC summit meeting was held in Pakistan in January 2004. . Tensions between India and Pakistan, particularly over the contested region of Kashmir, continue to overshadow any significant progress toward greater regional integration. Critics of SAARC continue to question the worth of the organization, pointing to the lack of progress in fostering freer trade across the region or in significantly improving the quality of life for the people of South Asia. Defenders, however, make reference to the many important contacts being fostered behind the scenes between notable figures of the region, as well as the more abstract spirit of cooperation the organization is designed to foster (but which is difficult to measure).

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See Also Economic Integration; Association of Southeast Asian Nations (ASEAN)

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Southern African Development Community (SADC)

In 1980, nine members of the frontline, black-ruled southern African nations joined together to establish the Southern African Development Coordination Conference (SADCC), which evolved into the Southern African Development Community (SADC) in August 1992 at a meeting in Windhoek, Namibia. The stated goals of the organization were to promote economic cooperation and integration and to encourage growth in Southern Africa while reducing dependence on a South Africa rampant with apartheid. Once apartheid was eradicated, South Africa joined the Southern African Development Community. The architects of SADC realized that such an organization was needed to motivate southern African countries to realize the full potential of the region and to gain some measure of independence from international entities that were eager to help or to exploit the developing southern African nations.

Cooperation among southern African nations was sorely needed in this region, which suffers from periodic droughts and floods, rampant political unrest, a lack of clean water, high infant mortality and HIV/AIDS infection rates, low life expectancy, and a shortage of reliable transportation systems. The common practice of trading with countries outside the region rather than with other southern African nations had seriously depleted the resources of the region. Although there is little doubt that SADC has had some successes, many critics argue that the organization has done little to alleviate the vast economic inequalities among member nations.

Historical Overview

The SADCC met for the first time in Arusha, Tanzania, in July 1979. The meeting was attended by Angola, Botswana, Mozambique, Tanzania, and Zambia. At that time, attendees agreed to open membership in the SADCC to all independent southern African states. A subsequent meeting, held in Lusaka, Zambia, in April 1980, was attended by nine countries who became the founding members, including Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia, and Zimbabwe. In Lusaka, the SADCC announced that it was determined to "free the peoples of Southern Africa from misery, hunger, and chronic dependency" (Nsekela 1981, xii).

During the course of its development, the SADC has created a number of internal sectors designed to deal with issues common to its members. These sectors include energy; tourism; environment and land management; water; mining; employment and labor; culture; information and sport; transport and communications; finance and investment, human resource development; food, agriculture, and natural resources; legal affairs; and health. Each sector has been charged with accomplishing particular SADC goals. For example, the Food,

Agriculture, and Natural Resources (FANR) Development Unit coordinates SADC efforts toward food security policies and programs and promotes agricultural development and the utilization of natural resources while working to promote biodiversity and free trade. Much of the efforts of FANR have been directed toward reducing hunger and famine within poorer SADC countries.

The Treaty of Windhoek that established the SADC identified five guiding principles for member states to follow: sovereign equality of all member nations; solidarity, peace, and security for southern Africa; respect for human rights, democracy, and the rule of law throughout the region; equity, balance, and mutual benefit among member nations; and peaceful settlement of disputes. In order to put these guiding principles into practice, the treaty identified eight specific objectives: achieving development and economic growth by alleviating poverty and improving the quality of life for southern Africans; generating common political values, systems, and institutions among SADC members; promoting and defending national and regional peace and security; promoting self-sustaining development that encourages self-reliance and interdependence of SADC members; coordinating national and regional strategies and programs; promoting maximum employment and utilization of member resources; promoting the utilization of natural resources and the protection of the environment; and strengthening historical, social, and cultural ties among member nations. (SADC 2003).

Governance of SADC

SADC operations are guided by the SADC Summit, which is made up of the heads of state of the various member nations. The purpose of the summit is to establish policy and set overall SADC goals. The Council of Ministers, which is made up of the foreign ministers of each member state, oversees the day-to-day activities of the SADC. The Secretariat was given the responsibility for strategic planning and coordinating and managing SADC programs. Various commissions and sectoral committees have been periodically created to further cooperation among member states and to determine the impact of SADC policies within particular sectors. Sectoral committees of ministers oversee the work of the various commissions and sectoral committees. SADC established the Standing Committee of Officials to serve in a technical advisory capacity. Finally, the SADC Tribunal interprets the treaty as it applies to SADC activities and mediates disputes that arise among member nations. All tribunal decisions are final and binding.

SADC Challenges

Producing healthy economies within SADC countries is complicated by the fact that some members experience prolonged dry spells with accompanying drought, while others are victims of flooding. In Malawi, Zambia, and Zimbabwe, for example, serious food shortages have resulted from weather-related conditions, leading to the necessity of importing food from other countries. Overall, drought and the resulting famine in 1982–1983 cost members of SADCC over $154 million and the loss of more than 100,000 lives. Inconsistent and impractical government policies and inefficient and sometimes corrupt private sectors, in conjunction with political insurgency, have further crippled the economies of SADC members.

Heavily dependent on agricultural resources for its economic growth and survival, southern Africa has experienced a number of other debilitating problems in addition to weather-related crises. For instance, foot and mouth disease has decimated livestock among member nations. As a result of the many problems related to agriculture, the SADC has devoted a good deal of its resources to bringing knowledge of agricultural practices and processes up to date. These efforts include ad-

vanced research into ways that make the area more productive and independent and improved training of agriculturalists and their workers.

Internal problems have also plagued the SADC, including staffing and economic problems and a lack of enforcement capability. While maintaining membership in SADC, individual members have sometimes neglected to sign particular SADC protocols, making it harder for the SADC to implement policies and carry on its activities. For example, South Africa refused to ratify the Immunities and Privileges Protocol that gives SADC officials freedom of movement within the various SADC countries as they conduct SADC business. Several members have also threatened to withdraw their support for SADC.

SADC Members

Although members of the SADC have much in common, each member state is unique and has strengths and weaknesses. This very uniqueness has often allowed inequalities to flourish among SADC member nations. The poorest SADC nations are heavily dependent on agriculture for survival, whereas middle-range SADC nations have been successful in exporting various metals and materials. Only the most developed nations have achieved viability on a global scale.

The founding member states are: Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe. South Africa joined SADC in 1994 followed by Mauritius (1995), the Democratic Republic of Congo–DRC (1997), and Seychelles (1997). The Seychelles subsequently pulled out of the SADC in 2004. Uganda's application for membership in the SADC, submitted in the fall of 2000, currently is awaiting SADC approval. In August 2004, Madagascar was granted candidate membership status, which may be upgraded to full membership in August 2005. As the twentieth century drew to a close, members of the Southern African Development Community had thus increased to twelve active members that, with varying degrees of success, attempted to eradicate all obstacles to trade among member nations. In September 1997, the SADC approved the membership applications of the Democratic Republic of Congo (formerly Zaire) and the Seychelles.

Angola

Although it is the second largest of the countries within sub-Saharan Africa, Angola is sparsely populated, in part because the country is subject to severe droughts that may last over several decades. Since agriculture is an important element of the Angolan economy, drought leads to suffering and food deficits throughout the population. Poor agricultural practices, such as overuse of pastures, which leads to soil erosion and extensive desertification and deforestation, have further damaged Angola's economic outlook. The lack of clean water has also continued to create major health problems in Angola. Life expectancy in Angola is only 36.96 years, and infant mortality is high, at 193.92 deaths per 1,000 live births. The U.S. Central Intelligence Agency (CIA) estimates that more than 1 million Angolan lives were lost in the internal fighting that took place during the last quarter of the twentieth century.

Botswana

Formerly known as the British protectorate of Bechuanaland, Botswana established its new identity in 1966. Since its independence, Botswana has developed a robust economy that has resulted in one of the highest growth rates in the world, partially because of its successful diamond export and tourism businesses. However, Botswana suffers from overgrazing, desertification, and a scarcity of fresh water. It also suffers from a low life expectancy rate of 36.26 years and a high infant mortality rate of 67.34 deaths per 1,000 live births. Botswana's HIV/AIDS infection rate of 38.8 percent is the highest in the world, with serious implications

for national health. The economic security of Botswana is threatened by the fact that the incomes of 47 percent of its people fall below the poverty line and by an unemployment rate of 40 percent.

Lesotho

Known as Basutoland until 1966 when the country won its independence from Great Britain, Lesotho established constitutional government in 1993 after more than twenty years of military rule. During the early 1980s, the drought in Lesotho was so severe that conservative estimates placed economic losses at over $123 million. Without the frequent contributions from citizens of Lesotho who work in South Africa to their family members in Lesotho, the economic outlook for Lesotho would be even worse than it is. Agricultural success in Lesotho is heavily dependent on eradicating the problems of overgrazing and soil erosion and depletion. Life expectancy in Lesotho is only 36.94 years, and the infant mortality rate is high, at 86.21 deaths per 1,000 live births. Like many other African nations, Lesotho is also experiencing an HIV/AIDS epidemic. Almost half of the residents of Lesotho live below the poverty line, and 45 percent of the nation's residents are unemployed.

Malawi

Established in 1891 as the British protectorate of Nyasaland, Malawi achieved its independence in 1964. Although it has the potential to be self-sufficient, Malawi has much work to accomplish before achieving that status. Approximately 90 percent of the population of Malawi lives in rural areas. Malawi's major crop is maize, but weather conditions sometimes result in maize deficits that threaten the overall economy. Because of these problems, Malawi is heavily dependent on funding from the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (IBRD). Malawi also suffers from deforestation, land degradation, water pollution, inadequate sewage facilities, and siltation of the spawning grounds of various species of endangered fish. The life expectancy for residents of Malawi is 37.98 years, and the infant mortality rate is high, at 105.15 deaths per 1,000 live births.

Mauritius

In 1968, Mauritius won its independence from Great Britain, establishing a democratic system that placed high priority on respect for human rights. With one of the highest per capita incomes among SADC members, Mauritius has a sufficiency of arable land and the capability of exporting sugar and fish products. Unfortunately, the country suffers from water pollution and degradation of its coral reefs. The progressive status of Mauritius among SADC countries is illustrated by a high life-expectancy rate of 71.8 years and a low infant mortality rate of 16.11 deaths per 1,000 life births. In recent years, Mauritius has attracted almost 10,000 offshore entities, resulting in a banking sector that generates an income of approximately $1 billion per year. Partly because of this, only 10 percent of the population of Mauritius lives below the poverty line, and the unemployment rate is only 8.8 percent.

Mozambique

After achieving relative independence from Portugal in the mid-1970s, Mozambique suffered a major loss in human resources as large numbers of whites emigrated, leaving the country heavily dependent on South Africa and vulnerable to civil war and a socialist government. Like many of its neighbors, Mozambique falls short of its potential for self-sufficiency, failing to sufficiently utilize its natural resources of coal, titanium, natural gas, hydropower, tantalum, and graphite. The country also suffers from problems with deforestation, pollution of surface and coastal water, and elephant piracy. The life expectancy in Mozambique is only 31.3 years, and the high infant mortality rate of 199 deaths per 1,000 live births further depletes Mozambique's human resources. The country is one of the poorest na-

tions in the world: Seventy percent of the inhabitants live below the poverty line, and approximately one-fifth of the nation's population is unemployed.

Namibia

In the mid-1960s, the Marxist South-West African People's Organization (SWAPO) initiated a guerrilla war that eventually led to independence from South Africa and the emergence of Namibia in 1990. Although Namibia has been forced to cope with the problems of limited freshwater resources, desertification, wildlife piracy, and land depletion, the country made history by incorporating environmental protection into its constitution. Namibia suffers from a low life expectancy of 42.77 years, a high infant mortality rate of 68.44 deaths per 1,000 live births, and an HIV/AIDS infection rate of 22.5 percent. Around one-half of the population of Namibia lives below the poverty line, and unemployment hovers around 35 percent.

South Africa

Once apartheid ended and free democratic elections were held in 1994, South Africa became a member of the SADC. Even though the country normally exports a good deal of maize, severe periodic droughts are a problem. Excellent transportation facilities give South Africa a distinct advantage among SADC nations. Like most of its neighbors, South Africa has a low life expectancy, at 46.56 years. The high infant mortality rate of 60.84 deaths per 1,000 live births and an HIV/AIDS infection rate of 20.1 percent also demonstrate a continued need for improved health conditions. Economically, the 50 percent poverty rate and the 37.9 percent unemployment rate also signal the need for improvement.

The inclusion of South Africa in SADC has proved to be a mixed blessing. South Africa maintains close ties with the West, including close relationships with the European Union and the United States. Western interests at times come into direct conflict with the perceived interests of southern Africa. There has also been a strong tendency for other SADC members to depend too heavily on South Africa's healthy economy rather than developing their own internal resources.

Swaziland

Although Swaziland was technically granted independence from Great Britain in the late nineteenth century, it was not until 1968 that the country achieved true independence. Agriculture continues to dominate Swaziland's economy; and the country continues to cope with problems that develop as a result of insufficient clean water supplies, wildlife depletion, overgrazing, and soil depletion and erosion. Weather-related problems are frequent in Swaziland, and in 2002 around one-fourth of Swaziland's residents received emergency food aid. Nine-tenths of Swaziland's imports are received from South Africa, leaving Swaziland heavily dependent on its larger neighbor. Persistent health problems have resulted in a life expectancy of 39.47 years, an infant mortality rate of 67.44 deaths per 1,000 live births, and an HIV/AIDS infection rate of 33.4 percent. Economically, 40 percent of Swaziland's people live below the poverty line, and the unemployment rate remains around 34 percent.

Tanzania

The nation of Tanzania was created from the merger of Tanganyika and Zanzibar in 1964. Tanzania has a wealth of natural resources that include hydropower, tin, phosphates, iron ore, coal, diamonds, and gold. Unfortunately, like many of its neighboring countries, Tanzania suffers from periodic flooding and droughts. These problems are intensified by environmental problems such as soil degradation, deforestation, desertification, destruction of coral reefs, and wildlife piracy. Health resources in Tanzania have repeatedly been depleted by the low life expectancy of 44.56 years, the high infant mortality rate of 103.68 deaths per 1,000 live births, and an HIV/AIDS infection rate of 7.8 percent. As one of the world's poorest coun-

tries, Tanzania is heavily dependent on agriculture. It supplements its income with funds from the World Bank, the International Monetary Fund, and various other donors.

Zambia

Although Zambia, formerly known as Rhodesia, is more self-sufficient than many other southern African nations, the country is landlocked and suffers from internal food distribution problems. The country prospered after its independence from Great Britain in 1964; however, declining copper prices and prolonged drought in the 1990s set Zambia back economically. In addition to periodic droughts, Zambia suffers from heavy tropical storms that regularly assail the country each year from November to April, leading to air pollution, acid rain, and chemical runoff. Zambia also faces problems with wildlife poaching, deforestation, soil erosion, desertification, and a lack of clean water. Health problems in Zambia result in a low life expectancy of 35.25 years, a high infant mortality rate of 99.20 deaths per 1,000 live births, and an HIV/AIDS infection rate of 21.5 percent. Approximately 86 percent of Zambia's population lives below the poverty line, and 85 percent of the country's population is employed in the agricultural sector.

Zimbabwe

Formerly Southern Rhodesia, Zimbabwe unilaterally announced its independence from South Africa in 1965. However, it took a guerrilla uprising and interference from the United Nations before true independence was achieved in 1980. Zimbabwe continues to be a major exporter of maize, and this export capability has made the economy of Zimbabwe second only to South Africa among SADC countries. Like its neighbors, Zimbabwe suffers from deforestation, soil erosion, land degradation, air and water pollution, and wildlife poaching. Zimbabwe is also held back by a life expectancy rate of 39.01 years, a high infant mortality rate of 66.47 deaths per 1,000 life births, and an HIV/AIDS infection rate of 33.7 percent. Seventy percent of Zimbabwe's population lives below the poverty line, and the unemployment rate has also settled at 70 percent.

Contemporary Outlook

The SADC has been most successful in achieving cooperation on a bilateral scale. For example, Tanzania and Malawi worked together to create a road that provided Malawi with much-desired access to the port of Dar es Saleem. In another cooperative effort, Zambia granted Mozambique access to a rail link that provided the latter country with access to port facilities. Tanzania has worked with other SADC countries to improve interregional rail transport aimed at stimulating agricultural production and processing.

Overall, the SADC has also helped to promote a sense of regional identity within southern Africa that was not present before 1980. Some member states have achieved a measure of financial independence from outside forces, while others remain heavily dependent on more developed nations. Tariffs in the region have fallen by 70 percent, and trading among member nations has grown at a rate of approximately 10 percent per year. The gross domestic product (GDP) of the region has risen to nearly 60 percent of that of sub-Saharan Africa, with around 80 percent of the total GDP of SADC countries deriving from South Africa. Per capita incomes of SADC countries are roughly double those of other sub-Saharan countries. Furthermore, more than half of all foreign trade in this region is conducted with SADC countries.

The SADC has established goals for the twenty-first century that include a major restructuring of the organization, an emphasis on technological development, and the development of subregional trading blocs. The SADC also created its first two directorates, which began operation at the turn of the century: the Trade, Finance, Industry, and Investment Directorate and the Food, Agriculture,

and Natural Resources Directorate. Plans were also in place to establish southern Africa as a free trade area by 2008.

In addition to participation by individual SADC members in other regional organizations, in February 1998 the SADC signed a formal agreement with the Economic Community for West African States (ECOWAS), the Intergovernmental Authority on Development (IGAD), and the Common Market for Eastern and Southern Africa (COMESA). The agreement among the four African organizations was designed to coordinate efforts to deal with Africa's national debt and to promote actions that would speed up the process of establishing an African Economic Community that would benefit the member nations of all four groups.

Before it can achieve its own full potential, however, the Southern African Development Community must come to terms with what globalization means for southern Africa. Outside interest in the area offers greater potential for development in some countries than in others, with an accompanying increase in the already existing inequalities among SADC member nations. The SADC may also be forced to determine the role that the region will play in the developing global economy.

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See Also Economic Integration; Common Market for Eastern and Southern Africa (COMESA); East African Community (EAC); Economic Community of Central African States (CEEAC); Franc Zone

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United Nations Conference on Trade and Development (UNCTAD)

Established in 1964 as a permanent intergovernmental body, the United Nations Conference on Trade and Development (UNCTAD) is the UN's focal point for issues pertaining to trade, investment, and development. The main goal of UNCTAD, as laid out in its mandate, is to maximize trade, investment, and development opportunities for developing countries—in particular, to assist them in their efforts to face the challenges and reap the benefits of globalization. UNCTAD has 191 member states and its headquarters are in Geneva, Switzerland.

Based on such a wide membership and on its all-encompassing mandate, UNCTAD has maintained over the years a leading role as a forum for intergovernmental deliberations on trade and development and as a contributor to the policy research and analysis conducted on globalization and development, international trade, competition policy, investment, enterprise development and technology transfer, transport and infrastructure, and so on. All UNCTAD activities take into account the issues of sustainable development, gender equality, and economic cooperation among developing countries. From the very beginning, UNCTAD's philosophy (as expressed by its first secretary general, Raul Prebisch) has been based on compromise and cooperation among developed and developing countries. UNCTAD's activities and policy advice needed, nevertheless, to evolve constantly and respond to the changing needs of its member states and to the rapid transformations within the international economic environment. The UNCTAD conferences held every four years provide regular forums to refocus UNCTAD's approaches, recommendations, and actions.

UNCTAD's role since 1964 has been a difficult one, as the tasks lying ahead have become even more challenging. Despite its intellectual contribution and sustained intergovernmental efforts, UNCTAD as an institution, and developing countries as a group, have not seen their efforts matched with substantial changes in the course of the world economy (UN 1985). There is no doubt, however, that UNCTAD (along with other multilateral agencies, such as the General Agreement on Tariffs and Trade [GATT], the World Bank, and the International Monetary Fund [IMF]) has introduced new actions, concepts, and approaches to the development debate through its research, policy analysis, technical assistance, capacity building, negotiations, and consensus building (UNCTAD 1994).

UNCTAD's work has prompted or facilitated a number of policy initiatives at the international level. Among them, notable achievements are the introduction of the special and differential (S&D) treatment principle and the Generalized System of Preferences (GSP). Since 1971, more than US$70 billion in exports from developing countries have received preferential treatment in developed markets annually

The Principle of Special and Differential Treatment for Developing Countries: Background and Evolution in the Context of the Multilateral Trading System

The principle of S&D treatment was first formulated in the context of interstate trade relations as a result of coordinated efforts by developing countries to correct the perceived inequalities of the trading system by introducing preferential treatment in their favor across the spectrum of international economic relations. The principle found expression in a succession of articles and instruments associated with the multilateral trading system created by the GATT, notably Article XVIII, "Governmental Assistance to Economic Development," which enabled developing countries to maintain a certain flexibility in their tariff structures in order to develop their industrial base (and to apply quantitative restrictions for balance-of-payments reasons), and Part IV of GATT, Article XXXVI, adopted in 1964, in which, among other things, the developed-country parties declared that they did "not expect reciprocity for commitments made by them in trade negotiations to reduce or remove tariffs and other barriers to the trade of less-developed contracting parties." The Generalized System of Preferences (GSP) accorded by developed countries to developing countries in international trade—introduced at the UNCTAD II Conference in New Delhi, 1968—was a further manifestation of the principle. The 1994 Uruguay Round agreements provided for special and differential treatment mainly in the form of time-limited derogations, greater flexibility with regard to certain obligations, and other more favorable clauses. The S&D principles are a major negotiating element in the current WTO negotiations.

At the regional level, preferential treatment for developing countries was also embodied in the provisions of the First ACP-EEC Lomé Convention regulating nonreciprocal trade preferences granted by the European Union.

through the GSP schemes. A number of international commodity agreements, for instance on cacao, coffee, sugar, jute products, tropical timber, olive oil, and grains, have been negotiated under the aegis of UNCTAD. A Common Fund for Commodities was also set up to provide financial assistance for price stabilization mechanisms and research and development (R&D) projects in the field of commodities. In the area of maritime transport, UNCTAD played an active role in the adoption of the UN Convention on a Code of Conduct for Liner Conferences (1974) and the UN Convention on the Carriage of Goods by Sea (1978). UNCTAD has also contributed to the elaboration of guidelines in the area of debt rescheduling (1980), to agreements reached on aid targets as a percentage of gross national product (GNP), and to the creation of Special Drawing Rights (SDRs) by the IMF.

Historical Overview

In the aftermath of World War II, developing countries were not recognized as a special category of countries with specific characteristics and needs. However, the increasing economic interdependence and the increased number of newly independent states in the developing world during the 1950s and 1960s led to an intensified debate on economic development. Therefore, during the Conference on the Problems of Developing Countries, held in 1962 in Cairo, the idea of an international forum dealing with vital questions relating to trade and development received wide support that was reiterated in the Cairo Declaration.

In December 1962, the UN General Assembly adopted Resolution 1785 (XVII) calling for the establishment of UNCTAD as a permanent institution, with the first conference to be held

in 1964. The significance of UNCTAD I was universally acknowledged at the time. The UN secretary general, U Thant, described it as one of the most important events since the establishment of the United Nations. The Final Act marked a major step forward in multilateral economic diplomacy (Cordovez 1967) and contained a number of goals and basic orientations, adopted by consensus, that remain at the core of UNCTAD's mandate in the twenty-first century.

Eleven UNCTAD conferences have been held so far: UNCTAD I, Geneva, Switzerland (1964); UNCTAD II, New Delhi, India (1968); UNCTAD III, Santiago, Chile (1972); UNCTAD IV, Nairobi, Kenya (1976); UNCTAD V, Manila, Philippines (1979); UNCTAD VI, Belgrade, Yugoslavia (1983); UNCTAD VII, Geneva, Switzerland (1987); UNCTAD VIII, Cartagena de Indias, Colombia (1992); UNCTAD IX, Midrand, South Africa (1996); UNCTAD X, Bangkok, Thailand (2000); and Sau Paolo, Brazil (2004).

UNCTAD VIII represented a major turning point in cooperation for development and revitalized UNCTAD as an institution following a deadlock in economic cooperation dialogue during the 1980s. In the Cartagena Commitment adopted at UNCTAD VIII, the participants pledged to form a new partnership for development, expressing their political will to translate best endeavors into reality. The international community acknowledged that UNCTAD was the most appropriate institutional focal point within the United Nations for an integrated approach on key issues of sustainable development, including trade, finance, investment, services, and technology (see sidebar, "The Spirit of Cartagena").

UNCTAD X played a crucial role in international economic diplomacy. It came after the failure of the World Trade Organization (WTO) to launch a new round of negotiations in Seattle and managed to reestablish a more consensual approach among developed and developing countries. The Bangkok Declaration adopted at the end of the conference emphasized the commitment of the international community to a multilateral trading system that is fair, equitable, and rules-based and that operates in a nondiscriminatory and transparent manner and in a way that provides benefits for all countries, especially developing ones.

Among other things, countries agreed to find ways to improve market access for goods and services of particular interest to developing countries, to resolve issues relating to the implementation of WTO agreements, to fully implement special and differential treatment, to facilitate accession to the WTO, and to provide technical assistance to developing countries. The conference reiterated that all countries and international organizations should do their utmost to ensure that the multilateral trading system fulfills its potential in terms of promoting the integration of all countries, in particular the least developed countries (LDCs), into the global economy. It was also agreed that a new WTO round of multilateral trade negotiations should take account of the development dimension.

Structure of UNCTAD

As of 2005, UNCTAD is composed of 192 members. Its intergovernmental machinery is comprised of the conference (held every four years), the Trade and Development Board (TDB), and its subsidiary bodies, serviced by a permanent Secretariat. The conference, the organization's highest policymaking body, formulates major policy guidelines and decides on the work program for the following four years. The TDB, the executive body of UNCTAD, meets once a year in Geneva and up to three times a year in executive session to deal with urgent policy issues as well as management and institutional matters.

The TDB reports to the UN General Assembly through the Economic and Social Council (ECOSOC). The annual *Trade and Development Report,* published by the UNCTAD Secretariat, serves as a basis for the board's deliberations. The board is directly involved in all policy is-

The Spirit of Cartagena

The General Assembly,

Reaffirming the importance and continued validity of the Declaration on International Economic Cooperation, in particular the Revitalization of Economic Growth and Development of the Developing Countries, the International Development Strategy for the Fourth United Nations Development Decade, the United Nations New Agenda for the Development of Africa in the 1990s, the Programme of Action for the Least Developed Countries for the 1990s, and the various agreements, especially Agenda 21, that were adopted during the process of the United Nations Conference on Environment and Development

[. . .]

Having considered the final documents adopted by the United Nations Conference on Trade and Development at its eighth session, in particular the Declaration and the document entitled 'A New Partnership for Development: The Cartagena Commitment', and noting with satisfaction the highly successful outcome of the eighth session of the Conference and the spirit of genuine cooperation and solidarity—the Spirit of Cartagena—that emerged therefrom

[. . .]

Reaffirms the important role of the United Nations Conference on Trade and Development, as a principal organ of the General Assembly in the field of trade and development and as the most appropriate focal point within the United Nations proper for the integrated treatment of development and interrelated issues in key areas, including trade, commodities, finance, investment, services and technology, in the interests of all countries, particularly those of developing countries;

[. . .]

Urges all countries to fulfil their commitments to halt and reverse protectionism and to reach a final agreement on the remaining issues of the Uruguay Round, and reaffirms that the balanced and comprehensive conclusion of the multilateral trade negotiations is crucial and is needed in order to strengthen the rules and disciplines of the international trading system and significantly enhance the prospects for trade, economic growth and development of all countries, especially developing countries.

Source: Excerpts from the Declaration of the eighth session of the United Nations Conference on Trade and Development (Cartagena de Indias, Colombia, February 8–25, 1992), adopted by the UN General Assembly at its 93rd plenary meeting, Document Symbol A/RES/47/183, December 22, 1992.

sues that the UNCTAD Secretariat covers and overviews the output and priorities of the work program for each subsidiary body of the Secretariat. The subsidiary machinery of the TDB is composed of three commissions that meet once a year in regular session and may convene up to ten "expert meetings" a year on specific issues. A fourth commission, the Commission on Science and Technology for Development, reports directly to ECOSOC.

Apart from these formal linkages, UNCTAD remains in close cooperation with the WTO and the World Bank, the United Nations Development Programme (UNDP), UN regional commissions, and other international organizations. Notable in this regard is the partnership between UNCTAD, the World Bank, the IMF, and the UNDP in the Integrated Framework for Technical Assistance to the Least Developed Countries (LDCs) and in the International Task Force on Commodity Risk Management in Developing Countries (UNCTAD 2001a). UNCTAD has also maintained a strategic partnership with the WTO, as is evident from the work of the joint UNCTAD-WTO International Trade Center. Since UNCTAD IX,

UNCTAD has been seeking increasingly to involve civil society in its work, and a significant feature of UNCTAD's work is the participation of nongovernmental organizations (NGOs) in the execution of its main activities and during intergovernmental consultations.

Technical Assistance Activities

UNCTAD's technical cooperation encompasses almost all of its areas of responsibility. The emphasis of UNCTAD's programs is on capacity building and human resources in developing countries and economies in transition. Technical assistance activities on trade-related issues include, for instance, support for negotiations, trade policy formulation, commodity policy and commodity risk management, and customs reform. Technical assistance is also provided on the links between trade and other policies, such as environmental and competition policy. Other areas of competence include debt management, insurance, investment, technology issues, and multimodal transport and shipping.

UNCTAD is involved in more than 300 technical assistance projects in over 100 countries. Its activities are aimed at enhancing the capacity of developing countries and countries in transition to strengthen their institutions and to better adjust the economic policies to their development needs. More than half of UNCTAD's technical assistance expenditures are interregional. Large shares of the technical assistance resources are devoted to Africa (21.6 percent) and the Asia and Pacific region (18.8 percent). The remainder is allocated to Latin America (5.7 percent), Eastern Europe, the former Soviet Union (3.4 percent), and other countries.

Trade Policy

In the field of trade, UNCTAD helps governments to formulate and implement trade policies aimed to encourage the business sector to adapt products to a dynamic international trading system. UNCTAD's trade agenda contains three main areas of work: multilateral trade negotiations; regional economic integration involving developing countries; and unilateral trade preferences for developing countries. Since its establishment, UNCTAD has been a major resource for developing countries in terms of capacity building and in the development of analytical tools with regard to the impact of the multilateral trading system on development. For instance, UNCTAD has designed the SMART model (used to quantify ex ante the effects of trade negotiations) and several databases on tariffs (such as the *Trade Analysis and Information System,* or TRAINS) and nontariff measures (the UNCTAD Coding System of Trade Control Measures) to assist negotiators in better identifying areas of common concern.

UNCTAD remains a leading authority in all these areas. This role was explicitly acknowledged during the UNCTAD III Conference, for instance, when the UNCTAD Secretariat was specifically assigned the responsibility of assisting developing countries during the GATT Tokyo Round. A similar role was assigned to the UNCTAD Secretariat at the Doha 2001 round of WTO negotiations on specific trade-related issues such as competition, environmental policies, and investment policies. Parallel to the attention given to the multilateral trading system, UNCTAD's considerable analytical work and recommendations have been a useful input for many regional trading arrangements implemented by developing countries, in particular in Africa and Latin America. In addition, as the major architect of the GSP system, UNCTAD reviews, monitors, and works to improve the many GSP schemes implemented by developed countries.

One particular set of trade-related policies that UNCTAD has been promoting over the past twenty-five years encompasses competition and consumer protection policies at national, regional, and international levels. UNCTAD has been promoting the elimination of

anticompetitive practices affecting the trade interests of developing countries since the early 1970s. After the adoption in 1980 by the UN General Assembly of the Set of Multilaterally Agreed Equitable Principles and Rules for the Control of Restrictive Practices, UNCTAD has become a focal point for multilateral discussions on anticompetitive practices.

A long-standing issue central to UNCTAD's work has been the diversification of production and trade structures of developing countries, often reliant on a small number of products with declining terms of trade. Other major new areas of focus include the study of trade in services, e-commerce, and trade and environment issues (climate change, carbon emissions, conservation, sustainable biological diversity, and so on).

Investment and Enterprise Development

UNCTAD provides a wide range of technical assistance activities to developing countries and economies in transition in order to attract foreign direct investment and enhance the contribution it can make to the domestic economy. It is implementing a work program on international investment agreements, with a view toward assisting developing countries to participate as effectively as possible in international investment rule-making at the bilateral, regional, plurilateral, and multilateral levels. The program embraces capacity-building seminars, regional symposia, training courses, and dialogues between negotiators and civil society groups.

One area of investment-related activities involves the creation of sustainable support structures that help promising entrepreneurs to build innovative and internationally competitive small and medium-sized enterprises (SMEs), thereby contributing to the development of a dynamic private sector. The main UNCTAD "business incubator" is the EMPRETEC program. EMPRETEC is a program that provides developing countries with training in entrepreneurship. Its activities involve the delivery of motivational and technical seminars, the provision of advisory services, and the development of national and international networks serving the needs of entrepreneurs. Since its inception in 1988, the EMPRETEC program has been initiated in twenty-three countries, assisting more than 42,000 entrepreneurs through local market-driven business support centers (UNCTAD 2000a). EMPRETEC identifies promising entrepreneurs, conducts training aimed at developing entrepreneurial traits and business skills, assists companies in accessing financial and nonfinancial services, encourages the exchange of experiences and networking among program participants locally and internationally, and puts in place long-term support systems to facilitate the growth and internationalization of their companies.

Since the early 1980s, UNCTAD has been involved in the development of international standards of corporate accounting and reporting. With the increased globalization of financial flows, the need for reliable, comparable, and transparent financial information in financial statements of enterprises became crucial for the efficient functioning of stock markets, banks, and foreign direct investment. UNCTAD has serviced the Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting (ISAR), a major international forum in this field. ISAR accomplishes its mandate through an integrated program of research, intergovernmental dialogue, consensus building, and technical cooperation.

Macroeconomic Policies, Debt, and Development Financing

The provision of adequate financial aid on satisfactory terms and conditions to developing and least developed countries, as well as the reform of the international monetary system, have been among UNCTAD's central objectives

from the very beginning. Although the various elements of the two areas have shifted in importance over time, the many challenges facing UNCTAD today remain broadly similar to those in the early 1960s, which provided impetus for the establishment of UNCTAD. UNCTAD has used its analytical capacity to warn against the increased vulnerability of developing countries during financial crises. As early as 1990, UNCTAD's *Trade and Development Report* has warned about the potential for an extremely costly financial crisis to occur that would affect, in particular, the most dynamic developing countries, especially those that implemented ambitious financial liberalization and deregulation programs (UNCTAD 1990). Similar early-warning signals were triggered with regard to the external debt crises, and support and technical assistance was provided to the intergovernmental group of developing countries (G-24) during their discussions with the World Bank and the IMF, as well as with the Paris Club of creditors.

Based on this experience, UNCTAD has developed a computer-based Debt Management Financial and Analysis System (DMFAS) that was especially designed to assist developing countries in managing their participation in the globalized world of international finance. Having provided assistance in debt management for over twenty years, DMFAS is the world's major provider of technical assistance and advisory services in debt management (UNCTAD 2000b). At the end of 2000, more than 34 percent of outstanding public and publicly guaranteed long-term debt for all developing countries and economies in transition—totalling $514 billion—was managed using DMFAS. At the end of December 2001, the program was collaborating with more than sixty countries, including seventy-six institutions. DMFAS is fully integrated with World Bank tools that are designed to assist country officials in formulating debt strategies and in incorporating debt relief or new borrowing alternatives that are sustainable and consistent with long-term macroeconomic policies (UNCTAD 2001b).

Other Programs

One area in which UNCTAD has been particularly active since its establishment is international transport, especially shipping, with complementary work in customs systems. The Automated SYstem for CUstoms Data (ASYCUDA), a major UNCTAD program, helps developing countries to reform and modernize their customs procedures and management. Implemented in more than eighty countries, it has become the internationally accepted standard for customs automation. Another UNCTAD initiative, the ACIS program, a computer-based cargo tracking system, is now operational in twenty developing countries in Africa and Asia.

UNCTAD has also launched a Science and Technology Diplomacy Initiative with the aim of mobilizing scientific and technological expertise to enable developing-country diplomats and representatives to make informed decisions on emerging issues where science and technology play an important role, particularly in the aftermath of the 2001 Doha WTO ministerial meeting. The Science and Technology Diplomacy Initiative seeks to provide training and workshops for diplomats, scientists, and policymakers to assist them in international negotiations, particularly those that take place at the WTO TRIPS Council (for the Agreement on Trade-Related Aspects of Intellectual Property Rights) and with respect to the UN Convention on Biological Diversity covering aspects of biotechnology and transfer of technology.

UNCTAD's program on least developed, landlocked, and island countries is also central to its mandate. UNCTAD analyzes the effects of major international initiatives on LDCs and supports LDCs in key areas such as trade, investment, and services. It has also played a leading role in organizing the three United Nations conferences on LDCs (Paris in 1981 and 1990, Brussels in 2001). UNCTAD's work led to the creation of the list of LDCs and has subsequently increased awareness of the special needs of these countries.

This awareness has changed the policies of countries and multilateral agencies in several important ways. First, there has been a shift in the share of official assistance going to LDCs. Several donor countries have not only increased their assistance but have also canceled the debt of LDCs or taken other debt-relief measures in their favor. Second, a shift in favor of LDCs has been particularly noticeable for major multilateral organizations, which are now providing a major share of assistance to the least developed countries. This awareness has also led to a few innovations in commercial policy measures on behalf of these countries. Third, the creation of a special subcommittee for least developed countries within the WTO (previously within the GATT) should be noted, as should the WTO Plan of Action for the Least Developed Countries. Fourth, trade preferences, including provisions in the Lomé Conventions and within the generalized system of preferences, have also resulted. Finally, the European Union has provided the LDCs with duty- and quota-free access for their products, creating an important precedent (Bora et al. 2002).

UNCTAD Reports and Publications

In addition to studies and analyses prepared for meetings in various committees and working groups, UNCTAD issues numerous useful publications. Many of these are annual publications. The *Trade and Development Report,* for example, contains analyses of the current global economic situation, regional trends, and the interaction between trade, investment, and financial flows, with a particular focus on the strategies and policy issues of interest to developing countries. *The Least Developed Countries Report* is a comprehensive and authoritative source of socioeconomic analysis and data on the forty-nine least developed countries.

The *World Investment Report* provides a thorough analysis of trends in foreign direct investment and proposes policy recommendations to further the FDI contribution to development. The *Review of Maritime Transport* examines recent developments in seaborne trade and analyzes the performance of different geographic regions in maritime transport. The *Handbook of International Trade and Development Statistics* is a comprehensive collection of statistics relevant to the analysis of world trade and development. It also is available in CD-ROM format. And *Trade Analysis and Information System (TRAINS)* is the most comprehensive computerized information system at the tariff-line level. It covers tariff, para-tariff and nontariff measures and provides data on import flows by origin for more than 140 countries.

UNCTAD also publishes a number of research papers in series, such as UNCTAD Policy Issues in International Trade and Commodities, the G-24 Discussion Paper Series, and others. For further information on all these resources, see UNCTAD's Web page at www.unctad.org.

Lucian Cernat

See Also Inequality; Economic and Social Council (ECOSOC); Sustainable Development

Note

The views expressed herein are those of the author and do not necessarily reflect the views of the United Nations or its member states.

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World Health Organization (WHO)

Globalization in the nineteenth century made health an international issue requiring greater cooperation among states. This cooperation occurred first through ad-hoc conferences and later through permanent health organizations. Institutionalization of international cooperation on public health led eventually to the establishment of the World Health Organization (WHO) in 1948. The importance and relevance of this organization has been proven and strengthened over the past half century through its active participation in the fight against major infections.

A continuing rapid pace of globalization in the 1980s and 1990s underscored the need for a more global action against the rapid spread of disease, particularly communicable epidemics. The complex nature of the measures that needed to be taken in order to successfully contain or treat diseases compelled WHO in these decades to refocus its activities. Instead of concentrating on intergovernmental cooperation, it began to spearhead more globally driven campaigns and action plans, increasingly relying on partnerships with a wide range of international institutions and governmental and societal actors, including commercial groups. The force of globalization in the late twentieth century made diseases more widespread and potentially more lethal to a greater number of people. Simultaneously, however, the same globalization processes compelled and allowed WHO to enmesh its activities with a global network of multiactor partnerships that could confront challenges related to international public health more effectively.

Historical Overview

The first wave of globalization took place during the nineteenth century as significant improvements in transportation and communication took place. This wave was characterized by rapid growth in both trade and travel, not only among nations within particular regions, but also across continents, particularly Asia, the Americas, and Europe. As the number of interactions between peoples increased, infectious diseases, such as cholera, the plague, and yellow fewer, among others, began propagating much more rapidly than ever before, both across time and geographical space. These changes raised significant concerns about public health and sparked continual debates among state officials about the sorts of international cooperation needed to contain the spread of epidemics and the kinds of measures that could protect populations without hindering international commerce.

In 1851, the representatives of twelve European states gathered in Paris at the first International Sanitary Conference. There, they adopted the International Sanitary Convention, which envisaged international harmonization of diverse requirements for conducting national inspections and imposing quarantines in order to halt the spread of epidemic diseases. The convention, however, did not gain the required ratifications and therefore never came into force. The failure of the ratification process showed the difficulty of finding a proper balance between the need for firmer national measures to stop the spread of

disease, on the one hand, and the desire to maintain a free flow of people and international trade, on the other. It took five more international conferences (Paris in 1859; Constantinople in 1866; Vienna in 1874; Washington, DC, in 1881; and Rome in 1885) before the European states could agree on another International Sanitary Convention, which occurred at the seventh International Sanitary Conference in Venice in 1892. This convention was limited, however, to quarantine measures for cholera. During the tenth International Sanitary Conference, in 1897, and again in Venice (two previous conferences were in Dresden in 1893 and in Paris in 1894), the countries adopted an International Sanitary Convention covering the plague. Six years later, in 1903, the eleventh International Sanitary Conference, held in Paris, agreed on a single consolidated International Sanitary Convention that regulated protective measures against both cholera and the plague. This convention was subsequently amended in 1926 to cover two other diseases: smallpox and typhus.

While participating in these ad-hoc international meetings, the states tightened their regional cooperation, which resulted, among other things, in the creation of the first permanent international health organization, the International Sanitary Bureau (ISB), in Washington, DC, in 1902, and another one, the Office International d'Hygiène Publique (which translates as International Office of Public Health), in Paris in 1907. The fundamental goals of these early organizations were to collect and disseminate information about epidemics and to regulate international efforts in fighting them. The ISB was subsequently renamed the Pan American Sanitary Bureau (PASB) in 1923. Since 1949, the PASB has served as the World Health Organization Regional Office for the Americas. PASB is also the secretariat of the Pan American Health Organization (PAHO), which emerged from the International Sanitary Conferences (the Pan American Sanitary Conferences from 1923 and PAHO after 1958).

The next step in institutionalization of international cooperation on health issues was the creation of the League of Nations Health Organization in 1923, which was responsible for hygiene- and health-related issues as well as the establishment and operation of epidemiological information systems for malaria, tuberculosis, syphilis, cancer, and other diseases. In 1943, the United Nations Relief and Rehabilitation Administration was set up to prevent humanitarian and epidemiological catastrophes in countries devastated by war. The administration was eventually dissolved in 1946. In the same year, the International Health Conference was convened. It drafted the constitution for an international health organization and set up an Interim Commission to assist in the preparation for the first meeting of the World Health Assembly (WHA). The constitution came into force in April 1948, and the WHA meeting took place on June 24, 1948. At this meeting, delegations from fifty-three member states officially established the World Health Organization (WHO) as a United Nations specialized agency.

WHO Functions

WHO conducts various types of activities that aim at the "attainment by all peoples of the highest possible level of health" (Article 1, WHO Constitution), where "health" is defined as "not merely the absence of disease or infirmity" but "a state of complete physical, mental and social well-being" (Preamble). Because of this broad mandate, WHO performs several functions that can be grouped into four major task roles:

1. A standard-setting role based on setting guidelines, codes, recommendations, and regulations and establishing monitoring and validating mechanisms to ensure their proper implementation (WHO as a *normative agency*).
2. An operational role based on prevention, treatment, and eradication of communi-

cable and noncommunicable diseases, which requires coordination and harmonization of the work of various governmental and nongovernmental actors with the aim of facilitating, building, and sustaining global partnerships (WHO as an *action agency*).

3. A technical role based on providing assistance to WHO member states through technical and policy support, education, and training in order to strengthen the institutional capacities of their national health systems (WHO as a *service agency*).
4. A research role based on storing, managing, and disseminating information on public health and supporting tests and diagnoses of new technologies and health-related inventions (WHO as an *epistemic agency,* serving as a repository of knowledge on public health).

WHO Governing System

WHO is composed of several governing bodies linked through a web of formal interactions that constitute the WHO governing system. These bodies include WHA, an Executive Board, and regional offices. A director general serves as the chief administrative officer.

World Health Assembly

The World Health Assembly, composed of delegates from 192 member states, is the central political organ of WHO. Although no more than three delegates can officially represent a particular state during WHA meetings, in practice country delegations are often larger because alternates and advisers accompany official delegates. The WHO Constitution (Article 11) recommends that the delegates have a high level of technical competence in a health-related field and, if possible, that they come from the national health administrations of the member states. WHA sessions are also attended by the representatives of multilateral institutions and nongovernmental organizations (NGOs) that have official relationships with WHO. These representatives may make statements, but they do not vote at WHA sessions.

At the sessions, each member state has one vote, and the decisions are taken either by a qualified majority of two-thirds (for example, in the adoption of regulations or of amendments to the WHO Constitution or in the admittance of new members) or by a simple majority. WHA has one regular session a year and may hold special sessions as requested by the Executive Board (see below).

Two procedural and two substantive committees assist WHA. One of the procedural committees, the Committee on Nominations, is responsible for nominating people to serve in various official positions, such as chairmanships for other committees and the WHA president and vice president. The other, the Committee on Credentials, is responsible for determining whether the country delegations have appropriate authorization from their respective governments to participate in WHA or to be elected to its organs. The substantive committees are Committee A and Committee B. Committee A deals with technical programs and policy-oriented issues, and Committee B focuses on administrative and financial matters.

WHA is both a guidance and supervisory body. As such, it makes decisions about the general direction of WHO activities, scrutinizes WHO spending, approves the organization's regular budget (almost $856 million in the 2002–2003 biannual budget), and monitors other extra-budgetary resources (assessed at about $1.4 billion in 2002–2003). WHA adopts regulations, proposes recommendations, and makes agreements with other UN agencies or intergovernmental organizations. It also appoints the director general (DG), who would already have been nominated earlier by the Executive Board. WHA may ask the DG and the Secretariat, as well as the Executive Board, to bring health-related matters to the attention of the delegates of the member states. At its dis-

cretion, WHA may also establish committees or ad-hoc bodies as deemed necessary to facilitate and improve the work of the organization.

The Executive Board

The Executive Board (EB) meets at least twice a year and brings together thirty-two persons designated by their state to fill positions on the board, which are three-year appointments. The states authorized to appoint a representative to this board are elected by the WHA. Each of the delegates must have a specific qualification in the field of health. In order to maintain a balanced geographical distribution of seats, the EB must have no less than three delegates representing each of the WHO's six regions. By informal arrangement, the five permanent members of the UN Security Council—China, France, Russia, the United Kingdom, and the United States—have their representatives to the EB seated for three consecutive years interrupted by a one-year intermission (so-called "semi-permanent memberships"). EB meetings are also attended by the representatives of multilateral institutions and nongovernmental organizations that have official relationships with WHO. These representatives have the right to speak but not to vote at EB sessions.

The EB executes the tasks that WHA delegates to it and supervises the implementation of WHA decisions and the provisions of WHO regulations and recommendations. It adopts the agenda for WHA sessions; supervises financial and budgetary assessments prepared by the director general; and sets up, changes, or closes its committees. The EB is composed of five substantive committees: (1) a Programme Development Committee, which is responsible for reviewing all aspects related to planning, budgeting, and evaluation of WHO activities; (2) an Administration, Budget and Finance committee, charged with supervision of WHO's activities in these areas; (3) an Audit Committee, which conducts internal audits of all WHO financial operations with the aim of enhancing their accountability and transparency; (4) a Coordinating Committee on Health, which aims to increase coordination on the health-related policies and programs carried out by WHO, the United Nations Children's Fund (UNICEF), and the United Nations Population Fund (UNFPA); and (5) a Standing Committee on Nongovernmental Organizations, which evaluates the work conducted jointly by WHO and other nongovernmental organizations and considers requests for admittance of new nongovernmental organizations into official relations with the organization. Additionally, the EB runs committees on nonsubstantive issues. Its foundation committees (for the Darling Foundation, the Leon Bernard Foundation, the Jacques Parisot Foundation Fellowship, the Ihsan Dogramaci Family Health Foundation, Sasakawa Health Price, and the United Arab Emirates Health Foundation), for example, consider the nomination and selection of individuals for WHO awards and fellowships.

The Director General and WHO Secretariat

The director general (DG) is nominated by the EB and elected by the WHA. The DG is "the chief technical and administrative officer of the Organization" (WHO Constitution, Article 31). Throughout its history, WHO has had six DGs: Brock Chisholm (Canada),1948–1953; Marcolino Gomes Candau (Brazil), 1953–1973; Halfdan Mahler (Denmark), 1973–1988; Hiroshi Nakajima (Japan), 1988–1998; Gro Harlem Brundtland (Finland), 1998–2003; and Jong Wook Lee (Korea), 2003 to the present. Since the end of the 1980s, the DG has been limited to a five-year term, renewable only once. The DG heads the WHO Secretariat, located in Geneva, a permanent administrative and operational organ of WHO.

The Secretariat is composed of nine clusters, seven of which deal with substantive technical issues and research on various aspects of health care. One of the two remaining clusters is responsible for the Secretariat's contacts with WHA and the EB and its external relations with UN bodies. The last cluster is charged with administrative support and internal management of the Secretariat itself. The DG and

Secretariat are responsible for the day-to-day activities of the organization, implementation of technical programs, coordination of work on health-related matters among various governmental and nongovernmental actors, management of information and expertise on public health, and preparation of the organization's budget.

The DG appoints the staff of the Secretariat, which in the performance of its duties is expected to maintain independence and integrity and not to seek any instructions from the member governments. In accordance with the United Nations common system of grades and salaries, the WHO staff is divided into two general categories: professional and general services. Professional service staff (from P1 to P6 and D2) is responsible for the substantive and policy-oriented work of the organization, whereas general service staff (from G1 to G7) performs administrative and Secretariat support duties. The Secretariat staff also includes nongraded high-level officials such as the deputy director general and assistant directors general. At the end of 2002, the total WHO professional and general staff numbered 3,510, including 1,411 professionals and 2,099 general service personnel, according to WHO human resources reports.

Regional Offices

WHO has six regional health organizations around the world headed by regional directors and regional executive committees assisted by subcommittees. The Pan American Health Organization, mentioned above, is an exception and has a complex structure that includes a directing council, an executive committee, the Pan American Sanitary Conference acting as the WHO regional committee, and the Pan American Sanitary Bureau, with headquarters in Washington, DC, serving as the WHO Regional Office for the Americas. The other regional offices (ROs) are as follows: the Regional Office for Europe, with headquarters in Copenhagen; the Regional Office for the Western Pacific, with headquarters in New Delhi; the Regional Office for Africa, with headquarters in Brazzaville; the Regional Office for the Eastern Mediterranean, with headquarters in Cairo; and the Regional Office for South-East Asia, with headquarters in Manila.

Regional directors (RDs) are nominated by the regional committees and appointed by the WHO EB for a five-year term that is renewable once. Since the RDs are not appointed by the DG and have a strong affiliation with their regional constituents, they enjoy a considerable degree of autonomy vis-à-vis the DG. The regional committees, with their subcommittees, are regional assemblies that are responsible, among other things, for formulating and implementing policies that have an exclusively regional character; supervising the work of their administrative and executive organs, namely the ROs and RDs; nominating the RDs; and providing advice to the DG on health issues that have both regional and international impacts.

WHO Programs

The Fight against Communicable Diseases

From its inception, most of WHO's institutional energies and financial resources were committed to the fight against communicable diseases. In 1951, WHA adopted the International Sanitary Regulations, which were legally binding upon WHO member states. They were revised, consolidated, and renamed the International Health Regulations (IHRs) in 1969. The purpose of the IHRs was to facilitate the establishment of effective control and monitoring measures against the spread of four infectious diseases: smallpox, cholera, plague, and yellow fever. The IHRs set up a global notification system; installed certain types of disease surveillance at the maritime ports, airports, and border control posts; and specified health certificate requirements for people who traveled from infected to noninfected states. In order to maintain free trade and travel while strengthening provisions against disease pro-

liferation, the IHRs enumerated permissible sanitation and disinfection measures allowed to be implemented at arrival and departure points to protect national populations. Since 1995, the IHRs have been under revision with the purpose of expanding their legal scope. Since the eradication of smallpox in 1980, the regulations have covered only three communicable diseases; they do not apply to new important epidemics such as AIDS or Serious Acute Respiratory Syndrome (SARS). The revision process is to be concluded in May 2005.

At the end of the 1990s, the fight against communicable diseases gained renewed importance with international recognition that diseases are both caused by poverty and also in many cases the reason for poverty. In order to increase its institutional capacity to deal with communicable diseases, WHO set up a Global Outbreak Alert and Response Network in 1998, which became fully operational two years later. This global network brings together various governmental and nongovernmental actors to facilitate compilation of information about various diseases and to aid in the verification of epidemics and the coordination of the international response toward confirmed epidemic outbreaks. The network proved its effectiveness in containing the spread of SARS and was further strengthened in June 2003 with the adoption of two WHA resolutions. The resolutions, though not legally binding, officially conferred onto the Secretariat and the DG the power to issue global alerts regarding public health threats. They emphasized the duty of states to report infectious diseases promptly and to cooperate in good faith with other states and WHO on disease-related matters. These resolutions also acknowledged the increasing role of nongovernmental organizations as significant data-gathering and data-disseminating sources.

The Campaign against Smallpox. The eradication of smallpox is a WHO success story in the fight against communicable diseases. WHO embarked on its efforts to eliminate smallpox in 1967, when the twentieth meeting of the World Health Assembly charged the Secretariat with the implementation of the Intensified Smallpox Eradication Programme. At this time, smallpox accounted for almost 2 million deaths annually. The fight against the disease was two-pronged and included both a mass vaccination campaign and the establishment of a sound surveillance system to track new outbreaks of the disease.

In 1980, the Global Commission for Certification of Smallpox Eradication announced that smallpox had been eradicated and recommended ending routine vaccinations against the disease. The success of the smallpox campaign is usually attributed to several factors: an effective vaccine; good management of vaccine delivery; clear diagnostic and epidemic-identification tools; and relatively straightforward methods of controlling disease transmission. Still, WHO involvement, which greatly facilitated international cooperation and, more notably, contributed to sustaining that cooperation over a long period of time, was a significant if not essential factor in the eradication of the disease. Given the possibility that smallpox could be reintroduced, WHO has begun the process of stockpiling the smallpox vaccine in the event of an emergency since May 2005.

Work to Eradicate Malaria. In 1955, WHA directed the Secretariat to embark on the Malaria Eradication Program and to establish proper verification mechanisms in this program. Despite important achievements in scaling back malaria in the 1950s and at the beginning of the 1960s, WHO faced technical, administrative, and financial difficulties that had significant implications for the effectiveness of these efforts. By the end of the 1960s, the campaign had lost its initial momentum, and the program implementation strategy was substantially changed in favor of a greater involvement of the national health services. Such a shift of emphasis was partly a confirmation of the enormous complexity of malaria prevention and treatment as well as an acknowledgment

of failure for WHO's centrally led campaign against the disease.

Since then the WHO position has evolved from its initial desire to eradicate malaria toward a more feasible approach focusing on controlling the disease. This shift occurred in the background of a significant rise in reported malaria cases in the 1980s and the first half of the 1990s. In response to the increase, in 1992 WHO adopted the Global Malaria Control Strategy, which stressed decreasing the burden of the disease and reducing its geographical scope through better diagnosis, stronger national research capacities, and enhanced monitoring and preventive measures. In order to improve global coordination and involve a greater number of actors in the fight against malaria, WHO, in partnership with the United Nations Children's Fund (UNICEF), the United Nations Development Programme (UNDP), and the World Bank, launched Roll Back Malaria (RBM) at the end of 1998. This campaign was soon joined by other multilateral institutions, donor governments, representatives of affected nations, NGOs, academic centers, and private enterprises, turning it into a global partnership. The goal of the RBM is to scale back the "malaria burden" by 50 percent by the end of 2010. Although significant political commitments to reduce the malaria burden were made at the first ever summit on malaria, held in 2000 in Abuja, Nigeria, it is too early to judge whether a broad-based effort to fight the disease will reach its 2010 objective.

Polio Immunization. Although polio was a long-standing concern for WHO, the organization did not have a centrally coordinated policy for polio eradication until the end of the 1980s. In 1985, the Pan American Health Organization announced an initiative to eradicate polio in both Americas by 1990. This goal was eventually achieved in 1994 when the Americas were certified to be polio-free. Subsequently, in 1988, the World Health Assembly adopted the Global Polio Eradication Initiative, which called for elimination of the disease by the year 2000. Though the goal of complete eradication of the disease has not been reached, significant progress has been made.

Today, the initiative brings together various donor governments, governments of countries affected by the disease, development banks, private foundations, research centers (including the U.S. Centers for Disease Control and Prevention), and international and nongovernmental partners such as UNICEF and Rotary International. In 1992, the Global Polio Laboratory Network, consisting of more than 140 national and regional laboratories, was set up to assist in establishing a worldwide surveillance network of polio outbreaks. WHO's efforts included massive and well-coordinated immunization campaigns throughout the 1990s, which brought about a substantial decrease in reported polio cases. During 2004 there was the most significant progress towards polio eradication with a 99 percent reduction in polio incidence over the previous year. There were only 1264 cases in 2004, which were limited to six countries: Nigeria, Niger, India, Pakistan, Afghanistan, and Egypt.

Poliovirus, for which there is no cure, has a tendency to reemerge unexpectedly and infect unimmunized populations. The most recent example was the polio outbreak in Nigeria in the second half of 2003, which spread quickly to neighboring areas that were previously declared polio-free. As a result of this tendency, WHO set a new goal of eradicating the disease by the end of 2005.

Control of Tuberculosis. WHO has been in the forefront of the fight against tuberculosis. In 1982, with the International Union Against Tuberculosis and Lung Disease (IUATLD), WHO announced the first World TB Day, which has been held each year since then on March 24 to commemorate Robert Koch's discovery of the TB bacillus in 1882. This event is aimed at raising public awareness of the destructive impact of TB on the health and lives of millions of people.

The fight against TB gained a new impor-

tance in the 1990s when the spread of HIV infections, combined with a further deterioration of national health systems, particularly in developing countries, contributed to a rapid increase in TB cases. TB has become one of the most lethal infectious diseases worldwide. According to WHO statistics, it claims the lives of approximately 2 million people each year. In 1991, WHO recommended that member states strengthen the institutional capacities of their national tuberculosis-control programs, which were seen as essential tools in the speedy detection and cure of TB.

In 1993, the effort to fight tuberculosis was again given a new urgency when TB became the first disease ever to be declared "a global emergency" requiring a quick and coordinated worldwide response. This declaration was followed by the establishment in 1995 of a worldwide TB surveillance and monitoring program. Its aim was to provide a comprehensive measurement of the effectiveness of TB control on the global level. In 1997, WHO released its first global tuberculosis control report, which has been published on an annual basis since then. Finally, in 2001 WHO launched a new campaign, "Stop TB," which has rapidly developed the global partnership to stop TB. The aim of this partnership is to decrease morbidity and mortality resulting from TB by half by the end of the decade.

Response to the HIV/AIDS Pandemic. The identification of Acquired Immunodeficiency Syndrome (AIDS) in 1981, which is caused by the Human Immunodeficiency Virus (HIV), led initially to the establishment of a small program on AIDS within the Secretariat of WHO. Because there was no effective vaccine against HIV/AIDS, this program was focused on containment rather than treatment of the disease and aimed at coordinating national research on cure development, the dissemination of information about the disease, and its causes and patterns of development. In 1987, the WHO DG began to take a much more robust approach to the rapidly spreading disease and created the Global Program on AIDS, accompanied by the Global AIDS Strategy.

The strategy, like the previous program on AIDS, relied more on preventive measures than on treatment and focused mainly on improving dissemination of information about disease transmission, with educational campaigns addressing safe sexual conduct in the forefront, and on strengthening international research and political cooperation in the fight against the pandemic. World AIDS Day was commenced on December 1, 1988, and has been held on that date every year thereafter. Progress in strengthening multilateral cooperation among international institutions led WHO and UNDP to form in 1988 a common initiative, the Alliance to Combat AIDS. Later, in 1996, the Joint UN Program on HIV/AIDS (UNAIDS) was set up to bring together UNICEF, UNDP, UNFPA, WHO, the World Bank, donor governments, the most HIV/AIDS-affected states, and various NGOs in the fight against HIV/AIDS. This global advocacy coalition adopted the main objectives of the previous WHO Global Program on AIDS and rallied behind two main principles: prevention of HIV transmission through educational campaigns and offers of technical assistance to communities affected the most by the pandemic. In order to fight HIV/AIDS more effectively, WHO introduced internal changes within its Secretariat, consolidated its human and financial resources, and transformed its small unit on HIV/AIDS and sexually transmitted diseases in 2002 into a new HIV/AIDS department within the HIV/AIDS, Tuberculosis and Malaria (HTM) Cluster of the Secretariat. The new department was made responsible for enhancing WHO's overall strategic approach in dealing with the disease by expanding and improving the coverage as well as the impact of WHO technical support in the countries most affected by HIV/AIDS.

From the mid-1990s onward, medical advances such as antiretroviral (ARV) drugs have been slowly shifting the fight against AIDS toward treatment of people infected with HIV. Although ARV drugs do not provide a cure, they

have significantly reduced death rates, prolonging the lives of many and turning this lethal disease into a sickness that people can have and live with for a longer period of time than used to be possible. The shift toward HIV treatment has placed greater emphasis on better distribution and access to affordable ARV medicines, leading WHO to announce, in September 2003, the "3 by 5" target plan—the goal of enabling 3 million out of 6 million people in urgent need of anti-HIV treatment to receive access to ARV therapy by 2005. The "3 by 5 " target required stepped-up efforts to train national medical workers to implement the measures, with a goal of having at least 100,000 trained HIV/AIDS medical professionals worldwide. The plan is viewed as a significant step toward an overall objective of universal access to ARV therapy for all who need it.

The Fight against Noncommunicable Diseases

The Case of Tobacco Control. In recent years, WHO has given strong attention to the campaign to control tobacco use. In 1996, WHA requested the DG to draft a framework convention on tobacco. In May 2003, WHA adopted the Framework Convention on Tobacco Control (FCTC), the first legally binding international treaty negotiated under Article 19 of the WHO Constitution.

The FCTC set a framework to facilitate the development of national tobacco-control legislation. It enumerates measures to decrease both the demand for and the supply of tobacco by stipulating information/awareness-raising campaigns about the dangers of tobacco, encouraging states and others to take criminal and civil liability actions against tobacco industries, and calling for worldwide cooperation against tobacco use, along with support for the development of tobacco-control research and surveillance involving governments and civil society groups. The success of the FCTC may have important ramifications for WHO work, leading the organization to rely more than in the past on international, legally binding instruments in order to enhance the effectiveness of its fight against both communicable and noncommunicable diseases.

WHO Research Activities

WHO as a scientific organization has been in the forefront of research on public health. Its research responsibilities were written into the organization's constitution, where Article 2 stipulated that WHO would promote and conduct research in the field of public health. The constitutional provision became operationalized only in 1959 with the establishment of the Advisory Committee on Medical Research (ACMR), which was renamed the Advisory Committee on Health Research (ACHR) in 1986. ACHR has provided guidance for national and international biomedical research, evaluated and identified new technologies and scientific knowledge that could be utilized in the fight against disease, and exercised control over various research policies carried out by WHO to enhance coordination among different entities.

WHO research activities have been carried out primarily within the framework of two programs: The Special Programme for Research, Development and Research Training in Human Reproduction, established in 1972, and the Special Programme for Research and Training in Tropical Diseases, set up in 1975. These initiatives, though concentrating on different areas of health care, are based on common objectives aimed at broadening scientific knowledge, enhancing the institutional capacities of national health systems, and developing instruments that are more effective in dealing with the identified problems. The strategies to reach these objectives have relied on education, training, and publication of pertinent materials.

Over the years, WHO research activities have also been given impetus by expert committees and study groups run by eminent academic specialists and practitioners from various medical fields. Examples include expert

committees on biological standardization, food additives, malaria, and SARS. The importance of WHO as a research-driven organization was further enhanced in 1998 when the former director general, Dr. Brundtland, established a separate Cluster on Evidence and Information for Policy within the Secretariat. This cluster is responsible for collecting and analyzing data and managing information and research on the performance of health systems as well as studying ways to improve services and delivery mechanisms of health systems. One result of the work of this cluster was a major study on the Global Burden of Disease published in 2000.

The complexity and magnitude of health-related problems that easily crisscross national boundaries has compelled WHO to shift from simple intergovernmental and interstate-based cooperation on research toward global networks. In its research activities, WHO started increasingly relying on global partnerships and networking involving numerous actors, such as policymakers, scientists, health-care providers, clinicians, multilateral institutions, international health research NGOs, and other civil society groups and coalitions engaged in public health studies.

Cooperation with International Groups

Because of the intricacy of health issues, WHO has had to expand its cooperation not only to other multilateral organizations, governments, and coalitions of nongovernmental organizations but also to universities, research institutes, and other societal groups, such as consumer associations, human rights advocacy organizations, and nonprofit international charity foundations (for example, the Rockefeller Foundation and the Bill and Melinda Gates Foundation). During the 1980s and the 1990s, WHO gradually transformed itself from an interministerial and intergovernmental organization to an entity whose global policy agendas are driven as much by governments as by diverse coalitions of private-sector and societal actors. WHO is still de jure an intergovernmental organization, but de facto it communicates, designs, and implements its policies through worldwide, complex, multiactor networks that stretch both vertically, cutting across international, regional, national, and local levels, and horizontally, involving simultaneously various different aspects of public health and forming networks or coalitions of diverse interest groups around each of these concerns.

With a progressing globalization of WHO activities, the organization is entering into closer collaboration with the private sector through public-private partnerships (PPPs). PPPs are seen as providing WHO with specific benefits, such as facilitating universal access to medicine and health services based on substantial reductions in costs; enabling WHO and private-sector entities to share expertise and knowledge on health-related issues; and stimulating research leading to discoveries of new vaccines. At the same time, WHO needs to maintain its integrity and guard itself against partnerships dominated by wealthy corporations that could dictate its priorities and strategies. With WHO policies that increasingly promote reliance on private-sector involvement in the organization's work, WHO needs to find a healthy balance between its public-driven programs and the commercial interests of powerful companies.

WHO's New Objectives

For many years, WHO's guiding principle was "Health for All by the Year 2000," as stated in the Alma Ata Declaration of 1978. In practice, this objective meant that all people should have reached a level of health allowing them to lead socially and economically viable lives by the end of the twentieth century. The goal was to be reached through the coordination of international and national efforts to establish more effective primary health care, particularly in the

developing states. Although health for all was not achieved by 2000, and the phrase ceased to be the organization's main slogan, the principle of health for all continues to be a powerful notion as viewed from a long-term perspective.

WHO draws its new objectives from the United Nations Millennium Development Goals, which call for halving poverty among 1.2 billion of the world's poorest people—those living on less than a dollar per day—by 2015. The UN and WHO see the WHO's work to improve health standards as a cornerstone in this battle. WHO, however, faces a dilemma over what direction it should take to address poverty. By narrowing its focus to the fight against major communicable diseases, WHO seems to have adopted the view and expectations of its major donors. There is, however, a danger that in taking on this agenda WHO could disregard more important instruments of poverty alleviation that, in the long run, could better serve the interests of the world's poorest, such as building effective public health systems, a strategy viewed by many as the key to sustainable improvement and maintenance of appropriate health standards and thus, to progressive eradication of poverty. WHO will therefore need to strike a fine balance in the strategies it uses to realize its new objectives.

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See Also Pharmaceuticals; Food Safety; Population Growth; Public Health

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World Trade Organization (WTO)

The World Trade Organization (WTO) is an international organization that administers the international trade rules embodied in the Uruguay Round Agreement, including the General Agreement on Tariffs and Trade (GATT). In 2004, the WTO counted 148 countries and customs territories as members, making it the largest organization in the world dealing with issues of trading relations among countries. In addition to administering the WTO and GATT rules, it acts as a forum for negotiating more liberal trade among its members, arbitrates trade disputes, monitors and reports on the national trade policies of its members, and provides technical assistance and training for developing countries to bring them into full compliance with its rules.

The WTO is headquartered in Geneva, Switzerland, and has a small staff of approximately 600 people. Relative to other international organizations, such as the World Bank and the United Nations, the WTO is a young organization, having been established on January 1, 1995. However, its historical roots go back to the post–World War II era when its sister organizations, the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (World Bank), were founded. The WTO's predecessor, the GATT Secretariat, was an ad-hoc organization that oversaw the smooth functioning of the world trading system between 1947 and 1994.

The WTO is a growing organization that regularly negotiates the entry of new countries into the multilateral trading system. Most of the world's major economies, including the United States and Japan, are members. Its membership spans the spectrum of countries' sizes and stages of development. Recent additions to the WTO have included Albania in 2000, the People's Republic of China in 2001, and Cambodia in 2004. Membership is not limited to traditional nation-states but also includes customs territories such as the European Communities, Hong Kong, and Chinese Taipei (Taiwan) (see WTO 2003).

History of the WTO

The WTO's beginnings can be traced to 1947 when twenty-three countries became the contracting parties, or, in layman's terms, members, to the GATT, a treaty that stipulated global trading rules and reduced import tariffs among its members. Over the next forty years, the expanding world trading system outgrew the original GATT treaty—its dispute resolution system had become ineffective; many rules were vague or imprecise, leading to different implementation schemes in different countries; and the scope of issues covered—trade in goods other than textiles, agriculture, and civil aircraft—was too narrowly defined. Beginning in 1986, members of the GATT negotiated a new global trade treaty, the Uruguay Round Agreement, that would overcome the original treaty's deficiencies and be poised to tackle the future challenges of the multilateral trading system. The Uruguay Round Agree-

ment, signed by 128 countries in 1995, created the WTO in 1995 to oversee the smooth operation of the revamped world trading system.

The origins of the GATT itself are more complex. At the Bretton Woods Conference in 1944, the finance ministers from the Allied nations gathered to discuss the failings of World War I's Versailles Treaty and the creation of a new international monetary system that would support postwar reconstruction, economic stability, and peace. The conference produced two of the most important international economic institutions of the postwar period: the IMF and the World Bank. In the 1930s, "beggar thy neighbor" tariff policies—import tariffs that pushed down the price that exporters would receive for the goods they sold, thus benefiting importing countries at the expense of exporting countries—had proliferated. Recognizing that these policies had contributed to an environment that had led to war, the ministers discussed the need for a third postwar institution, an International Trade Organization (ITO), but left the problem of designing it to their colleagues in government ministries with responsibility for trade.

By the late 1940s, representatives of the U.S. government had met several times with representatives of other major nations to design a postwar international trading system that would parallel the international monetary system. These meetings had two objectives: (1) to draft a charter for the ITO, and (2) to negotiate the substance of an ITO agreement, specifically, rules governing international trade and reductions in tariffs. Ultimately, although a charter was drafted, the ITO never came into being. By 1948, support for yet another international organization had waned in the U.S. Congress. Without American participation, the institution would have been powerless, and thus the effort to create an organization to manage problems relating to international trade was abandoned.

However, although the U.S. Congress wouldn't support another international institution, in 1945 it had given the U.S. president the authority to negotiate a treaty governing international trade by extending the 1934 Reciprocal Trade Agreements Act. Thus, the General Agreement on Tariffs and Trade—a treaty whereby twenty-three countries agreed to a set of rules to govern trade with one another and maintained reduced import tariffs for other members—was established in 1947 as the arbiter of the world trading system. The GATT did not provide for a formal institution, but a small GATT Secretariat, with a limited institutional apparatus, was eventually headquartered in Geneva to administer various problems and complaints that might arise among members.

Over the next forty years, the GATT grew in membership, and its success in reducing barriers to trade also grew. GATT members regularly met in what came to be known as negotiating "rounds." These rounds were primarily focused on negotiating further reductions in the maximum tariffs that countries could impose on imports from other GATT members. The success of these rounds was evident: Tariffs on manufactured products fell from a weighted average of roughly 35 percent before the creation of the GATT in 1947 to about 6.4 percent at the start of the Uruguay Round in 1986 (Hoekman and Kostecki 1995). At the same time, the volume of trade among GATT members surged: In 2000 the volume of trade among WTO members stood at twenty-five times its 1950 volume (WTO 2001).

Despite this success, by the 1980s several problems had surfaced with the GATT apparatus. First, the dispute resolution mechanism of the GATT was barely functioning. Countries with long-standing disagreements were unable to reach any sort of resolution on a number of issues ranging from government subsidies for exports to regulations regarding foreign direct investment. Second, a number of commodities—most important, agricultural products and textiles—were not subject to GATT disciplines. Third, it was widely believed that cer-

Table 1: WTO Members as of October 2004

Member	*Date of Entry*	*Member*	*Date of Entry*
Albania	September 8, 2000	Djibouti	May 31, 1995
Angola	November 23, 1996	Dominica	January 1, 1995
Antigua and Barbuda	January 1, 1995	Dominican Republic	March 9, 1995
Argentina	January 1, 1995	Ecuador	January 21, 1996
Armenia	February5, 2003	Egypt	June 30, 1995
Australia	January 1, 1995	El Salvador	May 7, 1995
Austria	January 1, 1995	Estonia	November 13, 1999
Bahrain	January 1, 1995	European Communities	January 1, 1995
Bangladesh	January 1, 1995	Fiji	January 14, 1996
Barbados	January 1, 1995	Finland	January 1, 1995
Belgium	January 1, 1995	Former Yugoslav Republic of Macedonia	April 4, 2003
Belize	January 1, 1995	France	January 1, 1995
Benin	February 22, 1996	Gabon	January 1, 1995
Bolivia	September 12, 1995	Gambia	October 23, 1996
Botswana	May 31, 1995	Georgia	June 14, 2000
Brazil	January 1, 1995	Germany	January 1, 1995
Brunei Darussalam	January 1, 1995	Ghana	January 1, 1995
Bulgaria	December 1, 1996	Greece	January 1, 1995
Burkina Faso	June 3, 1995	Grenada	February 22, 1996
Burundi	July 23, 1995	Guatemala	July 21, 1995
Cambodia	October 13, 2004	Guinea	October 25, 1995
Cameroon	December 13, 1995	Guinea Bissau	May 31, 1995
Canada	January 1, 1995	Guyana	January 1, 1995
Central African Republic	May 31, 1995	Haiti	January 30, 1996
Chad	October 19, 1996	Honduras	January 1, 1995
Chile	January 1, 1995	Hong Kong, China	January 1, 1995
China	December 11, 2001	Hungary	January 1, 1995
Colombia	April 30, 1995	Iceland	January 1, 1995
Congo	March 27, 1997	India	January 1, 1995
Costa Rica	January 1, 1995	Indonesia	January 1, 1995
Côte d'Ivoire	January 1, 1995	Ireland	January 1, 1995
Croatia	November 30, 2000	Israel	April 21, 1995
Cuba	April 20, 1995	Italy	January 1, 1995
Cyprus	July 30, 1995	Jamaica	March 9, 1995
Czech Republic	January 1, 1995	Japan	January 1, 1995
Democratic Republic of the Congo	January 1, 1997		
Denmark	January 1, 1995		

continues

tain forms of administered trade protection—especially antidumping duties, voluntary export restraints, and countervailing duties—were restricting trade and distorting trade patterns in many important sectors. Fourth, trade in services was expanding rapidly, and the GATT had no rules regarding trade in services. Fifth, countries that produced intellectual property—movies, computer programs, and patented pharmaceuticals, for example—were becoming increasingly frustrated by the lack of intellectual property protection in many developing nations. Finally, the rules regarding trade-related investment measures—for ex-

Table 1: WTO Members as of October 2004 ***continued***

Member	*Date of Entry*	*Member*	*Date of Entry*
Jordan	April 11, 2000	Philippines	January 1, 1995
Kenya	January 1, 1995	Poland	July 1, 1995
Korea, Republic of	January 1, 1995	Portugal	January 1, 1995
Kuwait	January 1, 1995	Qatar	January 13, 1996
Kyrgyz Republic	December 20, 1998	Romania	January 1, 1995
Latvia	February 10, 1999	Rwanda	May 22, 1996
Lesotho	May 31, 1995	Saint Kitts and Nevis	February 21, 1996
Liechtenstein	September 1, 1995	Saint Lucia	January 1, 1995
Lithuania	May 31, 2001	Saint Vincent and the Grenadines	January 1, 1995
Luxembourg	January 1, 1995	Senegal	January 1, 1995
Macao, China	January 1, 1995	Sierra Leone	July 23, 1995
Madagascar	November 17, 1995	Singapore	January 1, 1995
Malawi	May 31, 1995	Slovak Republic	January 1, 1995
Malaysia	January 1, 1995	Slovenia	July 30, 1995
Maldives	May 31, 1995	Solomon Islands	July 26, 1996
Mali	May 31, 1995	South Africa	January 1, 1995
Malta	January 1, 1995	Spain	January 1, 1995
Mauritania	May 31, 1995	Sri Lanka	January 1, 1995
Mauritius	January 1, 1995	Suriname	January 1, 1995
Mexico	January 1, 1995	Swaziland	January 1, 1995
Moldova	July 26, 2001	Sweden	January 1, 1995
Mongolia	January 29, 1997	Switzerland	July 1, 1995
Morocco	January 1, 1995	Taipei, China	January 1, 2002
Mozambique	August 26, 1995	Tanzania	January 1, 1995
Myanmar	January 1, 1995	Thailand	January 1, 1995
Namibia	January 1, 1995	Togo	May 31, 1995
Nepal	April 23, 2004	Trinidad and Tobago	March 1, 1995
Netherlands	January 1, 1995	Tunisia	March 29, 1995
New Zealand	January 1, 1995	Turkey	March 26, 1995
Nicaragua	September 3, 1995	Uganda	January 1, 1995
Niger	December 13, 1996	United Arab Emirates	April 10, 1996
Nigeria	January 1, 1995	United Kingdom	January 1, 1995
Norway	January 1, 1995	United States	January 1, 1995
Oman	November 9, 2000	Uruguay	January 1, 1995
Pakistan	January 1995	Venezuela	January 1, 1995
Panama	September 1997	Zambia	January 1, 1995
Papua New Guinea	June 1996	Zimbabwe	March 5, 1995
Paraguay	January 1, 1995		
Peru	January 1, 1995		

ample, domestic purchase requirements for plants built from foreign direct investment—were hotly disputed.

To address these problems, a new round of trade negotiations—the Uruguay Round—was launched in 1986. The goals of the Uruguay Round were far more ambitious than those of any previous round. It sought to introduce major reforms into how the world trading system would function. The treaty negotiated during the Uruguay Round, the Uruguay Round Agreement, established the WTO—the international institution to govern trade that was first visualized by the attendees of the

Bretton Woods Conference fifty years earlier. The new agreements provided for an entirely new and different dispute resolution mechanism to eliminate the gridlock of the old system under which serious disagreements between countries had gone unresolved for years. Furthermore, the Uruguay Round expanded the WTO's authority to new areas—agreements regarding trade in textiles, agriculture, services, and intellectual property were major achievements (see Hoekman and Kostecki 1995 and Jackson 1997 for good brief histories of the GATT and WTO).

Over the past ten years, the WTO has functioned effectively, although at times it has become highly controversial. From the standpoint of developed countries that desired a more responsive, rules-based trading regime, the WTO has been a great success. Trade disputes are resolved in a timely manner today. However, because some party, either a country, industry, group of workers, or other agent, is the losing party when the WTO resolves a dispute, WTO decisions and the organization itself are often severely criticized. Although many grievances are legitimate, many analysts believe that some of the sharp criticism of the WTO seems misplaced. Possibly because few people know very much about the WTO and what it does, the WTO has served as a focal point for the anger and frustration of those who have suffered or perceive themselves to have suffered from any change that can be associated with the process of globalization.

This anger against the WTO culminated during the Seattle Ministerial Conference of WTO members in 1999. At this biannual meeting of high-ranking officials from all WTO member countries, thousands of protesters took to the streets of Seattle to object to the negative consequences of globalization. Participating groups included representatives of labor unions, environmentalists, human rights activists, members of nongovernmental organizations (NGOs), and anarchists. In response to this massive display, the WTO increased its efforts to educate the public about what it does and does not do and allowed many NGOs to have an observer status at its meetings.

Statement of Purpose

The WTO's purpose is to promote the economic health of all its members through their economic and trade relations. The preamble to the Uruguay Round Agreement Establishing the World Trade Organization clearly states the members' goals, preferred method for achieving these goals, and organizing principles. In addition to defining the specific economic criteria to be improved in all countries, the preamble highlights the need for efforts to fully incorporate developing countries into the world trading system.

Specifically, in the Preamble to the agreement, the members of the WTO recognized that:

> their relations in the field of trade and economic endeavor should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development. (WTO 1995b)

To achieve these goals, the members of the WTO agreed to enter into "reciprocal and mutually advantageous arrangements directed to the substantial reduction of tariffs and other barriers to trade and to the elimination of discriminatory treatment in international trade relations." More specifically, the members re-

solved to create a new multilateral trading system based on the original GATT treaty, embodying the substantial revisions created in the Uruguay Round Agreement, and overseen by the WTO (see WTO 2003).

Organizational Structure

The WTO is run by its members, the countries and customs territories that comprise it. Historically, decisions within the WTO have been made by consensus. Although the WTO's agreements allow for a majority vote, this procedure has never been used. The WTO's organizational structure consists of three levels of decisionmaking bodies.

At the top of the hierarchy, the Ministerial Conference has supreme decisionmaking authority. It meets once every two years and consists of all WTO members. Unlike other international organizations, the WTO does not delegate authority to a board of directors or professional bureaucracy. All members participate directly in decisionmaking.

Below the Ministerial Conference, the next level of decisionmaking in the WTO is the General Council. As with the Ministerial Conference, all WTO members are members of the General Council. The General Council, while one group, serves three functions and meets under three different names. In addition to the General Council, this group also meets as the Trade Policy Review Body and as the Dispute Settlement Body.

Below the General Council are the various special councils—the Council for Trade in Goods, the Council for Trade in Services, and the Council for Trade-Related Aspects of Intellectual Property Rights. As with the higher levels of organization, all WTO members belong to all councils.

With close to 150 members, meetings of the WTO's organizational bodies at all levels are large. On a practical level, although every country is a member of every council and committee, countries usually send different individuals to represent them at these meetings. For example, a high-ranking official, such as a country's minister of trade, would typically represent it at the Ministerial Conference; an ambassador or head-of-delegation in Geneva would serve as its representative at the General Council; and a lower-ranking official with technical expertise may serve as its representative at a lower-level council or committee meeting.

Outside of the decisionmaking structure of the WTO, administrative and technical support is provided by the WTO Secretariat, which has a permanent staff of approximately 600 based in Geneva. At the head of the Secretariat is the director general. Perhaps the most important responsibility of the director general is to facilitate and organize new rounds of trade negotiations. He also provides important administrative help to countries that wish to negotiate trade disputes. Below the director general are a number of deputy directors general, each with responsibility for a specific administrative or support function. For example, one deputy has responsibility for trade policy reviews, another for economic research, and another for legal affairs.

The Secretariat staff provides technical support to the WTO's councils and committees, both toward the implementation of the agreement and toward the resolution of trade disputes. Economists and statisticians provide economic analysis of trade patterns and policies. Finally, the staff provides technical support to help developing countries garner the full benefits of the multilateral trading system.

Fundamental Rules Governing Trade in the WTO

The success of the WTO as a dynamic institution that has fostered dramatic increases in worldwide trade lies in its founding principles of reciprocity and nondiscrimination. These principles lie at the heart of the General Agree-

ment on Tariffs and Trade and are present, to a lesser extent, in the General Agreement on Trade in Services (GATS) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

"Reciprocity" refers to the practice that occurs in GATT negotiating rounds whereby one country offers to reduce a barrier to trade and a second country "reciprocates" by offering to reduce one of its own trade barriers. Reciprocity, the practice of swapping tariff concessions, facilitates the reduction of trade barriers. "Nondiscrimination," or equal treatment, means that if one WTO member offers a benefit or a tariff concession to another WTO member, for example, a reduction in its import tariff for bicycles, it must offer the same tariff reduction to all WTO members. Thus, nondiscrimination extends the benefits of a reciprocal tariff reduction beyond the two parties that initially negotiated it to all WTO members. Economists Kyle Bagwell and Robert W. Staiger (2002) argued that, together, these principles work toward increasing the efficiency of the world trading system.

But why is reciprocity important in reducing barriers to trade? Don't countries benefit by unilaterally reducing their tariffs because lower tariffs lead to lower domestic prices? They may, but economic theory teaches that it depends on the size of the country (see Caves et al. 2002; Krugman and Obstfeld 2000). Import tariffs are, by definition, a tax. As a tax, tariffs raise the price that consumers must pay for a good, provide tax revenue to the government, and have the potential to create distortions, or inefficiencies, in consumption and production decisions.

If a country is very small, it will benefit by unilaterally lowering its tariffs and "reciprocity" is not an important consideration. This is because small countries are unable to affect the prices of goods on the world market. For example, if a small country in Africa suddenly decided to impose a 25 percent tariff on imports of automobiles, this would not affect the worldwide price at which automobiles trade. The tiny decrease in worldwide demand caused by this country's new tariff would be minuscule compared to the demand for automobiles in large markets such as the United States, the European Union, and Japan. However, this tariff would make the small African country worse off. Although the country's government would now collect more tariff revenue, consumers would have to pay a higher price, resulting in a loss of welfare to consumers, and there would be an inefficiency loss owing to the "consumption distortion" of the tariff—fewer cars would be purchased overall. Thus, the optimal trade policy for small countries is to charge no import tariff. Regardless of the trade policies of its trading partners, a small country should engage in free trade.

The story is a bit more complicated for large countries and trading blocs. "Reciprocity" is an important consideration for leaders of large countries who are thinking about changing their trade policies. Because import demand in a large country will comprise a large share of worldwide demand, any change in a large country's demand for a good will have an effect on that good's price on the world market. Specifically, when a large country's government imposes a tariff, this reduces the quantity of imports demanded and consequently causes the world price to fall. When the price of a country's import good falls on the world market relative to the price of the goods it exports, this is called a "terms-of-trade" improvement. A terms-of-trade improvement makes a country better off because it can now buy more on the world market.

Another way to think about a large country's use of tariffs is to focus on the question of who bears the cost of this tax. Although the consumers in a large country must pay a higher final price for the imported good when their government imposes a tariff, they do not bear the full tax burden of the tariff. A tariff that causes the world price of a good to fall hurts the foreign exporters who produce that good. As a whole, the exporting country loses some of its purchasing power on the world market in this worsening of its terms of trade.

In this way, some of the cost of the tariff is pushed onto the foreign producers of the good in the form of the lower price they receive for their product than they would receive under free trade. Because foreign producers lose out under this import tariff, it is sometimes called a "beggar-thy-neighbor" policy.

The use of a beggar-thy-neighbor tariff by a large country not only makes the importing country strictly better off and the exporting country strictly worse off, it introduces inefficiencies into the world trading system that cause the net effect of the tariff to be negative. The import tariff induces inefficient production distortions in both countries. The level of production is too high in the importing country and too low in the exporting country relative to what they would be under free trade. However, although the tariff is bad for the world as a whole, it remains a desirable and beneficial policy for the importing country. Thus, at the end of World War II, the large countries that became the original members of the GATT had high tariffs. They found themselves in what economists call a terms-of-trade–driven prisoner's dilemma. The prisoner's dilemma is a famous problem in the field of game theory that describes a situation in which two parties can improve their situations by acting cooperatively, but the individual incentives they face lead them to act noncooperatively.

The problem facing countries at the end of World War II was that they knew they would collectively be better off under free trade. Although each country benefited from its own import tariff, it also suffered at the hands of its trading partners' import tariffs. What was needed was a mechanism by which countries could jointly commit to tariff reductions that would reduce the losses due to production and consumption distortions and, through gains in efficiency, make all countries better off.

The GATT, through its practice of reciprocal tariff reductions, provided the necessary mechanism for countries to commit to freer trade. Under the GATT, large countries that reduced their import tariffs would experience a net gain because their trading partners would simultaneously reduce their import tariffs. In all countries, the reallocation of labor and capital away from protected import-competing firms and toward export sectors would generate real efficiency gains.

It is evident that reciprocity is necessary for two large countries to engage in trade liberalization, but this could have been achieved with a network of bilateral treaties. Why was a multilateral approach with a strict requirement for nondiscrimination adopted by the WTO?

Nondiscrimination is a convenient way to reduce the complexity of international trading relations. On a purely practical level, it may be easier to negotiate one set of import tariffs than to engage in dozens of bilateral agreements. In fact, John Jackson (1997) speculated that when nondiscrimination, or "most-favored-nation," clauses were originally introduced into trade treaties in the sixteenth century, they had a practical benefit—drafters did not have to copy large sections of treaties again and again.

However, while convenience and practicality are important, nondiscrimination would not have become a central feature of the multilateral trading system if it did not yield real economic benefits. Nondiscrimination in tariff policy, that is, setting the same tariff on imports from all countries, ensures that resources are allocated to their most productive use. On the import side, nondiscrimination ensures that countries purchase imports from the lowest-cost source country. Further, nondiscrimination prevents trade "rerouting" in which goods are moved through third countries in order to circumvent high tariffs. Lastly, Bagwell and Staiger (2003) argued that, on the export side, nondiscrimination protects exporting countries from "bilateral opportunism."

As an importer, a country can charge a single "nondiscriminatory" tariff on imports from all countries, or it can set different tariffs on imports from different countries. Under a nondiscriminatory tariff, imports will be

sourced from the lowest-cost producer in the world. Compare this to a system of discriminatory tariffs in which, for example, the United States sets a lower "preferential" tariff on T-shirts from Mexico than on T-shirts from China. If China can produce T-shirts more cheaply than Mexico, but the tariff on Chinese T-shirts is so much larger than the tariff on Mexican T-shirts that it is cheaper for Americans to buy T-shirts from Mexico, there is a real loss due to the production distortions caused by the discriminatory tariffs of the United States. Resources in Mexico that could have been better employed in some other sector are utilized in its relatively high-cost T-shirt industry. Resources in China that could have been efficiently used to make T-shirts are allocated to another industry. When a country uses a nondiscriminatory tariff, this facilitates the allocation of resources worldwide to their most productive uses.

Trade rerouting is a costly practice whereby an exporter ships its goods to a third country, repackages it, and then ships it to a final destination where it will qualify for the third country's lower, preferential tariff rate. In some cases, in order to qualify for the preferential tariff, the product must undergo a "substantial transformation" in the third country. This sometimes leads firms to move a stage of the production process to the third country. When an importing country utilizes a single nondiscriminatory tariff for all imports, there is no need for exporters to engage in the costly process of rerouting.

When two countries bilaterally negotiate tariff concessions, the principle of reciprocity ensures that the terms of trade between the two countries remain unchanged (that is, neither country is "beggaring" the other) while the volume of trade increases to a more efficient level. However, in a world in which both countries remain free to go on and negotiate an additional trade agreement with a third country, the problem of "bilateral opportunism" arises. For example, if one country were to later offer a lower tariff rate to the third country, this could erode the value of the original tariff concession to the first trading partner. Bagwell and Staiger (2003) have shown that when negotiations utilize the practices of reciprocity and nondiscrimination, the problem of bilateral opportunism is eliminated.

In summary, the GATT's founding principles of reciprocity and nondiscrimination facilitate increases in well-being for the countries that belong to the WTO. By coordinating tariff reductions among large countries, efficiency gains from trade become a reality. By requiring that countries set nondiscriminatory tariffs, the WTO ensures that goods are produced in the most efficient location.

GATT Rules

Rules regarding the trade of physical goods are embodied in the revised GATT of 1994, one annex to the Uruguay Round Agreement. Institutionally, the GATT of 1994 is the oldest of the agreements, having originated in the GATT of 1947, the predecessor and model for the WTO. As such, its fundamental rules of reciprocity and nondiscrimination, described above, are its bedrock. In brief, the GATT's rules-based system for the trade of goods lies at the heart of the WTO. It regulates the trade of all goods except agricultural products, textiles and apparel, and civil aircraft. The trade of each of these goods is regulated in a separate agreement.

GATS Rules

The General Agreement on Trade in Services (GATS), created during the Uruguay Round, establishes a limited set of rules on access to foreign markets for the purpose of providing services. In developed economies, trade in services —for example, banking, travel, and education—represents over half of gross domestic product (GDP). Services trade differs from goods trade in that it involves the exchange of something intangible. Moreover, the mode of

exchange varies dramatically by service. For example, medical services require that the seller and purchaser meet together in one location, whereas telecommunications services can be bought and sold by agents in remote locations who never meet in person. Similarly, barriers to services trade differ from barriers to trade in goods in that they are not usually incremental and graduated, like tariffs, but generally take the form of government prohibitions or regulations.

Because both the nature of services trade and the barriers to services trade differ so dramatically from goods trade, the GATS treaty is markedly different from the GATT. Rather than following the WTO's broad general rules of reciprocity and nondiscrimination in all sectors, the emphasis in the GATS has been for countries to make reciprocal market access commitments in specific sectors. Although nondiscrimination is nominally a core principle of the GATS, the number of exemptions allowed can make it appear that nondiscrimination is the exception rather than the rule. In essence, whereas the GATT may be regarded as a set of general rules regarding all goods trade that incorporates commitments to liberalize trade for specific goods, the GATS is the opposite, a list of specific commitments to liberalize trade that may or may not (depending on the country) also be combined with some general rules. The creation of the GATS brought services trade into the oversight of the WTO. This is perhaps best understood as the first important step in creating a multilateral trading system for services rather than as a system itself. The GATS offers a forum and framework in which a rules-based system for services trade can be negotiated in the future (see Hoekman and Kostecki 1995 for a brief overview of the GATS).

TRIPS Agreement

The final major agreement overseen by the WTO is the Agreement on Trade-Related Aspects of Intellectual Property Rights. The TRIPS Agreement differs from the GATT and the GATS in that it calls for all WTO members to follow specific policies to ensure the protection of intellectual property. Intellectual property includes products as varied as movies, pharmaceuticals, literary works, and computer circuit design. The TRIPS Agreement requires all WTO members to provide minimum standards of protection for intellectual property, prescribes remedies that should be available to help enforce intellectual property rights, and makes the WTO's dispute settlement mechanism available to resolve disputes that arise between members.

Intellectual property rights are covered in a number of international conventions that date back to the nineteenth century and are administered by a UN body, the World Intellectual Property Organization (WIPO), that is based in Geneva, Switzerland. Previous conventions on intellectual property did not require that all countries follow the same policies and did not provide a strong international forum in which to present disputes. During the Uruguay Round, developed countries that produce a great deal of the world's intellectual property lobbied hard for the TRIPS Agreement as a way to safeguard their intellectual property in less developed countries that provided weak intellectual property protection. Moreover, developed countries favored including intellectual property rights issues under the umbrella of the WTO so that they could have access to the WTO's dispute settlement mechanism to resolve disputes on such matters (see Hoekman and Kostecki 1995 for a brief overview of the TRIPS Agreement).

Internal Relations among WTO Members

When a trade dispute arises between countries that belong to the WTO, the WTO mediates and resolves the dispute through well-defined dispute settlement mechanisms.

Under the Uruguay Round Agreement, which is an international treaty, the WTO has

no authority over individuals, private firms, or public corporations. Rather, it merely governs the interactions of countries that voluntarily agree to abide by its rules. This means that when the WTO has to intervene in a trade dispute, its authority is limited to deciding two things: (1) Are the national laws of an "accused" country consistent with the treaty obligations that the country assumed by signing the GATT? and (2) Is the "accused" country following its own trade rules? Is it implementing its own laws fairly and consistently? In other words, the WTO does not decide the merit of individual cases in which disputes arise—it simply evaluates whether existing national laws are consistent with the GATT treaty and whether they have been properly applied.

Traditionally, a mutually agreeable negotiated settlement to a dispute has been preferred to a more contentious or acrimonious legal proceeding. However, because mutually agreeable settlements are not always easy to come by, the WTO has a a legal forum for handling trade disputes.Disputes that cannot be resolved among the members themselves are referred to a panel of three persons who act as judges in determining the answers to the two questions mentioned above. When a country is found to be in violation of its WTO obligations, it has two choices. It can amend its laws to bring them in line with the Uruguay Round Agreement, or it can keep its laws as they are and face "measured retaliation" from its aggrieved trading partners. Measured retaliation is the WTO's main enforcement mechanism. In the simplest case, if one country were to violate its GATT obligations by raising its tariff on some good, its trading partners could respond by raising their own tariffs on something. This retaliation is "measured" in the sense that it should reduce trade from the offending first country by roughly the same value as the first country's tariff increase.

The practice of measured retaliation is extremely useful in maintaining the smooth functioning of the world trading system. Historically—that is, before measured retaliation became the common practice—when one party to a treaty violated one of its terms, the other party could either accept the violation or withdraw from the treaty entirely. Measured retaliation essentially allows both parties to jointly withdraw from some of their treaty obligations while still enjoying the benefits of the rest of the treaty.

External Relations

Although nondiscrimination is an ideal in the GATT, in practice a number of exceptions to this general rule exist. Regional trade agreements—both free trade areas and customs unions—are allowed. In 1947 when negotiators drafted the original GATT treaty, they recognized that from time to time, some countries might want to push ahead with greater trade liberalization. Although the GATT preferred nondiscriminatory tariffs, it did not wish to impede the gains from trade that could be had if only a few members were willing to reduce their tariffs even further. Therefore, it allowed the formation of two types of regional trade agreements—free trade areas and customs unions. In a free trade area, the members maintain their original external tariffs with the rest of the world but engage in free trade with one another. In a customs union, all member countries set the same external tariff for imports from nonmembers and eliminate the tariffs on imports from members. When GATT members form a customs union, the common external tariff can be no higher than a weighted average of the tariffs of the member countries before the customs union was formed.

From the beginning, the decision to allow regional trade agreements within the GATT was controversial. Jacob Viner (1950) framed the question as an essentially empirical one: Were regional trade agreements "trade creating" or "trade diverting"? He coined the terms "trade creation" and "trade diversion" to describe what happens when several countries

join together to form a regional trade agreement (RTA). The reduction in tariffs among RTA members leads to "trade creation" among members. The problem is that the trade that develops between RTA members may not reflect an overall expansion of a country's imports, but rather a diversion of trade away from a non-RTA country to an RTA member. In this case, there may be no worldwide efficiency gains from trade if the non-RTA country is the lowest-cost producer of some good.

Today, the question of whether regional trade agreements are trade creating or trade diverting remains unresolved. In fact, it is almost impossible to answer this question definitively because economists never observe the appropriate benchmark for estimating the amount of trade creation and trade diversion associated with a regional trade agreement. Because economies and trade are always growing, it is hard to construct a counterfactual estimate of how much trade would have grown among RTA members if these countries had not actually formed a regional trade agreement.

Gary Sampson (1996) argued that the question of trade creation and trade diversion is much less important today than it was fifty years ago because tariffs are now much lower. For the United States and the European Union, for example, most products face import tariffs of less than 5 percent. Therefore, Sampson argued, although RTA members with these countries do benefit from a 0 percent tariff rate, the size of this tariff preference—the difference between the tariff for RTA members and the tariffs of other countries—is so small that it cannot possibly induce much trade diversion. Overall, the empirical literature in economics finds evidence that trade diversion occurs. However, the debate over the relative magnitude of trade creation and trade diversion continues.

Meredith Crowley

See Also Antidumping and Countervailing Duties; Nontariff Barriers; Protectionism; Subsidies; Tariffs; Technical Barriers to Trade; Pharmaceuticals; General Agreement on Tariffs and Trade (GATT); Copyrights and Intellectual Property

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PART FOUR

Other Issues

Conflict, Cooperation, and Security

Globalization, and its lineal development, stems from the concerns, crises, and diplomacy of the Cold War epoch. The birth and evolution of globalization has engaged and vexed the minds of scholars of all academic disciplines, not least the scholars of economic history. Whereas political philosophers may focus on globalization from the perspective of, for example, Hegelian determinism, or engage in a game of "what-might-have-been," the economic historian focuses instead on such questions as whether world historical, political, and economic occurrences are globalizing or tend to create fragmentation.

The recession of bipolarity and the power politics involved in territorial, economic, and cultural issues is the delineated framework in which many commentators have located the process of globalization, not least of all Ian Clark in his 1997 book *Globalization and Fragmentation: International Relations in the Twentieth Century.* Clark's work portrays globalization as a phenomenon that has gradually revealed itself in a cumulative fashion. He offered abstract explanations for its development, emphasizing his own interpretation that it has derived from power politics. Consequently, Clark drew upon neo-functional integration theorists to explain how cultures, through state systems and apparatuses, are beginning to resemble each other. This homogenizing effect also embodies economic structures of production, which are indicated by the global transition to post-Fordist methods of production and Taylorism.

Although Clark stated that ulterior interpretations, including world systems and international sociological explanations, do have important explanatory characteristics, he also noted that such explanations fail to accurately depict the influence of power politics and state relations. Clark criticized these normative theories for placing "value judgments" on these areas of state structures and relations, a sentiment echoed by John Baylis and Steve Smith (2004). In explaining the factors influencing globalization, Clark viewed the period of détente, the transmutation of the United States from a "benign" to a "predatory" hegemony, as the inaugural step in the fragmentation of nations from the Western bloc alliance. The U.S. policy of "linkage," where Western nations were to ensure their own security and share the burden with the United States, provided an indication of this direction, according to Clark. He thus views détente and linkage as a period of fragmentation of nation-states. He ignored, however, the globalizing aspect of détente, whereby it facilitated new ties and new bilateral and multilateral agreements among nations to ensure security and economic prosperity. Therefore, Clark drew upon differing and diverse interpretations, ranging from sociological theory to Marxism, to reinforce his power politics explanation. Other economic and political analysts have had different takes on the subject of the globalizing forces of the twentieth century and the tension between these and forces of fragmentation.

Conception, Process, and Theory

It has been asserted that globalization was the only major political and economic force to survive most of the twentieth century, and more important, that the concept of globalization was the only one to retain some coherence at the end of the long boom. This scenario occurred because the globalizing nature of world culture, economics, and politics has evolved into an entity that grows and develops from its own conception. Globalization itself has developed and fostered its own momentum, in other words, and all other aspects of society, including other aspects of economics and culture, are symbiotically linked to globalization and parasitical in nature. This concept of "momentum" and the growing strength of globalization as a force unable to be tamed by the nation-state is supported by Robert Keohane (1984). Keohane argued that conditions created by the United States were conducive to a global economy and have allowed the economy and other symbiotically linked areas, especially international institutions, to conjure their own momentum. Global industries and institutions have thus been able to thrive and gain momentum with U.S. guidance and subsidizing.

Therefore, according to Keohane the U.S. move to a more malignant form of hegemony has been ignored because the global institutions created in the post–World War II setting, including the International Monetary Fund (IMF) and the North Atlantic Treaty Organization (NATO), undertook the role of global watchdog, whereas the United States was often less ostensibly involved in the global arena, in terms of regulation over the flow of global finance, military intervention, and even the "virtuous and moral action" of attempting to stop communism. The international bodies were conceived and imbued with a life of their own. But the control of global affairs is no longer as demarcated as it was in the pre-détente era. Globalization has not, and cannot, be isolated to a postdétente explanation, as Kevin Cox (1997) and others have contended, nor has it been contained to a post-1945 environment.

Globalization received perhaps its greatest early boost by the commencement of World War I and the resulting involvement of the U.S. military. The U.S. involvement in the Spring Offensive, and the allied victory over Germany, provided a sign of the potential for the United States to become the next major world power. However, the United States chose not to wield this hegemony and instead pursued an isolationalist policy during the interwar years. It was concerned more with specific "spheres of influence," as reflected in the Monroe Doctrine, proclaiming this as the most effective path to ensuring international peace and security, than with world dominance. Nonetheless, under the mandate of President Woodrow Wilson, the United States pushed for the establishment of the League of Nations, a forerunner to the United Nations, and under the Lend-Lease Act became the world's altruistic financier, aiding, for example, Germany in its reparations program and devising the Dawes and Young plans to assist Germany in its rebuilding. The United States also made loans to allied nations in the interwar period. These were the initial steps toward globalization, the rebuilding of the world order under the auspices of the United States, even though it was officially pursuing a policy of isolation. It took the rest of the century for these globalizing effects to filter through.

International Momentum

The institutions that the United States created during the first half of the century have mutated and taken on an agenda of their own, attaining momentum and experiencing a form of governed interdependence that has detracted from the international career of the United States. When the United States realized that its international obligations had been seized by these institutions, it began its orientation toward a more predatory form of hegemony, al-

lowing international institutions to gain momentum and supersede the United States, while most of the benefits of these institutions still gravitated to the United States. For this reason, Ian Clark still refers to the United States as possessing the persona of a hegemon and exhibiting hegemonic characteristics, without being burdened with all the associated hegemonic obligations. Although it is Clark's contention that these international institutions perpetually maintain the status quo, thus preventing the United States from suffering any dramatic decline, they did not initially possess the power to do so; indeed, they did not obtain this momentum until the Cold War period was in full swing. Clark stated: "What the evidence suggests is that a transnational economic order has been sustained since 1970—despite the appearance of American decline—because the economic forces realized during the Cold War period have now themselves become a kind of self-reinforcing structural political condition" (Clark 1997).

Thus, bipolarity and the security concerns generated during the Cold War were influential and conducive to the globalization process because they allowed the economic preconditions of a global economy and international institutions to flourish, as attention was diverted to the security threat that each bloc faced from the other. Power politics then inadvertently allowed trade, economics, and international institutions to become global forces capable of seizing the national power of states.

It was the security concerns of the twentieth century, particularly in the Cold War period, that eventuated in the global nature of economics and production orientation. Clark alluded that economics, politics, and culture are all parasitical in nature. The gregarious nature of warfare, especially once the Iron Curtain descended, allowing capital to be devoted to international institutions, coupled with changes in trade and finance, including the revolution in production methods to a post-Fordist orientation, enabled globalization to occur unhindered. The capital allocated to the transition to mass production was supported and supplied by the public, whose taxes were increased to finance this additional unquestioned spending, owing to a collective consensus that there was a perennial security threat from the other bloc. Spending and Keynesian pump-priming was also encouraged by national government leaders who perceived not only a perennial security threat but also an opportunity to fine-tune their skills in diplomacy and increase the wealth of their constituents.

Subsequently, Immanuel Wallerstein's (1976) "grand periphery" was dissolving owing to the international export of post-Fordist mass production as well as the scientific restructuring of the workplace under Taylorism in the United States. The "three worlds" were gradually becoming one, especially during détente, when the effects of the inconspicuous investment made during the Cold War were beginning to be realized.

It was the recycling of petrodollars from the Organization of Petroleum Exporting Countries (OPEC) that provided the capital for Second World and Third World nations to invest in First World production techniques. This resulted in a convergence of economic systems, even though some were more advanced than others; as a result, the "grand periphery" was obscured and could not be detected in such a demarcated way.

Ironically, the recycling of these petrodollars through First World banks, and their reallocation to Third World nations, also combined with budget deficits in advanced industrialized nations throughout the 1970s to produce a liquidity squeeze. The squeeze forced the United States to raise interest rates and to issue Treasury Bonds to attract capital to finance its budget deficit and foreign liabilities. Interest rates were raised to an extraordinary level in the late 1970s and early 1980s, and Third World nations defaulted on their repayments to First World banks, plunging the world into recession on a global scale not seen since the early 1930s.

Clark linked power politics, especially the U.S. ability to bring about a dramatic rise in global interest rates, to the period of stagnation in which we still remain. That is, he posited that the United States made a conscious effort to raise interest rates in order to keep Third World states subordinate to its whims and maintain its control of global capital. Predatory hegemony can be seen most blatantly in the U.S. government's ambivalent approach to globalization. The United States wanted Third World nations to transform, or converge, economically to the same system that was dominant in the West, yet it imposed exogenous shocks—namely, interest rates and inflation, as well as an exponentially increasing foreign debt—to keep these nations tied to democracy and prevent the transition to communism. Clark believes that the United States was still trying to impose imperialistic controls over nations as late as the early 1980s, even though international institutions were by then promoting most of its interests overseas. U.S. President Ronald Reagan emphasized the bipolar nature of world politics with his "evil empire" sentiments.

The period of détente, commencing in the early 1970s and lasting until the beginning of revived tensions in the early 1980s, had somewhat ameliorative characteristics. The level of power politics changed over time, decreasing in the détente period, reestablishing itself in the Reagan years, and relaxing again with the gradual decline of communism starting in 1989. Regardless of this political ambivalence, however, the globalizing nature of world financial markets and international institutions not only continued, they came to life and derived their own momentum and culture. Clark neglected the fact that although the relative hegemony of nations could change over time, along with relations among and between aligned and enemy nations, globalization itself continued unabated. Power politics may inaugurate some forms of globalization and encourage their diffusion, but globalization itself appears subliminal; it cannot be controlled by any obvious or steadfast measure. For this reason, although international institutions do essentially have an allegiance to the United States, this allegiance is dramatically diminishing, and although the United States in the past has relied upon these institutions heavily to promote its foreign policy and to provide a facade of hegemonic legitimacy, it has by now lost all control of them. These institutions are beginning to fulfill their original function, that is, to act globally, unfettered by the agenda of any particular nation-state. Hence, globalization seems to be out of control, and definitely out of the scope of power politics on an international level.

Globalization's rampant growth has many commentators concerned. Theoretically, power politics and the diplomacy resulting from bipolarity and the Cold War essentially created the framework for globalization to emerge, but globalization has now grown out of proportion to the power of the nation-states and capital markets that created it. Globalization may be viewed as impenetrable, and frankly, unstoppable, according to this view. Although Clark did not blatantly assert that this was the case, he accurately described a world that has continued to globalize in many facets and domains over the past century. He indicated that power politics, and specifically the relationship among alliance members of each bloc, shifted during the détente period, providing an example of global fragmentation; although he did not see this as a transition to greater globalization, that is essentially what it has turned out to be. The détente period eroded barriers between the First and Second Worlds and increased contact between the two, primarily through summits, a trademark of President Richard Nixon's secretary of state, Henry Kissinger. It also expanded the social contact between East and West by allowing the movement of civilizations, however minimal, and signaled a period of greater cultural and economic reciprocity, and hence globalization on a larger scale. Clark stated, "Détente must then be understood to be as much about relations within the western bloc as about the antagonistic relationship between the two superpowers." He asserted that Western

nations were then asked to contribute to regional and global security, that the United States adopted a policy of geopolitics, and that this linkage was also endorsed by the United States under the behest of Kissinger.

This process of "linkage" on a geopolitical level was promoted by Kissinger as the best response to Nixon's Vietnamization policy and the gradual withdrawal of the United States from the Vietnam War. Kissinger saw that the most effective and least confrontational way of closing this policy was to embark on a process of "triangular politics," whereby the two superpowers would talk, and hopefully cooperate, on the Vietnam issue, and the Soviets would stop supplying the North Vietnamese army with weapons and training, while the United States and its allies would gradually retreat from the South and only provide minimal military support. While the two superpowers arrogantly decided upon the future of Vietnam, the Vietnamese were supposed to submissively cooperate like any other subordinate state. Stephen Ambrose hinted at Kissinger's megalomania when he wrote: "Kissinger regarded North Vietnam, South Vietnam, Cambodia and Laos as pawns to be moved around the board by great powers"(1991). Thus, the linkage ideal, derived from the earlier process of triangular politics, is seen as almost exclusively concerned with the transition of security issues from the United States to Western-bloc nations.

Hence, although "détente" was concerned with relations between the two superpowers, the term was essentially a euphemism for the delegation of regional security to nations of the Western bloc. If they could play their part, share the moral burden—and, more important, the financial burden—and relieve the United States from the pressures it was experiencing, then the United States could concentrate on where the real "action" was—the East Asian economies and the rise of the Eurodollar market.

Linkage was thus utilized as a subterfuge for deregulating the whole power and security issue and assisted in the delegation and demarcation of security issues to aligned nations so they could form their own spheres of influence. Ambrose concurred with this view, reiterating the notion that linkage was an ambiguous concept: "Kissinger [strove] to seek the broadest possible agreement with Russia. Everything was linked—the industrial nations' oil shortage, the Vietnam War, wheat sales to Russia, China's military capacity, etc. Kissinger sought nothing less than an all encompassing agreement that would bring worldwide, permanent peace. Through linkage Kissinger would out 'Mettemich Mettemich'" (1991).

Clark agreed with Ambrose to an extent, relating the whole détente period to power politics and the emergence of geopolitics, as opposed to bipolarity. Interestingly, he saw this divergence from the hegemonically closely intertwined blocs as a process of fragmentation, not globalization, as nations now had to secure their own security and, consequently, economic interdependence. This point is intrinsic to Clark's thesis. That is, although he attributed most globalizing and fragmentizing scenarios to power politics throughout the twentieth century, he failed to comprehend the consequences or aftereffects. Clark interpreted these events from a historical perspective, where their immediate influence is the correct one, and relegated later permutations or factors stemming from this immediate outcome to an unimportant level. His writings could be interpreted as somewhat absolutist in their nature because they do not give much credence to the influence of norms or constructivist theory. His view that détente heralded a period of fragmentation, when it actually encouraged globalization, was a serious oversight. In reality, nations had to make independent alliances and forums to safeguard themselves from hostile external threats. Clark also failed to address the notion that international institutions promoted globalization and allowed it to develop unfettered, because he was consumed by the proposition that power politics instigated fragmentation and did not recognize the subliminal preponderance of globalization.

Clark criticized constructivist and normative writers for the value judgments they make about historical events. These value judgments, he said, are potentially fatal because they often contradict the facets of world historical developments and take little account of uncontrollable areas such as economics and some aspects of culture. He granted little credence to normative aspects of globalization, although in all fairness, he alluded to these competing theories of globalization in his initial chapter and conceded that some are relevant to explanations of globalization and world affairs.

Nevertheless, Clark utilized the writings of neo-functional integration theorists to explain globalization in terms of power politics and Cold War bipolarity, citing Sean Jones (1991) and his discussion of the impact of interdependence, which emerged during the 1970s. This functionalist literature on globalization was influenced by the export of production orientation, including post-Fordism and Taylorism, by Western nations to those on the development periphery, as well as later processes such as deregulation and privatization. Technical cooperation and scientific management led many normative and constructivist theorists to deduce that nation-states, regardless of their political or social structure, were beginning to resemble each other. This was occurring in areas most susceptible to the onslaught of globalization—culture and market production; hence, nation-states were becoming homogenized, a blatant indication that globalization was occurring. Clark drew upon this thesis quite comprehensively to develop his own argument, despite its functionalist and constructivist traits. He concluded that it was this transition of production techniques, finance, and consumer culture that would instigate a demonstrative effect and "yield a superstructure of political behaviour in which the sovereignty of the nation state would be steadily eroded and circumvented."

Thus, Clark adapted the neo-functional integration thesis to complement his argument. The fact that these theorists talked of the homogenizing effect of globalization on the political framework of nations, and thus power politics, helped to reinforce Clark's argument. Clark thus appears to have exploited the neo-functional integrationist argument in order to appease his normative and constructivist critics. Clark and others have agreed on the globalizing and detrimental effect of the Gulf War on those nation-states that were homogenized and classified by their dependency on oil, a factor that caused the war to have a greater impact on the global society. Colleagues suggested the impact that globalization can have by looking at the example of Kuwait, where the Iraqi invasion of 1990 led to short-term instabilities in world oil and financial markets, which in turn had an impact upon other nations and their ability to maintain their existing level of welfare provisions. Clark utilized these normative aspects as a subversive measure to inject some diversity and appeasement into his thesis, while not compromising its integrity and primary focus—that of the effects of globalization on power politics, and vice versa, over the past century.

Clark then emphasized that in this era of diminishing nationalism, globalism has emerged to fill the void. Nationalism, in its extreme guise, was one of the contributing factors in the outbreak of World War I, and it reappeared in a mutated form known as fascism, whereby nations were led by dictators, during the global depression of the 1930s, then played a major role in the outbreak of World War II. Nationalism thus led to two devastating global wars during the first half of the twentieth century, and there existed no real international institution to provide any impediment to this, even in the interwar period. The utopian notion of collective security and the League of Nations failed dismally.

It was the Cold War, and various other "brush fires" that emerged, including Korea, Suez, and Cuba, that ensured the stability of the world in its bipolar orientation. "Brinkmanship" and the constant security concerns of the Cold War quelled nationalism, as only two

blocs essentially existed, which meant that conformity and subordination, deriving from the benevolence of each power within their respective blocs, were prerequisites to national security and economic growth. Fukuyama acknowledged this but explained that nationalism was only necessary in the early stages of capitalism because it provided a guarantee that the benefits of initiatives undertaken in a nation to provide growth, including economic transformation and evolution, would remain in that nation, thus allowing early capitalist and industrializing nations a chance to attain a comparative advantage over other competing nations. Once the developmental process was over for the most powerful nations, the same governmental and societal forces that in the past required nationalistic controls now demanded a desegregation of these policies and institutions, as well as the reversal of cultural values, in a transition to the diametrically opposed principle of globalization. Those groups that have encouraged this transition realize the potential benefits that global culture, capital, and security encompass, and the correspondingly decreased emphasis on national governments.

Clark's discussion of nationalism incorporates important empirical evidence for the notion that globalization is not a phenomenon that was isolated to the post-1945 or the post-1970 era, but rather the current incarnation of a gradual transition that has been occurring throughout the century. Nationalism has not disappeared: It has now become manifest as global market nationalism, whereby nation-states and other powerful and influential "actors" in the global arena are competing for their own spheres of influence and, in the case of business, their own personal markets, a quest that often transcends national boundaries, culture, and ideology. This new market nationalism exists on a global scale, where everybody is a potential consumer, and spheres of influence within society are determined by what commodity is produced for that particular market. Traditional nationalism has been disbanded, and globalism endorsed, in order to facilitate the mobility of capital and the ability of markets to accommodate intercultural and societal consumers.

In this new global environment, the ambiguity of power has ensured the inability of analysts to define hegemonic relationships in any clear and demarcated manner. Rather, the new pluralism, redefined as fragmentation, harbors many facets of power, where all its variants can be exhibited. Power politics—strategic and economic power as well as other kinds, including religious power and the power of ideological beliefs—takes different forms with multiple leaders, is not necessarily defined by nation-states, and is more transitory at present than ever before. Indeed, Clark asserted that "there is no single balance of power but multiple barriers within separate issue areas, and possibly in various regional settings."

Hence, the world has entered into a period in which strength and influence are not measured by economic or military might, but rather by the harm that one "actor" can impose on another. Power politics, the development of international institutions, and the decline in nationalism over the past century have together created this environment and allowed it to develop unfettered. Clark explained the rise of globalization in terms of his own framework, which is comprehensive. From this structure, and his emphasis on détente as a process that sparked interest in and acknowledgment of the globalizing nature of nation-states and international finance, he traced the ascendancy of nongovernmental "actors" in the power game as their share of influence increased, at a time when the monopoly of the nation-states was declining. Clark acknowledged this process when he wrote of the "desegregation of political and strategic developments at the center from those on the periphery," stating that "the sum no longer had a significance greater than its parts" (1997).

Power does have ambiguity in this increasingly globalized system, and it is multidimensional as well, emanating from various sources.

Nevertheless, Clark views these various power structures as possessing one core characteristic: that they all developed from and directly benefited from the lack of attention given to many issues during the Cold War period, when the flow of capital was unregulated and capitalist nation-states were allocated various spheres and industries for security purposes. This Cold War–era system had unintended advantages and disadvantages for the world.

Therefore, globalization cannot be attributed to any particular influence, occurrence, or "actors" in the global arena; rather, it is a multidimensional phenomenon. Globalization can only be interpreted through a delineated framework and agenda, as Clark has done, focusing on power politics and the security concerns of the Cold War. Though this analysis is plausible, it does not necessarily explain the rise of globalism fully—further critique and analysis are called for. There is one certainty that may be deduced from Clark's thesis: Globalization continues to grow and evolve exponentially, and it has managed to supplant a way of life. The cultural global norm that existed during the Cold War period is no longer.

It is also clear that it was the Cold War and détente period that fostered globalization. It developed international institutions and allowed different cultures to emerge and become powerful. It allowed "linkage" policies to demolish barriers to a global society. All of this was presaged by the U.S. decline and transition to a more predatory form of hegemony, which thrust Western bloc nations into the international arena to form their own relations and interdependence links.

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See Also Group of 8 (G8); Political Systems and Governance; Social Policy

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Copyrights and Intellectual Property

Copyright forms a part of a larger body of law known as "intellectual property." Intellectual property can be thought of as creations of the human mind and intellect, and intellectual property law in general recognizes, and attempts to protect, the property rights of creators in their creations. It also serves, indirectly, as a means under which human creativity may be stimulated, and under which the fruits of such creation can be made available to the public in general via transactions involving intellectual property. It is widely recognized that without some sort of recognition and protection of intellectual property rights, economic systems (including international trade) would be significantly adversely affected, with corresponding negative effects on economic growth in general.

Although Latin-based languages have always used the term "intellectual property" to refer only to the property of creators of works with some cultural value, internationally the same term is generally taken to refer to both cultural and industrial property. Initially, industrial property was protected by the Paris Union (created by the Paris Convention for the Protection of Industrial Property of 1883), whereas the Berne Union (established under the Berne Convention for the Protection of Literary and Artistic Works of 1886) dealt with issues regarding copyright. The secretariats of the two unions were combined in 1893, forming what is now known as the World Intellectual Property Organization (WIPO).

The document that was written to establish WIPO does not define "intellectual property" directly, but it does clearly state the subject matter that is protected by intellectual property rights, including (among others) literary, artistic, and scientific works; inventions in all fields of human endeavor; and industrial designs and trademarks. Intellectual property law therefore can be divided into two branches, patent law (which refers principally to inventions and other industrial property) and copyright law (which refers principally to literary and artistic creations, typically considered goods with cultural value).

Inventions can be thought of as new solutions to technical problems, but they need not be represented in a physical embodiment to be protected under patent law; that is, it is sufficient that the inventor fully describes the nature and working of the invention in a written document. However, the patent protects the invention itself, and not the form of expression that may have been used to describe it. Creations with cultural value (for example, books, musical compositions, paintings and other works of art, and technology-based works such as computer programs and electronic databases), in contrast, are protected by copyright law, which only provides protection for the form of expression and not the ideas expressed.

Copyright and Cultural Markets

All economies, both developed and developing, have an important dependence on culture and cultural activity in general. "Cultural activity"

is that part of the "culture and leisure industry" in general that comprises all activities that produce and distribute goods and services with cultural content, that are products of creative work, and that are destined for consumption via reproductive mechanisms. The intellectual property in such cultural goods is both recognized by, and protected by, copyright law. For the purposes of copyright, this would include every work of original authorship, irrespective of its literary or artistic merit; that is, the recognition of a property right via copyright should always be independent of the true cultural value of the work in question.

A "cultural creation" is any work with any degree of cultural content. As soon as the exact identity of the owner of this creation is determined, it is considered intellectual property. The initial owner of the intellectual property is usually simply the creator of the work, though there may be exceptions to this rule—for example, in cases of patronage, or in other cases where a creator cedes his or her rights before the act of creation takes place (for example, when an employee authors a company report, any intellectual property thus created usually belongs to the employer). Copyright law recognizes and protects the property right in the cultural creation.

The rights granted under copyright law to the owner of the copyright in a protected work are the exclusive rights to use, in any way or form, the work, subject to the legally recognized rights and interests of others. Basically, these rights can be divided into "economic rights" (the right to derive financial reward from the use of the work) and "moral rights" (the right to preserve the authorship of the work).

Under copyright law, the owner of the copyright has the legally recognized right to prevent certain uses of the protected work, and also the right to authorize use. Naturally, authorized use normally occurs in exchange for a monetary recompense, which is known as a copyright "royalty." The types of use that are usually of concern are the right to reproduce the work on a physical support (for example, photocopies of written works, or electronic copies of musical compositions), the right of public performance (broadcasting and public communication), and the right of translation and adaptation. However, under the right to reproduce there are several related issues, some of which are designed to ensure the right of reproduction, and others to ensure the best interests of other members of society. Within the first type, there is the right to authorize distribution of copies (including the right to import and export) and the right to authorize rental of copies. The second type of right (encompassing those rights ensuring the best interests of other members of society), generally known as "fair use," sets a limitation on the rights of the copyright holder. Under fair use, a small part of most protected works can be reproduced without prior authorization when it is generally accepted that such reproduction is in the public interest, or that it is simply economically inefficient to request formal authorization for the reproduction. An excellent example of fair use is when a particular amount of an academic journal may be reproduced at no cost for research or teaching purposes.

Aside from fair use, a further limitation occurs in that copyright has, in all countries, a limited duration, after which the copyright expires and the entire set of rights is effectively shifted into the public domain. In most countries, copyright is established upon the creation of the work and lasts until at least fifty years after the death of the author in order that the author's immediate successors may benefit from the exploitation of the work.

In spite of limitations, the exploitation of copyrights forms a very large part of most developed economies. Recent studies suggest that between 4 and 5 percent of gross domestic product (GDP) can be attributed to the culture and leisure industry. Between 65 percent (in the case of books) and 85 percent (in the case of recorded music) of the general public are users of cultural intellectual property protected under copyright. Also, as a very rough

estimate, each individual member of society (assuming a developed economy) contributes close to $10 annually to total copyright royalty income (about $6 for music-related royalties and about $4 for written creations).[1] Finally, total copyright royalty revenue is growing at between 10 and 40 percent per annum around the world (depending on the source of the income and the particular country of reference). Clearly, if copyright can be properly managed and protected, the recent advances in digital technologies that permit greater distribution opportunities for cultural products could lead to even more impressive figures into the future.

Transactions Involving Copyright

Although a copyright is the property right in a creation of a cultural nature, it is also an asset in itself because it has value and can be transacted. Indeed, one of the principal reasons why copyright exists is to allow the general public to gain access to the fruits of creative endeavor—that is, to allow certain rights to be transacted in market settings.

In transactions involving cultural intellectual property, the seller grants the buyer the right to use, or to have access to, intellectual property of a cultural nature. That is, the intellectual property itself is not transacted, only the right to have access to it. Clearly, there is a wide range of options, depending on the degree of access that is granted under the transaction contract. In this sense, the complete set of all possible rights included under copyright law can be subdivided into different independent subsets. The copyright holder involved in a transaction to sell some of these rights can thus decide on different degrees of access by specifying exactly which subrights are included in the access list, and the time period during which access is granted. One particular right that should be included in the total set of rights is the exclusive right to grant access at a price. If this right was retained by the copyright holder (and even if it was the only right that was retained), one would say that only incomplete access had been granted. A short list of options is:

1. Complete access that is unlimited in time (the outright sale of the copyright).
2. Complete access that is limited in time (an exclusive rental contract with a limit, or an end date).
3. Incomplete access that is unlimited in time (the outright sale of a properly defined subset of rights).[2]
4. Incomplete access that is limited in time (a restricted rental contract).

An important aspect of copyright transactions is the fact that intellectual property is a public good. This means that there can be, simultaneously, many users, and no particular user's access is negatively affected in any way by the existence of the others. Therefore, so long as the right to grant access has not been ceded, the initial copyright holder can grant access to many users. Even if the right to grant access has been sold, then the new holder of this particular right can grant different degrees of access to many users simultaneously.

Once cultural intellectual property has been exposed via some type of authorization to access, it becomes necessary to protect it from unauthorized use or access. To be effective, copyright protection requires monitoring of use. Clearly this is prohibitively expensive for individual copyright holders, since the transaction costs involved in monitoring the use of all possible consumers would be enormous. For this reason, almost all copyrights are administered by copyright collectives, which are simply associations to whom authors transfer copyrights for purposes of exploitation. A copyright collective is essentially a large group of copyright holders acting together.

Since the activity of dealing with copyrights presents many aspects of a natural monopoly, in most countries there is only one copyright collective for each general type of creation (musical compositions, written works, and so on), with the notable exception of the United

States, where two principal collectives administer copyrights in musical compositions—ASCAP (American Society of Composers, Authors & Publishers) and BMI (Broadcast Music, Inc.). Copyright collectives grant licenses to access the works in their repertory; negotiate and collect royalties, which are then distributed to the members; and take legal action against copyright infringements. Typically, copyright collectives sell what is known as a "blanket license," that is, the right to limited access of all of the individual copyrights contained in its repertory, rather than the right to use each copyright individually.

The economic theory literature concerning optimal regulation of natural monopolies is very clear. The socially optimal way to regulate a natural monopoly is to set prices equal to marginal cost, and then to subsidize the fixed costs so that the business may continue. The collective administration of copyrights is an excellent example of a natural monopoly, since adding new, independent copyrights to an existing repertory will not, in general, increase average costs as repertory size increases. Collective administration is the only way that the high transaction costs of copyright administration (in particular, the costs of monitoring use and of charging the access price) can be overcome. However, since the marginal cost of adding a user to a blanket license is basically zero, one can formulate a good argument for setting the price of access to a copyright at precisely zero.[3]

If one assumes that the demand for access to intellectual property is negatively sloped (that is, intellectual property is an ordinary good), then a price of zero will maximize the demand, and consequentially the distribution, of the intellectual property, assuming this property exists. However, a price of zero would minimize the revenue of the copyright holder, and if the copyright holder is the initial creator, then that price would eliminate the economic incentive to create in the first place.[4] Hence, if the creator foresees a price of zero, then it is possible that he or she will not have sufficient incentive to dedicate time to the creative process, and as a result the entire market will collapse, since no intellectual property will exist. A strictly positive price, however, will imply less demand (and so less distribution), but will generally imply that there exists an economic incentive for the creator, thereby providing a greater guarantee that creators will dedicate their time to the creative process. However, in most cases, there will exist a price that is so high that demand is reduced to nothing, which once again eliminates the economic incentive for creators.

It is practically indisputable that it is important and valuable that cultural intellectual property exists, and that it is shared among members of society. The second of these objectives can be attained using a low price of access. However, for intellectual property to be distributed, there must exist a stock of intellectual property in the first place (and it may well be the case that it is interesting for this stock to be expanding over time), which requires a price that is sufficiently positive to guarantee the economic incentive in creators. Copyright law is designed to balance these two opposing effects. In general, it can be concluded that in almost all cases, the socially optimal price will be relatively low but strictly positive.

Current Concerns Surrounding Copyright

Although copyright transactions are flourishing worldwide, there are several aspects of copyright markets that are causing a certain degree of worry for copyright holders. Two of the most important concerns have to do with the establishment of the correct price of access and the effects of piracy (unauthorized access).

Strictly speaking, there is no such thing as a "correct price"; rather, economists are interested in "equilibrium prices," which are the prices such that no demander at that price is left unsupplied, and no supplier is left without a demander. The equilibrium price of access

will occur at the intersection of the particular supply and demand curves for the degree of access under consideration. But what factors determine the shapes and positions of these curves? One aspect has typically been dealt with in an ad-hoc manner—the dependence of the final price on the final market value of the copyright being accessed.

In order to take this aspect of copyright transactions into account, one must consider the environment of uncertainty in which such transactions are typically carried out. Between the creation phase and the final consumption of intellectual property, there will exist several contracts under which access to the intellectual property is distributed. In the first place, the initial copyright holder (the creator) will usually cede his commercial rights to a distributor[5] (normally a copyright collection society). Second, the distributor will then grant access to final users, generally via a second, more specialized level of distribution. At each transaction level, there will exist a total surplus that must be distributed between the two parties to the contract, and over the entire range of contracts, the final value of the access being contracted (the total value of this degree of access to final users) must be allocated among all participants in the creation-distribution-consumption chain.

The problem is that the final value of the access under consideration is effectively a random variable (it may take on any one of many values, depending upon a great many influencing factors), and yet the contracts that specify how this value must be shared must be written and agreed upon before this uncertainty is resolved, since it is precisely via these contracts that the uncertainty can be resolved. The question is, how should the price of access in each moment of the distribution chain depend upon each possible contingency of the final value?

In practice, this aspect of access contracts is solved in the simplest possible way—there is a constant proportional price, that is, the final value of the copyright being accessed is divided among the participants to the contract according to proportional splits that do not depend on the value being shared (for example, author royalties are often set at 10 percent of final sales revenue, independently of how much that sales revenue turns out to be). However, although this rule is simple and thereby certainly saves on other transaction costs, it can be shown that it is in general an inefficient manner in which to distribute inherent risk among the parties to the contracts. Pricing access efficiently, at all levels of the distribution chain, is certainly one of the most important questions facing copyright collectives today.

The second important concern for copyright collectives is the presence of piracy of intellectual property, that is, unauthorized use of copyrights. When a legal copyright exists, it is necessary to pay the copyright holder the access price in order to gain access to the intellectual property in question. When a user takes access without paying the price, an act of piracy has occurred. Piracy of intellectual property is equivalent to the outright theft of any other type of good.

Copyright holder lobby groups often present arguments to the effect that piracy is so rampant that it is threatening the very existence of legal transactions involving intellectual property. Indeed, in some countries, it is argued that the proportion of consumers using pirated copies of certain items of intellectual property is almost as great as the proportion using legitimate copies. Statistics implying that piracy is costing immense amounts of money in lost legitimate trade are often cited. However, such statistics must be treated with a certain degree of doubt, since they are typically based upon the assumption that each pirated copy that is transacted represents the loss of a legitimate sale. This is obviously an incorrect foundation upon which to base an estimate of the loss of legitimate trade, simply because pirated copies are always transacted at a lower price than legitimate copies. Eliminating the pirated copies would not necessarily mean that users would then purchase the more expensive legitimate copies.[6] Indeed, recent studies based on more

correct economic theory suggest that only about 10 percent of pirated-copy transactions represent lost sales of originals (compared to the figures that multinational record companies cite, often between 40 and 60 percent).[7]

Even though piracy occurs for all types of intellectual property, the most worrying area today is certainly piracy of musical compositions. Software piracy is also a worry, but it can be more easily controlled using programming techniques that limit the number of copies that can be produced from an original. However, on this point it should also be noted that the technology race that ensues as software producers attempt to outwit pirates, and pirates attempt to outwit producers, amounts to a costly waste of resources with no final productivity. Piracy of literary works also exists (photocopying of books), but given the generally low price of original formats, the high cost of copying (photocopying an entire book is a time-consuming activity), and the fact that the pirated version is often a poor substitute for an original, it is generally considered to be less rampant than piracy of musical compositions. Indeed, given new technologies (for example, CD burners and digital data-transfer mechanisms over the Internet), a pirated copy of a CD containing music is very close to a perfect substitute for an original, and yet can be obtained for a fraction of the price.

One method of ensuring that copyright royalties are paid in spite of piracy is to charge a tax on blank supports and copy technology, which can be used to finance lost copyright royalty income. This is done in many countries, for example, on photocopy machines, where a small fraction of the price of the machine is passed on to copyright collectives that deal with authors' rights to cover any royalties that may have been lost through illegal photocopying of books. Along the same lines, in some countries a tax is set on blank tapes (both video and audio), and these revenues are passed on to copyright holders. In Spain, a court decided that the producer of blank CD ROMs should pay the local music-related copyright collective a tax on each unit produced since 1997 to make up for lost royalty income on copies of prerecorded music using this media. However, this type of solution is really no more than a shift of the economic costs of piracy from copyright holders to consumers who use blank supports (and copy technologies) for purposes other than reproducing protected works. Indeed, in some countries (for example, Australia), this type of tax-based solution has been declared anticonstitutional.

Although piracy can take many forms, depending on the type of access (and the type of intellectual property), in principle it is relatively easy to pirate a work (that is, it can be done at a relatively low cost), whereas it is relatively difficult (that is, costly) to prevent piracy via the legal system. The higher the price at which legal access is granted, the greater the incentive for users to resort to piracy as a substitute for legal access. There are basically two ways to attack the problem of piracy, one based upon the introduction of legal regulations, and the other based upon incentives provided by pricing systems. The first is the domain of the legal profession, whereas the second is the domain of economists. Both imply the need for a consistent definition and recognition of copyright, but whereas legal solutions are exogenous barriers to behavior, incentive-based solutions are totally endogenous manners in which to curb behavior. It is not clear which of the two is likely to be more effective, but what is obvious is that the introduction of artificial rules will always require maintenance costs (behavior will need to be monitored and verified for the rules to have any real effect, since otherwise parallel markets in which the rules are not observed will always be established[8]), and that incentive-based mechanisms can never be avoided.

Naturally, the legal system will generally provide a disincentive for piracy—for example, by stipulating fines and other penalties for pirates once discovered. However, whenever the probability of piracy being detected is quite low, as is the case in practice, then the legal sys-

tem can turn out to be rather ineffective as a mechanism against piracy. In general, the greater the equilibrium price of access, and the less effective the legal system in monitoring use, the greater will be the threat of piracy. If the copyright holder considers that the existence of piracy is damaging to him,[9] then he may well find it beneficial to reduce the price at which legal access is granted, since this should provide a direct, and significant, disincentive to piracy activity.

However, copyright holders are typically unwilling to admit that a solution, even though partial, to the problem of piracy lies in their own pricing policies. The main reason for this reluctance is that legitimate production costs are high and profits generally low. The costs of production include not only the marginal cost of producing the physical support units, but also the fixed costs of producing the original unit (the master tape, for example, in the case of music) and the costs of promotion. On top of this, legitimate units are obviously subject to the copyright royalty that units produced by pirates save. Consequently, pirated copies are a means of supply of a perfect substitute item at a lower fixed and marginal cost, and thus can be sold profitably at a lower price. Although theoretical solutions, based on the economic theory of incentives, do exist, they typically involve business strategies that imply moving in completely new directions, with corresponding uncertainty as to the final outcome. It is much less risky, and overall less costly, for copyright holders to attempt to invoke stronger legal protection, effectively passing the economic costs of controlling piracy onto the legal system, and hence onto society in general. Much theoretical work remains to be done in this area so that real working solutions that are socially efficient can be established.

Conclusions

Legal recognition of copyright is undoubtedly a necessary ingredient for transactions involving cultural intellectual property to take place—transactions that have an obvious importance within developed economic systems. In the twenty-first century, copyright will need to evolve to account for new technological developments. Traditionally, copyright has been dealt with through legal mechanisms; more recently, a good deal of effort has been devoted to searching for less costly, more efficient alternatives. However, copyright holders have not yet been convinced of the efficacy of such systems, and so the emphasis on the legal system has remained.

Only time will tell whether a copyright system based on purely legal mechanisms can be upheld in the age of the Internet and in an era in which technological methods of reproduction are continually improving. Some experts believe that the future of music will involve a return to original values in which music held a purely cultural role in society, attracting musicians who are not motivated by financial gain. Others have a bleaker outlook, and foresee the end of the prerecorded music industry as we know it, as musicians who cannot protect their property rights effectively become insufficiently motivated to dedicate their time to creative activities. However, many musicians themselves have other opinions and are willing to look into more innovative solutions, viewing the options that distribution via the Internet can offer as more constructive than destructive.

Richard Watt

See Also Technology and Technical Change; Pharmaceuticals; General Agreement on Tariffs and Trade (GATT); World Trade Organization (WTO)

Endnotes

1. Figures based upon Spanish economic data.
2. For example, the doctrine of "fair use" is tantamount to the outright sale of the right to access a small part of some intellectual property to the general public at a price of zero.
3. An access price of zero for any given degree of access is formally equivalent to not recognizing this particular degree of access in the initial set of rights covered by

the copyright, since it means that any user can freely access the intellectual property in this degree.

4. Naturally, there may exist other, noneconomic, incentives that creators take into account.

5. This relationship is founded on the theory of comparative advantage and specialization and is made possible by the existence of high transaction costs in the management of intellectual property rights.

6. On top of this, eliminating the option of pirated copies would certainly affect the price at which legitimate copies are sold, presumably increasing it further since legitimate trade would be facing less competition. Hence, there is reason to believe that eliminating the option of piracy may even reduce the number of legitimate copies sold.

7. In any case, the economic harm that piracy inflicts upon copyright holders should not be measured in terms of lost income, but rather lost profit. Given that profit margins may be as low as 5 percent of sales, the true economic harm is far less than what is often cited.

8. Outside of the realm of piracy of copyright and cultural markets, but clearly very related, are smuggling and other trade in illegal goods (drugs, arms, and the like), activities that are established when legitimate trade in these goods is made illegal.

9. Surprisingly, it is not true that piracy will always be damaging to copyright holders. See, for example, "Copying and Indirect Appropriability," by Stan Liebowitz, in *Journal of Political Economy* 93 (1985): 945–957; "The Welfare Implications of Unauthorised Reproduction of Intellectual Property in the Presence of Demand Network Externalities," by Lisa Takeyama, in *Journal of Industrial Economics* 17 (1994): 155–166; and "The Intertemporal Consequences of Unauthorised Reproduction of Intellectual Property," by Lisa Takeyama, in *Journal of Law and Economics* 40 (1997): 511–522.

Corruption and the Underground Economy

Corruption, the misuse of public power for private benefit, has repercussions on international flows of goods, services, and capital by leading to the misallocation of resources and by adversely influencing investors' confidence. Corruption is commonly defined as the misuse of public power for private benefit. Public power is exercised by bureaucrats, who are appointed to their office, and by politicians, who are elected to their position. The term "misuse" can relate to a behavior that deviates from the formal duties of a public role (elective or appointive), to a behavior that is in contrast to informal rules (public expectations or codes of conduct), or, more generally, to a behavior that promotes the interests of a particular group or groups at the expense of those of the public at large. "Private benefit" relates to receiving money or valuable assets, but it may also encompass increases in power or status. Receiving promises of future favors or benefits for relatives and friends may also be considered a private benefit. With regard to favors for relatives and friends, the terms nepotism and favoritism are also used.

A world free of corruption would be one that incorporated three ideals. First, pertinent arguments in public decisionmaking would not be overshadowed by personal or other relationships (the arm's-length principle), and equality of treatment for all economic agents would be achieved. Second, citizen participation and involvement would be encouraged, giving people a say in public decisionmaking. Third, transparent procedures would be in place with regard to public decisionmaking, limiting discretion of officeholders.

Corruption, certainly, is sometimes defined differently in different regions of the world. What changes are the public expectations with regard to how officials should serve the public. The three principles mentioned above may be given different weight in different countries. Equality of treatment may be less relevant in societies characterized by strong personal relations, where relatives and friends expect officeholders to provide favorable treatment. Transparency and participation may be given less significance in societies where people trust that pertinent arguments are only relevant for bureaucrats. What seems to be universal, though, is that the public commonly considers self-seeking behavior by politicians and bureaucrats as corrupt when this goes along with a blunt neglect of their expectations and interests.

Corrupt Actors

Corruption is an exchange of favors between two actors, an agent and a client. The agent is entrusted with power by his superior, the principal. The principal delegates a task to the agent and sets up the rules for how this task is supposed to be fulfilled. The agent is supposed to serve the client in accordance to these rules. Bribery, extortion, embezzlement, and fraud in the public sector are variants of corrupt behavior where an agent defects. In the case of

bribery, the client acts as a briber and makes a payment (also called kickback, baksheesh, sweetener, payoff, speed-money, or grease-money) to the agent, who then is called a bribee. In return, the briber obtains an advantage, such as a service or license he is not entitled to obtain (for example, a tax rebate or a public contract). In the case of extortion, the agent uses his power to extract money or other benefits from the client. The client may have to pay for a service, although he is legally entitled to obtain it without such payment. The agent uses coercion, violence, or threats to use force in order to obtain this payment. Embezzlement, in contrast, is a simple theft of public resources by the agent and does not involve the client.

In bribery, extortion, and embezzlement, the principal's rules are trespassed and his interests are hurt. The opportunity for corruption exists because the agent is commonly better informed about the details of his daily tasks and his efforts to fulfill them than the principal is; that is, he benefits from informational advantages. The agent can also actively conceal information from the principal (committing fraud) with the help of trickery, swindling, deceit, manipulation, or distortion of information, facts, and expertise.

Corruption must be distinguished from forms of criminal conduct that involve only private parties. Tax evasion, smuggling, black-market activity, insider dealings at the stock exchange, production of counterfeit money, and subsidy fraud can be carried out without misusing public power. Actors involved in such activities are private businesspeople and others—for example, taxpayers—who are not entrusted with public power. Nonetheless, these activities may accompany corruption when public officeholders are paid to refrain from prosecution, to grant impunity, or to provide inside information on criminal opportunities. At the same time, these activities are equally likely to create an uncertain environment that deters all those economic actors, in particular investors, who are not insiders to the criminal peculiarities of a country.

Forms of Corruption

In distinguishing among various forms of corruption, one issue is whether the briber or the bribee obtains the larger benefit from a corrupt deal, which depends largely on which side has the stronger bargaining power. "Clientilist" corruption takes place if the briber obtains the higher benefit, whereas "patrimonial" corruption occurs when the bribee obtains the higher share. One may also distinguish between petty and grand corruption, where the former involves frequent, small payments to public servants lower in a hierarchy, whereas the latter involves large, one-shot payments to higher ranks. The terms "political" and "administrative" corruption are defined according to the key actors and whether they are politicians or bureaucrats.

In addition to these clear-cut, well-defined areas of corruption, controversy exists over whether certain acts in a gray area should be regarded as corrupt. Lobbying is one such area. Although lobbying involves decisions in the public sector about benefits that are, so to speak, up for sale, it is often legal, is often carried out in a transparent and competitive manner, and often involves not the narrow interests of an individual but the interests of business or even nonprofit sectors. This distinguishes it from ordinary types of corruption. Gift giving to public servants is another such gray area. It involves the danger of dependency and reciprocity by the receiver, but it may not require obfuscation, which is a characteristic of corruption. Gifts, in contrast to bribes, can always be given in an open, transparent manner. Bribing of private firm employees—for example, the payment of kickbacks to sales managers—is another gray area. This involves the misuse of entrusted power, suggesting that it constitutes a case of corruption. But the position of

power was not provided by the public but by a private firm, suggesting differences from common corruption.

Any public sector seems to be vulnerable to corruption. Corruption can particularly flourish in sectors where the private and the public interact, such as the judiciary, public procurement, business regulations and granting of permits, privatization, foreign exchange (including customs, trade permits, and international financial transactions), taxes (including the granting of tax exemptions), police, subsidies, public utilities (water, electricity, telephone, garbage collection, and health care), and government services (health, education, and the like).

Corruption and the Unofficial Economy

Corruption is observed to accompany a variety of related economic distortions and societal malfunctions. Some managers prefer to go "underground" with their firms, that is, to carry out their transactions unofficially. This frees them from paying taxes and obeying government regulation, but disallows them from use of public services and utilities. One important such service, for example, is justice, created by courts that settle disputes impartially. Public services are not available to the underground economy. Underground operations do not produce official documentation, which must be provided to courts in order to substantiate claims. When corruption is rampant, this makes it more favorable for managers to go underground. Moreover, taxes and government regulation become arbitrary when officials take bribes, increasing the costs of operating officially. Where judges take bribes instead of providing justice, there are fewer benefits to engaging in transparent and official transactions. Corruption therefore induces firms to prefer the unofficial economy. As a result, in countries with high levels of corruption there is also a large share of the unofficial economy. These two economic activities are also often caused by similar policies: Excessive, vague, and arbitrarily enforced government regulation makes it more costly to operate officially and provides a basis for corrupt officials to ask for bribes.

A related topic is tax evasion. Tax evasion is not corruption, because it does not per se involve the misuse of public power. But as soon as tax collectors are bribed in exchange for lowering the tax burden, there emerges an overlap between the two activities. Related issues are tax privileges, granted by politicians in exchange for political support, party donations, or bribes. Although this lowers the tax burden in some cases, tax collectors may also obtain the position to extort bribes in excess of the true tax burden by threatening harassment. Tax systems, once open to such hidden payments, become opaque. No equal and impartial fiscal treatment is available, but rather privileges are provided to those who are best connected.

Criminal organizations can operate without having contact with bureaucrats or politicians, and their activity is not per se corrupt in this sense. Smuggling, counterfeiting, money laundering, subsidy fraud, and extortion rackets can operate without misusing public power. However, criminal organizations are often in a prime position to use corrupt means for their operation. Inside information on forthcoming police raids or reduced penalties for their members might be obtained with the help of bribes. Above that, criminal organizations can complement bribery with threats of violence so as to have a better bargaining position vis-à-vis corrupt public servants.

Measuring Corruption

Quantitative estimates of the extent of corruption are usually difficult to provide, owing to the opaque nature of corruption. Objective data are therefore irretrievable. A plausible approach to collecting data has been taken by gathering the subjective perceptions of well-

informed people. These are commonly senior businesspeople and political country analysts. The perceptions provided by such people tend to correlate well with each other, irrespective of whether they are residents or expatriates. This suggests that the perceptions are invariant to cultural preconditions. Although perceptions should never be confused with reality, the given consensus provides some confidence that the perceptions gathered are informative on actual levels of corruption.

Most prominent in recent years has been the Transparency International Corruption Perceptions Index (CPI). The CPI is a composite index. Fifteen data sources were used in the 2002 CPI from nine different institutions, such as the World Economic Forum, the World Bank, and the Institute of Management Development. These data provide a ranking of nations according to the overall level of corruption. The strength of the CPI lies in the combination of multiple data sources in a single index, which increases the reliability of each individual score. The benefit of combining data in this manner is that erratic findings from one source can be balanced by the inclusion of other sources, and the probability of misrepresenting a country's level of corruption is lowered. The official list by Transparency International includes only those countries where more than three reliable sources of data were available in an effort to guarantee that the results provide a high level of precision. Table 1 reports data for 102 countries.

Perceptions can vary from one source to another. This is dealt with by publishing the standard deviation of the assessments. In case of a large value, the sources tend to differ with regard to a country's score. In case of small values, there is agreement. Together with the number of sources, the list provides a comprehensive picture of perceptions of corruption in these countries. This type of data has been helpful in facilitating empirical research because it allows the causes and consequences of corruption to be investigated for a cross-section of countries. This has increased analysts' knowledge in an area where research was long considered impossible.

Corruption and the Costs of Doing Business

There now exists plenty of evidence that countries riddled by corruption exhibit poor government institutions. These, in turn, deter foreign investors and affect trade. For example, corruption leads managers to waste more time negotiating with bureaucrats. There is therefore consensus nowadays that corruption does not "grease the wheels," as suggested in the literature formerly. Corruption does not help to overcome cumbersome regulation but acts as an inducement to public servants to create artificial bottlenecks. It therefore "sands the wheels."

Countries with high levels of corruption are characterized by vague and lax regulation and hidden import barriers. Entry regulation is equally distorted by corruption. The number of procedures required to start a new business may be very high, and it may be time consuming and expensive to work through all the official and unofficial requirements. Politicians and bureaucrats who impose excessive and cumbersome regulation ultimately cause the distortions. Once such bottlenecks have been created, private firms face the dilemma of whether to pay the bribes to work around the impediments, or to abandon business objectives that would require this. There emerges a vicious circle because excessive regulation, once in place, provides opportunities for future corrupt transactions. Once corruption becomes the rule, corrupt politicians and bureaucrats attempt to increase their cut by imposing more troublesome impediments on the private sector. Not surprisingly, trade and foreign direct investments suffer from corruption. An increase in corruption has adverse effects on foreign direct investment similar to those that result from an increase in the tax rate.

Investments are particularly hurt by corruption. Investments are often sunk and can-

Table 1: Transparency International, Corruption Perceptions Index, 2002

Country Rank	*Country*	*2002 CPI Score*	*Number of Surveys*	*Standard Deviation*
1	Finland	9.7	8	0.4
2	Denmark	9.5	8	0.3
	New Zealand	9.5	8	0.2
4	Iceland	9.4	6	0.4
5	Singapore	9.3	13	0.2
	Sweden	9.3	10	0.2
7	Canada	9.0	10	0.2
	Luxembourg	9.0	5	0.5
	Netherlands	9.0	9	0.3
10	United Kingdom	8.7	11	0.5
11	Australia	8.6	11	1.0
12	Norway	8.5	8	0.9
	Switzerland	8.5	9	0.9
14	Hong Kong	8.2	11	0.8
15	Austria	7.8	8	0.5
16	United States	7.7	12	0.8
17	Chile	7.5	10	0.9
18	Germany	7.3	10	1.0
	Israel	7.3	9	0.9
20	Belgium	7.1	8	0.9
	Japan	7.1	12	0.9
	Spain	7.1	10	1.0
23	Ireland	6.9	8	0.9
24	Botswana	6.4	5	1.5
25	France	6.3	10	0.9
	Portugal	6.3	9	1.0
27	Slovenia	6.0	9	1.4
28	Namibia	5.7	5	2.2
29	Estonia	5.6	8	0.6
	Taiwan	5.6	12	0.8
31	Italy	5.2	11	1.1
32	Uruguay	5.1	5	0.7
33	Hungary	4.9	11	0.5
	Malaysia	4.9	11	0.6
	Trinidad and Tobago	4.9	4	1.5
36	Belarus	4.8	3	1.3
	Lithuania	4.8	7	1.9
	South Africa	4.8	11	0.5
	Tunisia	4.8	5	0.8
40	Costa Rica	4.5	6	0.9
	Jordan	4.5	5	0.7
	Mauritius	4.5	6	0.8
	South Korea	4.5	12	1.3
44	Greece	4.2	8	0.7
45	Brazil	4.0	10	0.4
	Bulgaria	4.0	7	0.9
	Jamaica	4.0	3	0.4

continues

Table 1: Transparency International, Corruption Perceptions Index, 2002 ***continued***

Country Rank	*Country*	*2002 CPI Score*	*Number of Surveys*	*Standard Deviation*
	Peru	4.0	7	0.6
	Poland	4.0	11	1.1
50	Ghana	3.9	4	1.4
51	Croatia	3.8	4	0.2
52	Czech Republic	3.7	10	0.8
	Latvia	3.7	4	0.2
	Morocco	3.7	4	1.8
	Slovak Republic	3.7	8	0.6
	Sri Lanka	3.7	4	0.4
57	Colombia	3.6	10	0.7
	Mexico	3.6	10	0.6
59	China	3.5	11	1.0
	Dominican Rep.	3.5	4	0.4
	Ethiopia	3.5	3	0.5
62	Egypt	3.4	7	1.3
	El Salvador	3.4	6	0.8
64	Thailand	3.2	11	0.7
	Turkey	3.2	10	0.9
66	Senegal	3.1	4	1.7
67	Panama	3.0	5	0.8
68	Malawi	2.9	4	0.9
	Uzbekistan	2.9	4	1.0
70	Argentina	2.8	10	0.6
71	Côte d’Ivoire	2.7	4	0.8
	Honduras	2.7	5	0.6
	India	2.7	12	0.4
	Russia	2.7	12	1.0
	Tanzania	2.7	4	0.7
	Zimbabwe	2.7	6	0.5
77	Pakistan	2.6	3	1.2
	Philippines	2.6	11	0.6
	Romania	2.6	7	0.8
	Zambia	2.6	4	0.5
81	Albania	2.5	3	0.8
	Guatemala	2.5	6	0.6
	Nicaragua	2.5	5	0.7
	Venezuela	2.5	10	0.5
85	Georgia	2.4	3	0.7
	Ukraine	2.4	6	0.7
	Vietnam	2.4	7	0.8
88	Kazakhstan	2.3	4	1.1
89	Bolivia	2.2	6	0.4
	Cameroon	2.2	4	0.7
	Ecuador	2.2	7	0.3
	Haiti	2.2	3	1.7
93	Moldova	2.1	4	0.6
	Uganda	2.1	4	0.3

Table 1: Transparency International, Corruption Perceptions Index, 2002 *continued*

Country Rank	*Country*	*2002 CPI Score*	*Number of Surveys*	*Standard Deviation*
95	Azerbaijan	2.0	4	0.3
96	Indonesia	1.9	12	0.6
	Kenya	1.9	5	0.3
98	Angola	1.7	3	0.2
	Madagascar	1.7	3	0.7
	Paraguay	1.7	3	0.2
101	Nigeria	1.6	6	0.6
102	Bangladesh	1.2	5	0.7

Notes: 1. The 2002 CPI Score ranges between 10 (highly clean) and 0 (highly corrupt).
2. "Standard Deviation" indicates differences in the values given by the sources. As indicated by shading, values below 0.5 indicate agreement (no shading); values between 0.5 and 0.9 indicate some agreement (pale shading); and values greater than or equal to 1 indicate disagreement (dark shading).

not be redeployed if investors are frustrated and disillusioned about the institutional environment of a country. Railroads cannot be redeployed, pipelines cannot be located elsewhere, and real estate cannot possibly be used in a different region. Also, human capital can sometimes be specific to a certain society—for example, when it is of value only for a specific institutional framework. After sinking investments, investors' capital becomes locked into a certain country. Politicians and bureaucrats may misuse their position once investments are sunk. For example, they can delay necessary permits and hold up investors until they are offered a bribe.

Societies with widespread public corruption face the challenge of how to commit themselves to honoring such investments and how to disallow a holdup by public servants. They have to establish transparent procedures and allow for legal recourse where investors' confidence is hurt. Corruption seriously undermines this confidence. Instead of providing transparent procedures, corrupt courts often make rulings that are arbitrary. Corrupt bureaucrats may develop capricious regulations so as to increase their own turf, and corrupt politicians can hold up investors by threatening to seize sunk investments or by imposing excessive taxation. In a corrupt environment, investors have no reason to be confident that public officials will honor sunk investments. Investors therefore tend to prefer safe havens to countries with an unreliable institutional framework. Governments with a reputation for corruption find it difficult to commit to effective policies and may not be able to convince investors of their achievements. As a result of such failures, investment ratios deteriorate as the level of corruption rises. Evidence across countries reveals that countries with high levels of perceived corruption are characterized by a low ratio of investment to gross domestic product (GDP), by low inflows of foreign direct investment, and by low levels of persistent capital inflows.

But establishing confidence among investors can also backfire when investors themselves engage in paying bribes. For example, large contracts for public utilities in less developed countries are sometimes awarded to bribe-paying investors. On the one hand, if a newly elected regime challenges these old contracts, it faces a dilemma. If old contracts are declared void due to the bribe payments, investors' confidence may be hurt. The World

Bank and the International Monetary Fund (IMF) have particularly emphasized this position. On the other hand, honoring such contracts could be regarded as an encouragement to carry out corrupt deals in the future. Avoiding this encouragement becomes more compelling if corruption has more adverse economic consequences besides damaging investors' confidence.

Table 2: Transparency International, Bribe Payers Index, 2002 (incomplete)

Rank	*Country*	*Score*
1	Australia	8.5
2	Sweden	8.4
	Switzerland	8.4
4	Austria	8.2
5	Canada	8.1
6	Netherlands	7.8
	Belgium	7.8
8	United Kingdom	6.9
9	Germany	6.3
11	Spain	5.8
12	France	5.5
13	United States	5.3
17	Italy	4.1
21	Russia	3.2

Note: The scores range between 10 (highly clean exporter) and 0 (highly corrupt exporter).

Economic Consequences of Corruption

Corruption is not a riskless activity. The risk associated with corruption increases with the number of transactions, the number of people involved, the duration of the transaction, and the simplicity and standardization of the procedure. Since the risk does not clearly increase with the value of a transaction, large, one-shot purchases create a more efficient base for a bribe. This biases the decisions made by corrupt politicians and bureaucrats in favor of capital-intensive, technologically sophisticated, custom-built products and technologies. It is therefore no surprise that empirical evidence links corrupt countries with those that spend excessively on the military and little on education. The quality of investments suffers from corruption because supervisors can be bribed to turn a blind eye to the use of substandard material or poor work. There will be a distortion also with regard to trade. It is not those products that best serve the public at large that are imported, but those that allow for maximum bribes.

Corruption within the public sector of a country often forces private competitors to offer bribes. It may be difficult for private firms to resist such offers because they are in a prisoner's dilemma: Although all would jointly profit from reducing corruption, paying bribes is the dominant strategy for each single competitor. Though paying bribes is regarded to be immoral, it may increase profits. It is sometimes assumed that striving for maximum profit induces all competitors to behave equally. This position was challenged by empirical evidence claiming differences in moral standards across leading exporting nations. A 2002 survey by Gallup International on behalf of Transparency International produced the Bribe Payer's Index (BPI). Businesspeople in fifteen emerging markets were asked whether companies from particular exporting countries were very likely or unlikely to pay bribes to win or retain business in their country. As shown in Table 2, the results indicated remarkable differences: Although moral considerations were perceived for some exporters, others were regarded as unscrupulous.

The willingness of exporters to offer bribes is likely to affect trade. The most obvious kind of influence relates to goods that are imported by the public sector. The extent of corruption among public officials and politicians influences which competitor is most likely to win a contract. Tendering procedures can be falsified and contracts awarded in favor of those competitors who offer the highest bribes. Also, private-sector imports—and even trade between headquarters and subsidiaries of multinational companies—can be influenced by the extent of

corruption prevalent in a country. On the one hand, the extent of corruption at all state levels that regulate and control external trade—such as customs, trade ministry, and trade regulation authorities—has an effect on this kind of business. A plausible assumption is that those exporting countries that are prone to offering bribes can obtain a competitive advantage in corrupt import markets. On the other hand, in the case of clean import markets such a competitive advantage cannot be achieved by means of paying bribes. Thus, there will be no level playing field.

Whether competitors are in a prisoner's dilemma with regard to paying bribes is still a controversial question. Some argue that honesty, under certain conditions, can be more profitable and less risky, particularly for large multinational firms. Given the opacity of corrupt deals, a firm's own employees may attempt to divert part of the bribe money back into their private accounts. Allowing employees to engage in bribery may therefore backfire. A firm engaging in bribery might also be exposed to denunciation and extortion and fear for its reputation. Furthermore, corrupt agreements cannot usually be legally enforced. A potential risk is that public servants may fail to deliver after receiving a bribe. Finally, the level of bribes requested may rise with the propensity of an exporter to pay. A reputation for honesty can constitute a safeguard against excessive demands for bribes by public servants. Therefore, forbidding employees to pay bribes may sometimes be in line with profit-maximizing behavior.

Corruption Reform

Given the global character of corruption, reform has often focused on requests to include all global players. Poor developing countries, often among those most affected by high levels of corruption, may not have the capacity to contain corruption by themselves. Sometimes, their local efforts are impeded by multinational firms and donor institutions that do not sufficiently fight corruption within their own ranks and tolerate bribes to be paid to public servants. The industrial countries have come to accept their responsibility through a variety of international agreements. An Organisation for Economic Co-operation and Development (OECD) convention signed by all OECD member countries in 1997 now prohibits the payment of bribes to foreign public officials and prohibits such payments from being tax deductible. International organizations such as the World Bank and the IMF have revised their lending policies so as to inhibit corruption within their own institutions. How effective these initiatives have been remains to be determined.

Whether countries perceived to be corrupt should be barred from receiving financial aid from the donor community is a current concern. In the past, a variety of projects have been canceled and funds barred owing to allegations of corruption. The risk of misuse may have appeared too high in these cases. However, countries with high levels of corruption are often those where donor aid is most needed. Instead of eliminating aid, a better alternative would be to help in the fight against corruption and to support appropriate local initiatives.

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See Also Organisation for Economic Co-operation and Development (OECD)

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Culture and Globalization

Globalization can be defined from a cultural perspective as the attribution of meaning to global communities created through many different types of interactions. Why do people today care about what they see on the world news? Usually it is because they have some understanding of how the news affects their own lives, an understanding based on a conceptualization of linkages between their local concerns and the concerns of these far-off places. This new understanding of the world through a global perspective has helped scholars involved in the study of culture reevaluate traditional concepts of culture and opened up new ways of studying culture. Global communities are studied closely to understand the ways in which individuals experience globalization. Studies of global culture have necessitated an awareness of methodological issues such as field site choices. Anthropologists have begun to expand their focus through multi-sited research or to define communities through the use of technologies, such as groups in Internet chat rooms.

One of the common debates about the cultural aspects of globalization is concerned with whether globalization inherently fosters a homogenization of culture, establishing "global culture" at the cost of local cultural heritage. Cultural studies of globalization have shown a number of different ways in which meanings flow between regions and are reinterpreted through cultural exchange. Therefore, the flow of meaning in global exchange cannot be characterized as simply a one-way exchange. Although globalization today is often discussed in terms of its relationship to capitalism, from a cultural standpoint financial transactions are only one part of a complex web of interactions and must be understood within a specific historical setting.

Historical Background of Scholarly Approaches

The study of globalization as a cultural issue has its roots in the theoretical approaches of social scientists working within both the world system and culture history paradigms. These theoretical frameworks provide a model of the modern world that emphasizes global influences on local cultures and share a concern for how historical processes affect individual communities.

World system theory has grown largely out of the work of sociologist Immanuel Wallerstein in his book *The Modern World System: Capitalist Agriculture and the Origins of the European World Economy in the Sixteenth Century* (1974). Wallerstein's work provided an understanding of how global historical trends since the sixteenth century have contributed to the formation of the modern world. His model was primarily concerned with the role of capitalism as a vehicle for European hegemony. The world system approach fostered a comparative view of regional participation in global systems. The theory also contributed a specific vocabulary to the study of global interactions, especially terms for categories of regions based on their economic interactions in global capitalism as well as internal economics and politics. Waller-

stein's "core," "semi-periphery," "periphery," and "external" areas are terms still used today by many authors writing about global trends. In numerous subsequent publications, Wallerstein applied his own work to the case of Africa, examining the role of African regions in the world capitalist economy. Critics of world system theory have raised a number of concerns with this approach to world history, which is primarily concerned with the global expansion of Western capitalism. World system theory can become the intellectual expression of the type of imperialism that its authors often denounce. This can occur when authors focus on the European "core" areas and interpret world events solely through the lens of Western capitalism.

One way of reconciling these concerns within the theoretical framework of world system theory is suggested by Janet L. Abu-Lughod in her book *Before European Hegemony: The World System, AD 1250–1350* (1989). Abu-Lughod pointed out that historical studies of global trends do not need to conceptualize a single world system. Instead, scholars can understand history as comprising a series of multiple world system models through time. Her book takes a world system perspective but focuses on an earlier world system that involved trade across the "Old World" from East Asia to Europe and included Africa. World system theory has similarly been applied to studies of the role of global processes in world cultures by social scientists from many different disciplines. Whether discussing the role of Bronze Age societies in a world system or the role of world systems in modern terrorism, the perspective is now commonly used to understand the historical depth of global connections in human society.

Culture history was introduced in works by authors such as Sidney Mintz and Eric Wolf, who postulated that local and regional communities are fundamentally shaped by larger global processes such as colonialism and capitalist expansion. The culture history approach to global trends concentrates on how the histories of individual cultures or regions have been shaped by global processes. Mintz's book *Sweetness and Power: The Place of Sugar in Modern History* (1987) provided an anthropological perspective on sugar consumption and the place of sugar in world history. Mintz discussed the role of sugar in the world market, contextualized in the specific regional experiences of sugar plantations in the Caribbean region. This perspective offers readers a finely detailed view of the impact of sugar as a global commodity from a distinctly regional perspective. From this point of view, material culture, the objects that humans produce, is both economic and symbolic. Material culture is economic because the objects are commodities that fuel economic systems. It is symbolic because of the significance of the objects on other levels. This symbolism includes the social meaning of objects as well as historically specific social relations surrounding the transactions of the objects as commodities.

Defining Globalization from a Cultural Perspective

Globalization literature has taken a different approach to the discussion of global issues in modern life. Rather than focus on the conceptualization of global connections from a systemic approach or a primarily historical view of regionally centered interactions, scholars interested in the role of culture in globalization often focus on the ways in which specific cultural identities interact with larger global trends.

Anthropologist Jonathan Friedman, in his book *Cultural Identity and Global Process* (1994), provided a sound definition of globalization for scholars working with cultural issues. According to Friedman, globalization can be defined as the consciousness and attribution of meaning by individuals to the global arena. This approach can be distinguished from that of world system theory and culture history in three ways: (1) it deemphasizes capi-

talism as a process; (2) it necessitates a critical examination of the specific historical setting; and (3) it conceptualizes global cultural exchange as horizontal flows of meaning.

The first aspect of this definition, the deemphasis of capitalism as a process, is an important part of the overall definition. Globalization depends upon the existence of a global arena, which is an "interest community" on a global level. These interest communities can be based on activities, such as "people around the world who watch British Broadcasting Corporation (BBC) news." They can be based on ethnicity, such as "Asian Americans," or even on placement within a world system, such as "consumers of petroleum products." These global arenas must be formed by specific sets of dynamic global systems and processes. The international BBC news watchers have been formed in part by access to global cable television; Asian American group formation is linked to conceptualizations of cultural connections related to global human migration; and the petroleum products consumer group has been formed through consumption patterns and participation in global capitalist systems. Capitalist interactions are simply one among many types of processes that can contribute to the formation of the global arena.

In *Modernity at Large: Cultural Dimensions of Globalization* (1996), Arjun Appadurai proposed terms for five different "scapes" of global interaction, the sites of global processes, which reflect the diversity of processes inherent in globalization. These terms reflect the places for flow in global systems: the ethno-scape (people and communities), the media-scape (medias), the techno-scape (technologies), the finance-scape (financial and economic), and the ideo-scape (ideologies and information). These aspects of global process overlap; for example, the "BBC news watcher" community has certain cultural aspects (such as language use), is formed by the presence of the media, and is enabled by technology (television, radio, or Internet), access to which is often fueled by economics. Therefore, capitalism is inherently deemphasized, as the financial interactions in what is termed the global economy necessarily include all of these other processes. Discussions of financial processes in globalization literature concerned with cultural issues are thus not only concerned with production, but also with the attribution of meaning. This can be in the form of studies of the effect of labor migration on production in global cities, or even about topics not normally relegated to the sphere of global economics, such as the spread of global music.

The second aspect of the definition of globalization, as a phenomenon that must be located within specific historical settings, can be seen clearly in the popular modern characterization of globalization as the intensification of communication and/or flows of knowledge through the use of new media such as the television and Internet. This common understanding of globalization highlights the necessity of defining relevant technologies within all discussions, as the modes of these linkages change with each historical context.

Globalization studies on this subject have focused on a variety of technological forums, including electronic communications and television. New media technologies play a significant role in modern human cultures. Unofficial numbers based on national reports estimate that there are currently 21,500 television stations and more than 44,000 radio stations worldwide. The cultural impact of this technology is immeasurable; each of these stations broadcasts its own selection of cultural programming, news that is perceived to be relevant to its audience, and advertising directed at target groups.

In her article "The Global and the Local in International Communications" (1991), Annabelle Sreberny-Mohammadi discussed the role of mass communications in cultural issues in terms of oral, literary, and visual traditions. The historical specificity of the role of technology in global issues is not simply an issue of the development of the relevant scientific knowledge (that is, the scientific knowledge

and production ability to make a television), but also an issue of the specific roles that the technology plays in relation to the historical time period. The original spread of radio and communication technologies such as the telegraph was intimately linked to colonial and nationalist projects. The original uses of radios and telegraph systems must be studied within this context; however, their roles today have new cultural meanings. As new technologies appear on the global scene, they do not simply take the place of older technologies, but fundamentally change their functions.

Another interesting source on this topic is *Media Worlds: Anthropology on New Terrain* (2002), a book edited by Faye D. Ginsburg, Lila Abu-Lughod, and Brian Larkin. *Media Worlds* brings together a series of essays on the cultural roles of diverse media technologies from Indian cinema to Zambian radio. These essays examine regional media from new theoretical perspectives, expanding readers' understanding of the role of technology in both global and local arenas. The authors explain multiple roles of new media technology through the different case studies about international media such as television shows, films, advertising campaigns, radio programs, and mechanical reproduction. These forms of communication technology can be used to give voice to minority community interests, provide new forms for traditional arts, expand popular access to cultural icons, and represent national and ethnic interests.

The final point in this definition of globalization from a culture perspective focuses on the ways in which meaning is attributed to the global arena. Unlike both previous models of global interaction, cultural globalization literature forwards the idea of a horizontal and reciprocal (though not necessarily always egalitarian) global forum. Global meanings can be horizontal and reciprocal because ideas, objects, and situations are reinterpreted in new cultural settings; these new meanings will sometimes then help to redefine the cultural source. In Wallerstein's terms of "core" and "periphery" regions, theories of the cultural aspects of globalization allow us to recognize that cultural meanings do not simply flow from a core cultural region to a periphery; new ideas on the periphery can help to redefine cultural meanings in core areas.

The American image of a "cowboy" in the western movies is a good example of one such flow of cultural meaning. The American western frontier was considered to be on the periphery of mainstream American culture in the mid–nineteenth century. Cowboys, hired by ranch owners to drive cattle across the plains, were a peripheral labor community. Yet the cultural meaning of the cowboy as an independent spirit has become central to American popular images of core cultural values. Furthermore, today in many cultures around the world American culture is represented by media images of a western frontier cowboy, and the meanings of this cultural icon are being reinterpreted in very different ways.

The reciprocal nature of cultural globalization necessitates an understanding of cultural plurality and multiculturalism within new cultural settings. For example, Sreberny-Mohammadi (1991) pointed out that studies of global trends in television programming that examine the effect of the worldwide distribution of American programs must also take into account the global spread of television programming from non-Western countries.

It is also important to note that this flow of meanings exists with a system of inequality, which is why it is nonegalitarian. Flows of cultural meaning are controlled to some degree by economic and political systems. Communities with better access to technology, increased representation in political venues, or other such advantages have more opportunity to define cultural meaning in global arenas.

Redefining Culture in Relation to Globalization

Studies of cultural aspects of globalization have affected the theoretical concerns in stud-

ies of culture in a number ways. The nature of a "complex" society and the role of ethnicity in human experience are two important cultural concepts that have undergone significant change in recent decades.

The study of cultural aspects of globalization has challenged the notion of what were once thought of as "simple" societies. Late nineteenth-century anthropological studies of culture expressed complexity in terms of social evolution from "savagery" to "civilization" or as a direct dichotomy between complex and simple societies. The study of migration in anthropology has been a key component in challenging these concepts of cultural complexity. The concept of globalization provides the opportunity to understand how migrants' culture interacts with larger national and international systems. The implications of studying immigrant or refugee communities are many—moving with migrant communities can create a field site without borders (or at least a field site that challenges traditional notions of borders), the opportunity to observe the processes of globalization within a discrete community, and the chance to challenge traditional notions of cultural communities. Migration studies therefore represent a combination of the study of local cultures and global influences, while locating culture within larger systems.

Studies of ethnicity have also benefited from an understanding of culture in global arenas. Ethnicity, as a unit of social organization that has shared cultural meaning between group members and group boundaries, has been studied in a variety of ways. Many social scientists have focused on boundary maintenance as the most important aspect of ethnic identity. From this point of view, ethnicity is a tool that is used, and even manipulated, based on self and group interests. The cultural practices of ethnic groups are shared patterns of normative behavior, part of the way that groups situate themselves within larger frameworks.

Other studies emphasize that ethnicity is defined by distinct cultural traits, a collective identity that is bounded and self-replicating. Multiple authors have written about the role of ethnicity in the global arena, and understandings of globalization have refined the debate about ethnicity in the social sciences. In the 1970s, many anthropologists began writing about how globalization affected the use of the term "ethnicity." These scholars saw focusing on ethnicity as a way of adapting their work to the breakdown of more traditional notions of isolated "village" cultures as the impact of global communications and cultural flows became more apparent. By studying culture as expressed in ethnicity, social scientists could look at how cultural groups expressed their identity at local, national, and international levels. Anthropologist Ronald Cohen (1978) used such a perspective to discuss the ways in which the ethnic identity of Sikh diasporic communities in England and Australia interacted with national and international interests.

Global Communities

There are many different arenas in which individuals experience the globalization of culture in their daily lives, or live in global communities. One of the most common ways to address this topic is through the study of transnational communities. This includes communities such as immigrants, transnational workers, refugees, and international nongovernmental organizations (NGOs).

In the book *Workers without Frontiers: The Impact of Globalization on International Migration* (Stalker and ILO 2000) the International Labour Office (ILO) reported that worldwide immigration involved approximately 120 million people in 2000. The ILO argued that global movements toward economic restructuring can result in social disruption that breaks apart communities. Once community cohesion is weakened, workers feel encouraged to look abroad for employment. Other authors have argued that the economic pressures necessitate migration for jobs and that social disruption occurs after migration. Having migrated, im-

migrant communities experience cultural change in many forms, such as cultural hybridity, the radicalization of cultural politics, and movements toward cultural conservatism.

Diasporic communities, communities with a common cultural heritage that are spread around the globe, experience the globalization of culture in other ways. These communities are not marked by national boundaries. Cultural changes in diasporic communities can occur globally in relation to world economic and political trends, but most often are reactions to local interactions. This creates a global community with a shared cultural heritage and regionally specific cultural differences. Being of African descent has a certain associated heritage and cultural meaning. But what it means to be African American in the United States has a different set of culturally associated meanings than being of African descent in Mauritius or Haiti.

Transnational workers, groups of people who migrate for labor-related reasons, experience modern global labor flows in yet another way. Many pre–twentieth century economies, especially agricultural economies, organized in plantation systems and depended on inexpensive immigrant labor. The global labor systems associated with plantations were the basis of these economic systems as well as the basis of the gross social injustices underlying multiple social issues today. The contemporary transnational worker is often a temporary migrant who will return to his or her country of origin after a specified amount of time. Technology booms have created a new class of migrant workers, a highly skilled workforce from countries such as India, China, and the Philippines who work in centers of technological industry. In the United States, the H-1B visa program allows such temporary guestworkers into the country for a limited amount of time. The fact that temporary guestworkers are dependent on their jobs for their continued presence in the United States highlights a new set of issues about the role of corporate culture in global communities. The linkages between fitting into corporate culture and adjusting to American culture can provide anthropologists with a better understanding of American subcultures.

According to the *World Refugee Survey* published by the United States Committee for Refugees (2003), there are 13 million refugees and asylum seekers worldwide who have been compelled to leave their homeland for economic or political reasons. The largest numbers of refugees currently come from Afghanistan, the Middle East (Palestinians), Burma, Angola, Congo-Kinshasa, Burundi, and Vietnam. Refugee communities often experience a high degree of cultural disruption because of family separation, lack of preparation for migration, and the inability to return home regardless of the ability to adjust to new cultural settings. The study of global movements of refugee communities has highlighted the relationship between identity and memory in culture. Studies of the cultural aspects of the refugee ask questions that position meaning in culture directly within the political arena, focusing on the incongruities of the concept of a "national identity." For example, what does it mean to be Tibetan for an individual living in Tibet, and what does it mean to be a Tibetan born in India, and living there as a member of the Tibetan refugee community?

Nongovernmental organizations provide another vantage point for understanding culture in global communities. NGOs such as the World Bank, the World Health Organization, the United Nations, and the International Red Cross have their own corporate culture that includes expectations of behavior and beliefs about social roles and value systems. The global culture of NGOs is embodied in their workers stationed around the world, but it has a separate expression in the institutions themselves. Red Cross workers from the United States who are stationed in Afghanistan to aid in relief work deal with cultural difference in their daily lives. The intercultural experiences of international aid workers are expressed in specific ways, such as their choices in food, clothing, and language.

However, the full import of the global nature of the Red Cross is not represented by these individual experiences, but rather in the Red Cross institutional guidelines and agendas that have been drafted to pursue the organization's goals on a global level. It is through such work that one finds the idea of global movements, such as the Millennium Development Goals of the United Nations. These goals are listed as: (1) to eradicate extreme poverty and hunger; (2) to achieve universal primary education; (3) to promote gender equality and empower women; (4) to reduce child mortality; (5) to improve maternal health; (6) to combat HIV/AIDS, malaria, and other diseases; (7) to ensure environmental sustainability; and (8) to develop a global partnership for development (see the United Nations Web page at http://www.un.org/millenniumgoals). Although each of these goals represents a critical development issue, the eight points for NGO action also reflect a global development culture with its own set of behaviors, beliefs, and values. Such agendas can be problematic when questions arise about the relationship between a global agenda, such as the promotion of gender equality, and the best way to pursue that agenda in specific cultures. Can the promotion of gender equality take the same form in France, Iran, and Fiji? In fact, development workers often find that the very existence of the issue as a global agenda will have differing significance in these nations.

Other NGOs with global interests focus on raising awareness about global connections in modern life. Many people today are aware that the clothing they wear could be made in another country. Few people ponder the social implications of the fact that their shirt may have been designed in France for an American retail business, manufactured in China with raw materials from Egypt and Bangladesh, and shipped by multinational freighting corporations. Organizations such as the National Labor Committee for Worker and Human Rights, which represents international workers' interests, seek to educate consumers of such products about the lives of the people who produce them. This goal means that the organization seeks to turn global consumers into individuals participating in globalization. People who may be participating in this system only in the economic arena are prompted to ascribe meaning to their participation, to conceptualize their relations to others around the world, and in so doing, to become a part of cultural globalization.

But global communities are not only formed through the movement of people. They can also be interest groups that cross national boundaries (again, such as those who watch BBC news programs, or international consumers of petroleum products). Global interest groups share cultural information, commodities, behavior, or concerns. The worldwide interest in the Harry Potter book series in the early years of the twenty-first century is a good example of a global interest group. J. K. Rowling's books were sold in more than 200 countries and available in at least 60 languages. But what does it mean to create such a global interest group? What do we know about the culture of the readers of these books? The problem with asking such a question is that a global interest group does not necessarily experience their shared interest in identical ways.

These issues are discussed in relation to global music trends in essays from *Global Pop, Local Language* (2003), a book edited by Harris M. Berger and Michael Thomas Carroll. The book looks at diverse types of music in many different cultures, such as hip-hop in East Africa, alternative music in Indonesia, pop music in France, and traditional music in Hawaii. The language choices in the music industry reflect the changing cultural significance of worldwide musical forms. World fans of "heavy metal" music, for example, may enjoy listening to the same music and admire the same musicians. Perhaps, although not necessarily, heavy metal music may even have similar connotations of rebellion against authority for listeners both in England and Indonesia. However, the aspects of social life to which that rebellion is applied may be quite different.

Localized responses to global culture thus come in many different forms. The import of this statement on our understanding of the role of local cultures in an increasingly economic and technologically globalized world is a topic that deserves particular attention.

Globalization: Toward Cultural Homogeneity or Heterogeneity?

Popular concepts of globalization view the global movement of information, ideas, and cultural expression as a movement to increase cultural homogeneity. This conceptualization of cultural globalization is important to consider seriously. One of the most popularly cited examples of how globalization creates not just a single, homogenized global culture, but often a specifically Americanized global culture, is the existence and impact of official McDonald's franchises in more than fifty-six countries. This excludes the existence of equally (or perhaps even more) significant unofficial McDonald's restaurants or international restaurants with names designed to invoke McDonald's to the public. A book edited by James Watson, *Golden Arches East: McDonald's in East Asia* (1997), examines the cultural role of McDonald's restaurants in five East Asian countries: China, Hong Kong, Japan, Taiwan, and South Korea.

The five authors who contributed to the book discuss ways in which the global corporate culture of McDonald's has changed local methods of restaurant management, placing a decidedly American stress on concepts of orderly queuing to order food and bathroom cleanliness. At the same time, these McDonald's restaurants have become localized in a number of ways. The types of food offered on the menu vary to reflect local tastes, employees view their role in the workplace with more pride than the average American McDonald's employee, and the pricing of menu items means that McDonald's cuisine is often for special occasions. These localization examples reveal one of the basic truths about the horizontal flows of global meaning: Cultural objects and movements may circulate on a global level, but they are often interpreted through largely local criteria.

Additional commentary on the strength of the role of McDonald's as a symbol of globalization is provided by Benjamin R. Barber's book *Jihad vs. McWorld: How Globalism and Tribalism Are Reshaping the World* (1995). The reference to McDonald's is simply an analogous one; the book is not about McDonald's or *jihad* but uses the terms to evoke popular conceptualizations of particular contemporary debates on global cultural movements. The book examines the adverse impact of global capitalism in the form of transnational corporations on nationalism and argues for the strengthening of local civil society to counteract these perceived effects. Curiously, the title's metaphor does not always translate cross-culturally; the two German editions of Barber's book are entitled *Coca Cola und Heiligeic Krieg* (1996) and *Demokratie Im Wurgegriff* (2000), which roughly translate as *Coca-Cola and Holy War* and *Democracy in a Stranglehold.* One can only conclude that this particular meaning of McDonald's as an analogy for cultural homogeneity through global capitalism is not an effective metaphor on a global level.

The plurality of culture in the global arena does not have to be studied simply in terms of its relationship to global capitalism. *The Challenge of Local Feminisms: Women's Movements in Global Perspective* (1995), essays edited by Amrita Basu, examine the academic and political contexts of global feminism in Asia, Africa, the Middle East, Latin America, Europe, and the United States. The authors discuss the levels at which women's movements are shaped, showing how national agendas often play a more significant role in shaping women's movements than what are perceived as global ideologies. Whereas in China the political history of the Communist Party has become most significant, in Brazil the role of the Catholic Church is central to an understanding of the

national women's movement. Each region has its own particular interests, relevant history, and social issues of key importance to women. Thus, in addition to the global culture of NGOs and global dialogues about women in meetings such as the United Nations World Conference on Women, global feminism is also part of local and national processes.

As culture moves with information, ideas, commodities, and people around the globe, a proliferation of forms and forums for cultural expression can be observed. Globalization does not have to be a product of the global process where the world becomes smaller; rather, it can familiarize all with greater diversity (see Featherstone 1996), thereby creating new kinds of sites of diversity and difference.

Researching the Cultural Aspects of Globalization

Situating the global in the local is an important task in the study of globalization that is of special interest to social scientists. The idea of situating studies refers to the fact that all research must be done in a particular place. A broad topic such as globalization can be studied all over the world, and scholars need to choose the best sites to study the issue in which they are interested. Where is the best place to study globalization? Cities are obvious choices for locating processes of globalization. In a city, globalization is often expressed in very obvious and concrete terms. Globalization is everywhere in cities; there are international newspapers in the newsstands, many different cuisines to choose from in restaurants, multiple languages being spoken in the streets, and constant interactions between diverse individuals from different cultural backgrounds (see Hannerz 1993 and Sassen 1996).

However, anthropologists studying globalization in urban areas must avoid making assumptions about the role of the local in the global. Locating global processes in urban areas is a valid perspective; however, globalization does not only occur in large cities. The anthropological study of the effects of globalization on both urban and rural communities has the potential to provide a more complex understanding of globalization. For example, the globally varied essays in Basu's (1995) book show how studies of globalization and feminism concentrating on only urban locals can distort one's understanding of the situation by denying the heterogeneity of women's experience and the different ways in which women of various communities resist forms of dominance. Studying cultural issues related to globalization in small towns, villages, and rural settings can lead to an understanding of the full range of human experience in the modern global world.

Another important aspect of studying the cultural aspects of globalization is the need for new sites of ethnographic research. Traditionally, anthropologists have located their study in one place, often a small village or neighborhood of a city. Recent attempts to study global issues have prompted them to consider studying in multiple places for a more holistic understanding, an approach called multi-sited ethnography. One of the leading scholars writing about multi-sited ethnography is George Marcus. His article "Ethnography in/of the World System: The Emergence of Multi-Sited Ethnography" (1995) provided anthropologists, historians, political scientists, and sociologists with ideas about working in multiple research areas.

Multi-sited ethnography yields information about the ways in which people in many different communities experience globalization in their lives. There are many different ways of framing multi-sited research. One topic can be examined cross-culturally, such as the role of McDonald's in Watson's 1997 book *Golden Arches East.* A chain of global connections can be followed around the world—for example, tracing the trade routes of goods through multiple villages. Or, to understand immigrant experiences, one person's life can be researched in multiple places to provide a new perspective

in a traditional life-history format. Researchers in the corporate world have been quick to see the usefulness of multi-sited ethnography for market research, and corporate anthropologists are using the approach to understand the global meanings of commodities.

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See Also Gender and Globalization; Human Rights and Globalization; Social Policy; Sustainable Development; Urbanization

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Environmental Impacts of Globalization

There is growing concern among environmentalists, nongovernmental organizations, and some governments that globalization—the lifting of economic barriers and opening of national borders to commerce, financial capital, and human movements across the world—will have substantive influence on the environment at local, regional, and global scales. A key concern is ensuring that sustainable development—improving and maintaining the well-being of humans and the ecological systems on which they depend—is linked to the global economy such that international economic systems promote growth without environmental degradation. The issue of sustainable development is especially relevant to developing countries, mostly in the Southern Hemisphere, which are rich in natural capital (air, water, forests, seas, and the like) but economically poor, lacking many basic human needs and services.

Despite a plethora of writings and media coverage over the past few years, globalization is not a new issue, and environmental impacts due to economic integration have occurred over centuries. But the tempo and modes of globalization have increased dramatically since the 1980s, with the rise of global transportation networks and electronic communication systems, such that environmental change now occurs at unprecedented rates. J.R. McNeill (2000) summarized the history of economic integration in the twentieth century and identified four environmental consequences of globalization, beyond mass consumption. First, globalization made nature a sudden commodity. Groups of consumers, faced with a previously unavailable commodity such as rhino horn or elephant ivory, demanded natural products in quantities exceeding natural rates of renewal or reproduction. Thus, consumer demand could affect the environment of remote regions by exhausting populations of valuable species, resulting in potentially undesirable changes in ecosystem structure and function as well as loss of economic livelihood. Second, globalization focused the demand of millions of dispersed consumers on limited supply zones. Often these supply zones were sparsely populated frontiers with limited human impact and few regulations on resource extraction or environmental pollution. Rapid resource depletion, often by destructive extraction practices, resulted in degradation and transformation of many frontier supply zones. Third, sudden globalization disrupted common property regimes that once prevented environmental degradation—a "tragedy of the commons." Ages-old land use practices by small-scale social systems—for example, grazing rotations and protection of fish spawning grounds by local peoples—were overwhelmed by demands from distant markets and by large-scale extraction by bigger, more efficient operators. Lastly, globalization promoted a rapid "financialization" of the world economy such that by 1980, investment in finance dwarfed that of trade and manufacturing, enriching the world's banking systems. Much of this money passed through development banks such as the World Bank that lent money to poor countries for infrastructure develop-

ment and energy projects. Many of these projects proceeded without environmental review, often with disastrous ecological effects. Thus, the recent history of globalization appears to be one that maximizes economic gain with little concern for environmental issues.

There are two fundamental views of the effects of globalization and economic growth on the environment: one positive, the other negative. Some environmentalists argue that unsuitable production and consumption patterns may arise as a result of trade liberalization, leading to environmental damage through overexploitation of natural capital—"the environmental depletion argument." Environmental damage may be further exacerbated by lack of environmental regulations, particularly in developing countries. Others, primarily economists but also some environmentalists, argue that though there may be negative aspects to economic growth, a portion of the revenue generated by growth can be used to improve the environment—"the environmental reinvestment argument." A corollary to this argument—"the poverty gap argument"—suggests that improving the basic human condition through health, welfare, and economic reform, thus increasing the affluence of the populace, will stem environmental degradation, as poverty often leads to overcrowding, social and political unrest, pollution, and the plundering of natural capital. However, it can be argued that rising affluence may increase mass consumption and the "ecological footprint" of a population, resulting in further environmental degradation. Ultimately, the scope of environmental degradation due to globalization will be determined by the economic, social, and environmental policies of individual nations and the policies and programs of international bodies such as the United Nations Environmental Programme and the World Trade Organization (WTO).

The specific ways in which globalization may impact the environment are complex and can vary in scale from local to global. Global-change drivers—those capable of changing ecological systems on a large scale—include climate change, land cover changes, and biotic changes caused by invasive plant, animal, and microbe species (biological invasions). Global-change drivers are of particular concern to environmentalists and scientists as they can have a cascade effect in ecological systems: reverberating changes in ecosystem structure and function that alter the abundance and interaction of species and the basic physical and chemical processes on which life depends (for example, energy and matter cycles). By altering ecosystem structure and function, global-change drivers can disrupt or deplete the basic ecological goods and services necessary for human welfare and economic livelihood: clean air and water, soil, fiber, fuel, and food. Thus, they can create "poverty gap" conditions that can lead to further environmental degradation.

Debate continues among environmentalists, economists, planners, and others on the mode and tempo of global change associated with trade liberalization and economic growth. Proponents of globalization argue that the link between economic growth and environmental degradation is tenuous and with little supportive data, whereas opponents argue that enough empirical and theoretical information exists to suggest that a precautionary approach to globalization is warranted. Environmentalists contend that, in the absence of strong scientific data, the uncertainty associated with environmental impacts of globalization should be addressed by application of the "precautionary principle"—if there is significant risk that an action will result in environmental degradation, then that action should not be undertaken. Proponents of globalization counter that the precautionary principle is arbitrary and divisive, deepening the divide between trade and the environment without substantive data. Ultimately, development of specific risk-assessment and management tools, such as benefit-cost models that incorporate consumptive and nonconsumptive direct-use, indirect-use, and nonuse values of a resource, is needed to better gauge the impact of trade liberalization on the

balance between economic growth and environmental degradation.

Today three major categories of global-change drivers—biological invasions, land use changes, and climate change—are of central concern to environmentalists and others focused on the issue of sustainable development in a globalizing world. A key issue is identifying the potential links between globalization and environmental degradation for each global-change driver such that development policies have contingencies to limit or mitigate potentially negative environmental effects.

Biological Invasions

Biological invasions result from the accidental or intentional introduction of an organism to an environment in which it was previously absent. These nonnative, nonindigenous, or alien species—freed from the predators, competitors, and pathogens that may have limited their abundance in their native habitats—can become wildly successful once naturalized, displacing native species, altering the structure and function of the ecosystems that they invade, and causing economic damage to natural resources. In the United States alone, more than 50,000 species of plants, animals, and microbes have been introduced. The economic damage incurred by invasive alien species—pests of natural and human-dominated ecosystems—and the cost of controlling them is estimated at US$138 billion yearly.

Not all introductions of alien species are problematic: Some alien species are innocuous and ecologically benign. However, in some instances the ecological and economic effects of alien species can be devastating. Environmentalists are concerned that the breakdown of natural barriers due to globalization will cause the invasive species threat to proliferate, making classic cases such as those of the chestnut blight, the brown tree snake, and the Nile perch more common and widespread. The chestnut blight fungus (*Cryphonectria parasitica*), a pathogen introduced into North America on Asian chestnuts (*Castanea mollissima*) in the early twentieth century, destroyed 3.6 million hectares of American chestnut (*Castanea dentata*) forest within fifty years, disrupting both forest ecosystems and the forest product industry focused on this species. The brown tree snake (*Boiga irregularis*), introduced to Guam from the Philippines—probably as a shipping stowaway—caused the extinction of nine bird species, four lizard species, and two bat species, all of which were endemic to Guam. The brown tree snake is also an economic pest, causing agricultural losses—particularly to the poultry industry—and losses of US$1 million to US$4 million yearly owing to electrical outages that result from the snake's penchant for climbing utility poles and electrical wires, short-circuiting electrical power systems. The predaceous Nile perch (*Lates niloticus*)—introduced to Lake Victoria in 1958 to enhance local fisheries—caused the extinction of 200 of the nearly 600 species of cichlid fish endemic to the lake. This wave of vertebrate extinction, the most massive and rapid ever recorded, occurred within a ten-year period in the late 1970s and early 1980s when the Nile perch population was increasing. Today, the Nile perch fishery in Lake Victoria is worth approximately US$220 million and employs thousands in a region with little economic opportunity. However, this prosperity has come at a cost: loss of a unique, native biota that was the source of a productive and potentially sustainable fishery for local peoples.

Trade liberalization and more efficient modes of product transport may increase the speed and intensity of biological invasions. Biological invasion of freshwater and marine habitats is increasing worldwide, and the prime mode of transport of alien aquatic organisms is ship ballast water. Ballast provides stability and maneuverability to a ship after its cargo is unloaded. Once in port, ballast water is usually pumped into the local water body as cargo is taken on. Since World War II, the average size of ships has increased from around 10,000 tons to

between 150,000 and 250,000 tons today, with some vessels surpassing 600,000 tons. Ballast volume has risen with ship tonnage, increasing the probability that alien species may be contained in ballast and that a large innoculum of certain species may be transported to new habitats. It is estimated that the United States alone receives 21 billion gallons of ballast yearly from worldwide sources.

Ballast water was the source of introduction for the Eurasian zebra mussel (*Dreissena polymorpha*) into the Great Lakes in the 1980s. The mussel spread rapidly through the Great Lakes and now occurs in most major river systems in the eastern and Midwestern United States. Zebra mussels have displaced native mussel species, altered food webs, and clogged water intakes and delivery systems from southern Canada to New Orleans. Control efforts for zebra mussels in the Great Lakes alone are expected to exceed US$5 billion. In response to the invasive threat of ballast-dispersed organisms, development of ballast-water treatment methods is progressing, including research in ballast-water exchange, chemical biocides, filtration, and irradiation with ultraviolet light. To date, no one treatment has proven cost effective for removing all organisms from ballast water.

Speed of product transport has increased dramatically since World War II with the advent of global air travel and the rise of efficient transport infrastructures in developed countries. Shorter transport time favors biological invasions, including disease transfer, by limiting the time that organisms may be exposed to unfavorable conditions and the time in which they may be detected. In addition to rapid transport, increasing use of containerized freight to transport materials by air, ship, and rail may also promote biological invasions. Containers are difficult to inspect, are rarely cleaned, and may be stored in railways and shipyards for extended periods, increasing the potential for pest entry.

The Asian tiger mosquito (*Aedes albopictus*) is thought to have spread from the Indo-Pacific region to North and South America, Europe, Africa, New Zealand, and Australia in containers of used tires slated for recycling, traveling as larvae in pools of water contained within the tires. The tiger mosquito—an active, aggressive species—is the main vector for dengue or break-bone fever in Asia and a potential vector for eastern equine encephalitis, LaCross encephalitis, yellow fever, and dog heartworm in the United States. Tiger mosquitoes inhabit both urban and rural areas. In the Caribbean—where dengue is primarily an urban disease—there is concern that the species could become an efficient rural vector of the disease, spreading it region-wide and possibly to the southern United States. Dengue was eradicated from the United States in the 1940s but could possibly reemerge in this way.

Globalization, along with land use change (see below), has been linked to the rise of emerging infectious diseases—previously unknown diseases that may be transmitted to humans via other vertebrate species through incidental contact—in many parts of the world. Emerging infectious diseases may be spread to new regions by travelers, military personal, or immigrants. Recent examples of emerging infectious diseases that have spread beyond their original foci through human movements include HIV/AIDS (human immunodeficiency virus/acquired immunodeficiency syndrome), SARS (sudden acute respiratory syndrome), and the West Nile virus. Transmigration and frontier colonization and development schemes that expose humans to new pathogens, in conjunction with rapid global transportation, will increase the probability that outbreaks of emergent diseases will continue in the future.

In the post-9/11 world, there is increasing concern that biological agents—diseases, food contaminants, and the like—could be used by extremists to intentionally harm human health, the environment, or the economy of a region or nation. In the United States, the specter of bioterrorism has spawned considerable interest in the field of biosecurity—a comprehensive approach to minimizing nega-

tive impacts of alien organisms, intentionally or unintentionally introduced, on the economy, human health, and the environment of the nation. The island nations of Australia and New Zealand have developed and implemented comprehensive biosecurity programs, but the large size, shared borders, high trade volume, and large movements of people via tourism and immigration complicate development of a biosecurity program for the United States.

In 2000 alone, 489 million passengers crossed U.S. borders in 140 million vehicles for travel and trade, and 38,000 animals were imported daily. With trade liberalization, these numbers are likely to climb along with the potential for alien species introductions, making biosecurity a vital national and global issue. At a minimum, an effective biosecurity program should include measures to prevent species introductions, to provide for early detection of invasion, and to facilitate rapid alert and response to contain, control, or eradicate a pest. Multidisciplinary teams will implement biosecurity programs; thus personnel training, information exchange, coordination and management, and policy and regulation will be important components for success, along with research on how species spread and become established in new areas and outreach programs to garner public support for prevention, eradication, and control efforts for alien species. Where relevant, trade liberalization efforts should consider biosecurity threats early in the planning process.

Land Use Changes

As individual and national economic wealth increases as a result of trade liberalization, investment, and infrastructure development, the size and density of human populations, and their consumption levels, will likely increase, resulting in changes in the use, structure, and function of rural and urban landscapes. Major categories of change in predominantly rural landscapes include deforestation, habitat conversion, urbanization, ecosystem fragmentation, and agricultural expansion or loss. In urban landscapes, changes in land use can include redevelopment and revitalization, sprawl, and abandonment and decay of structures, neighborhoods, and districts. The issue of sustainable development is central to land use and landscape change, as the landscape is the matrix in which virtually all natural capital is embedded.

Land use change as a result of globalization may have both intended and unintended effects. Often, it is the unintended effects that have significant impacts on the environment. The intent of land use change is usually to increase the capacity for human enterprise in a region in the form of economic growth. For example, clearing forest for crop land or pasture may have the intended effect of increasing crop or livestock production, and therefore increasing economic gain, from a region in the short term. But in the long term, unintended effects, such as increased soil erosion, decreased rainfall, and siltation of water supplies, may degrade ecosystems, deplete natural capital, and result in economic costs or losses that exceed the profits initially gained from forest clearing and land conversion. This is of special concern in regions where the pressure for economic development is heavy, land use change is rapid, and the unintended effects of land use change are not adequately considered or addressed, such as in many developing nations.

Global patterns of land use change within the past decade show that the greatest rates of change are occurring in developing countries, particularly in the tropics of the Southern Hemisphere. Deforestation in tropical regions is the main category of land use change, with forest converted principally to agricultural use, especially crop land and pasture. Latin America and Southeast Asia contain the largest expanses of tropical humid forest, followed by West and Central Africa. The proximate causes of deforestation in these three regions are generally similar—agricultural conversion of forests and extractive logging—although spe-

cific issues vary. Land transfer policies, inmigration of impoverished settlers, transmigration and other frontier colonization projects, corruption, and poor law enforcement are the underlying factors driving deforestation across the three regions.

In the late 1980s, the United Nations Food and Agriculture Organization (FAO) estimated that cropland expansion accounted for 27 percent of worldwide tropical deforestation, whereas pasture expansion accounted for an additional 18 percent of deforestation. The remaining 55 percent of deforestation was attributed to increases in "other land," principally urban land, residential land, and roads. Recent reassessment of the FAO data suggests that much of this "other land" is abandoned, degraded crop land and pastures that do not easily revert back to forest. At issue is sustainability of agricultural practices in the tropics. The current model of land use appears to be one of conversion of forest to agriculture and then to degraded land as pastures and crop lands are worn out, resembling large-scale, shifting cultivation. There are concerns that as globalization proceeds, land degradation will increase in the tropics, particularly as urban areas, and their ecological footprints, grow rapidly. Moreover, rapid development of urban areas within the tropics may be accompanied by poor environmental conditions—air and water pollution, sanitation—influenced by globalization flows, increasing wealth, and national and local policies toward urban growth.

Land use change also plays a role in the resurgence and emergence of infectious disease. Deforestation in the tropics has altered habitats and put humans in close proximity to diseases and disease vectors that remained isolated when forest habitats were intact. In their natural habitat, these diseases—mostly viral—cycle through rodent, primate, or avian hosts and are usually spread by insects such as mosquitoes and biting flies. Conversion of forest or grassland to agriculture may increase the food supply for local host populations, especially rodents, thus increasing the disease reservoir and potential for transmission to humans. In South America, several viral hemorrhagic diseases have emerged in human populations in regions of agricultural expansion. Argentine hemorrhagic fever—caused by the Junin virus—was endemic to wild rodents such as the mouse *Callomys callosus.* When grasslands were converted to cornfields, the mouse increased in number with abundant food, exposing farm workers to the novel virus. In Africa, the deadly ebola virus—whose animal reservoirs and potential vectors are unknown—is thought to have initially infected humans engaged in logging and forest clearing. In the Sudan, water projects, such as the Gezira Scheme, to irrigate dry-land cotton caused an emergence in schistosomiasis and the reemergence of malaria, a result of the increased availability of the aquatic habitats needed by the larvae of mosquito vectors.

Climate Change

Climate change, or global warming, is due to the excess release of so-called greenhouse gases, such as carbon dioxide, methane, and ozone, which trap heat within the Earth's atmosphere, causing global temperatures to rise: the greenhouse effect. The average surface temperature of the Earth rose between 0.3°C and 0.6°C between 1890 and 1990 in two surges: one that occurred between 1910 and 1940, the other after 1975. Warming, however, has not been equal across the globe. High latitudes in the Northern Hemisphere—above 40° North—and Antarctica have generally experienced the greatest warming, while other areas have cooled.

Although the anthropogenic basis of climate change continues to be debated, it can be hypothetically linked to globalization in two ways. First, it is caused in part by a change in land use that diminishes the size and capacity of regional carbon sinks—such as forests—to absorb and store greenhouse gases. The continued agricultural conversion of forests in the

Southern Hemisphere, and the recently intensified logging of boreal forests in the Northern Hemisphere, may cause more carbon dioxide to be released to the atmosphere, exacerbating the greenhouse effect. Second, an increase in the atmospheric pool of carbon dioxide and other greenhouse gases may result from increased burning of fossil fuels and other activities associated with industrialization or urbanization. Thus, the extent of climate change caused by globalization will be a function of the extent and intensity of land use changes that affect regional carbon sinks, the reliance on fossil fuels for economic development, and the degree to which anthropogenic effects may synergize periodic natural events—such as El Niño or the Southern Oscillation—that can greatly influence regional and global climate patterns.

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See Also Energy and Utilities; World Health Organization (WHO); Food Safety; Natural Resources; Public Health; Sustainable Development; Urbanization

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Food Safety

Food trade has been expanding in step with the expansion of global trade in general. As a result, many countries find a growing share of their food supply coming from an increasingly diverse set of international sources. Assuring the safety of these imported products is a major concern of governments and companies. At the same time, exporting governments and companies have a large stake in assuring safety in order to protect their continued access to markets and the viability of their domestic industries.

Global Food Trade

Global trade in agricultural and food products has been growing over time. For example, from 1980 to the late 1990s the value of world agricultural exports more than doubled from just more than US$200 billion to more than US$450 billion. Over the two decades of the 1980s and 1990s, there was also a decided shift in the composition of agricultural and food trade. Bulk commodities such as raw grains and oilseeds declined from over 40 percent of all world trade to less than 30 percent by 1997. Processed consumer products such as beverages, snack foods, and fresh and frozen meat increased in their share of total trade over the same period from less than 20 percent to around 30 percent. As a result of this shift, by the late 1990s world trade in pastry, prepared foods, and chocolates combined exceeded the value of the world wheat trade. Similarly, the world wine trade is contending in size with the world trade in maize (corn). Two other categories of trade, intermediate processed goods (for example, flours, meals, and oils) and fresh horticultural products (such as unprocessed fruits and vegetables) maintained their shares of total trade from 1980 up to the late 1990s. Within countries, dependence on imports can vary greatly by food categories. In the United States, for example, imports account for about 9 percent of total food consumption, whereas nearly 70 percent of fish and shellfish and only about 6 percent of grain cereals are imported.

These trends suggest both an increasing volume of trade and a growing emphasis on trade in food products that will be consumed with minimal or no further processing within the importing country. In addition, the demand for food safety is increasing in developed countries particularly, but also in developing countries. This has led to stricter regulations aimed at a broader range of food safety–related attributes (for example, microbial pathogens, environmental contaminants, animal drug and pesticide residues, and possible presence of Bovine Spongiform Encephalopathy [BSE]). Thus, food safety assurance is an increasingly important issue in public health, international trade, and international relations.

Assuring Food Safety in a Global Economy

The growing volume and increasing diversity of food trade puts extra demands on government regulatory systems and company and

supply-chain quality assurance systems. On the export side, countries and companies know that their markets can be devastated overnight by a food safety incident that is traced to them. For example, in the mid-1990s a linkage to a cyclosporiasis outbreak in the United States wiped out the Guatemalan fresh raspberry export market. Similarly, the fish export business from the Lake Victoria region of Africa was crippled in the late 1990s by the European Union's refusal to import due to safety concerns. On the import side, countries and companies face major challenges in assuring the safety of food products that are flowing in from multiple suppliers in multiple countries. Concerns about food biosecurity have added to these challenges. The central issue is selecting which safety attributes to devote resources to controlling and at what levels.

Governments may choose among three generic approaches to controlling food safety. First, they can employ process standards that specify how the product is produced. For example, Good Agricultural Practices rules may specify the cleanliness of water sources and worker hygiene practices in fields producing fruits and vegetables for the fresh market. Similarly, processing plants may be directed to implement certain practices believed to assure production of safe products. Second, governments can focus on product (or performance) standards that specify the characteristics of the finished product. For example, the standard could specify a maximum incidence for a microbial pathogen in a processed meat product. Third, governments can establish information standards for food products that dictate the types of safety information that must accompany a product. An example is the inclusion of safe handling instructions on packages of fresh meat. Governments frequently use these three approaches in combination.

The choice of regulatory approach has a strong influence over how food safety is assured in the global food trade. On one hand, process standards may require the certification of facilities in foreign countries if imported products are to be held to the same standards as domestically produced products. On the other hand, product or information standards may only require testing or inspection of the imported product at the port of entry. In either case, the sheer volume of processing locations or of products makes food safety assurance a challenging task in the global market.

Regulatory Trends

Developed countries are the regulatory pace setters, largely because their high incomes create both demand for food safety and the resources to assure it. Regulatory trends in these countries include:

- *Stronger public health and consumer welfare emphasis in decisions by regulatory agencies.* This trend is leading to a supply chain or "farm to fork" approach that stresses identifying where hazards are introduced and how they can be most effectively controlled.
- *Adoption of more stringent safety standards, with a broader scope of standards.* Examples of more stringency include specific load standards for *Escherichia coli, Salmonella,* or other pathogens in meat products. Examples of a broadening scope of regulations include new feeding restrictions to avoid the spread of BSE in cattle and tolerances for dioxin in feeds and foods.
- *Adoption of the HACCP approach to assuring safety.* Under the Hazard Analysis Critical Control Point (HACCP) approach, companies are responsible for analyzing entry points for hazards such as foodborne pathogens, establishing effective control points, and monitoring and revising the system to assure continuing high levels of food safety. HACCP is primarily a process standard but specifies an approach to safe operation rather than prescribing operating actions.

- *Adoption of hybrid regulatory systems.* Some countries are combining mandatory HACCP measures with product standards measures (on, for example, the incidence of pathogens) in order to provide assurance that HACCP programs are working effectively.
- *Increased reliance on certification, including traceability.* Requirements for documentation of safety assurance, including the ability to trace back to the origin of products and forward to their disposition, are increasingly being built into regulatory systems.

Many developing countries are also placing an increased emphasis on food safety assurance both in order to promote domestic public health and to develop and sustain export markets.

Means of Assuring Import Safety

Importing countries employ a variety of means to assure the safety of products entering their food supplies. At one end of the spectrum, countries may ban imports from countries that are not deemed to produce safe products. The recognition of competent authorities in exporting countries, and/or the direct oversight of production facilities in those countries, provide another means of safety assurance for imports. This approach is frequently employed where standards are process-based and thus require oversight of the actions of parties in the supply chain to verify compliance. The importing country may require that the exporting country establish a regulatory authority that the importer judges to be competent to assure that exported products meet the importer's standards. Under this approach, the importing country certifies the certifier (that is, the exporting country's regulatory agency). In addition, or as a substitute, the importing country may directly inspect plants or a sample of plants to certify them. The degree to which the judgment of whether a plant produces products that meet the importing country's standards is devolved to authorities in the exporting country varies across importing countries and even across imported products within a single country.

The major alternative means of assuring import safety is port-of-entry inspection—for example, at ocean ports, border crossings, and airfreight facilities. This approach is suited to enforcement of performance or information standards that can be tested for or monitored in the final product. Port-of-entry inspection is extensively used for assuring the safety of imported products. The success of this approach depends on the quality of the targeting and sampling techniques used, because trade volume assures that only a small fraction of imports will be inspected.

A final alternative for assuring import safety is for the government to delegate the responsibility for verifying that safety standards have been met to the importing company. The government may provide varying degrees of oversight to the companies, for example, through an audit or spot testing program. In practice, many countries use a mix of all these means to assure import safety in a global economy.

Means of Assuring Export Safety

Exports of agricultural and food products are an important element in the economies of many countries. To support these exports and develop new ones, countries have become increasingly active in promoting the types of safety assurance infrastructure that will allow continuing entry into world food markets. Many countries, especially developing countries, find meeting the varied standards of importing countries to be a major obstacle to success.

Establishing a competent authority to oversee safety is usually a necessary first step in encouraging food exports, particularly if required by the importing country. This can necessitate

new laws, new agencies, extensive training of personnel, new or overhauled enforcement systems, and the hosting of visiting delegations from importing countries. Maintaining this competency over time also requires substantial investment on the part of the exporting country.

Many countries have also been making significant investments to help exporting companies make the changes in facilities, procedures, and training necessary to compete in international trade. An example is the training programs instituted by countries, frequently aided by international organizations such as the United Nations Food and Agriculture Organization, to help companies comply with HACCP requirements for seafood and meat products. Industry and government may also cooperate to respond to crisis situations. For example, in the mid-1990s producers and the Guatemalan government cooperated to try to reestablish exports of raspberries to the United States after sales were cut off when the product was implicated in an outbreak.

Food Safety and Equity Issues

Rising food safety standards, particularly in developed countries, raise equity and distributional issues between the richer and poorer countries of the world. One aspect of these issues is the disproportionate share of government and company resources that may be commanded for producing safe products for the export market, while domestic food safety remains low. The World Health Organization has identified food safety as a key public health issue for the twenty-first century for developing countries. Process standards frequently result in the export of some regulatory responsibility and costs from the importing to the exporting country. Resources to improve safety are woefully inadequate. Technical assistance to poorer countries has not been adequate to address this aspect of rising food safety standards in developed countries.

A related concern is that rising food standards in developed countries may secure only minor health improvements in the adopting country while exporting significant costs to other countries. For example, one study showed that a proposed stringent aflatoxin standard for cereals, dried fruits, and nuts in the European Union would save only 1.4 deaths per billion people per year, while resulting in a decrease in African exports of these products to the EU of 64 percent, or US$670 million (Otsuki et al. 2001). Very small benefits in one country group would be gained at the expense of large costs elsewhere in the world, where those costs would likely translate into significant overall reductions in human well-being.

Food Safety under Trade Agreements

Food safety, and more generally sanitary (human or animal health or life) and phytosanitary (plant health or life) regulations, are a continuing source of friction among trading partners. Although the right of countries to provide this type of protection is unchallenged, there is the potential for safety-related regulations to be subverted to protectionist purposes. For example, a country could impose a standard for a particular contaminant in a food product arguing that it is doing so to protect consumer health, when it may be the case that the contaminant does not have any adverse health consequences, and that domestic producers can meet the standard, whereas international producers cannot. In this situation, the standard would provide no health benefit but instead be a cover for protectionist actions that would not otherwise be admissible under existing trade rules. The concern is that countries will use nontariff barriers to trade, such as food safety regulations, to replace banned or restricted tariff and quota barriers to trade.

The major challenge for trade agreements is to set rules for deciding disputes among trading partners over what is a legitimate regulation and what is not. The Uruguay Round of

the General Agreement on Tariffs and Trade (GATT) set these rules under the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), now administered by the World Trade Organization (WTO). The SPS Agreement has been in force since January 1995.

The SPS Agreement recognizes the desirability of harmonized standards and encourages countries to adopt international food safety standards developed by the Codex Alimentarius Commission. However, it also recognizes national sovereignty in retaining the ability to choose a risk standard that is different from international standards. If a country wishes to set standards that are stricter than Codex standards, those standards should be based on a scientific risk assessment. In addition, a country should be able to clearly link its risk assessment to its targeted level of protection, to its regulatory goals, and to its standards and inspection systems. The risk-management options chosen should be as least trade restrictive as possible. National treatment is required under which the same standards for health protection are applied to domestic and imported products. The agreement also supports the recognition of equivalence; that is, countries should accept the SPS measures of other countries as equivalent to their own, even if they differ in the particulars of how they operate, if they result in the same level of protection.

The SPS Agreement has resulted in greater and more consistent use of risk assessment in regulatory decisionmaking. It has also resulted in greater transparency for national-level regulation of food safety. Countries are required to notify the WTO of new regulations and to provide a means for trading partners to receive answers to questions they may have about the regulations. Countries must provide an explanation of the rationale for the regulation, a clear statement of the requirements, and information on the timing and methods of enforcement. In several cases, this notification process has resulted in changes in proposed regulations in response to questions and concerns raised by trading partners.

Trade Conflicts

The WTO provides a dispute settlement process for use when trading partners disagree. Formal complaints about the legitimacy of a food safety regulation can be filed with the WTO. If the complaint is not resolved through consultations between the trading partners, a panel will be appointed to hear the dispute and issue a decision. This decision may be appealed to the Appellate Body, whose decision is final. If a country's regulation is found to be inconsistent with WTO rules, the country may change its measure to come into compliance, or keep the regulation but negotiate a deal with the affected trading partners to compensate them by providing trade concessions on other products. If these approaches to resolution fail, the WTO General Council may authorize the affected trading partners to retaliate with increased tariffs against the products of the noncompliant country.

To date, three major SPS cases have progressed through the entire dispute settlement process. Two of these cases, by the United States against Japanese requirements for testing the effectiveness of horticultural treatments, and by Canada against an Australian ban on salmon imports, had to do with plant and animal health. The third, by the United States and Canada against the European Union's ban on the use of growth hormones in beef production, directly relates to human health and food safety. In that case, the Appellate Body decision against the European Union hinged on the finding that the EU's ban was not based on an objective risk assessment. This dispute has not been finally resolved, however, because the EU was not willing to lift its ban, and the parties could not negotiate a mutually acceptable alternative regulatory approach or compensation package. The United States and Canada were authorized to retaliate, and the

European Union continues to pursue additional evidence to support its risk assessment.

The introduction of biotechnology to agriculture may provide the next major challenge to the ability of the SPS Agreement to manage disputes between trading partners. The European Union and other countries have adopted policies that have greatly slowed the introduction of biotech crops into production and that require strict labeling of the presence of biotech ingredients in finished food products. In the United States, the introduction of biotech has been rapid, and labeling of final products is voluntary and infrequent. The European Union defends its policy as prudent, given uncertainties about the rapid introduction of biotechnology, and as consistent with the desires of its citizens. The United States attacks the policy as a lightly veiled effort to protect European markets from competition from U.S. agriculture. A dispute in this area would be a major test for the SPS Agreement, particularly because defining what constitutes a sound risk assessment is difficult for newly introduced technologies.

To date, the broad history of the operation of the SPS Agreement is one of success, as increased trade has been generally supported by the adoption of a common set of rules for judging tradeoffs between regulatory goals and trade impacts. However, major disputes underline that important differences persist in countries' approaches to food safety regulation.

Enforcement Issues

Regulations set the groundwork for the terms of trade in the food safety area, but enforcement determines their day-to-day impact. In developed as well as developing countries, newly issued regulations and those already on the books are outstripping enforcement resources and capabilities. This is largely because enforcement is detail-oriented and resource-intensive in terms of personnel, laboratory capacity, and other needs. In addition, new risk-based approaches to regulation often require complete overhauls of old regulatory structures. For example, HACCP measures may be required for all food-processing operations, but the country may not have a broadly effective program of monitoring compliance. Reliance on voluntary compliance is likely to generate uneven effects where some companies comply in good faith and others do not.

Problems with inadequate enforcement are often exacerbated for imported food products. On the one hand, imports may be even less adequately controlled for safety, so that imports contribute unequally to health problems. On the other hand, imports may be regulated more strictly than domestic products because limited points of entry make monitoring easier and more effective. In either case, domestic and imported products do not receive equal treatment, resulting in trade conflicts. The efficiency of the regulatory structure is particularly important for imports owing to the perishable nature of many food products. Long or unexpected delays upon entry to the country may result in a ruined shipment. The existence of enforcement overhang introduces uncertainty, as companies must try to gauge which regulations will be enforced, at what level, and when.

Company Incentives

Regulations and country-to-country trading relationships are only a part of the international food safety story. Companies have strong incentives to institute food safety assurance systems, including the desire to protect brand or store reputation, to attract customers based on quality, and to avoid liability for inadequate systems. These incentives have resulted in a very active private market for food safety whose standards may exceed those set by governments. These systems usually involve self-certification by the selling company or certification by the buyer or a third-party organization. Market-based forces, particularly consumers'

willingness to pay for these services, support private food-safety assurance. For domestic as well as international producers, market success depends increasingly on meeting government standards as a minimum and then complying with the additional requirements of buyers in the supply chain.

Broader Food Quality Issues

Food safety may be the most prominent issue in international food trade, but it is far from the only one. The demand for quality is increasing across a broad spectrum of food attributes, including nutrition, taste, compositional integrity, and process attributes. The term "process attributes" refers to aspects of how the product was produced rather than qualities inherent in the final product. These process attributes are becoming particularly important. They include such attributes as organic production, ecofriendly production, fair trade, worker protection, animal welfare, authenticity of methods of production, and support of artisan or local production systems. A particular characteristic of a food product may relate to food safety and other attributes at the same time. For example, the use of biotechnology can be a process attribute, if its main impact is at the production level, or a food safety issue, if it affects human health. Since process attributes are usually not detectable in the final product (that is, they are credence attributes), regulation focuses on setting up monitoring and certification systems to support the labeling of these attributes on final products.

The WTO's Agreement on Technical Barriers to Trade (TBT Agreement) and Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) manage trade conflicts related to regulation of quality attributes other than food safety. As with food safety, disputes arise over whether regulation of these attributes serves legitimate governmental purposes or is predominantly a means of disadvantaging imported products relative to domestic ones. For example, do regulations to protect the use of the term "Parma ham" serve a legitimate purpose of protecting consumers from fraudulent products and supporting authentic producers, or do they primarily protect a certain group of producers against competition from others? Dispute cases under the TBT Agreement are only beginning to sort out these tradeoffs. In the meantime, regulations and private systems related to the certification and labeling of other attributes, particularly process attributes, are rapidly proliferating.

Overall, countries are placing an increased emphasis on quality, especially safety, for food products. This is reflected in more stringent and more far-reaching regulatory systems. At the same time, market demand for quality is resulting in higher requirements being enforced privately within the supply chain. As trade in food products increases, the challenge for importing countries and companies is to set up fair systems to assure quality for both domestic and imported products. For exporting countries and companies, the challenge is to respond to escalating standards.

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See Also Agriculture; Food and Beverages; World Health Organization (WHO); Public Health

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Foreign Aid

Foreign aid refers to the noncommercial flow of grants or loans to a country from another country or some international entity, characterized by concessional interest rates and long repayment periods. Sometimes these loans can be paid back in recipients' domestic currencies. Foreign aid is generally given to less developed countries (LDCs) by more developed countries (MDCs) at an intergovernmental level. The aid can be bilateral (given by one country to another) or multilateral (channeled though an institution such as the World Bank). In addition to financial aid, technical help (for various investment projects), food aid, and other commodity aid may also be part of an overall aid package. Direct military aid is generally not regarded as foreign aid, but in a number of situations it becomes difficult to distinguish between military aid and nonmilitary aid.

The World Bank breaks down total foreign aid into two regional categories: net official development assistance (ODA) and net official aid (OA). ODA refers to loan disbursements (net of repayments of principal) made on concessional terms (including grants) to low-income countries. The grant element must be at least 25 percent (calculated at a rate of discount of 10 percent) to qualify as ODA. OA refers to aid flows (net of amortized repayments) made by MDCs to East and Central European countries. In 2001, total foreign aid (ODA plus OA) amounted to approximately $58 billion, or about $10 per capita in recipient countries in the less developed world. Between 1996 and 2001, there was a $4 billion decline in absolute amount of aid disbursed. Some of the countries of sub-Saharan Africa, however, became more dependent on foreign aid during this time.

Concessional loans are given in various forms and for different purposes. Loans are often given for specific projects (for example, for construction of a highway) or general programs (for example, women's literacy programs in a country). At the multilateral level, the International Monetary Fund (IMF) provides relatively short-term loans (not classified as ODA or OA) to tide over balance of payments difficulties. The World Bank gives longer-term loans, usually for specific projects. The International Development Association (IDA), an affiliate of the World Bank, provides concessional loans to the poorest and least developed countries. The United Nations Development Programme (UNDP) coordinates much of the technical assistance provided by various UN agencies. These include the United Nations Children's Fund (UNICEF), which works in the area of education and health for children, and the United Nations Food and Agriculture Organization (FAO), which focuses on food security and eradication of hunger. Also, the World Health Organization (WHO) focuses on health in general, and the International Labour Organization (ILO) works on labor rights. These multilateral and other official government-sponsored organizations provide foreign aid to a large number of less developed countries.

History of Foreign Aid

For much of the nineteenth century and the early part of the twentieth century, global eco-

nomic relations were characterized by colonial domination, not foreign aid. Many authors have argued that during this time, a large resource outflow took place from poor countries to rich countries. The idea that there should be a reverse flow of resources—that richer countries should actually provide economic and technical assistance to poorer countries—reflected a surprising change of attitude in international relations. The change occurred as a response to international political events in the aftermath of World War II.

World War II dealt a major blow to much of the global economy. It was clear that world peace could not be achieved and that the economic and strategic interests of developed countries would not be served if fundamental global inequities remained. Although foreign aid was on the agenda of the United Nations from its inception in 1946, the organization had limited resources to carry out this economic function. Several colonial powers began providing limited economic assistance to their former colonies after World War II. But foreign aid only became a significant international event in 1948, when the United States introduced the Marshall Plan. The Marshall Plan was aimed at the postwar reconstruction of Europe. During 1948–1951, the United States provided more than $13 billion for the reconstruction of war-ravaged Europe. It was the largest government-to-government aid in history at that time. In subsequent years, international financial institutions such as the World Bank and the IMF, established during this time, took active roles in channeling funds from developed countries to underdeveloped countries. The era of foreign aid had begun.

Motivations for Giving Aid

Humanitarian or altruistic concerns do not explain a large part of the foreign aid disbursed over the past fifty years. National interests, economic interests, geopolitical aims, and sometimes goals of refugee repatriation have played important roles in establishing donor interest in giving foreign aid. The Marshall Plan itself grew out of an American fear of Soviet expansion. Fear of Soviet communism was also a factor in subsequent American and West European aid for developing countries. The famous Truman Doctrine of U.S. President Harry S. Truman was essentially formulated to help the nations threatened by the expansion of communism. Officially, the Truman Doctrine made it a U.S. policy to "aid the efforts of economically underdeveloped areas to develop their resources and improve their living conditions." In reality, however, Truman's program focused on a handful of developing countries considered important for their strategic alliances with the United States. The Soviet Union also provided aid (including technical and military expertise) to its allies. Both of the superpowers used foreign aid to buy influence and to contain each other's global hegemony.

In a sense, foreign aid has worked like economic sanctions. Donor countries at different periods of time have found that it is useful to encourage certain international allegiances and discourage certain others. Cold War concerns dominated much of foreign aid during the post–World War II period. Following Jan P. Pronk (2001), one can describe the foreign aid focus of developed market economies over time in terms shown in Table 1.

The strategic game of foreign aid is not only played by the donor; it is also played by the recipient country. Since resources from foreign aid are often spent on purchasing goods and services from firms in the donor country (when such purchases are required as a part of aid conditionality, it is known as "tied aid"), recipient countries are also able to influence aid decisions. During the foreign aid negotiation process, the recipient countries are sometimes able to tilt aid in their favor by promising lucrative private contracts to favored private firms in the donor country. As Table 1 shows, although *realpolitik* has been an important factor behind foreign aid, peace-building efforts and

Table 1: Evolution of Foreign Aid: Implicit Goals of OECD Countries

Years	*Purpose of Foreign Aid*
1940s	Technical assistance
1950s	Community development and containment of communism
1960s	Trade and investment gaps and containment of communism
1970s	Basic human needs and containment of communism
1980s	Structural adjustment/debt relief and containment of communism
1990s	Rehabilitation and humanitarian assistance
2001 and later	Prevention of violent conflicts and establishment of democracy

Source: Adapted from Jan P. Pronk, "Aid as a Catalyst," *Development and Change* 32, no. 4 (2001): 611–629.

humanitarian concerns did assume higher importance in the 1990s.

Amounts and Allocations of Foreign Aid

Foreign aid has grown substantially since the Truman years. Direct foreign aid to developing countries has grown from a negligible amount in 1950 to more than US$58 billion in 2001. Aid has been disbursed under various categories: humanitarian aid, project-based aid, program aid, aid to overcome an imminent balance of payments problem, and hidden military aid. The most charitable aid, as defined above, is ODA. As a percentage of a recipient's gross national income (GNI), ODA has always been relatively high in sub-Saharan countries and very low in South Asian and East Asian countries (Table 2). In per capita terms, sub-Saharan African countries and the Middle Eastern/North African countries receive higher ODA (approximately $21 and $16 per person, respectively, per year). The West Bank and Gaza areas (under Israeli occupation) receive the maximum ODA per capita ($280). A large amount of foreign aid is also given at less concessional terms. Some calculations use a related concept, effective development assistance (EDA), to calculate the true value of concessional aid. EDA calculations are not significantly different from ODA calculations, however, and are omitted here.

Data presented in Table 2 show that the absolute value of aid has declined in middle-income, lower-middle-income, East Asian, Latin American, sub-Saharan, and Middle Eastern countries. Sub-Saharan Africa, however, still depends significantly on aid (almost a quarter of sub-Saharan capital formation comes from foreign aid). A large part of aid given to sub-Saharan Africa is earmarked for humanitarian purposes (such as prevention of famine, HIV/AIDS, and the like).

As stated earlier, an overwhelming amount of foreign aid is given for political and strategic reasons. In the 1990s, Bosnia and Herzegovina received a large amount of foreign aid after their civil war and after the member countries of the North Atlantic Treaty Organization (NATO) carried out military operations in that region. The U.S. preoccupation with the conflict in the Middle East explains why Israel and Egypt, not sub-Saharan Africa, receive very high amounts of foreign aid. Although a large part of foreign aid has always been politically motivated, project-specific humanitarian aid is also popular. In recent years, for example, the United States has pledged a significant increase in aid to contain the HIV/AIDS epidemic in sub-Saharan Africa.

On the donor side, there is also considerable variation with regard to quality and quantity of foreign aid. Assistance is sometimes given at a bilateral level and sometimes at a multilateral level (often channeled via international organizations such as the World Bank, the IMF, the

Table 2: Foreign Aid Recipients

Region/Country	*Net Official Development Assistance (in millions of US dollars))*		*Aid per Capita ($)*		*Aid as Percentage of Gross National Income*		*Aid as Percentage of Gross Capital Formation*		*Aid as Percentage of Imports of Goods and Services*	
	1996	*2001*	*1996*	*2001*	*1996*	*2001*	*1996*	*2001*	*1996*	*2001*
Low income	25,309	25,342	11	10	2.5	2.4	10.2	11.0	8.9	8.1
Middle income	21,799	20,284	9	8	0.5	0.4	1.7	1.6	1.6	1.2
Lower middle income	17,598	16,086	9	7	0.7	0.6	2.3	2.1	2.5	1.9
Upper middle income	3,532	3,672	7	7	0.2	0.2	0.7	0.8	0.6	0.5
East Asia and Pacific	8,040	7,394	5	4	0.6	0.5	1.4	1.3	1.6	1.2
Europe and Central Asia	8,670	9,783	18	21	0.8	1.0	3.3	4.4	1.6	2.3
Latin America and the Caribbean	7,446	5,992	15	11	0.4	0.3	1.9	1.6	3.2	1.2
Middle East and North Africa	5,956	4,838	22	16	1.0	0.7	5.0	3.2	4.4	2.7
South Asia	5,169	5,871	4	4	1.0	1.0	4.6	4.4	23.4	5.1
Sub-Saharan Africa	16,552	13,933	28	21	5.2	4.6	27.3	23.4		10.9
Bosnia and Herzegovina	845	639	239	157	33.5	12.8	73.6	—	33.8	23.8
Israel	2,217	172	389	27	2.3	0.2	9.4	—	5.2	0.3
West Bank and Gaza	550	865	218	280	13.2	19.6	42.9			
China	2,646	1,460	2	1	0.3	0.1	0.8	0.3	1.5	0.5
India	1,897	1,705	2	2	0.5	0.4	2.2	1.6	3.2	2.2
World	62,264	58,244	11	10	0.2	0.2	0.9	0.9	0.8	0.6

Source: World Bank, *World Development Report* (New York: Oxford University Press, 2003).

UN-affiliated bodies, and other organizations). All Organisation for Economic Co-operation and Development (OECD) countries have provided foreign aid to poorer countries. But there is a great variation between OECD donors. Denmark, Norway, the Netherlands, Luxembourg, and Sweden have the distinction of being the largest donors when foreign aid is measured as a percentage of the donors' gross national product (GNP). These countries have provided more than 0.7 percent of their GNP in foreign aid. The United States ranks very high ($12.9 billion in 2002) in terms of absolute aid, but ranks at the bottom on a relative scale (0.12 percent of GNP). Table 3 shows the overwhelming importance of the OECD as a global source of foreign aid. The table also shows that in terms of absolute value of foreign aid, the Netherlands, France, the United Kingdom, Germany, Japan, and the United States are major donors of foreign aid annually (more than $3 billion each).

The relative size of foreign aid (as a percentage of gross national income or as a percentage of gross domestic capital formation) has declined in most developing countries (Table 2). In the 1970s, bilateral, multilateral, and other official aid flows were sometimes close to 70 percent of all capital inflows to developing countries (the rest of the capital inflows were flows of privately owned foreign direct investment, or FDI). FDI to LDCs has increased in recent years, and the ratio of aid to total capital flow has now declined to less

Table 3: Official Development Assistance (ODA), 1999 to 2002

		ODA (in millions of U.S. dollars)				*ODA (as percentage of gross national product)*			
	Country	*1999*	*2000*	*2001*	*2002*	*1999*	*2000*	*2001*	*2002*
1.	Denmark	1,733	1,664	1,599	1,632	1.01	1.06	1.01	0.96
2.	Norway	1,370	1,264	1,346	1,746	0.91	0.8	0.83	0.91
3.	Netherlands	3,134	3,075	3,155	3,377	0.79	0.82	0.82	0.82
4.	Luxembourg	119	116	142	143	0.66	0.7	0.8	0.78
5.	Sweden	1,630	1,813	1,576	1,754	0.7	0.81	0.76	0.74
6.	Belgium	760	812	866	1,061	0.3	0.36	0.37	0.42
7.	Ireland	245	239	285	397	0.31	0.3	0.33	0.41
8.	France	5,637	4,221	4,293	5,182	0.39	0.33	0.34	0.36
9.	Finland	416	371	389	466	0.33	0.31	0.33	0.35
10.	Switzerland	969	888	908	933	0.35	0.34	0.34	0.32
11.	United Kingdom	3,401	4,458	4,659	4,749	0.23	0.31	0.32	0.3
12.	Canada	1,699	1,722	1,572	2,013	0.28	0.25	0.23	0.28
13.	Germany	5,515	5,034	4,879	5,359	0.26	0.27	0.27	0.27
14.	Spain	1,363	1,321	1,748	1,608	0.23	0.24	0.3	0.25
15.	Australia	982	995	852	962	0.26	0.27	0.25	0.25
16.	Portugal	276	261	267	282	0.26	0.26	0.25	0.24
17.	New Zealand	134	116	111	124	0.27	0.26	0.25	0.23
18.	Japan	15,323	13,062	9,678	9,220	0.35	0.27	0.23	0.23
19.	Austria	527	461	457	475	0.26	0.25	0.25	0.23
20.	Greece	194	216	194	295	0.15	0.19	0.19	0.22
21.	Italy	1,806	1,368	1,493	2,313	0.15	0.13	0.14	0.2
22.	United States	9,145	9,581	10,884	12,900	0.1	0.1	0.11	0.12

Note: The ODA target set by the UN is at 0.7 percent of GNP. Most nations do not meet this target.
Source: Organisation for Economic Co-operation and Development (OECD) data.

than 10 percent. This decline is much less dramatic if China, which attracts a very large amount of FDI every year, is excluded. It is, however, important to realize that while overall aid has gone down in absolute value, the proportion of direct military aid (which, according to some estimates, was about 20 percent of all aid) has also gone down in the post–Cold War era. The nonmilitary component of aid, therefore, may have increased. There is some indication that as an aftermath of the 2003 Iraqi war, overall foreign aid may go up. Much of the increase may be used for reconstruction projects in Iraq.

Theories of Foreign Aid

There is a voluminous body of literature on the theoretical aspects of foreign trade. Why do countries need foreign aid? Opinions are sharply divided regarding the purpose and role of foreign aid. Many conservative economists think that foreign aid really does not help the recipient countries and may actually make the situation worse. For example, famous economists such as Milton Friedman, Peter Bauer, and many others have opposed foreign aid as a policy instrument because they think that availability of cheap foreign aid interferes with

market mechanisms and allows the recipient country governments to postpone tough policy reforms. These economists claim that establishment of property rights and a facilitating, capitalism-friendly institutional structure is more important than foreign aid for economic development. Economists on the left of the ideological spectrum do not like foreign aid either; they think that aid accentuates the existing rural-urban, traditional-modern, and rich-poor income divide in less developing countries. According to these economists, aid is used mostly as an instrument to further the global hegemony of rich industrial countries. It caters to the interests of a limited number of large firms and individuals located in the donor countries, and it obstructs the development of indigenous capital. There are also a large number of economists who think the truth lies somewhere between these two extremes.

A Macroeconomic Identity

Foreign aid also raises less controversial macroeconomic issues. Economists have always emphasized the important role of capital formation in economic growth. All theories of growth place a great emphasis on the role of capital formation in developing countries. Capital-starved less developed countries clearly need financial resources to grow. These resources can come from either domestic (private and government) sources or from foreign sources. The relevant basic macroeconomic identity can be represented as follows:

$$I = S + (T - G) + (M - X)$$

Where the symbol I refers to gross investment, S is private savings, T is taxes collected by the government, G is government expenditure, M is imports, and X is exports. The identity says that gross domestic investment, which is an indicator of future productivity and growth, depends on three factors: private savings (S), public savings (T – G), and foreign savings (M – X). Capital inflow from abroad would generally increase foreign savings (M – X). If foreign aid goes up, capital inflow from abroad will go up and will contribute to gross investment in the country. Note that higher capital import allows a country to buy more importable goods, including capital goods from abroad.

A related literature, focusing on what is known as the "two-gap model," assumes that there are two constraints as far as investable resources are concerned: the domestic savings gap (that is, S + [T – G]) and the foreign trade/foreign exchange gap (which would affect M – X). According to the two-gap model, domestic and foreign savings are not perfect substitutes for investment. On one hand, if a country has a foreign exchange gap, that is, if it is not able to export enough to earn valuable foreign exchange to import critical capital goods, this will affect domestic investment negatively. On the other hand, if foreign exchange is plentiful, inadequate domestic savings may still turn out to be the binding constraint on domestic investment. In terms of the identity above, in order to increase capital formation and growth, S + (T – G), (M – X), or both must increase. According to this theory, therefore, countries that suffer from a foreign exchange gap will benefit the most from an inflow of foreign private capital or foreign aid. In these countries, it is more important to raise (M – X), financed by capital inflows or foreign aid.

Returning again to the basic macroeconomic identity above, the question is, when (M – X) goes up as a result of foreign aid inflow, will all other variables on the right-hand side of the basic macroeconomic identity remain constant? If all other variables on the right-hand side are constant, investment (I) will increase and stimulate growth. The controversy regarding foreign aid can be understood with reference to this basic question. To put it differently, will an increased inflow of capital or foreign aid simply replace domestic savings? That is, will S fall? Will it reduce the incentive

for governments to collect appropriate taxes? That is, will T fall? Will it encourage corrupt government officials to increase unproductive and wasteful government expenditure? That is, will G rise? Is it going to increase imports of luxurious consumer goods (part of M)? Is it going to crowd out exports (X)? These questions are analyzed below.

How Foreign Aid Helps a Poor Economy

According to the economists on the right, the *availability* of resources for investment is not a critical problem in less developed countries. Investors seek the highest return for their money. So if existing projects in developing countries promise profitable returns, investors will borrow, and resources will be available for investment. The real issue, these economists argue, is that in these countries, the existing investment projects are not profitable because of misguided policies of the government at the microeconomic and macroeconomic levels. These policies impede the forces of the free market and encourage rent-seeking behavior. In addition, aid tends to be "fungible." For example, if aid is given to enhance the quality of primary education in a country, the aid money may divert previously invested funds in education to other less desirable uses. As a result, total investment in education may not rise. The correct policy, according to these economists, is to ensure that property rights are protected and that the basic laws of the free market are adhered to. Given property rights and free markets, the profit potentials of all investment should reflect their true social opportunity costs, and therefore, foreign aid is not needed. A well-known conservative think tank, the Cato Institute, has gone one step forward and recommended that the United States "abolish the U.S. Agency for International Development and end government-to-government aid programs; withdraw from the World Bank and the five regional multilateral development banks; not use foreign aid to encourage or reward market reforms in the developing world; eliminate programs, such as enterprise funds, that provide loans to the private sector in developing countries and oppose schemes that guarantee private-sector investments abroad" (Cato Institute 2002).

The Cato Institute's view implicitly assumes that capital market imperfections (credit constraints, asymmetric information, moral hazards, and the like) cannot be corrected by government policy. This view contrasts with the view of development theorists, who believe that a "big push" is needed to get a poor country out of a low-level equilibrium trap, and that capital market imperfections such as credit constraints, asymmetric information, and moral hazard need to be addressed with the help of an efficient, fair, balanced, and impartial public policy. Much of the development literature stresses the need to create an "enabling environment" in developing countries in terms of infrastructure projects such as national and regional road networks, electricity generation, and telecommunication links. An efficient infrastructure (in addition to a transparent and corruption-free legal and institutional framework) is a necessary precondition for the private sector to flourish. But would foreign capital or an indigenous private sector on their own invest in massive infrastructure projects? The theory of public finance can be used to show that more often than not, large investment projects have to be financed by public funds, because private provisions of large investments may not be adequate. In other words, if the government needs to fund an expensive infrastructure project, it must raise taxes to pay for it.

One of the basic problems with respect to taxation is that the less developed countries have an inadequate tax base. People are poor, so most do not pay income tax. Domestic resource mobilization becomes a difficult task. Many governments thus depend on foreign aid as one of the few sources for investment in infrastructure (this is especially true for sub-Saharan Africa; see Table 2). A significant amount of foreign aid is also sought in the form of technical expertise, since many of

these countries also lack skilled labor to implement infrastructure projects.

This is not to say that all such investments are worthwhile or that governments are not vulnerable to special-interest groups and corruption. Many developing countries simply lack the ability and the political will to reduce fiscal deficits, curb government consumption, and increase taxes for infrastructure investments. Very often, vested interests make it harder to raise taxes on the rich rent-seeking landlords, and consequently, these governments find it difficult to cut subsidies doled out to various constituencies. Given these difficulties, developing countries may find it easier to mobilize foreign resources than domestic ones. But there is also a genuine need for external funding when market imperfections prevent private capital from flowing to labor-abundant developing countries. Although one must be wary of government failure, one must also be cognizant of extensive capital market failures in these countries. A number of economists thus disagree with the Cato Institute's premise and argue that in a great many cases, the developing countries must be taught "how to fish" before they can catch fish themselves.

It needs to be pointed out that economists on both the right and the left of the ideological spectrum agree that a "debt overhang" is a serious problem in poor countries, and that foreign aid should be used judiciously for debt relief. The debt-overhang problem arises when a highly indebted country gets into a vicious cycle: The country cannot borrow because it has a "bad credit history," and it cannot grow to pay off its debt because it cannot borrow for the right projects. Consequently, foreign aid in the form of one-time debt forgiveness will break the vicious cycle of stagnation due to the debt burden. In 1996, the World Bank and the IMF proposed the Heavily Indebted Poor Countries (HIPC) Initiative to forgive appropriate amounts of debts of very poor sub-Saharan countries. By 2003, approximately $36 billion in debt had been forgiven under this program.

Consequences of Foreign Aid

Foreign Aid and Economic Slowdowns

From the basic macroeconomic identity, $I = S + (T - G) + (M - X)$, it has been shown that a higher foreign aid will increase $(M - X)$. But will it reduce national savings, $S + (T - G)$? If it does, the effect of foreign aid on investment (I) will be small, zero, or may even reduce gross investment.

The theoretical literature has shown that under certain conditions, foreign aid may create "immiserizing growth," that is, economic growth that makes a country worse off, and a "transfer problem" to exist. A large transfer of resources may adversely affect the exchange rate of the aid recipient's currency and change traded and nontraded good prices. These effects may make the recipient countries worse off after aid transfer. This result, however, cannot be generalized, and considerable theoretical doubt exists regarding the immiserization argument (see Basu 1997, 93–98).

One way to address the issue of effectiveness of foreign aid, therefore, is to study the existing empirical evidence. At an empirical level, the hypothesis that foreign aid "crowds out" national savings has been tested. The results are not encouraging. Robert Cassen (1994) found that a "significant portion of aid does not succeed." Peter Boone (1994) showed that in eighty-two developing economies where foreign aid was less than 15 percent of gross domestic product (GDP), foreign aid was consumed entirely and added nothing to total savings. Boone also found that aid money is often used to fund the relatively well-off population in poorer countries. It seems that "poor people in rich countries" give foreign aid to help the "rich people in poor countries!" (*The Economist* 1994).

Some authors, however, have found problems with Boone's method. Henrik Hansen and Finn Tarp (2000), for example, found that Boone's complete crowding-out hypothesis can only be supported under rare circumstances

(this is the case where elasticity substitution of domestic savings with respect to foreign aid is equal to –1). But their results also suggest that some crowding out does occur and that there is wide variation among countries.

Political Climate in the Recipient Country

The nature of the government in a country is an important factor in how foreign aid is used. Presumably, a repressive and dictatorial regime will be less inclined to use foreign aid for the right purposes. Alberto Alesina and Beatrice Weder (1999), however, found that dictatorial regimes have received as much foreign aid as democratic ones. There is also some evidence that corrupt governments have received more foreign aid than ones that are not corrupt. Other researchers have found that foreign aid has been successful in improving quality of life in the recipient countries when it was given to democratic countries (Kosack 2003), and that bilateral aid is more successful in promoting growth than multilateral aid (Ram 2003). Kosack also found that foreign aid given to democratic countries enhances "state capacity for reaching out to citizens," strengthens state-society institutions, and empowers the civil society organizations. When democratic states with vibrant civil societies receive foreign aid, their growth rates go up.

Misallocation of Foreign Aid

A common thread in empirical studies is that the donors regularly misallocate aid. In other words, the same amount of aid money could be reallocated in a more efficient manner. In an ideal world, foreign aid should be used to finance the *marginal* project that cannot be financed by the developing country for lack of funds. But given the predominance of strategic and military interests of the donors, needless to say, an economically rational allocation rule is rarely followed.

Paul Collier and David Dollar (2002) studied this issue directly. They found that much foreign aid has been misallocated away from deserving recipients. If aid were reallocated appropriately, about 20 million people could be moved out of poverty every year (as opposed to about 10 million every year currently). David Dollar and Jacob Svensson (1998) also found that when a country starts implementing necessary economic reforms, foreign aid is often withdrawn, and when the country does not implement necessary reforms, aid is often increased. This creates a perverse incentive for the developing countries not to implement good economic policies. Dollar argued that the civil and political environment in a developing country should be an important consideration for all donors.

Several researchers have also pointed out that the type of aid (food aid, technical help, or financial aid) matters a great deal. Other studies have found that international coordination of foreign aid is a very important concern. Project aid, program aid, technical assistance, food aid, and other aid need to be coordinated by the donors to create the correct facilitating environment.

Table 1 and Table 2 point to the fact that foreign aid has indeed been used arbitrarily. It should come as no surprise that the empirical studies have not found significant effects of aid on growth. The donors did not really use aid to increase economic growth, so aid failed to increase economic growth! Gus Edgren (2002), commenting on this issue, said that the aid industry is "very fragmented" and that it is characterized by market imperfections. Politically motivated donor agencies distort the market because they are powerful and because they can pick and choose the recipients. The activities of large aid agencies change the shadow prices of various developmental projects and distort the markets. "If one looks at the industry as a global mechanism for transferring resources from rich countries to poor," wrote Edgren, "one could be excused for thinking that the Devil himself could not have created a more infernal system. . . . When all agents are simultaneously trying to get the most out of the system for themselves, the results produced by the system as a whole are bound to be less than ef-

fective. It is particularly counter-productive that the system allows individual agencies to boast of good results for their own projects while these 'successes' are being achieved at the expense of the total outcome" (Edgren 2002).

Agency Problems

When governments of less developed countries turn to multilateral institutions for financial and technical resources, it immediately opens up possibilities for rent-seeking behavior *on both sides.* As discussed earlier, a less developed country may genuinely need infrastructure investments, but the politicians and special interest groups in the government may have a different agenda. The LDC government may not represent the true priorities of the people, and the government bureaucrats may be subject to corruption. But this problem, to a lesser extent, can also occur in a multilateral institution such as the World Bank. Bureaucrats in the World Bank may have their own rent-seeking agenda. Since the World Bank officials are usually not rewarded for withholding aid, they may have an incentive to lend to not-so-deserving governments, for example.

James K. Boyce (2002) argued that the policies of these institutions do not "fit well with an incentive structure that puts a premium on aid disbursements. If institutions face penalties for withholding aid, but not for disbursing it, they naturally make every effort to 'move the money' to their favored projects." Although the funds for the multilateral organizations come from donor-country taxpayers, the officials of these organizations are hardly ever penalized for funding incorrect foreign aid projects. The multilateral institutions are supranational organizations, and unlike private firms, they are not directly accountable to their "shareholders." These "agency" problems may make both recipient governments and officials of the donor organizations ineffective and self-seeking players in a game ostensibly played for the welfare of poor countries.

Even if the multilateral agencies do not suffer from agency problems, doubts remain about the effectiveness of aid when potential recipients compete for aid and each recipient country wants to prove that it has the most compelling case for aid. There is a body of theoretical work that shows that even if the donors are altruistic and care about reducing poverty in the recipient countries, foreign aid may actually increase poverty in the developing countries. This is because the governments of developing countries may consciously follow a perverse income-distribution policy in order to be eligible for foreign aid. Indeed, many economists argue that a number of developing countries now have a dependency syndrome with respect to foreign aid. This dependency did not exist before.

Foreign Aid, Conditionality, and Structural Adjustment

When a less developed country approaches the multilateral institutions for aid, these institutions routinely examine the fiscal and monetary policies of the developing country. The IMF has regularly required stringent macroeconomic policies as a condition for giving loans. The World Bank also provides structural/sectoral adjustment (concessional) loans in tandem with the IMF. The World Bank and IMF "conditionalities" are a strict set of macroeconomic rules that typically require reductions in government budget deficits and cuts in various government subsidies in recipient countries. These restrictions have become a sore and contentious point for the developing countries. Stringent conditions associated with IMF/World Bank loans and aid, at least in the short run, increase prices of essential goods, create unemployment, and increase income inequality. The conditionalites are very unpopular in the less developed countries and have proven to be politically damaging for the aid-recipient governments. Ajit Singh (2002) has argued that conditionalities actually reduce

policy autonomy in the less developed countries and that a lack of autonomy probably reduces growth in developing countries.

The fact that the less developed countries find traditional conditionalities unpalatable must strike some as curious. Paul Streeten (1987) called this a double paradox: Why do the developing countries complain about conditionalities attached to foreign aid if conditionalities are supposedly good for them, and why do the donor countries donate money in the first place if they do not trust the governments in these countries? The answer, of course, is that much aid is misallocated and tends to be politically motivated (on both sides). Aid does not really flow to countries; it flows to particular groups within countries. Sometimes obvious human rights violations are ignored. Very often aid is misplaced and directed to the wrong people. Rwanda is a classic example. In 1993–1994, although some organizations criticized the human rights record of the government in Rwanda, foreign aid to that country was not reduced. In fact, aid to the Rwandan Hutu government actually increased before the government-supported groups in that country committed the 1994 genocide.

Economists at the IMF and the World Bank respond to these criticisms by saying that although some mistakes have been made, one must remember that the countries that seek foreign aid from these multilateral organizations are a "self-selected" group. Most countries seek help from the World Bank and the IMF when they already have their houses on fire. They come to the World Bank and the IMF only as a last resort when unsustainable monetary and fiscal policies have already brought them to the brink of economic disaster. In general, these countries would perform even worse if they did not receive concessional and other loans.

Jan P. Pronk (2001) mediated this interesting controversy, arguing that the *policy stance* of a country's government should be an important consideration before aid is approved. One should recognize that: (1) a good policy should be oriented toward broad-based sustainable economic growth, with poverty reduction as an objective; (2) a one-size-fits-all precondition for aid approval is a prescription for disaster because what works in one country may not (yet) work in another; (3) even if the macroeconomic policy of a particular country is on the wrong track, focused, goal-oriented, welfare-enhancing projects on, say, health care, education, or water management might be considered worthy of support; and (4) what really matters is the marginal impact of aid, and therefore the aid agencies should focus on "better policies" rather than perfect policies. Many development economists have started taking Pronk's valuable comments seriously. The IMF and the World Bank have started to reconsider their aid policy: There is now an emerging consensus that aid-related conditionalities should have a "human face."

The problems associated with foreign aid do not mean that all foreign aid should be abandoned. It is true that empirically, the aid-growth relationship is not a strong one. There are serious concerns about many aspects of foreign aid, including concerns about the true intentions of donors, agency problems, the bureaucratic inefficiencies of multinational institutions, the rent-seeking behavior of governments, coordination problems among donors, perverse games between donors and recipients, damaging competition between recipients, and last but not least, the effects of corruption, all of which cast doubts on the usefulness of foreign aid. But resource mobilization for productive investment, including investments for health, education, and infrastructure, are critically important for economic growth. There is clearly a crying need for a "big push" and more productive investment in developing countries. The question is whether the problems associated with foreign aid are serious enough to merit a policy of actual aid reduction or complete elimination of foreign aid. Once again, most economists would rather attempt to correct the problems associated with foreign aid than throw the proverbial baby out with the bathwater.

Nongovernmental and Governmental Organizations

Although foreign aid refers to government grants and concessional loans, nongovernmental organizations (NGOs) have played increasingly important roles in economic development. Nonprofit NGOs work in selected geographical locations in developing countries, typically in relatively small areas, to promote activist policies that emphasize education, health, women's and children's welfare, and the like at local levels. In recent years, a large amount of official foreign aid has been siphoned off to NGOs. In the Copenhagen summit on NGOs (1995), the United States pledged that it would direct 50 percent of all foreign aid through NGOs. This has not yet happened. But the statement shows the emerging importance of NGOs. International NGOs such as CARE, Oxfam, Child Relief and You (CRY), Save the Children, and many others now actively seek donations and have a visible presence in developed counties. Local NGOs such as Esperança (Mozambique), Grameen Bank (Bangladesh), Swanirvar (India), Casa Alianza (Latin America), and many others have been partially funded by private foreign donors.

The Changing Face of Foreign Aid

There are some indications that enormous changes are taking place in the area of foreign aid. The foreign aid program was kick-started by the United States when it introduced the famous Marshall Plan; there are probably equally significant changes taking place today.

There are both negative and positive changes taking place in foreign aid today. Although U.S. assistance to poor countries did decline in absolute value as well as in percentage terms (from 0.2 percent to 0.1 percent) during the 1990s, the United States repeatedly responded to international humanitarian concerns with generous offers of foreign aid. In the 1990s, famines in Sudan and Ethiopia would have been much worse without U.S. food aid. The new U.S. preoccupation with terrorism will probably politicize the flow of foreign aid (as was the case during the Cold War), and aid may not flow to the most deserving countries. However, in 2002 the George W. Bush administration set up the Millennium Challenge Account to address the scourge of HIV/AIDS in Africa and pledged to increase development aid by 50 percent in the next few years, resulting in a $5 billion annual increase over current levels by 2006. More important, although current U.S. official donations are still relatively low, U.S. private individuals, and unexpectedly, many private corporations, have decided to lend a helping hand. U.S. private individual donations and corporate donations are substantial and growing. U.S. citizens donate generously to nongovernmental humanitarian and charitable organizations such as the Red Cross, Oxfam, and CARE and to other local NGOs in less developed countries. These donations are mostly humanitarian and issue-oriented and not overtly political. Some estimates suggest that U.S. individual private donations earmarked for developing countries may amount to some $30 billion per year, which is far more than the amount of U.S. official aid.

An interesting development in recent years is the growth of corporate charitable donations. Corporate charities such as the Bill and Melinda Gates Foundation, the David and Lucille Packard Foundation, and other corporate entities have donated significant amounts of money in recent years.

Conclusion

Foreign aid has been a part of North-South relations for more than fifty years now. The record of aid activity has been less predictable than one would have hoped. Too often, both the donors and the recipients have had conflicting priorities, or their priorities were not consistent with economic growth and poverty alleviation. In terms of its effectiveness, it would appear that foreign aid has been neither neces-

sary nor sufficient for higher economic growth to occur in less developed countries. Countries such as India and China have progressed with minimal foreign aid; therefore the aid is not necessary for growth to occur. And there are many examples of countries in Africa where foreign aid has failed to stimulate economic growth; therefore the aid is not sufficient for growth to occur. An empirical survey of the literature shows that foreign aid can be a catalyst for growth, however, if it is targeted well. An appropriately coordinated allocation of growth-enhancing foreign aid is a critical element in the economics of foreign aid. Rosenstein Rodan's (1969) comment, "Aid should be allocated where it will have the maximum catalytic effect in mobilizing additional national effort," seems as true today as it was when he first wrote it.

Foreign aid accounted for a large amount of capital flow from developed countries to underdeveloped countries in the second half of the twentieth century. The contribution of foreign aid as a percentage of capital formation has now declined in most developing countries. Many of these countries have now started receiving significant amounts of private capital flows. China has attracted a very large amount of foreign direct investment in the 1990–2003 period. Sub-Saharan Africa, however, still depends heavily on foreign aid. If aid dependency declined in importance, economists would be the first to celebrate the event. Economic theory predicts that private long-term capital should flow from developed countries to less developed countries, and that a free flow of long-term capital would enhance world welfare. A decline of foreign aid and a rise of private capital flows would usher in a new era in global economic growth.

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See Also International Indebtedness; International Bank for Reconstruction and Development (IBRD)

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Gender and Globalization

Gender Impacts of Trade and Financial Liberalization

Studies focusing on the gendered processes and outcomes of globalization have highlighted how trade liberalization has led to feminization of the labor force, feminization of work (low-paid, flexible/insecure, and unorganized work), and feminization of poverty. The development toward the feminization of labor has been accompanied by a shift in employment from manufacturing to services in developed countries, and from agriculture to manufacturing and services in developing countries. Although greater trade openness is associated with increased participation of women in paid employment, women are still being assigned to low-paid jobs, and they continue to have the main responsibility for unpaid work and care in families. Feminist scholars have emphasized the different experiences of globalization across time, countries, and groups of women. Some women (in the South) have been able to find new jobs, while others (in the North) have lost jobs. At the same time, many women have seen their wages decline, their working conditions deteriorate, or their workloads increase as a result of deregulation of labor markets and cuts in social services.

Feminization of Manufacturing Employment

The gendered impacts of economic liberalization and export-oriented growth in the manufacturing industries of the developing countries are well documented, whereas the implications of trade for small-scale agriculture, informal-sector work, and unpaid household labor are less well understood (see Carr et al. 2000). Labor-intensive manufacturing, such as the industries in textiles, electronics, and toys, have relocated to developing countries as a result of low female labor costs and national policies promoting liberation of trade and foreign investment as well as deregulation of labor markets (for example, reduced minimum wage levels, lifted controls over working hours, and reduced workers' rights to social security coverage). Many women in developing countries have been able to find new employment opportunities in export-oriented manufacturing, which has in turn contributed to economic growth and to the feminization of the labor force in the these countries (Kanji and Menon-Sen 2001).

One popular policy measure to promote foreign investment in developing countries has been the construction of Export Processing Zones (EPZs). EPZs are small areas that offer tax incentives and tariff concessions for foreign transnational corporations (TNCs) specializing in export-oriented manufacturing production. Studies of the working conditions in EPZs have found that wages are often so low that workers are barely able to cover their living costs. The hazards of working in many of the zones are enormous, and the majority of the workers are young women from rural areas. The low tariff incentives offered by EPZs are now being eroded as trade and investment is increasingly liberalized. Subcontracting or homeworking involving a flexible and cheap

form of production has become the most popular route for TNCs to reduce costs. Studies have found that the majority of homeworkers are women, and that these flexible work arrangements pay low wages and provide no benefits. Furthermore, homeworkers find themselves excluded from social security and minimum labor standards as well as from labor legislation and collective bargaining agreements (Meyer 2001).

The trend toward the rise in the female share of employment appears to have been stalled or reversed in the few countries such as Taiwan that have moved beyond labor-intensive export manufacturing. Studies undertaken during the 1990s found that rising capital intensity, technological upgrading, and improvement in the quality of export products were accompanied by a secular decline in women's share of manufacturing employment in the developing countries. Employers' discrimination against hiring women in the new, higher-paid, skill-intensive jobs and capital-intensive production processes has been used to explain this unfavorable trend. The demand for women's labor declines as some production jobs disappear while others are redefined as "technical" and become "men's" jobs. There is evidence that the diffusion of just-in-time organizational innovations is leading to a defeminization of manufacturing employment as men emerge as the more flexible, cost-effective workers compared to women (Berik 2000).

Feminization of Manufacturing Work

Informal work, part-time work, subcontracting, home-based work, and low pay associated with women's employment has become widespread for both men and women around the world (see Standing 1999). The newly created manufacturing jobs in developing countries have in most cases been low skilled and low paid, characteristics associated with jobs performed by women. Labor-intensive manufacturing export industries have been attracted to the developing countries by the low labor costs, especially for women. Women in these countries have accepted low wages because of their responsibility for caregiving and domestic work, norms assigning them the role of secondary wage earners, and because of their lack of access to resources (land, capital, and technology) and services (education and child care). In other words, employers, especially in manufacturing, have taken advantage of women's disadvantage. The low labor cost of women workers has crowded them into limited numbers of industries and occupations, which in turn has perpetuated gender wage inequality in many developing countries (see Berik 2000; Kanji and Menon-Sen 2001).

The long-term development and effects of women's low pay is debated. Linda Lim (1990) reasoned in her study of East Asia that once multinational assembly plants reach majority, they will improve the labor market for women by increasing demand and raising wages throughout the labor market. She also argued that multinational assembly plants improve women's position in the local labor market by providing better-paid alternatives than those traditionally available to women. Other researchers stress that women's employment in export manufacturing firms is a double-edged sword. The wages paid for these jobs improve women's bargaining positions within the household, but at the same time they are insufficient to enable women to support themselves or their dependents. There is also little hope of advancement (see, for example, Elson 1995).

In her study of textile, electronics, and machinery-assembly factories in Mexico, Elizabeth Fussell (2000) found that employers employ women with few other employment opportunities, low levels of human capital, and a great need for stable employment, all of which forces them to accept low wages. Hence, these manufacturing employers have not provided women with significantly better employment than other local employers would have been able to provide. Instead, they are increasingly providing employment to the least-skilled women who have few other options in the local labor force. This development is reflecting a

race to the bottom in manufacturing wages as a result of globalization of production.

Agriculture and Services

Trade liberalization in agriculture has led to greater use of land for cash crops such as horticultural products in Africa and aquacultural products in Asia. Women have provided producers of horticulture with flexible and seasonal labor, while men predominantly occupy permanent and more secure work (Barrientos 1999). Moreover, studies of women in Africa who are engaged in cash crops show that they have less time for food production and preparation. The aquaculture has required large tracts of land, in some cases reducing land for food production and making it difficult for women to secure enough food for the household (Wichterich 2000). Reductions in public investment and expenditures in food and fertilizer subsidies, and the promotion of foreign, capital-intensive production, have contributed to increased urbanization and fewer job opportunities for women in the formal sector in countries such as India. To escape poverty, many women have moved to the cities, where they are often forced into sex work due to lack of job opportunities (Upadhyay 2000).

The low wages of women in developing countries have also induced labor-intensive service firms to relocate their data-processing, tele-work, and call-center work to these areas (Wichterich 2000). Women have played an important role in the expansion of services, particularly in Latin America and the Caribbean, northern Africa, and western Asia. Evidence from Malaysia indicates that preference for female labor in manufacturing carries over into new trade-related services (see Joekes and Weston 1994). Increased trade in services has, in most cases, expanded employment opportunities for women. However, many women working in the service sector have found themselves concentrated at the low-skilled and clerical levels. They carry the burden of work both inside and outside the home, and they face sexual harassment in the workplace. Moreover, men in the service sector refuse to accept women as colleagues or seniors, women often need to work twice as hard as men to gain recognition, and there is a lack of solidarity among women (Meyer 2001). In her study of women in high-tech information jobs in foreign-owned offshore data entry companies in Barbados, Carla Freeman (2000) revealed how these women have created a new "pink-collar" identity that is associated with increased consumption patterns and certain gender ideologies in order to distinguish themselves from women working in the export manufacturing sector. Many of these women in high-tech jobs supplemented their formal employment with participation in informal economic trade activities in order to sustain this new identity.

In recent years, feminization of migration has taken place as more and more women have moved from the poor developing countries to the more affluent countries in Europe and North America to work as cleaners, housemaids, entertainers, and sex workers. The jobs of most migrant women are low paid and low skilled as well as outside the formal economy. The Philippines has, for example, an estimated 7 million people working abroad, 60 percent of them women (Wichterich 2000).

Financial Liberalization

Globalization of finance has brought certain advantages for women, such as greater supply of credit, greater access to the foreign exchange market (to receive remittances from partners or relatives abroad, for example), and increased employment opportunities. As customers of financial institutions, women have less property and lower earnings and are therefore less likely to save than men. Moreover, women tend to borrow more irregularly and in smaller amounts than men. Women therefore need more flexible services and credit terms when borrowing money, which credit institutions have not always been willing to provide because of the administrative costs involved. At the same time, women in most cases are more likely than men to repay their loans. The inabil-

ity of financial institutions to adapt to these gender differences when allocating funds is believed to have contributed to low savings rates, low investment rates, and distorted interest rates (Staverene 2000).

Studies of the financial crisis in East Asia during the late 1990s revealed that the economic and social impacts were more negative for women than for men. In his study of the employment of women and men in the Philippines before and after the financial crisis, Joseph Y. Lim (2000) found that women's employment and hours of work increased after the crisis, whereas men experienced greater unemployment and shorter working hours. Hence, women were the provisioners of last resort in societies that lacked social safety nets. Based on this and other evidence, one may conclude that reductions in the volatility and instability of the global financial system would be in women's interest (Grown et al. 2000).

(De)Feminization in the North

Feminist research on developed countries has focused on the implications of trade growth in manufacturing for women's employment opportunities and working conditions. In her study of North-South trade, Adrian Wood (1991) did not find strong evidence of a fall in northern women's employment in manufacturing as a result of trade liberalization. David Kucera and William Milberg (2000), however, found in their study of industrialized countries (Australia, Canada, Japan, the Netherlands, and the United States) that the expansion of manufacturing trade with countries that were not members of the Organisation for Economic Co-operation and Development (OECD) between 1987 and 1995 reduced female manufacturing employment relatively more than male employment in the industrialized countries.

The gender impacts of globalization in Eastern Europe differ somewhat from the gender impacts found in developing countries. In the former, more privatized market economies have reduced women's labor force participation such that it has become closer to the rising level of participation found in Western Europe. Moreover, Eastern European women have been relegated to temporary and low-paying jobs or forced to migrate to more affluent European countries, where they have found themselves sold into prostitution (see Standing 1999; Wichterich 2000).

The threat of outsourcing and capital relocation has put a downward pressure on wages in the high-income countries, particularly for unskilled labor. This pressure has contributed to the growing inequality in income distribution between highly skilled and less-skilled labor within and across countries (see Standing 1999). There has been a rapid growth of informal work in most of the major cities of the developed world. Scholars do not agree on the effects of the informal economy on women. One group stresses that informal employment empowers women by providing autonomy, control over production, and the ability to work and care for children. Others have found that informal employment often constrains women's options through isolation and intensifies the shift toward a greater workload for women (see Meyer 2001). According to Guy Standing (1999), employment characterized by low pay, insecurity, and flexibility, and associated with women, has grown faster across the world than employment traditionally associated with men, which typically offers higher pay, more stability, and union protections.

Feminization of Poverty

Poverty is linked to the inability of economies to generate a sufficient number of jobs. There is a gender dimension to poverty, as women are more likely to suffer the loss of their jobs than men and to become engaged in the informal sector to secure the livelihood of their families. Loss of jobs often leads to greater informalization of work or the shifting of jobs from the formal to the informal sector. Jobs in the informal sector do not offer regular wages, benefits, employment protections, and so on. Informal workers are therefore more subject to poverty than workers in the formal labor market. The

withdrawal of states from their responsibilities for social services and the redistribution of wealth has also led to a transfer of social services and obligations to the informal sector, where women have taken them over, either individually, in the household, or collectively, in the community (Wichterich 2000). Women's increased engagement in paid work has therefore not led to a significant reduction in poor women's share of unpaid work. Globalization, involving greater reliance on markets, tends to devalue nonmarket goods and services and shift resources such as land from nontradable to tradable goods. This means that a significant proportion of women's contributions to the economy are relegated to a position of little or no importance, enhancing women's vulnerability to poverty (see Elson 1995).

The feminization of poverty refers not only to the increasing number of women among the poor, but also to the connection between women's social and economic subordination. An increase in women's employment does not necessarily lead to poverty reduction or increases in household welfare. Women in some parts of the world have almost total control over their own income (for example, in parts of West Africa). In other parts of the world, women hand over their income to men or to older women (parts of South Asia). Whether women or men have control over the household income has implications for the well-being of women and children, as studies have shown that men tend to prioritize items for personal use for investment, whereas women emphasize food and basic goods for households (Kanji and Menon-Sen 2001).

Studies of the debt crisis in developing countries found that women gained less when stabilization and structural adjustment programs (SAPs) were successfully implemented and lost more when these policies did not produce the desired results. Women were more likely to lose their jobs than men, and they were less likely to benefit from the privatization of business and granting of property rights. Moreover, women were overrepresented among the poor and disproportionately affected by cuts in health care and education expenditures, and they had to work harder and longer than before to provide for their families when real wages fell (see Aslanbeigui and Summerfield 2000). Austerity measures such as fees for health care, water supply, and education, as well as increased prices for food and medicine connected with SAPs supported by the International Monetary Fund (IMF) and the World Bank, also affect women more than men, as women are the ones usually responsible for maintaining consumption levels. Moreover, SAPs tend to substitute public services with home-provided services that often fall on the shoulders of women, such as health care, child care, education, and public utilities, including energy, transportation, and drinking water (Elson 1995).

The Trafficking in Women

The effects of economic globalization and structural adjustment are most severely felt by poor women, leading greater numbers of them to migrate in search of work. There is no internationally agreed definition of "trafficking." The term has been used to refer to a wide range of situations, usually involving the movement of persons through the threat or use of force, coercion, or violence for certain exploitative purposes, such as prostitution. The term has sometimes been used to refer to voluntary migration, but according to the UN Special Rapporteur on Violence Against Women, trafficking is never consensual. It is the nonconsensual, exploitative, or servile nature of the trafficking, together with elements involving the brokering of human beings, that distinguish trafficking from other forms of migration (United Nations 2000).

The most widely accepted definition is found in the United Nations Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, signed in December 2000 in Palermo, Italy (the

Palermo Protocol). It includes any recruitment, transportation, and receipt of persons, by means of threat, force, deception, or abduction for the purpose of exploitation, where exploitation includes prostitution or sexual exploitation, forced labor or services. The protocol defines the trafficking of children similarly, and "child" means any person under eighteen years of age.

The Scale of Trafficking

Even though definitions of trafficking vary considerably, there is a consensus that it is a rapidly increasing global problem that has to be addressed through a global response. At the same time, the scope of trafficking is difficult to estimate. The U.S. government has estimated that between 1 million and 2 million people are trafficked each year worldwide (IOM 2001), and the United Nations has estimated that 4 million persons are trafficked each year (United Nations 2000). Indeed, all these figures are uncertain. Reliable statistics are difficult to collect owing to the underground nature of trafficking.

Migrant Domestic Workers

Until recently, the issue of trafficking has revolved around trafficking in women for sexual exploitation. However, more and more attention is being paid to legal and illegal migrant domestic workers, that is, women from developing countries who have migrated voluntarily to the United States and Europe to earn a living. Some of these women have left their own families behind to do the mothering and caretaking work of the global economy in other countries. A special focus has been on the emergence of the parallel lives of migrant Filipina domestic workers, who experience exclusion from their host society as well as downward mobility from their professional jobs in the Philippines (Parrenas 2001). Furthermore, studies of migrant domestic workers in northern and southern Europe have revealed the racial and class aspects of paid domestic work (Anderson 2000). This phenomenon has been conceptualized as "the global care chains of domestic labor," implying that women are tied to each other by a series of personal dependencies of paid and unpaid service. Women from developing countries, looking after families in Europe and North America, employ carers to tend to their own families, and these carers, in turn, have other women to care for their dependents, and so on (Adam 2002).

Sexual Exploitation

As the Palermo Protocol acknowledged, trafficking often involves sexual exploitation. The focus has been on those who end up in prostitution or as victims of trafficking, mostly women and children.

According to the International Organization for Migration (IOM), trafficking for sexual exploitation is a growing problem of increasing complexity (*Trafficking in Migrants* 2001). The U.S. State Department has estimated that 50,000 women are trafficked into the United States each year (Miko 2000). More than 225,000 victims of trafficking each year are taken from Southeast Asia, bound for various destinations, and more than 150,000 from South Asia; meanwhile, an estimated 100,000 each year come from the former Soviet Union, and 75,000 or more from Eastern Europe. More than 100,000 are estimated to come from Latin America and the Caribbean, and 50,000 more from Africa. Most of the victims are sent to Asia, the Middle East, Western Europe, and North America (ibid.).

Trafficking routes have traditionally been from South to North, although these routes continue to change. Originally, the focus was on the trafficking from Asia to Western Europe. Increasingly, however, the focus is on the trafficking of women from Russia and the newly independent states (NIS) of Eastern Europe to Western Europe, the United States, and Asia (GSN 1997; Weijers and Lap-Chew 1997).

Information on trafficking in Asia is more readily available than data on trafficking elsewhere. There are widely documented trafficking routes from South Asia and within the re-

gion, such as from Nepal to India; from Burma to Taiwan (HRW 1995); and from Bangladesh, Nepal, and Pakistan to India.

Thailand has also long been a central country of origin for the trafficking of women. More of the young rural population is now being trafficked to Thailand from neighboring countries such as Burma, Laos, and Vietnam (Biemann, 2002). Moreover, women and girls from the People's Democratic Republic of Korea are being trafficked to China for forced marriages to Chinese farmers and laborers (United Nations 2000), and trafficking occurs within China as well as into China from bordering countries.

Indeed, trafficking within the country borders of Asia is also on the rise. Extensive trafficking is reported within India itself, particularly to the cities of Calcutta and Bombay (United Nations 2000). India's New Economic Policy has resulted in increased poverty for women, forcing many of them into sex work and trafficking. Approximately 200 Indian women and girls go into prostitution each day, and the number of sex workers is increasing rapidly (see Upadhyay 2000). Now trafficking is also increasing within other Asian countries—especially from rural to urban areas (Weijers and Lap-Chew 1997).

There is a growing concern as well about the growth in trafficking within and from Africa. Although it has been difficult for researchers to gather any reliable information on the subject, the existence of trafficking networks in Africa is gradually being revealed. For example, some 25,000 Kenyans are reported to be living in inhumane conditions in the Middle East as a result of trafficking (United Nations 2000).

Eastern Europe is a growing area of concern as well. After the fall of the Berlin Wall, trafficking from Eastern Europe and the former Soviet Union increased dramatically. In a similar manner, the Balkan War contributed to an increase in trafficking in the area (United Nations 2000).

Trafficking is not limited to developing countries or newly liberalized socialist countries, however. The problem affects the developed countries as well, mainly because they are the major receiving countries. The United Nations, relying on data from the International Organization for Migration (United Nations 2000), has estimated that approximately 500,000 women are trafficked into Western Europe alone. Somewhere between 200,000 and 400,000 prostitutes are thought to be in Germany, the majority of whom are foreigners (De Stoop 1992). The Netherlands has the contradictory policy of having normalized prostitution with legislation but at the same time having a specific policy against trafficking (Raymond 1998).

Antitrafficking Movements

In some cases, a distinction is made between forced and free prostitution as regards the issue of trafficking (Doezema 2000). However, the dominant opinion is that trafficking includes sex work that is to a large extent forced, and that it is violence against women (Raymond 1998).

Over the past decade, international opinion against trafficking has resulted in national and transnational efforts and cooperation. Many international women's organizations and networks have been created to fight trafficking. The two most widely known are the Coalition Against Trafficking in Women (CATW) and the Global Alliance Against Traffic in Women (GAATW). The GAATW distinguishes between forced and free prostitution, which the CATW does not (ibid.).

Global Feminism

Global feminism is a multifaceted phenomenon that is not easy to demarcate. It can be said to consist of everything from world bodies acting on behalf of women to local grassroots movements, alliances, and networks. The aims, objectives, and methods of these organizations are as diverse as their institutional forms and ideological underpinnings. A common denom-

inator, however, is a collective effort to improve the situation of women.

The United Nations, Nongovernmental Organizations, and Lobbies

Since the 1970s, a large number of grassroots women's organizations have sprung up to work on a local level as well as globally to improve women's social and economic conditions, raise consciousness, challenge patriarchal structures, and end sexual harassment and violence (Meyer 2001). These nongovernmental organizations (NGOs) have operated as a third force apart from government and private businesses. They have established international networks and instituted lobbying efforts around world bodies such as the United Nations. A number of tribunals have been held in and around UN conferences to break the silence surrounding human rights violations against women (Wichterich 2000).

In 1975, the United Nations announced the International Women's Year, and the World Conference of the International Women's Year was arranged that same year in Mexico City. The conference designated the decade 1976–1985 as the UN Decade for Women. The women's decade coincided with the Second United Nations Development Decade, which made the discourse of women's rights a main feature of the discussion on development. Within this framework, the status of women was linked to the development of their countries. Promoting women's rights and equality between men and women were seen as necessary for economic and social development, and women's issues became a central focus of many development documents and projects. This impelled the governments of the world to promote women's issues (Berkovitch 2000).

Three UN conferences were held in the wake of the first one. The next was the Copenhagen conference in 1980. The third conference was held in Nairobi in 1985, and its aim was to review and appraise the achievements of the UN decade for women. The latest conference was the Beijing conference in 1995, which adopted the Beijing Declaration and Platform for Action.

Since the first UN conference on women in Mexico in 1975, networks have been created among women's groups. Although very extensive around the globe, the movement is decentralized and lacks an organizational umbrella. It was the NGO Forum at the Third International Women's Conference in Nairobi in 1985 that helped to crystallize the newly forming international women's movement. New alliances were established between South and North, along with a broadening of the issues from the earlier emphasis on women's reproductive rights and mortality in childbirth to include world political and economic questions (Wichterich 2000).

The spread of Information and Communication Technologies (ICT), as well as deepening links among national economies through the formation of regional trading groups and common markets, have created new opportunities for women's groups struggling for gender equality (Meyer 2001). These technologies have made it possible for women's groups from both the developed and developing world to share information, resources, and strategies in their efforts to promote gender equity (Wichterich 2000).

Perspectives on Women and Development

In the 1970s, an approach called Women in Development (WID) emerged that emphasized the need to integrate women into the development process. This approach was not only adopted by feminists, but also by organizations such as the United Nations, the World Bank, and the IMF. As a part of this approach, programs for women's integration into development were implemented in the area of technology transfers, credit facilities, technologies that would lighten women's workloads, and the like. WID programs soon came under criticism for an implicit acceptance of industrialization as beneficial and inevitable, and for not offering a framework to analyze power structures and women's subordination. In response to the

shortcomings of the WID approach, a new approach, Women and Development (WAD), gained in popularity. As opposed to WID's emphasis on integrating women into the development process, the WAD approach highlighted the ways in which women have always participated in economic activity, although these roles are often invisible and ignored because of patriarchal structures. The WAD approach was criticized, in turn, for not producing programs that were significantly different from WID programs and for not challenging the fundamental social relations of gender (Meyer 2001).

In the 1980s, the WID/WAD approaches were replaced with the Gender and Development (GAD) position. GAD focuses on the social construction of gender relations and how women have systematically been assigned inferior and secondary roles. In order to understand and transform gender inequalities, GAD includes analysis on the micro-, meso- (community and social institutions), and macrolevels. Postmodern feminists have pointed out that mainstream development agencies have not fully accepted the implications of GAD to focus on empowering and encouraging women to challenge established structures, as they reject social transformation as a development strategy. From this postmodern perspective, GAD policy recommendations have been too similar to those made by WID and WAD proponents (Marchand and Parpart 1995).

Mainstreaming Gender Equality

A new approach in accordance with GAD is the concept of gender mainstreaming (GM), now generally adopted by government and policymaking bodies. GM is the (re)organization, improvement, development, and evaluation of policy processes so that a gender equality perspective is incorporated in all policies at all levels and at all stages by actors normally involved in policymaking (Council of Europe 1998). GM was introduced into the European Employment Strategy (EES) in 1999 in order to promote gender equality, and recently the World Bank has been mainstreaming gender into its activities rather than targeting women as a group, moving from Women in Development (WID) to Gender and Development (GAD).

Feminist scholars have claimed that although mainstreaming gender issues is essential, new institutions focusing especially on women's and gender issues are needed. They hold that the mainstreamed gender approach appears safer and less political than a women's approach. Although the recognition of gender disparities is a potentially progressive step, both women and gender are necessary concepts in development analysis and policies (Aslanbeigui and Summerfield 2000). In an echo of the tension between WID and GAD, it is now debated whether GM is "integrationist" (that is, introduces a gender perspective into prevailing policy processes without challenging existing policy paradigms) or "revolutionary" (leading to a fundamental change in structures, processes, and outcomes; see, for example, Pollock and Hafner-Burton 2000; Verloo 2001).

Women's Organizations Today

Today there is neither a united women's political front nor a global unified feminism, but rather decentralized organizations connected through networking. Women in the South claim their own "indigenous" feminism independent of Western feminism. East European women have been inspired by Western feminism but find it too centered on the United States and Europe. New groupings, initiatives, projects, and nonstate organizations are continuously taking shape, developing along various paths of institutionalization and professionalization (Wichterich 2000).

There are many examples of the new international women's politics. Among these are Development Alternatives with Women for a New Era (DAWN), a South-South network of women academics and activists; Network Women in Development Europe (WIDE); and the Women's Environment and Development Organization (WEDO) (Moghadam 1996). Another well-known example is WEDO, an inter-

national network established 1990, with headquarters in New York. The acronym WEDO is itself a program: We Do. The Center for Global Leadership in New Jersey is another important networking organization and attempts to influence and gain a foothold in negotiating structures (Wichterich 2000).

Local grassroots movements are also numerous. Examples of these are the Self-Employed Women's Association and the Working Women's Forum in India, the Grassroots Women Workers Center in Taiwan, the National Commission on Working Women in Tunisia, the Caribbean Association for Feminist Research and Action (Meyer 2001), and the Society for the Promotion of Area Resource Centres (SPARC), operating in India and South Africa (Wichterich 2000).

Perspectives within the women's international movement today have an implicit tension between autonomy and adaptation as well as between transformation and participation. The women's movement has to balance the integration of women's issues into the negotiating framework of world political institutions with the vision of radical and global structural change. Thus, DAWN focuses on transformation, while WEDO stresses participation, especially in international institutions such as the United Nations, the World Bank, the IMF, and the World Trade Organization (WTO). WEDO has initiated extensive analyses of the IMF, the World Bank, the General Agreement on Tariffs and Trade (GATT), and the WTO (Meyer 2001).

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See Also Media and Entertainment; Culture and Globalization; Human Rights and Globalization; Social Policy

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Global Climate Change

Global climate change generally refers to long-term fluctuations in average global weather patterns. Some of these fluctuations, especially those that seem to be recent developments, are thought to be caused by human activities. Global climate change has been a particularly intractable problem in both domestic and international forums for several reasons. First, there is a great deal of conflicting scientific evidence about the causes, effects, and even existence of global warming. Some, but not all, of this disagreement is due to the fact that global climate trends can only be fully understood in the context of very long-term climate patterns, reaching back much further than comparable data have been collected.

As a result, policy debates have been somewhat muddled, with politicians, bureaucrats, activists, and corporate entities citing whatever evidence best suits their political and economic ends. Like all environmental problems, global climate change, if it is to be addressed effectively at all, will by definition require a truly transnational approach. It will also require states to weigh the potential environmental costs of pursuing their own particularistic economic gain and maintaining their commitment to an abstract concept of state sovereignty.

The Scientific Evidence and Debates

The History of the Concept of the Greenhouse

The first scientist to posit the reasons for the earth's temperature to remain warm despite the earth's vast distance from the sun was Jean-Baptiste Joseph Fourier. A scholar of heat and its diffusion, he posited a speculative "bell jar" model in 1827. According to this model, rather than bouncing off the surface of the earth, at least some of the sun's heat that reached the earth was trapped by clouds and other components of the atmosphere. Since this work was more theoretical than some of Fourier's earlier publications, it received less attention at the time than did his more concrete contributions to thermodynamic theory (Christianson 1999, 11–12). John Tyndall in England in about 1860 recognized the role of carbon dioxide and water vapor in absorbing radiation and posited that past ice ages might have been caused by a decrease of one or both of these gases in the air (Houghton 1997, 12). With the advent of the Industrial Revolution, the work of Fourier and Tyndall attracted renewed interest.

Scientists now know that these models are essentially accurate. Fourier and Tyndall had both hit upon key factors that function to keep the earth's climate habitable—that is, on average, about 20° Celsius higher than it would otherwise be (ibid., 18). Water vapor, carbon dioxide, and other naturally occurring gases in the earth's atmosphere function as a sort of a blanket, trapping a proportion of solar heat rather than allowing it to bounce back into space. This effect is potentially rather unstable, however, because the more heat is trapped, the greater the amount of water vapor that stays trapped in the atmosphere, and this water vapor, in turn, captures even more solar radiation (ibid., 8).

Other self-perpetuating cycles occur in climate change as well. For instance, some parts of the earth's surface, such as snow and ice, reflect more heat back into space than others. But it is those most reflective parts that are the ones most quickly disappearing in recent decades as a result of warmer temperatures. For instance, the "perennial sea ice," those areas near the poles that never thaw, have shrunk up to 10 percent in each of the past two decades, according to National Aeronautics and Space Administration (NASA) researcher Josefino Comiso, who was cited in an October 24, 2003, Associated Press (AP) article. It has also been recently posited that even the snow and ice that is left is less reflective than it otherwise would be owing to soot from diesel engines and other sources, according to a NASA study cited in a December 23, 2003, AP article.

Certain other kinds of naturally occurring emissions affect the greenhouse functions of the earth's atmosphere as well, such as volcanic ash. For instance, when Mt. Pinutubo in the Philippines erupted in the early 1990s, enough ash accumulated in the upper regions of the atmosphere to cut solar radiation reaching the earth's surface by an average of 2 percent, suppressing average global temperatures by a quarter of a degree Celsius for the next two years. This kind of ash usually hangs in the upper regions of the atmosphere for up to a decade, after which it falls to lower layers and is quickly washed out by rain (Houghton 1997, 6).

A related problem is the emission of gases from manmade sources that deplete the ozone layer. Ozone is a naturally occurring form of oxygen that filters out a substantial amount of the sun's ultraviolet (UV) rays. Ironically, the ozone layer also contributes (naturally) to the greenhouse effect, so as it is repaired, it may exacerbate the greenhouse effect (Manchester Metropolitan University).

The Role of the Seas in Moderating Climate

Some areas of the planet are kept much warmer than they would otherwise be due to the influence of a system of ocean currents called the North Atlantic Meridional Overturning Circulation (NAMOC), of which the Gulf Stream is the best known. The Gulf Stream brings warm water from the Caribbean up to the seas surrounding Britain and northern Europe. This keeps these areas on average about 5º Celsius warmer than comparable latitudes in Greenland and Canada, greatly affecting agricultural productivity in the region, among other things, according to a November 12, 2003, article in *The Guardian.* This "conveyer belt" of warm water is kept going, in part, by the fact that it cools as it moves northward; by the time it reaches the Arctic, much of it has sunk back down and started to head south again (like cold air, cold water sinks).

But global warming is nevertheless melting the polar ice packs and thus causing large amounts of cold, fresh water to be dumped into the North Atlantic. An August 13, 2003, AP article cited Swedish climatologist Ola Johannessen, who warned that the entirety of the polar ice caps could melt over the next century. Since scientists first started taking reliable measurements of the Arctic ice cap, it has shrunk by about a million square kilometers, and it now extends over an area of only 6 million square kilometers in the summertime. According to Bogi Hansen at the Faroese fisheries laboratory, cited in a November 13, 2003, article in *The Guardian,* this change could disrupt, slow down, or possibly even *stop* the ocean conveyer belt. Some scientists have estimated that the conveyor belt may have slowed by up to 20 percent over the past fifty years. This effect could lead to much colder temperatures in Europe.

In addition, the higher the temperature of the surface of the ocean, the more water vapor in the air, so rising average ocean surface temperatures could increase the greenhouse effect even further (Houghton 1997, 8).

The Extent of Temperature Change

Short-term trends indicate that global temperatures are indeed rising. They have steadily increased over the course of the past three

decades (Christianson 1999, ix), and based on current trends, scientists have predicted that the average global temperature will rise 2.5º Celsius over the course of the next century, probably a faster rate than at any time in the past 10,000 years. Although this sounds like a very small amount, it may be put into perspective by the fact that the average global temperature difference between ice age and non–ice age periods is estimated to be only 6º Celsius (Houghton 1997, 8).

How much of this change in average temperatures is due to human activity? This is a hotly debated question. Scientists know that the kinds of fluctuations that ice ages represent have occurred over and over again in the course of the earth's history. Thus, there is only limited evidence on how unusual current trends actually are. This evidence includes ice cores, tree rings, and sedimentary deposit patterns, and though such evidence does seem to suggest that current warming patterns are unusual, it has not been enough to satisfy all researchers in the field.

The Role of Manmade Emissions

The Swedish chemist Svante August Arrhenius warned in 1896 that increasing amounts of carbon dioxide in the atmosphere could increase the average global temperature by 5 to 6 percent. In the 1940s, Englishman John Callendar was able to more precisely estimate the amount of this increase due to the burning of fossil fuels (Houghton 1997, 12). Current research indicates an increase of about 30 percent in carbon dioxide since the start of the Industrial Revolution, and this percentage may double again in the next century (ibid., 18). The first scientists to voice serious concern about the climate change that might result from increased carbon dioxide in the atmosphere were Roger Ravelle and Hans Suess of the Scripps Institute, in 1957. The first consistent measurements of greenhouse gases in the atmosphere date to this period (ibid.,12).

There are certain greenhouse effect–enhancing gases whose occurrence in the atmosphere is significantly affected by human activity. The most important of these are carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons (CFCs). Concentrations of the first three are easiest to identify; carbon dioxide contributes about 70 percent of the enhanced greenhouse effect from this group, methane 24 percent, and nitrous oxide 6 percent (ibid., 22). Carbon dioxide, though a naturally occurring gas, has come to represent a greater and greater proportion of the gases in the atmosphere as a result of certain kinds of industrial processes and because of increasing deforestation. (Green plants remove carbon dioxide from the air and put oxygen into the air). Methane gases are primarily released by cattle, and as global (especially northern) demand for beef has continued to increase, so have methane emissions. Finally, CFCs, originally introduced as a refrigerant (Christianson 1999, xii), became popular in the mid–twentieth century as propellants for aerosols of all kinds, and they also served as an important component of Styrofoam.

Industrialization and the burning of fossil fuels have borne the brunt of blame for atmospheric changes that enhance the greenhouse effect. But new evidence seems to suggest that humans have been altering the composition of the atmosphere, and thus global climate trends, for at least 8,000 years. It was at about that time that the advent of large-scale rice farming and raising of livestock in Asia led to deforestation, and therefore to an increase in carbon dioxide and methane in the atmosphere, according to a paper presented at a meeting of the American Geophysical Union in San Francisco (cited in a December, 10, 2003, article in *Nature*).

The Effects of Climate Change

Estimations of the effects of global warming, should it persist, range from the cataclysmic to the benificent.

Rising Sea Levels. The earliest estimates of the predicted rise in sea levels due to the melting of the polar ice caps topped 10 feet, meaning that many of the most populated parts of

the planet would become largely uninhabitable. Other evidence points to a rise of only a few inches (Michaels and Balling 2000, 3). Even this amount, however, could threaten many marshy and brackish areas, which serve many purposes for coastal regions. They are refuges and/or nurseries for many species, and they restrict the flow of tides during floods. They also act as natural filters for drinking water. Overdevelopment along coastlines (such as that in the New York City area's Jamaica Bay) exacerbates these problems, according to a January 1, 2004, article in the *New York Post.*

Rising Rates of Extinction. The World Wildlife Fund reported that a million species may be at risk in coming decades due to global climate change, according to a press release carried January 8, 2004, by U.S. Newswire. Even short of extinction, just depletion of some species could have severe effects. For instance, an article in *The Guardian* on August 13, 2003, reported that warmer air and water temperatures in huge Lake Tanganyika in Africa have led to less mixing of surface-level and deeper water. This means that fewer nutrients from the bottom get to the surface, leading to lower concentrations of the algae that feed important fish populations. These populations are key components of the food supply for several developing nations on the continent.

More Violent Weather. Warmer water temperatures could also fuel greater numbers of typhoons and other kinds of storms (Houghton 1997, 3). In addition, some areas, such as the Great Lakes region of the United States, could experience increases in snowfall. This effect would occur as overall air temperatures rose, leading to an increase in the differential between air temperatures and water temperatures. It is this differential that causes lake-effect snow. If more vehicles were deployed to deal with the snow, these additional vehicles would emit still more fossil-fuel exhaust, as pointed out in a November 5, 2003, Reuters article.

Global Cooling? Because of the role of ocean currents such as the Gulf Stream in regulating global temperatures, if currents are disrupted some areas could experience severe global *cooling,* as suggested in a November 12, 2003, article in *The Guardian.* The places most likely for this to happen would be those currently most warmed by heated Caribbean air in the Gulf Stream, such as Britain and Western Europe.

Melting of Polar Icecaps. Though this phenomenon could have negative effects on ocean currents, as discussed above, Ola Johannessen, the Swedish climatologist cited in the August 13, 2003, AP article, pointed out that there could also be positive effects. New, more efficient northern shipping routes would open up, for example, and the additional water would help to absorb the excess carbon dioxide that had led to warming and melting in the first place.

Greening of the Planet. Other scientists point to the fact that the temperature change would mostly affect winter in the coldest parts of the inhabited world, namely Siberia and northwestern North America. This could lead to an increase in the growing season, suggesting to these optimists that a moderate rise in average global temperatures could be beneficial for most inhabitants and actually increase the carrying capacity of the planet (Michaels and Balling 2000, 2–4).

The Political Realm

Action Internationally

The most important international action with regard to investigating evidence of global warming, the role of humans therein, and the best possible ways to address it have come in the form of the establishment of the International Panel on Climate Change, an organization commissioned by the UN Environmental Programme and the World Meteorological Organization to research the issue. Three UN conferences on the environment have also addressed global warming issues, including the Montreal Summit on Substances that Deplete

the Ozone Layer in 1987, the UN Conference on Environment and Development (Rio Summit) in 1992, and the Kyoto Summit in 1997. All of these summits led to protocols that called for reductions in greenhouse gases by at least some members of the international community.

In the Montreal Protocol, which was based on the 1985 Vienna Convention (establishing guidelines for nations to conduct research into the ozone layer and ozone-depleting substances), developed nations agreed to cut their emissions of CFCs and other ozone-depleting substances entirely by 2000 (2005 for one subcategory, methyl chloroform). The protocol was signed by twenty-four countries and the European Economic Community (EEC). Two later amendments, the London Amendment and the Copenhagen Amendment (and additional minor amendments) substantially clarified and refined the protocol's objectives. These goals have largely been met.

With the United Nations Framework Convention on Climate Change (UNFCCC) (opened for signature at the 1992 Rio Summit and therefore known as the Rio Protocol), signatories agreed to "stabilize greenhouse gas concentrations in the atmosphere at a level that [prevents] dangerous anthropogenic interference in the climate system." The Rio Protocol was signed by President George H. W. Bush and ratified by the U.S. Senate, and it went into effect on March 21, 1994, following ratification by the requisite forty-nine other countries (UNFCCC 2003).

At the Kyoto conference, developed nations (known officially in the UNFCCC as Annex I nations, those that have historically contributed the most to greenhouse gas emissions and therefore have more stringent reduction goals and more detailed reporting requirements) agreed to either cut or limit their increases of greenhouse gas emissions (depending on the country). These commitments were codified in the Kyoto Protocol to the UNFCCC. For example, the United States agreed to cut its emissions by 7 percent (from 1990 levels) by 2012, and the European Union pledged to cut emissions by 8 percent. Globally, these cuts would add up to a total reduction of at least 5 percent from 1995 levels (UNFCCC 2003).

These limits cover the six main kinds of greenhouse gases that have been demonstrated to be the greatest contributors to the greenhouse effect, including carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Besides cutting emissions actually produced, nations could lower total emissions by engaging in activities that remove greenhouse gases from the atmosphere, such as reforestation. These kinds of activities provide states with credits (called "removal units") that they can either apply to their own targets or sell to other states (UNFCCC 2003).

Such limits are legally binding on Annex I developed nations that have ratified the protocol, meaning that failing to meet them could draw UN sanctions. Most developing nations are exempt from any limits. Those exempt include large, rapidly industrializing nations such as India and Mexico. These exemptions have led to a great deal of criticism by some parties in the United States and other developed nations.

The Kyoto Protocol was signed by President Bill Clinton but has yet to be ratified by the U.S. Senate, largely because of perceived unfairness due to the differential restrictions, and also because of projected domestic costs of limiting emissions. Some argue these costs would make the U.S. economy less competitive vis-à-vis the economies of those countries on whom no restrictions were placed (see, for instance, Michaels and Balling 2000).

The UNFCCC has been updated through a series of annual meetings (Conferences of Parties, or COPs) that have served as vehicles for the 186 signatory states to determine strategies for working toward the goals outlined in the protocols. The tenth and most recent of these meetings took place in December 2004 in Buenos Aires, Argentina. Signatories must report progress toward their goals on an annual basis.

International Debates

There have been three main barriers to progress on the goals of the UNFCCC. One is the inconclusiveness of scientific evidence. Another is the perceived unfairness of the differential restrictions by some developed states. A third barrier is the lack of enforcement mechanisms built into the UNFCCC itself.

In response to the first two barriers, proponents of more proactive approaches argue that if progress is too long delayed, the problem will have expanded beyond the realm of human control (Philander 1998, 10).

U.S. Action

Although the United States did ratify the Montreal and Rio protocols, it has yet to ratify the Kyoto Protocol, largely because of the kinds of objections expressed by other industrialized nations. Under the George W. Bush administration and a Republican-dominated Congress, it seems unlikely the Kyoto Protocol will be ratified any time in the foreseeable future.

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See Also Energy and Utilities; Environmental Impacts of Globalization; Natural Resources; Sustainable Development

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Human Rights and Globalization

The term "human rights" constitutes a claim that there exist basic rights enjoyed by individual human beings based solely on the fact of their humanity and not on their citizenship in a particular nation-state. The universal nature of this claim generates two forces for globalization. First, the claim has resulted in the creation of positive laws and accompanying institutions that challenge traditional international relations. Second, the claim engenders a human rights culture that acts as a source of moral pressure on global political and economic relations.

Origins of the Modern Human Rights Movement

World War II was the catalyst for the modern human rights movement. The devastation of the war encouraged a successful second attempt by nations of the world to forge global mechanisms for peace and security. The creation of the League of Nations in 1919 was the first attempt to construct a political architecture of conflict resolution, but it failed for want of widespread participation and because of the animosities of post–World War I politics. As the outcome of World War II grew clearer, the Allies, especially Great Britain, the Soviet Union, and the United States, met in 1944 to set the groundwork for institutions that would eliminate sources of global insecurity responsible for war. It was within these institutions that core struggles for human rights would occur.

At a conference at Bretton Woods, New Hampshire, in 1944, the Allies addressed the causes of international economic conflict. To promote currency stability and provide development assistance to poorer nations, new financial organizations were envisioned, including the International Bank for Reconstruction and Development (the World Bank), the International Monetary Fund (IMF), and an International Trade Organization that ultimately failed to emerge. Later, at Dumbarton Oaks in Washington, D.C., plans were furthered to enable the United Nations to take over where the League of Nations had left off as a vehicle to mediate political conflicts among states.

In 1945, the horrific specter of the Holocaust mobilized forces that would promote international recognition that fundamental human rights transcend the sovereignty of the nation-state. The shocking picture of human barbarism that emerged upon the opening of the Nazi concentration camps engendered worldwide revulsion and strengthened the resolve that the principle of sovereignty not be allowed to provide cover for a state to abuse its own citizens with impunity. When the UN General Assembly subsequently endorsed the prosecution of Nazi and Japanese war criminals in the Nuremberg and Tokyo trials (1945–1946), it defined for itself a new mandate—the protection of individuals throughout the world from "crimes against humanity." In 1945, persistent lobbying by several nations and international organizations led to the inclusion of "human rights" in the UN Charter and the cre-

ation of a special Human Rights Commission, chaired by Eleanor Roosevelt, widow of the wartime president. The commission was charged with developing the basic documents of the proposed new human rights regime.

Creation of a Human Rights Framework

The Universal Declaration of Human Rights (UDHR) was crafted over a period of nearly two years and adopted by the UN General Assembly on December 10, 1948. In its preamble, it succinctly captured a broad international consensus, proclaiming that "recognition of the inherent dignity and of the equal and inalienable rights of the members of the human family is the foundation of freedom, justice and peace in the world."

The UDHR's thirty articles include statements about the right to life, civil and political rights, and economic and social rights. A declaration of standards, the UDHR would become the springboard for subsequent conventions that spell out binding legal obligations of states to respect specific rights of their citizens. The most important of these treaties include the International Covenant on Civil and Political Rights (ICCPR); the International Covenant on Economic, Social, and Cultural Rights (ICESCR); the Convention on the Prevention and Punishment of the Crime of Genocide (CPPCG); the International Convention on the Elimination of All Forms of Racial Discrimination (CERD); the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW); and the Convention on the Rights of the Child (CRC).

The total body of rights has been described in terms of three "generations": (1) those rights relating the individual to the state, so-called "civil and political rights"; (2) those rights providing for the economic and social well-being of the individual; and (3) so-called "solidarity" rights that provide for the individual's ability to participate in general human progress. The first has been associated with the liberal tradition emanating from the West in the seventeenth and eighteenth centuries; the second with the widespread social democracy and labor rights movements of the nineteenth and twentieth centuries; and the third with the rise of globalization in the late twentieth century.

This body of human rights norms, conventions, and laws has been realized in overlapping stages. The first stage was marked by an initial "articulation of standards" that occurred between the signing of the UDHR and the adoption of the ICCPR and the ICESCR in 1966. This stage was characterized by little actual reporting of violations and virtually no attempt at enforcement. The second stage was preoccupied with "reporting of violations" and was characterized by the rise of human rights nongovernmental agencies such as Amnesty International (founded in 1961; Nobel Peace Prize recipient in 1977). Reporting was further encouraged by the 1975 Helsinki Accords among thirty-five major states, including the principal Cold War nations, and by the Country Reports on Human Rights Practices produced by the U.S. Department of State beginning in 1977. The third stage has increasingly focused on "enforcement." It developed from the imposition of UN embargoes against the former white-dominated English colony of Rhodesia in 1966 and against South Africa in 1977 and continued to assume an important role with the UN's ad-hoc tribunals in the former Yugoslavia and in Rwanda in the 1990s. The creation of the International Criminal Court (ICC) in 2002 augurs new enforcement capabilities in line with this third stage of human rights activity.

The human rights movement is now a global undertaking that involves the United Nations, individual countries, and thousands of nongovernmental organizations (NGOs) that monitor, report, lobby, and at times enforce more than 100 human rights treaties, conventions, proclamations, and declarations.

Laws and Institutions

Though universal human rights as an idea has existed in a variety of forms since ancient times and was propelled forward by both the eighteenth-century French Revolution and the twentieth-century crisis of two world wars, the formal and legal institutions that implement human rights law derive primarily from the United Nations and related institutions in the post–World War II era. Because the United Nations acts through concurrence of its member states, national sovereignty poses the greatest hurdle to the emerging body of human rights law that claims universal jurisdiction. Strong governments, particularly that of the United States, initially opposed the idea that the UDHR should immediately produce enforceable rights. Over time, UN covenants and conventions, regional and multilateral treaties, and domestic institutions and procedures have increased enforcement capacity as states bind themselves to uphold particular provisions of the UDHR or elaborate upon them. The European Union, for example, has made the realization of human rights a condition of membership.

Human rights law ultimately rests on a series of more than thirty multilateral treaties that are legally binding on those countries that have signed and ratified them according to their own domestic procedures of treaty ratification. The most well known of these treaties are the UDHR, the ICCPR, and the ICESCR; but the Convention on the Prevention and Punishment of the Crime of Genocide (1951), the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (1987), the Convention on the Rights of the Child (1990), the Convention on the Elimination of All Forms of Discrimination against Women (1981), and the International Convention on the Elimination of All Forms of Racial Discrimination (1969) also now play a prominent role in international law.

There exists also a large body of so-called "soft law"—declarations, standards, principles, and norms—that has been articulated and endorsed by a majority of nations and is therefore available to legal proceedings. Although soft law is regarded more as a cultural phenomenon than a strictly legal one, nonetheless judges may—as in U.S. negligence law—discern standards by which appropriate practice may be judged using recognized authorities. Within human rights legal practice, standards espoused by the UDHR have gained widespread acceptance among the nations of the world, which has led to their limited acceptance under the rubric of "customary law." Soft law, however, does not normally prevail against competing positive law.

The major institutions that attempt to implement human rights law can be divided geographically into three arenas: international, regional, and domestic. The United Nations itself is the major international institution accepting responsibility for promoting and ensuring human rights, as its charter mandates. There are four bodies within the UN that carry out this responsibility: the Security Council, composed of five permanent and ten rotating members; the General Assembly; the special and thematic committees and commissions with particular jurisdictions; and the permanent International Criminal Court (playing a role similar to that formerly carried out by the ad-hoc tribunals).

The Security Council has the authority to intervene, economically or militarily, in conflicts where, in addition to open hostilities, widespread human rights abuses have occurred or threaten to occur. It has done so in Korea, the Congo, Southern Rhodesia, South Africa, Haiti, Somalia, Iraq, Liberia, Libya, Angola, and the former Yugoslavia. The General Assembly, led by the secretary general of the United Nations, has used its public platform to make and publicize resolutions and declarations that expose human rights abuses throughout the world.

Enforcement Bodies

The UN Commission on Human Rights was established in 1946 with the founding charter of

the Economic and Social Council. It oversaw the creation of the UDHR, and its members now meet yearly to hear complaints about human rights abuses and to recommend actions. In 1993, the UN created the related Office of the High Commissioner for Human Rights with overall responsibility for promoting human rights inside and outside of the UN. The Human Rights Committee is a body of eighteen human rights experts that investigates cases of abuse and recommends actions under the jurisdiction of the Covenant on Civil and Political Rights. Special committees are established from time to time—for example, on apartheid in South Africa or the Israeli-Palestinian conflict—to address the particular issues raised by specific conflicts or patterns of abuse.

In response to the atrocities that occurred in Bosnia-Herzegovina as a result of the breakup of the former Yugoslavia, including genocide, "ethnic cleansing," and systematic rape, in 1994 the UN Security Council created the International Criminal Tribunal for the former Yugoslavia (ICTY) and the Criminal Tribunal for Rwanda (CTR). Based on the model of the Nuremburg and Tokyo tribunals, these ad-hoc tribunals led to suggestions for additional courts in the aftermath of hostilities in Cambodia, Sierra Leone, and Iraq. The most dramatic development in the implementation of human rights law has been the creation in 2002 of the International Criminal Court. The court was established by the Rome Statute in 1998 and came into force in 2002 after the requisite sixty countries had ratified the treaty. Its jurisdiction is "universal," that is, it operates across national boundaries, a concept first adopted in the UN Charter and affirmed in the four Geneva conventions of 1949. The ICC will prosecute major violations—genocide, crimes against humanity, and war crimes—committed by individuals in or from countries signatory to the treaty. The ICC has not been ratified by major powers such as the United States, China, or Russia, however, which have attempted to protect themselves from the court's reach. For example, in 2002, the United States asked for and received a twelve-month postponement from ICC prosecutions as its price for continued assistance in UN peacekeeping missions.

Regional bodies created by multilateral treaties also implement international human rights law. These include the African Union (formerly the Organization of African Unity), the Organization of American States, and the European Union. The latter two have permanent courts devoted to hearing human rights cases—the Inter-American Court of Human Rights and the European Court of Human Rights, respectively.

At the same time that international and regional courts try cases of human rights abuse, domestic courts and institutions at times use international human rights law in their proceedings. For example, the United States is required by its domestic law to report the human rights conditions of countries with which it has economic relations and to use those reports in determining whether the economic relations should continue or be suspended. In its post-apartheid constitution, South Africa has built human rights into its national legal system.

Tensions in Human Rights Implementation

The increasing popularity of the claim that rights are universal makes them a normative force with a global reach. This role within the larger process of globalization creates three major tensions. Like other forms of globalization, human rights must contend with the power of the nation-state in world relations. To the extent that the human rights movement permits or encourages governments to interpret and enforce human rights on their own, its universality is compromised and its impact as a global force is limited. A second key tension is posed by the existence of other global institutions whose purposes may conflict with human rights. This tension is felt most acutely in attempts to promote and enforce economic and development rights at odds with actions taken

by global economic and financial institutions such as the IMF and the World Trade Organization (WTO). The charters of such organizations direct them to pursue economic goals and do not explicitly authorize them to consider human rights. A third tension is internal to the human rights discourse. Because human rights constitute broad claims that involve divergent fields such as politics, economics, culture, and science, the exercise of a right specific to one field may come at the expense of another right specific to a different field. When implementation of a right is contingent upon the enforcement of other rights, the claim of universality is harder to make.

The value of the human rights movement does not arise solely from its claim to universality, however, and consequently globalization is not the sole measure of its success. However, universality is a building block by which human rights achieve moral authority. How the tensions inherent in these claims are resolved will be central to the nature and progress of globalization.

Universality and the Nation-State

The most unmistakable challenge to human rights, and indeed to globalization itself, is the assertion of sovereignty by nation-states. In natural law theory, upon which human rights are often predicated, the state provides the foundation of social order. To be legitimate, this order hinges upon a social compact in which a people surrenders some rights over their own persons and property to secure that order. The surrender of rights is limited, however, and governments are assumed to protect the individual by ensuring that the rights not surrendered are free from government usurpation or violation by others. The nation-state exercises a unique place in human rights theory because its police powers make it both the guarantor of individual rights and a potential source of their abuse.

If a nation's internal agencies fail to protect a people's rights, abuses can only be checked through the exercise of a countervailing force. One such force involves insurrections by an abused populace against their government. Alternatively, an oppressed people may call for external assistance. However, the sovereignty of the nation-state to do as it wishes inside its borders has, until recently, largely provided the operating principle of international relations. Tensions within international relations typically produce no shortage of states ready to proclaim that their enemies violate the rights of their citizens, yet actions taken on behalf of another nation's inhabitants possess dubious legitimacy, subject as they are to interpretations of self-interest or opportunism. Within the political and legal processes of globalization, the crowning achievement for human rights has been the surrender, however limited, of state sovereignty to transnational bodies empowered to enforce human rights against the will of ruling governments.

That achievement is not without its own concerns. Members within global enforcement bodies typically represent the nation-states and may be expected to possess a bias toward the principle of sovereignty. Forcible interventions remain contingent upon multinational coalitions and will not be settled merely by application of a uniform standard. For example, UN Security Council intervention can be vetoed by any of the five permanent members, suggesting that enforcement of universal human rights indirectly depends ultimately upon the will of strong nation-states. Furthermore, the major nation-state powers continue to exercise disproportionate influence by virtue of size, military capacity, or contributions to organizational budgets. The use of force, whether through global institutions, through multilateral agreement, or by unilateral action, is conditioned by a "realist" global politics by which nations assess interventions in terms of their own costs and benefits. During the 1990s, in the cause of human rights, the United Nations,

the North Atlantic Treaty Organization (NATO), and the United States all intervened to halt abuses of sovereign power by Iraq against Kuwait or against domestic abuses of human rights in Haiti, Somalia, and Bosnia. The choice and timing of interventions reflects political realities faced by member states who are unwilling or unable to enforce all gross violations of human rights, making questionable the degree to which enforcement of human rights is either neutral or universal. For example, in 1994 the UN removed itself from Rwanda at the very moment when a genocide that may have claimed as many as 800,000 lives was beginning.

To secure human rights objectives, one alternative to military power is the use of economic sanctions. However, not only is the power to coerce recalcitrant governments unreliable, but the results of economic sanctions have been mixed, particularly because it is difficult to coordinate actions among nations having diverse interests. Coalitions are stressed by the costs that loss of trade and investment opportunities imposes upon those who boycott and by the rewards to competitors who do not. The twelve-year-long economic blockade against Iraq is indicative of all these problems. The loss of food and medicine, either directly from the boycott or indirectly through the corruption of the ruling Iraqi elite, made Iraqi citizens the victims, while sanctioning states were threatened with a loss of oil supplies and other investment opportunities. A food-for-oil provision implemented in 1996 allowed some countries to seize economic advantages that otherwise would not have been present.

Unilateral action is easier to implement, but generally less effective. The United States has unilaterally undertaken more than seventy economic sanctions against countries—of which the most notable is Cuba. Although not all such actions were undertaken in the cause of human rights, when they are, unilateralism risks the interpretation that human rights are a screen for Western hegemony.

Universality and Global Institutions

The emergence of multiple global organizations charged with technocratic supervision over a variety of overlapping world concerns requires some determination of priorities among them. Although universal rights and fundamental freedoms might be expected to dominate more material concerns, so far this has not always been the case.

UN agencies generally weigh the effects of their actions on human rights, whereas the WTO and the IMF have historically resisted pleas to subordinate their tasks to these concerns. Though the actions these agencies conduct may secondarily promote specific human rights, their primary mandate is to promote economic stability and development as distinct from second-generation economic rights such as an adequate standard of living, or freedom of association and the right to collective bargaining.

On January 1, 1995, the World Trade Organization succeeded the General Agreement on Tariffs and Trade (GATT). Unlike the failed plans for a post–World War II International Trade Organization that promoted employment rights and standards, the WTO has so far persevered with a narrower charter designed to reduce and resolve trade-based disputes by decreasing barriers to trade. WTO members enjoy most-favored-nation (MFN) status. The WTO also provides a mechanism to resolve trade disputes and, where necessary, to penalize violators. In late 1999, international attention was focused on the WTO as protesters in Seattle obstructed its meeting, arguing that environmental, labor, and human rights be included among the criteria used to regulate trade. Although President Bill Clinton made public overtures in support of their concerns, the subsequent accession of China to the WTO, despite its problematic human rights record, was generally presumed to constitute defeat for the protesters' argument.

The WTO's rules commit member nations to abide by principles of nondiscrimination among member economies but do not appeal or respond to more general human rights. Governments strongly influenced by an economic elite frequently oppose the enforcement of human rights standards where these might conflict with economic growth generally or with their own self-interest in particular. Equally, however, many governments of developing nations argue that moves to impose labor and human rights standards place their nations at a disadvantage and serve as protectionist measures for rich nations. Their position echoes the 1993 Bangkok Declaration, in which Asian leaders argued in favor of national sovereignty to protect less developed nations against Western values disguised as universal human rights. Nonetheless, in at least one instance, the WTO has been forced to consider a decision in light of human rights concerns. Specifically, it has given a tentative green light for developed nations to manufacture inexpensive versions of anti-HIV/AIDS drugs despite patent rights held by multinational pharmaceutical companies. In this case, protection of human rights was deemed to take priority over protection of intellectual property rights.

For the enforcement of labor rights and standards, advocates will either have to turn to the International Labour Organization (ILO) or to other voluntary mechanisms. Drawing its membership from labor organizations, privately owned companies, and states, the ILO has been active in defining and promoting labor standards since its inception in 1919. However, other than the moral suasion it can bring to bear on abusive labor practices, the ILO has very limited enforcement powers. To date, its principal work has been to publicize labor standards, to hear disputes regarding violations of its standards, and to provide technical assistance to remedy abuses. The ILO exercised a right granted under Article 33 for the first time in June 2000 when it requested that ILO and UN members review their trade relations with Myanmar to stop the forced labor practices of its military government. This action suggests that the ILO may become more active in enforcing human rights, although its ability to require member states to abide by its decisions remains, so far, limited. Effective economic power to regulate national behavior more clearly resides with the WTO and the IMF.

The IMF has been involved in a number of controversies concerning human rights in very poor countries. It has been especially criticized for the effects it has had on the rights of self-determination, the right of development, environmental rights, and the rights of indigenous peoples. Along with the World Bank, the IMF was designed in 1944 to secure global economic and financial stability. In particular, it was charged with responsibility to maintain stable international exchange rates by providing reserves to countries facing severe balance of payments problems.

Particularly since the post–Cold War era, IMF and World Bank aid to developing countries has imposed structural adjustments on beneficiary nations. The conditions for loans typically require governments to reduce expenditures, privatize nationally held industries, increase interest rates, reduce public services, and/or devalue their currencies. Such requirements invariably impose hardships upon the majority of citizens in already poor countries. Critics assert that IMF policies frequently fail to achieve even their immediate goals, which are to stabilize currencies and to improve the position of the debtor so that repayment is possible.

The IMF is not primarily an aid institution and instead attempts to act as a banker, refusing to commit resources where it fails to see prospects for repayment. Liberal economists argue that if the IMF offers relief without requiring fiscal prudence, it invites the moral hazard that governments will not take sufficient precautions against their own default. At present, the economic concerns of core global financial institutions outweigh human rights concerns. Poor nations are faced with ratchet-

ing demands for human rights accountability, especially in the economic arena, at the same time that structural adjustment diminishes their short-term capacity to respond.

Universality and Internal Consistency

The sets of rights agreed upon through human rights declarations, covenants, and conventions can at times seem contradictory, requiring some prioritization to reduce the tension in reconciling competing claims. To dissolve this tension, advocates suggest that human rights not only define what "is," but also what "ought" to be. In addition, authorities such as Burns H. Weston argue that it is counterproductive to think of rights in absolutist terms. So understood, human rights inform globalization by creating a "human rights culture" that sustains a global conversation about moral standards.

Although rights claims gain authority through the assertion that they are indivisible and universal, it is recognized that some rights will only be realized progressively. For example, the ICESCR recognizes that its standards can be promoted only to the extent that resources become available. Thus, the right to work, trade union rights, and the right to an adequate standard of living might be called goals rather than rights, though to do so would clearly weaken their force.

A major challenge has arisen over the so-called third-generation solidarity rights, which include the right to self-determination, the right to control over national resources, and the right to participate in all the fruits of human progress. For example, despite the reluctance of some, the willingness of developing nations to collaborate to reduce drug prices to less-developed HIV/AIDS-inflicted countries suggests that humane concerns may yet prevail over economic interests. As of 2002, major pharmaceutical companies have begun to reduce HIV/AIDS drug prices to some nations. Such ad-hoc solutions to human rights set precedents with broader consequences, though they may not have the force of law.

Increasingly, human rights advocates leverage public indignation to produce economic results on a situation-by-situation basis. Whether and how these precedents can be reconciled and prioritized will constitute the story of human rights in the near future.

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See Also International Labour Organization (ILO); Culture and Globalization; Gender and Globalization; Labor Rights and Standards; Social Policy

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Labor Rights and Standards

Labor standards are laws and regulations governing the relationship between workers and employers. They include labor-market conditions, such as wages and work hours; workplace conditions relating to health and safety and the elimination of hazards; and agreements between workers and employers, including procedures for forming unions, bargaining, and hiring and firing. Labor rights are those human rights applied to the work setting to which all individuals are justly entitled, regardless of cultural, political, and economic circumstances.

Globalization has increased awareness of labor conditions around the world, leading to the creation of *international* labor standards. The International Labour Organization (ILO) was formed in 1919 to advance a broad range of social and labor issues, which today include industrial relations, conditions of work, social security, forced and child labor, and employment discrimination. Through a tripartite structure of dialogue between governments, workers' organizations, and employers' representatives, the ILO creates international labor standards, supervising and supporting their implementation in member states. Two rationales for harmonizing labor standards across countries are to protect human rights and to prevent unfair competitive advantage from harming the economies of high-standard nations. Recently, debate has arisen over whether the World Trade Organization (WTO) should enforce labor standards by using trade sanctions on its members.

History of Labor Standards

Rules governing the relationship between employer and worker are as old as the nation-state. Basic regulations for factory workers in Russia (1719), apprentices in Austria (1780s), and chimney sweeps in England (1788) are early examples. However, many historians trace the genesis of labor standards to the English Factory Act of 1802, which was introduced by Sir Robert Peel. More extensive than earlier regulations, this act improved conditions for pauper apprentices by limiting their workday to twelve hours, prohibiting them from night work, and allowing them to participate in educational and religious organizations. Having emerged first in the textile industry, early labor standards spread to nontextile factories by 1845 and finally to the mining sector. In 1842, women and children were banned from working in mines in England in a law that reflected the focus of most early standards on female and underage populations. Legislation of standards governing men's work were viewed as unnecessary as well as inconsistent with the constitutional ideal that men should be free to perform contract work.

Early laws were frequently revised and expanded to include new classes of workers, both within and across nations. Having taken root in England, the introduction of labor standards spread to Western Europe, North America, Eastern Europe, Latin America, and finally Africa and Asia. The activists tended to be from the middle class and argued that labor standards

were not only necessary on moral grounds, but also beneficial for economic growth. Dissenters made a common objection: Labor standards would raise wages too much and cause job loss, further obfuscating conditions.

The emergence and expansion of labor standards internationally took place in three periods (Engerman 2003). Early labor standards were legislated first at the national level and were intended only for citizens of the country, but by the mid–nineteenth century, the notion emerged that labor standards could apply internationally. In 1818, the Welsh social worker and philanthropist Robert Owen first proposed the idea to a meeting of European statesmen. Owen argued that labor conditions constituted basic human rights, whereas many other proponents identified the harmful impact of low standards in some countries on the trade competitiveness of nations with higher labor standards. They also argued that international cooperation could reduce the cost of making standards domestically.

In 1833, Charles Hindley wrote about specific mechanisms for state cooperation on labor standards. The Brussels Congress of Benevolent Societies (1856) began a series of European, unilaterally organized conferences in which two major bilateral agreements were created, one limiting night work of children and women and the other banning the use of white phosphorus in the production of matches. These agreements were not truly universal, however, because participants were limited to developed Western nations and the laws did not apply to colonies or native populations. Of the twenty bilateral agreements signed between 1904 and 1915, as well as the few that preceded them, only one—the French-Italian treaty of 1904—was intended to actually change any national laws in the signatory states.

The creation of the ILO in 1919 began a new phase of more inclusive, multilateral cooperation. The provisions of the Paris Peace Conference (and later the Treaty of Versailles) created the ILO as the body of the League of Nations charged by its original forty-four members with the task of defining and promoting universal labor standards. Following World War II, the League of Nations was replaced by the United Nations, and the ILO became the only surviving agency incorporated into its system. With UN membership expanding to 54 in 1924, 121 in 1969, and 176 in 2003, new challenges emerged for multilateral agreement on the definition and interpretation of standards, and the focus increased on the provision of technical assistance to improve standards in developing countries.

Defining Labor Rights and Standards

Labor standards are national and international laws and regulations governing labor-market conditions as well as a range of agreements between workers and employers. Laws regulating minimum wage, workplace health and safety conditions, and the formation of unions are examples of labor standards. Labor rights are the most fundamental aspects of working conditions to which all human beings are justly entitled and which transcend all cultural, political, and economic situations (OECD 1996). Some generally accepted labor rights are reflected in bans on slavery and forced labor; on the use of prisoners in the production of market-competing goods; on employment discrimination on the basis of sex, religion, race, or nationality; and on sexual harassment in the workplace. Limits on work performed by children are another important area of labor-standards concerns.

Labor rights, or human rights more generally, are important justifications for creating labor standards. For example, people have the right to be fairly compensated for work. A minimum wage is a standard corresponding to this right. Often, the terms "labor rights" and "labor standards" are used interchangeably; ILO standards are considered international labor standards and are based on human rights.

Labor conditions and laws vary considerably across nations, reflecting the fact that there is no single, universally agreed formulation of labor standards. Mita Aggrewal (1995) distinguished between labor standard *outcomes,* such as specific wages and benefits guaranteed in higher standard countries, and basic *procedural* rights and standards, which reflect progress in lower standard countries toward outcomes.

Numerous formulations of basic labor standards exist worldwide. The rights and standards that are considered basic international labor standards under U.S. trade law are as follows (as cited in Singh 2003, 112; see also Brown et al. 2003, Appendix 1):

1. Freedom of association
2. The right to organize and bargain collectively
3. Prohibition of forced labor
4. A minimum age for the employment of children
5. A guarantee of acceptable working conditions, possibly including guarantees of maximum work hours, vacation or rest periods, adequate health and safety standards in the workplace, elimination of employment discrimination, and other employment benefits

The five basic international labor standards proposed by the Organisation for Economic Cooperation and Development (OECD) (1996) are very similar to those from U.S. trade law, except that they include only rights and not specific benefits. Similarly, consensus was renewed at the World Social Summit in 1995 to limit fundamental labor standards to those derived from the 1948 Universal Declaration of Human Rights and to exclude hours, wages, or other benefits. The Governing Body of the ILO has selected from its 180 conventions and 185 recommendations four fundamental labor standards, each with two supporting conventions.

ILO core labor standards are considered universal and are intended for ratification by all member states, regardless of development level, culture, political or economic institutions, industrial conditions, or climate. Through the consensus-building format of the ILO's tripartite structure, they are deemed viable for implementation in any nation. The four fundamental international labor standards are flexible, however, allowing states with special development constraints to demonstrate progress in lieu of immediate implementation. Also, they are adaptable over time to changing global labor patterns.

Formation and Adoption of Standards

The ILO is the UN agency mandated with the task of building consensus on and improving labor rights in its member states, as well as with a host of other research, statistical, and technical support functions. A major part of this mandate is the formation and adoption of international labor standards, tasks carried out each June in Geneva by the International Labour Conference. The ILO's Governing Body sets the agenda for the conference according to suggestions made by governments and other organizations. Each member country sends two delegates, one representing workers and the other employers, who participate on equal footing in the unique three-way, or tripartite, format established under Convention 144 (1976). After two successive discussion periods designed to create a broad consensus, the conference concludes with a vote that determines whether the proposed conventions and recommendations will be adopted.

Two classes of formal international labor standards—conventions and recommendations—are created by the ILO. Conventions are treaties intended to be ratified by the legislatures of member states, entering into force as binding international law. By ratifying a convention, a state makes a solemn agreement to abide in good faith, *pacta sunt servande,* by its

provisions and to alter national policies accordingly. Many international treaties allow states to enter reservations signifying that they do not wish to be bound by certain provisions; however, reservations are not allowed on ILO conventions. Recommendations, although not intended for ratification, provide additional information to augment the principles found in the conventions. The Governing Body classifies conventions and recommendations as follows: basic human rights, employment, social policy, labor administration, industrial relations, working conditions, social security, employment of women and children, migrant workers, indigenous and tribal peoples, and special categories such as fishermen, sharecroppers, and nursing personnel.

In addition, informal instruments, including resolutions, conclusions, codes of practice, and guidelines, are made by technical or other ILO bodies to provide specific technical guidelines for implementation of conventions or recommendations. One example is the Governing Body's Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy (1977) encouraging self-regulation of multinational firms.

Ratification and Compliance

Conventions adopted by the International Labour Conference must be ratified by all member states; however, this obligation is not enforced. Although the ratification rate has improved in the past decade, it remains low—at about 86 percent for fundamental conventions and 20 percent for the other conventions. Convention 143, concerning the elimination of forced labor, is the one most widely ratified (by 143 of 176 member states), and Convention 138, which sets the minimum age of work to fifteen years, is least ratified (51 member states).

More than half of the member states have ratified all eight fundamental conventions. The states that have ratified the fewest are Armenia, Myanmar, Oman, and the United States (two ratified); Laos and the Solomon Islands (one ratified); and Vanuatu (none ratified). Ratification of conventions does not necessarily correspond with the actual rights and standards enjoyed by workers in a given state, as some high-standard countries have ratified very few core standards, while some low-standard countries have ratified all eight conventions.

Almost no state summarily denies labor rights, but noncompliance with ILO conventions, even when ratified, is widespread, particularly in developing countries. Although ratification may at times reflect empty rhetoric, most violations are explained by two causes: failure to observe standards in specific sectors, or weak and nonexistent monitoring and enforcement mechanisms. Since poverty and underdevelopment contribute to poor standards, the ILO has increased technical support to assist developing states in improving and complying with standards.

In addition to resource and other constraints within nations, there are severe limits on the ILO's ability to enforce labor standards. The nation-state is sovereign, meaning that no other national or international body has the right to impose restrictions within its territory. By becoming members of the ILO, and in particular by ratifying conventions, states delegate part of their sovereignty over labor issues to the ILO, agreeing to come under the supervisory mechanisms embodied in it.

Although the ILO cannot enforce standards through punishment (member states have not created an institution within the ILO to do so), it supervises labor standards in several ways. First, under the representation provisions of the ILO Constitution (Article 24), any national or international organization of workers or employers can make a claim against a member state that has failed to comply with a ratified convention. Under this procedure, the International Labour Office acknowledges receipt of the complaint and informs the state's government of the issue, which brings the matter to

the Governing Body. If it accepts the complaint for consideration, the Governing Body presents it to a relevant ad-hoc committee that investigates the claim and prepares a report. The results may be published as a representation or a complaint under Article 26. A Committee of Experts on the Application of Conventions and Recommendations follows up on the state's response to the violation, and governments may refer the complaint to the International Court of Justice for a final decision.

Furthermore, even if member states have not ratified a convention, they are required under the provisions of Article 19 of the ILO Constitution to report at intervals specified by the Governing Body on the extent to which they intend to undertake the provisions. States that have ratified conventions may be required under Article 22 to present a similar report on implementation. The Labour Inspection (Agriculture) Convention of 1969 (No. 129) and the Labour Inspection Convention of 1947 (No. 81) require member governments to provide the level of industrial inspection required to adequately enforce standards.

In addition to its supervisory role, the ILO also promotes labor standards through international norm-building, publicity of noncompliant policies of signatory governments, and provision of technical and financial assistance for developing states.

Child Labor

Noncompliance with child labor conventions, in addition to those dealing with freedom of association, is among the most common labor standard issues addressed by the ILO. The Minimum Age Convention of 1973 (No. 138) defines child labor as work before the end of compulsory schooling or before the age of fifteen (previously fourteen under the Minimum Age [Industry] Convention of 1919 [No. 5]). For work involving health, safety, or moral hazards, Convention 138 sets the minimum age at eighteen years, and for light work, thirteen to fifteen years, depending on certain conditions. In 1989, the UN Convention on the Rights of the Child identified the right to be free from economic exploitation and work that is hazardous, interferes with schooling, or hinders physical, mental, or moral development.

By 1999, the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour Convention (No. 182) had been adopted. It became the most rapidly ratified convention in ILO history, amplifying earlier commitments embodied in the Forced Labour Convention of 1930 (No. 29). Along with Recommendation 190, Convention 182 banned the worst forms of child labor, labeled "unconditional worst forms," including slavery, trafficking, debt bondage, recruitment into armed forces, prostitution, pornography, and illicit activities. Both the 1989 and 1999 conventions recognize that not all forms of work are equally detrimental to child development and distinguish between economically active "child workers" and those "child laborers" in the most harmful forms of work.

The legal framework addressing child labor includes the following rights and standards (ILO 2003):

1. The setting of a minimum age for admission to employment or work
2. The immediate suppression of the worst forms of child labor as the priority of national and international action
3. The prohibition of young persons from working at night
4. The requirement that a working young person under the age of eighteen be found fit to work by undergoing medical examination
5. Recommendations for the allowable conditions of employment of persons under the age of eighteen in underground work situations

Labor force participation rates of children between the ages five and fourteen have de-

clined in all regions from an estimated 28 percent worldwide in 1950 to 18 percent in 2000. The rates of child labor are highest in Africa, where 29 percent of the total child population is engaged in work activities.

Of the 1.2 billion children in the world between the ages of five and seventeen in 2000, 180 million—or one in six—are believed to be in the worst forms of work, including 8 million in the unconditional worst forms (ILO 2002). Among children in developing countries, three-quarters work at least six days a week, and half work more than nine hours per day. Seventy-one percent work in the fishing and agricultural industries operating machinery, handling agrochemicals, picking produce, and loading. Eight percent of child workers manufacture items such as matches and small glass objects; many in these jobs are exposed to toxic fumes, excessive heat, broken glass, and hazardous chemicals.

Empirical evidence suggests that families with resources—a mother with a marketable skill, older children, or household enterprise assets, for example—are more likely to choose education. Providing financial incentives to parents for children's school attendance, as well as improving school quality and access to capital markets, are important steps in reducing child labor. The high rate of child labor in England during the Industrial Revolution (about 36.9 percent for boys and 20.5 percent for girls in 1861), along with its subsequent decline there, suggests the importance of both legislation and economic growth, as well as the development of social norms, in ending child labor (Humphries 2003).

Labor Standard Harmonization

Harmonization is the process of making labor standards, such as those limiting child labor, more alike across countries, and effectively raising them in low-standard countries to levels closer to those in high-standard countries. Two main theoretical and empirical questions are associated with the desirability of harmonization: Is harmonization consistent with free trade, and what is the impact of labor standard harmonization on the economic and social welfare of individual states and the individuals within them?

Harmonization and Free Trade

There is general consensus that diversity of labor standards across countries is consistent with free trade and that there are economic benefits for the world economy as a whole when a diversity of standards exists. Like differences in factor endowments, technology, and preferences, variation in labor standards creates comparative advantage and allows gains from trade. Hence, multilateral interventions, such as proposed WTO trade sanctions against low-standard countries, cannot be justified on the grounds that lower standards violate conditions of free trade.

Harmonization and Welfare of Individual States

Even if lower labor standards do not make world trade less free, several ethical, social, and economic rationales exist for improving work conditions. The arguments may be divided into two categories: those aimed at preventing erosion of standards in developing countries, and those intended to circumvent damage to the economies of high-standard countries that might result from an unfair trade advantage in low-standard countries. A recent body of research focuses on what, if any, are the effects of diversity in labor standards on the economic well-being of individual countries and whether these effects support the use of trade sanctions against trading partners with low standards.

Human Rights, Welfare, and the "Race to the Bottom"

Concern for human rights and welfare generally motivates arguments for improving standards in developing states or for preventing

their erosion. Moral arguments for labor standards suggest that individuals are imbued with human rights and therefore deserve fair and humane treatment. The welfarist approach, by contrast, considers the desirability of a given set of rights or standards by evaluating their effect on the happiness, or utility, of an individual. Labor rights themselves hold no value apart from their ability to increase utility. The human rights and welfarist approaches are usually consistent and may both be used to advocate intervention in the market in the form of labor standards.

Both human rights and welfarist approaches suggest that intervention in the form of labor standards might also be necessary if market failure or unequal bargaining arise, or if positive externalities, such as improved education or health, are undersupplied. A human rights or welfarist approach suggests further that even if a labor market is perfectly competitive and efficient according to economic models, that is, even if under conditions such as slave or child labor no resources could be reallocated in a way that makes an individual better off without hurting another individual, improvement in labor standards might be desirable to achieve equity or improve human rights. T. N. Srinivasan (1998) asserted that low standards, with the exception of the most egregious forms such as slave labor, are not unfair so long as they are consistent efficient resource use. He argued that if harmonization occurred, international income transfers and domestic taxes or subsidies would be necessary to maintain free and fair trade.

Finally, preventing a "race-to-the-bottom" or "regulatory-chill" is a potential human rights or welfarist motivation for promoting labor standards. Through arbitrage, capital might flow to countries with the lowest labor standards, allowing workers to be paid less and firms to earn higher profits. A "regulatory chill" effect might occur if governments, because of pressure to keep standards low, removed existing protection from workers.

Empirical Evidence for the "Race to the Bottom"

In its survey of the literature, the OECD (1996) concluded that there was little theoretical or empirical evidence for the "race-to-the-bottom" effect occurring. Rather, evidence suggests that labor standards are rarely among the factors that multinational enterprises (MNEs) consider when locating operations, and that the presence of multinational firms is associated with improvements of worker rights and benefits in low-standard countries. Hence, multilateral trade sanctions against low-standard countries may not be justifiable on the grounds that they will prevent a "race-to-the-bottom" effect.

Labor Standards, Wages, and Trade Competitiveness

The second set of arguments for harmonization is motivated by efforts to prevent any deleterious effects in the economies of high-standard countries due to unfair competitive advantage in low-standard countries. The issue of the possible linkage between trade and labor conditions, addressed as early as the nineteenth century, has grown in importance in recent decades. Chapter II, Article 7, of the 1948 Charter of the International Trade Organization (ITO) alleged unfair comparative advantage, but the General Agreement on Tariffs and Trade (GATT) that replaced unsuccessful efforts to inaugurate the ITO did not address the issue except for in Article XX(e) banning the sale of goods produced by prisoners. In 1953, the United States made unsuccessful efforts to add labor standards to the GATT's Article XXIII, followed by further abortive attempts to introduce them in the negotiations of the Tokyo and Uruguay rounds in the mid-1970s and 1980s, and in the mid-1994 final draft agreements of the Uruguay Round in Marrakech. Although numerous states, including the United States, the European Union, Canada, and Japan, continue to raise the issue at WTO Ministerial Conferences of the WTO, multilat-

eral negation of the issue is unlikely to occur during the current Doha Rounds.

The enforcement of labor standards through trade privileges continues to be most successful in bilateral and regional, rather than multilateral, agreements. For example, the U.S. Generalized System of Preferences (GSP), which allows sanctions under Section 301 of the 1988 Trade Act, and the European Union's special preferences system employ both incentives and punishments to pressure governments to improve labor standards.

Effect of Labor Standards on Wages and Trade Competitiveness

According to a meta-analysis conducted by the OECD (1996), there is no compelling evidence that lower labor standards improve trade competitiveness or that they have a downward effect on the wages of unskilled workers in higher standard countries. The following points summarize the evidence.

Low labor standards and trade competitiveness. There is little evidence that low labor standards improve export performance; rather, factor endowments, technology, and economies of scale predict the competitiveness of states and firms in the global economy (OECD 1996; Raynauld and Vidal 1998). Of U.S. textile imports, for example, a significant number are produced in high-standard countries; as a whole, these imports do not appear to correlate with enforcement of child labor standards.

Low labor standards and wages. Dani Rodrik (1996) concluded that low labor standards do not have a significant downward effect on the wages of unskilled laborers in high-standard countries, except in some sectors where unskilled labor is particularly plentiful (Brown et al. 2003). Drusilla K. Brown (2000) found that although it may be difficult to gauge the precise impact of labor-standard diversity on wages in high-standard countries, the decreasing wages of unskilled labor in the United States is due to biased technical change, not lower standards of trading partners.

The argument that low standards create unfair trade advantage and thus justify sanctions on these grounds is not supported by empirical evidence. Instead, research suggests that improvement of labor standards in low-standard countries may be more beneficial than maintaining low standards because it has the potential to promote economic development by raising wages and improving human capital.

Strategies for Improving Labor Conditions

At least five strategies are suggested for improving international labor standards. These include not only enforcing core labor standards through WTO trade sanctions, but also improving the capabilities of the ILO, promoting labor-standard provisions in bilateral and regional trade agreements, increasing the activity of private monitoring agencies and self-regulation of firms, and augmenting the awareness and responsibility of individual consumers.

Proposals to enforce minimum labor standards on WTO members through the use of trade sanctions have attracted considerable debate in recent years. In the past, trade sanctions have been used unilaterally, but never multilaterally under the WTO. For example, unilateral sanctions were instrumental in ending the policy of apartheid that institutionalized racial discrimination in employment and other practices in South Africa. Under Section 502(b)(8) of the 1984 Trade Act and Section 301 of the 1988 U.S. Trade Act, the president is authorized to remove GSP benefits to induce compliance with labor and other human rights. In April 1999, for example, provisions were withheld from Sudan. This followed earlier measures against Burma, Chile, Romania, and other states.

Many developing countries and regional organizations express opposition to allowing the WTO to use trade sanctions for punishing noncompliance with labor rights, arguing that it could be misused by powerful states. Further,

almost all scholars argue that WTO authorization of trade sanctions is unlikely to improve conditions for workers. Trade sanctions would likely be particularly ineffective at improving the welfare of child laborers, for example, because they would *decrease* the demand for unskilled labor where unemployment is already high. Evidence from complaints filed under the National Administrative Organizations (NAOs) of North American Free Trade Agreement (NAFTA) member states, as well as technical and financial support programs initiated by the United Nations Children's Fund (UNICEF), the ILO, and other international organizations, suggest that consultation and support for alternatives to poor labor conditions are plausible and effective alternatives to trade sanctions.

Second, the ILO, as the only effective and directly relevant supervising mechanism for labor standards, could be strengthened in its abilities to promote them. Its efficacy might be improved if financial and institutional changes were made, thus allowing it to monitor state behavior more directly, devote more resources and expertise to convincing governments of the economic desirability of standards, and provide technical and financial assistance to developing countries. In 1994, the ILO began a research project designed to analyze the possible integration of social and trade policies and to enhance its ability to enforce labor standards through trade relationships between countries. However, the Work Party on the Social Dimensions of the Liberalization of International Trade terminated dialogue on the issue because of disagreements among member states.

A third set of solutions includes more fully integrating labor-standard clauses into bilateral and regional trade agreements such as those within the U.S. and EU systems of preferences for trading partners with improved standards and the NAO consultation mechanism within NAFTA.

Fourth, efforts could be made to promote the growing trend toward privately developed codes of conduct created in consultation with the ILO. Private advocacy and monitoring groups also play an important role by exposing violating firms and by serving as independent monitors contracted by firms to certify conditions in supplier plants. For example, in May 1998, monitoring and reputation concerns played a role in Nike's announcement that it would ensure that no children under sixteen years of age were hired by the company and that it would implement American health and safety standards in its foreign plants. Other major companies, such as Mattel, use independent monitoring agencies to ensure compliance with labor standards in the factories of its suppliers.

Finally, private-sector approaches might induce consumers to base their purchasing decisions on knowledge about the conditions under which products are produced. "Social labeling" of products and "socially responsible investment schemes" are important components to this strategy.

Summary

Labor rights and standards are increasingly important areas of international concern in a globalizing world economy. The highly institutionalized nature of the ILO's international lawmaking and supervision mechanisms make it an important advocate for labor standard improvements; however, action at the regional, national, and private-sector levels are also important components of labor-standard development. Careful consideration of empirical evidence is essential for evaluating the effectiveness and appropriateness of new approaches, such as the institutionalization of WTO trade sanctions, to enforce core standards. This evidence suggests the relative success of incentives, consultation, and assistance over punitive approaches to improving conditions for workers in developing countries.

Lindsay J. Benstead

See Also Labor Markets and Wage Effects; International Labour Organization (ILO); World Trade Organization (WTO); Human Rights and Globalization

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Natural Resources

Globalization, that is, the increasing international integration of peoples, cultures, and economies, has had a variety of negative impacts on the environment and important natural resources. International trade, foreign investment, economic development, and increased travel are among the direct causes of these environmental impacts. An increasing number of nonnative species of animals, plants, and microbes, for example, have been introduced into the environment, causing damage to native ecosystems. Some of these impacts have been addressed by a growing number of treaties and other international agreements that help assure the sustainability of the global commons. Others will require further cooperation among states if sustainable use of the earth's resources is to be achieved.

Protecting the Global Commons

Common-pool resources are either natural or constructed resource systems that are sufficiently large that it is costly, though perhaps not impossible, to exclude those wishing to harvest from the resource system. A common-pool resource should be thought of as a stock from which is generated a flow of resource units. For example, healthy fishery stocks can produce a harvestable flow for commercial and recreational fishermen. Common-pool resources have the additional characteristic of subtractability, meaning that resource units harvested or withdrawn by one user subtract from what is available to other potential users. Continuing the fishery example, fish harvested by one fisherman are not available for capture by other fishermen.

Some common-pool resource systems are renewable, meaning that under favorable conditions they are capable of self-replenishment, though excessive harvest of some resources can overwhelm the self-replenishment process and result in depletion of the resource stock. Examples include fish and game populations, rivers, aquifers, forests, and the stratospheric ozone layer. Infrastructure such as roads, bridges, and telecommunications networks may also have renewable common-pool resource characteristics when the services that they provide suffer from periodic congestion, at which time use by one reduces the capacity of the system to provide services to others. Other common-pool resource systems are not renewable within a normal human timeframe, and continued harvest from these systems will result in depletion. Some important examples of nonrenewable common-pool resources include oil and natural gas fields and coal beds.

If the use of common-pool resources is not adequately managed, rivalry among users could damage the productive capacity of the resource systems, thereby harming all users. Incentives for overuse occur because individual resource users receive all of the benefits from the resource units that they harvest, but share any damage that they cause to the productive capacity of the overall resource system among all the users. Examples include the decline of fish and wildlife populations due to ex-

cessive fishing or hunting, the depletion of aquifers drawn down by excessive water pumping, and travel and time delays caused by excessive use of congested roads, bridges, and telecommunications networks. Garrett Hardin (1968) coined the term "tragedy of the commons" in reference to resource users who see the damage resulting from their actions but nevertheless continue their dysfunctional behavior because any resource that they save will simply be gathered by another.

As Elinor Ostrom (1990) and others since have observed, the tragedy of the commons can be averted if resource use can be properly managed through a well-defined and enforced system of property rights for the resource system. These may be private property (property owned by individuals, families, or businesses), state property (property owned by various levels of government), or common property (property owned collectively by a group of individuals, families, or other entities). Many common-pool resources, such as groundwater basins and migratory fish and wildlife, are fugitive in nature and cannot easily be partitioned into private property. Common property regimes have been successful at managing small-scale common-pool resources when the participants have successfully implemented formal and informal norms and rules, collectively known as an institutional structure, to align individual incentives with the good of the group, enforce agreements, resolve disputes, and facilitate necessary change. One example is the common-property tradition in the Swiss Alps, where a large fraction of the land has been managed as the common property of various Swiss alpine villages. Such collective choice arrangements are increasingly difficult to sustain as common-pool resources become larger in scope, necessitating that government assert state property rights and regulatory management.

Many of the earth's important common-pool resources are international or global in scale. Examples include transboundary groundwater basins and rivers, populations of certain boundary-straddling or highly migratory fish and wildlife, the earth's stratospheric ozone layer, and the health of the earth's oceans and atmosphere. Other global natural systems that share some characteristics with common-pool resources include biological and genetic diversity as well as global ecosystem services such as climate regulation and oxygen–carbon dioxide exchange. Factors related to globalization, such as economic development, technological change, and population growth, have placed increasing pressure on many vital global commons. Although sovereign nations have the capacity to provide for and enforce property rights to regulate user impacts on common-pool resources within their sovereign boundaries, international action is required to protect transboundary and global common-pool resources.

Treaties provide a legal framework and institutional structure for international regulation of transboundary and global common-pool resources, as well as of local resources that are the subject of global concern. There are more than 140 international treaties designed to protect the environment and natural resources. (A full-text listing of these treaties is available on the Internet from the Center for International Earth Science Information Network [CIESIN], which operates the Socioeconomic Data and Applications Center [SEDAC] for the U.S. National Aeronautics and Space Administration [NASA], at http://sedac.ciesin.org/entri/texts-home.html.) A summary of several important treaties is given below, with the date on which they entered into force given in parentheses.

United Nations Convention on the Law of the Sea (UNCLOS) (1994)

This treaty established a comprehensive new legal regime for the sea and oceans, including a 200-mile exclusive economic zone and continental-shelf development rights for coastal states. All states are acknowledged to have navigational, fishing, and other rights on the high seas, as well as an obligation to cooperate in in-

ternational management and conservation efforts. The treaty established liability for damage due to marine pollution, as well as an International Tribunal for resolving disputes (see http://www.un.org/Depts/los/index.htm).

United Nations Framework Convention on Climate Change (UNFCCC) (1994)

The UNFCCC seeks the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. It also established the Conference of Parties to implement the convention. The Kyoto Protocol to the convention, adopted in 1997 and in force since February 2005, called for industrialized countries to reduce their overall emissions of greenhouse gases by at least 5 percent below 1990 levels in the commitment period 2008 to 2012 (see http://www.unfccc.de).

United Nations Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (adopted in 1995 and in force since 2001)

Straddling fish stocks are stocks of fish that occur both within the exclusive economic zone (EEZ) of a coastal state and in the adjacent high seas. Highly migratory fish stocks migrate through the high seas and in some cases through the EEZs of coastal states. Both categories of fish stocks have been subject to unregulated overfishing on the high seas. This agreement was adopted because UNCLOS is not clear about the legal rights and obligations of states regarding management and conservation of highly migratory and straddling fish stocks (see http://sedac.ciesin.org/entri/texts/acrc/fish95.txt.html).

Montreal Protocol on Substances that Deplete the Ozone Layer (1988)

This international agreement was established to protect human health and the environment against adverse effects resulting from modifications of the ozone layer. It called for 50 percent reductions in the production and consumption of ozone-depleting chemicals (relative to 1986 levels) by 1999. The agreement was revised in London in 1990 to totally phase out production and consumption by 2000 for industrialized countries, and by 2010 for developing countries (see http://www.unep.ch/ozone/treaties.shtml).

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1975)

CITES provides a framework to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species. Enforcement includes trade bans. Each of the more than 150 parties must adopt their own domestic legislation to implement CITES at the national level (see http://www.cites.org).

Convention on Biological Diversity (adopted in 1992 and as of 1998 more than 170 countries have signed to become participants)

This convention was established to conserve biological diversity, promote the sustainable use of its components, and encourage equitable sharing of the benefits arising out of the utilization of genetic resources. It places an obligation on the parties to provide for environmental impact assessment of projects that are likely to have significant adverse effects on biological diversity and provides for both technology transfer and provision of financial assistance (see http://www.biodiv.org).

International Convention for the Regulation of Whaling (1948)

This convention, established to formulate, adopt, and revise measures to conserve whales, created the International Whaling Commission, which is given the authority to regulate and ban the harvest of whales. Changes in regulation, including bans, require a three-fourths majority of the commission (see http://www.oceanlaw.net/texts/iwc.htm).

Globalized Trade and the Environment

One important economic dimension of globalization is the international commercial exchange of natural resource and agricultural commodities. This section summarizes a more extensive treatment of the topic that is given in Steven Hackett's book *Environmental and Natural Resources Economics: Theory, Policy, and the Sustainable Society* (2001). The classical argument in favor of free and unimpeded international trade, which goes back to Adam Smith and David Ricardo, is that free trade allows for regions and countries to specialize in those activities that they do best. In particular, the law of comparative advantage states that total material wealth can be increased when production is specialized based on cost, with the preference for a more diverse bundle of consumption goods met through trade among these specialized producers.

To see how the law of comparative advantage works, consider the potential for wealth-enhancing trade between a mountainous area with abundant mineral resources and lower-elevation areas with abundant agricultural resources. In the absence of trade, agricultural goods are scarce and expensive in the mountainous area, whereas mineral resources are scarce and expensive in the lower-elevation area. Specialization and trade would reduce the cost of mineral resources in the lower-elevation region and the cost of agricultural goods in the mountainous region, providing for increased consumption with the given stock of resources. As a consequence, specialization and trade creates material wealth and reduced consumer prices. Therefore, international trade has the potential for raising people out of poverty. By exposing people to different cultures, it can also foster increased understanding and tolerance of diversity.

The social, cultural, and economic displacements caused by international trade make it very difficult for all members of society to benefit from trade. In the example given above, free trade created a flow of cheaper imports that displaced those people in the mountains engaged in relatively unproductive agriculture, and those people from the lower-elevation regions who specialized in mining. Workers at risk of displacement can be expected to oppose increased international trade, along with those who value the social and cultural bonds associated with traditional production.

Free trade can also contribute to a more rapid pace of environmental degradation when the governments that are engaged in the trade, or the trade agreements they create, lack adequate democratic institutions and processes. Graciela Chichilnisky (1994), for example, modeled trade between a high-income country with well-defined and enforced property rights to environmental resources and a low-income country with poorly defined and enforced property rights. The difference in the level of property rights enforcement is sufficient by itself to motivate bilateral trade. In the case of poorly defined and enforced property rights to the environmental resource, tragedy of the commons leads to excessive resource harvest, which reduces the price of these resources. Thus, the environmental resource is relatively cheaper in the low-income country owing to excessive rates of harvest. Chichilnisky showed that under free trade the tragedy-of-the-commons effect in the low-income country is worsened. Overproduction of the environmental resource in the low-income country is matched by overconsumption of the resource in the high-income country.

There is also the concern that comparative advantage can be created from lax environmental and other regulations. Producers in more heavily regulated countries are placed at a competitive disadvantage in the global marketplace by these so-called "pollution havens." If the threat of job loss due to production shifting to pollution havens is credible and politically compelling, free trade can lead to a "race to the bottom" in which countries relax their environmental regulations in order to protect domestic jobs and income. Similarly, relatively cheap land and limited opportunities in poor

regions of the world give them a comparative advantage in providing waste disposal services. The result is a flourishing trade in garbage and other wastes.

Environmentalists are concerned that international trade agreements such as the World Trade Organization (WTO) limit the power of signatory countries to enforce process standards on imports from countries with more lax environmental standards. WTO rules incorporate environmental protections. For example, Article XX of the WTO states that WTO rules shall not be construed as preventing the adoption or enforcement of measures (1) necessary to protect human, animal, or plant life or health, or (2) relating to the conservation of exhaustible natural resources, if such measures are made effective in conjunction with restrictions on domestic production. The scope of this article has been tested in a number of disputes lodged against the United States.

For example, Mexico filed a trade complaint against the United States in 1991 over provisions of the Marine Mammal Protection Act that required the United States to ban imports of tuna from countries that could not prove that adequate dolphin protection measures were being utilized. A panel determined that Article XX did not allow for unilateral trade bans or tariffs based on the method used to produce goods in foreign countries. This interpretation was upheld in a more recent dispute between the United States and India, Malaysia, Pakistan, the Philippines, and Thailand challenging a U.S. ban on imports of shrimp caught without using turtle-excluding devices in their nets. Consequently, one country cannot use trade restrictions to reach out beyond its own territory to impose its standards on another country. The WTO requires international environmental treaties rather than unilateral action by a single country. Therefore, in the absence of international environmental treaties, a WTO member country's markets are forced to be open to foreign products produced in an environmentally harmful manner, even if domestic producers are banned from such practices. Taken together, it is clear that the WTO position has restricted the tools available for assuring environmental protection.

Nevertheless, most human cultures over thousands of years have engaged in some degree of trade, driven by the age-old incentive to buy goods where they are abundant and cheap, and transport them to where they are scarce and expensive. Attempts to heavily regulate or eliminate trade usually result in the development of black markets. As economist Paul Krugman has stated, "If there were an Economist's Creed it would surely contain the affirmations, 'I believe in the Principle of Comparative Advantage,' and 'I believe in free trade'" (1987, 131).

Globalization and Economic Development

In the years following World War II, many European colonies in Africa, Asia, and South America became independent states. Many of these newly independent states pursued an "inward-looking" import-substitution development strategy designed to protect fledgling domestic industries from international competition. This strategy included the use of tariffs and other barriers to foreign imports; restrictions on foreign direct investment, such as minimum local content requirements; and limited currency convertibility. Industrial investment was focused on production of domestic goods and services rather than on the production of exports. State ownership of key industrial enterprises kept the focus on these and other social goals. Import substitution is a development strategy designed to limit the loss of income out of the domestic economy due to the purchase of imports, in much the same way that a plug in a bathtub prevents the leakage of water down the drain.

From the standpoint of economic development, globalization can be thought of as an "outward-looking" process of liberalizing trade and investment. Examples include the promo-

tion of investment in export-producing industries, reduction of tariffs and other barriers to imports, removal of restrictions on foreign direct investment, increased currency convertibility, and privatization of industry. Globalization strategies were seen by many Western economists as being more likely to promote economic growth. Globalization had displaced import substitution in many low- and middle-income countries by the 1980s. The rise of globalization is partially a consequence of international-development lending programs. As described in Hackett (2001) and summarized below, globalization strategies were used to help resolve problems associated with international-development lending programs, and in the process created social and environmental problems that in turn spurred the sustainable development movement.

The World Bank played a key role in designing development projects and in pooling loan funds from donor countries such as Germany, Japan, and the United States. Many large commercial banks in the United States and elsewhere also participated in financing large-scale development projects. These loans tended to be focused on large-scale infrastructure projects such as the construction of hydroelectric and other power plants, mines, irrigation networks, road systems, and port facilities. Unfortunately, many of these debt-financed projects were economically, socially, and environmentally inappropriate.

For example, loans were used to fund large-scale resettlement of the urban poor in rainforests in Brazil and Indonesia, resulting in the displacement of indigenous peoples and massive deforestation. Loans were used to fund large coal-fired power plants and open-pit coal mines in India, leading to massive sulfur dioxide and heavy metals pollution problems and the uncompensated displacement of thousands of local people. Loans were used to fund large dam projects in Thailand, displacing numerous small, locally self-governed irrigation common-pool resource systems in which local people used sustainable methods to manage the community forests that served as watersheds for the community rice-paddy irrigation systems. As Ostrom remarked, "The failure . . . to develop an effective set of rules for organizing their irrigation system is not unusual for large-scale, donor-funded irrigation systems in Third World settings" (1990, 166).

Many World Bank–financed programs were also poorly designed, as revealed by the World Bank's own Wapenhans Report in 1992 (World Bank Vice President Willi Wapenhans et al. 1992). The report found that World Bank staff used project appraisals as marketing devices to advocate loan approval rather than as unbiased assessments of project viability. Moreover, developing countries that borrowed from the World Bank saw the negotiation stage of a project as a largely coercive exercise in imposing the World Bank philosophy on the borrower. Confidential surveys of World Bank staff indicated that substantial pressure was being exerted on staffers to meet lending targets, and that this pressure overwhelmed all other considerations. The report stated that only 17 percent of the staff in the survey believed that their project analysis was compatible with achieving project quality.

Other problems with international-development lending programs included a lack of democratic political institutions in debtor countries, where national leaders were able to appropriate development funds or project revenues, further weakening project performance. Those projects that were successful in producing export commodities contributed to rapid growth in world commodity supplies that outpaced demand, resulting in a downward trajectory in commodity prices and repayment capability, as described below. Thus, the overall performance of large-scale international economic development lending was mixed and led to a crisis in which developing countries were faced with staggering external debt and inadequate income for repayment.

Because many development loans were provided by large commercial banks, there was fear of a collapse of the international financial

system if developing countries were to default on their loans. The International Monetary Fund (IMF) responded to this debt crisis by offering debtor countries an opportunity to restructure their debt through structural adjustment loan (SAL) programs. Accepting a SAL also implied that the debtor country accepted structural adjustment plans (SAPs). SAPs promoted globalization strategies such as privatization of government-owned industrial enterprises, reduction of import/export tariffs, restrictions on foreign direct investment, and reorganization of economic activity. Economic reorganization was focused on promotion of export-oriented production designed to generate income from trade with rich countries.

Developing countries operating under a SAP had little to export beyond their natural resources. Natural resource–based export earnings in the early 1980s were 59 percent or more of the overall economy in countries such as the Central African Republic, Ethiopia, Indonesia, Nepal, Costa Rica, Mexico, and Paraguay. The increased supply of raw commodity exports resulted in a substantial decline in the price of these commodities, as would be suggested by simple supply-and-demand analysis. This is revealed in the "barter terms of trade," or the ratio of export prices to import prices for low-income countries. According to the World Bank (1991), the barter terms of trade for low-income countries declined by 50 percent during the period between 1965 and 1988.

The decline in the value of commodity exports relative to finished goods imports reduced the income that developing countries gained from commodity exports. In the case of Africa, for example, where a majority of export earnings came from basic commodities such as cocoa, coffee, palm oil, and minerals, analyst Tore Rose observed that "prices [fell] so rapidly with increased production and supply that increases in export volume actually result in a decrease in earnings" (1985, 178). In order to maintain adequate incomes to support both the national economy and SAL repayment schemes, more raw commodities would have to be harvested and exported.

The World Commission on Environment and Development (better known as the Brundtland Commission) argued that the promotion of commodity exports in the manner described above led to unsustainable overuse of the natural resource base for commodities such as forestry, beef ranching, ocean fishing, and some cash crops (World Commission on Environment and Development 1987, 80–81). There is some evidence supporting the Brundtland Commission's argument. For example, Malawi has had ten SALs since 1979, and the Overseas Development Institute found negative outcomes resulting from those SALs. Similarly, Ghana's SAP called for export-oriented cocoa production, which failed as an income-generating strategy following the collapse of world cocoa prices. In the Philippines, the World Resources Institute found that SALs encouraged overexploitation of natural resources, increased pollution, and urban decay.

Recent analysis of tropical deforestation data by Kamaljit Bawa and S. Dayanandan (1997) uncovered a statistically significant and relatively large positive correlation between per capita external debt levels and annual tropical deforestation rates. In particular, Bawa and Dayanandan used World Resources Institute data for seventy tropical countries and looked at fourteen socioeconomic factors thought to be related to deforestation. Their multiple regression analysis of the relative magnitude of direct effects indicated that per capita external debt is the single most important factor explaining deforestation rates in Latin America and Asia, while in Africa the debt measure is ranked behind population density in importance. Interestingly, per capita gross national product (GNP) was not found to be a significant factor in explaining deforestation.

The sustainable development movement calls for the recognition that improving human well-being requires development strategies to be crafted that take into account social and en-

vironmental factors in addition to the traditional goal of economic growth. The World Bank has incorporated some aspects of sustainability in its development program. Its new environmental strategy, Making Sustainable Commitments, adopted in 2001, has three objectives: improving quality of life, improving the quality of growth, and protecting the quality of the regional and global commons. In a press release dated October 25, 2001, Kristalina Georgieva, World Bank director of the Environment Department, stated, "The strategy will ensure economic growth does not come at the expense of people's health and future opportunities because of pollution and degraded natural resources and ecosystems. It calls for a full and coherent mainstreaming of environmental concerns into poverty reduction strategies, and in Bank lending and non-lending activities."

Structural adjustment can also be attacked on humanitarian grounds for the impacts of transferring income from very poor to rich countries. For example, the World Bank (1991) indicated that interest payments on external debt in Latin America consumed up to 40 percent of the national export earnings of these countries, leaving little money available for necessary imports, let alone health care, low-income assistance, job-creation programs, education, or the promotion of more pollution-efficient technologies. Oxfam International estimated that Uganda spent $17 per person on debt repayment annually but only $3 on health care. Overall, expenditures on health in IMF/World Bank–programmed countries in Africa declined by 50 percent while these countries were under SAL programs in the 1980s, and education expenditures declined by 25 percent.

The process of debt repayment by heavily indebted poor countries is widely seen as fostering serious health, developmental, and environmental problems and has led to calls for debt forgiveness. The IMF and the World Bank have responded by developing the Heavily Indebted Poor Countries (HIPC) Initiative, a program to help such countries with IMF- and World Bank–supported adjustment programs. The HIPC Initiative entails coordinated action by the international financial community, including multilateral institutions, to reduce the external debt burden of these countries to sustainable levels. By 2001, the IMF and the World Bank had approved debt-reduction packages for twenty-four countries, twenty of them in Africa. According to the IMF, these packages will remove $36 billion in debt, and together with other initiatives, these countries will see their debts fall, on average, by about two-thirds.

Globalization and the Spread of Nonnative Species

The expansion of travel, migration, and trade that is associated with globalization entails the more rapid spread of nonnative species of plants, animals, and microbes, with various positive and negative economic impacts. In their authoritative survey of the literature, David Pimental et al. (2000) estimated that approximately 50,000 nonnative species have been introduced into the United States. The introduction of valuable and productive agricultural plants and animals has often had positive impacts. For example, nonnative cultivars such as corn, rice, wheat, and other food crops, and Old World livestock such as cattle and poultry, have been estimated by the U.S. Bureau of the Census (1998) to provide more than 98 percent of the food produced in the United States, with an estimated annual value of $800 billion.

The intentional and unintentional introduction of other nonnative species, however, has sometimes had negative impacts on the environment, including direct losses and damages. Pimental et al. estimated that introduced species of animals, plants, and microbes impose costs of $123 billion a year in damage and control costs in the United States. The unintentional introduction of the Norway rat (*Rattus norvegicus*), for example, has cost some $19

billion a year. Other examples of destructive introduced pests include the tree-killing diseases known as chestnut blight, Dutch elm disease, and the more recent sudden oak death syndrome, which struck California trees in 1995. According to the National Research Council (2002), nonindigenous plants and plant pests that (intentionally or unintentionally) find their way into the United States and become invasive can often cause problems. The council estimated that plants and plant pests impose more than $100 billion per year in crop and timber losses, as well as the added costs of herbicide and pesticide control treatments. Its report is conservative in that it does not include the costs of invasions in less intensively managed ecosystems, such as wetlands.

Fortunately, the growing impact of nonnative species in the United States is gaining the attention of policymakers. On February 2, 1999, President Bill Clinton issued Executive Order 13112, which allocated $28 million to combat nonnative species invasions and created the Interagency Invasive Species Council. The goal of the council was to produce a plan within eighteen months to mobilize the federal government to defend again nonindigenous species invasions. The council's plan was implemented but the drive to deal with nonnative species and other environmental problems faded with the George W. Bush administration and the shift to a focus on other global problems that took center stage.

Steven C. Hackett

See Also Environmental Impacts of Globalization; Sustainable Development

Note

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Political Systems and Governance

Globalization, defined here as the increasing volume of commercial, financial, cultural, informational, and political links among states and peoples, has had a diverse set of influences on national political systems and governance. The effects of each of these factors on political systems and governance methods and tools depends, to a very large degree, on a state's initial position or condition at the outset of the recent globalization wave. States with democratic political systems and good governance processes have experienced some stress, but states whose institutional structures were less robust have often experienced serious challenges as they have adapted. Most particularly, although critics contend that globalization is a severe constraint on governments' policy choices and behaviors through effects such as the "race to the bottom" and increasing political ties, evidence that this is actually the case is mixed.

Defining Political Systems and Governance

Governance can generally, though inexactly, be defined as the process by which social problems are identified, potential solutions proposed and examined, and selected policies implemented. It also includes obtaining feedback from the implemented policies and making adjustments in response to such feedback. Issues of governance include which and whose demands receive attention, who has access to the policymaking process, who decides on issues and policies to be addressed, how solutions are proposed and decisions made, how efficiently implementation and decisionmaking institutions proceed, and how policymakers collect information and evaluate policies.

Political systems are the forums in which governance occurs. These can be national, subnational (where state structure allows for this, as in federal countries such as Brazil, Mexico, and the United States), or, in a relatively prominent feature of modern globalization, international (regional or global). Issues of political systems include who is an actor in the system, patterns in or characteristics of actor behavior, and institutions (broadly defined) that structure, shape, contain, or constrain actor behavior.

Commercial Ties

Most prominent among the arguments about the role of commercial ties in governance and political system changes is a variant of the Kantian democratic peace argument; that is, that increased trade between states will decrease the potential for war between them. For democratic states, in particular, the argument is that citizens will not wish to start wars with trading partners because wars disrupt trade by removing the adversary as both a potential export market and a potential source of inputs. Domestic firms doing business with the adversary will agitate against conflict and press for peaceful resolution to minimize economic disruption, whereas workers will support peace because war disrupts production and can lead

to lower incomes, both from reduced production and a higher tax burden to finance the war.

Arguments about trade and democracy are highly salient because, while a substantial fraction of all trade is still conducted between countries that share a common border or are in reasonable geographic proximity to one another, almost all interstate conflicts are also fought between adjacent or nearby states. Added to this, the proportion of democracies in the international system has skyrocketed in the past thirty years. States that gained independence in the "third wave" (Huntington 1991) of democratization in the 1960s and 1970s often backslid into a period of authoritarianism, but many have redemocratized in the "fourth wave" of democratization that followed the end of the Cold War. Combining the trade-promotes-peace argument with both increasing levels of trade (on both the global and regional scales) and increased democratization suggests that interstate conflict should continue to decline as a result. Interstate violence is already quite rare, particularly in the global North, but the argument suggests that state-to-state violence in the global South will also become rarer.

Closely related to this argument is the suggestion that democratic governance is beneficial to states' economic growth rates. States governed democratically tend to have lower tariff rates than autocratically governed states; democracies experience economic growth of 4 percent a year, on average, whereas autocracies grow only 3 percent a year. Over two decades, this difference compounds and produces an enormous divergence in economic trajectories (Bueno de Mesquita and Root 2000).

The role of mass economic satisfaction in democratic elections is well-demonstrated: Economic conditions in the year preceding an election provide one of the strongest predictors of an incumbent's reelection success. Trade helps to boost the national economy by providing imports that are cheaper than domestically produced goods and also providing an outlet for surplus domestically produced goods. Edward Mansfield, Helen Milner, and B. Peter Rosendorff (2002) found that a pair of democracies is twice as likely to sign a trade agreement as a pair consisting of one democracy and one autocracy, and the democratic dyad is four times as likely as an autocratic dyad to sign a trade agreement. This finding compounds the trade-and-democracy argument presented above as well as arguments presented below about international agreements and policy commitment and about the increasing frequency of political agreements as the number of democracies increases.

One final caution should be added that relates more directly to globalization's effects on political systems. Ronald Inglehart (1997) found that many of the countries thought to be most globalized, that is, those of Western Europe, Scandinavia, and North America, display a pattern of (often emergent rather than salient) political cleavages that he described as "postmodern." Modern cultures form political cleavages around traditional income-based left-right issues such as free enterprise, labor unionism, and incomes and industrial policy; postmodern cultures form cleavages over issues such as environmental protection, abortion, and human rights, which do not directly affect income. Much of the rest of the world is still in a "modern" culture where income-affecting policies are key contentious political issues, so trade liberalization and increased commercial ties will have much more political salience in these states than in the highly globalized states of Western Europe and North America.

These diverging trends in salient political cleavages could, if not properly considered in policy formation, result in misunderstandings that could contribute to a renewed globalization "backlash." Although trade policy and commercial openness will still have some political salience from directly affected groups, their decline in importance relative to other issues is quite evident in the pro–free trade approach of almost every serious contender for the American presidency, Republican or Dem-

ocrat, since 1980, and similar trends in many other advanced countries. Trade policymaking in industrial or postindustrial democracies is increasingly contested by individuals whose concerns with trade are not related to the income effects of trade at all; instead, their concerns are over the treatment and wages of labor, human rights observance in potential trading partners, or the environmental consequences of industrial development.

Moreover, trade issues mobilize individuals who occupy different positions in their domestic political systems. Particularly with the advent of the Internet, groups that favor or (more frequently) oppose trade for any reason have been able to collaborate relatively cheaply, thus amplifying the effect of their positions by coordinating approaches to national leaders. State leaders have been faced with coordinated opposition to policies, which makes achieving further cooperation difficult (see below.) In other states, trade has presented a different problem for political systems. Because trade reinforces income divergence between owners of the locally scarce and locally abundant economic factors, political systems premised on egalitarian values have faced pressure to mitigate the effects of trade on social structures. The People's Republic of China is a prominent example. As a Communist country, China provides employment for all citizens in the state-run economy; opening to trade unconditionally would cause the decline of inefficient sectors and mass unemployment. As a consequence, the government has embraced a policy of "controlled openness," in which exports are promoted, but imports that would compete directly with domestically produced goods are strictly limited. Government-sponsored programs to transform less competitive sectors through privatization or retraining have been only moderately successful. Rising unemployment is a serious concern for the regime, since any peasant protest effort might well turn into a repeat of the 1989 Tiananmen Square incident. The brutal repression of that event tarnished the government's credibility (and desirability as a political partner) for several years afterward.

In developed democracies, particularly those of Western Europe, which have high provision of social services and insurance, governments have experienced pressures to reduce social expenditures, and make business more competitive, by decreasing taxes on profits and capital, and to reduce government deficits incurred on social services and transfers. Although it cannot be denied that reductions in social services have taken place, they cannot necessarily be attributed to the pressures of international trade and competitiveness. Nonetheless, such a decline is troubling; scholarship generally agrees that social insurance schemes allow small states to maximize welfare by remaining open to trade while satisfying political pressures for social stability (Katzenstein 1985; Garrett 1998).

Financial Ties

One of the primary differences between the first wave of globalization (c. 1880–1914) and the second one (1970–present) lies in the nature of cross-border financial ties. The earlier wave saw large capital flows, primarily into long-term, fixed investments such as railroads, municipal transportation, and sanitation improvements. In contrast, the present wave is characterized not so much by the *volume* of transactions (as a proportion of gross domestic product [GDP], 1914 levels have only been surpassed in the past handful of years) as by the *speed* of transactions. Improvements in communications technology and financial instruments have created profit opportunities in short-term investment and speculation. The Organisation for Economic Co-operation and Development (OECD) estimated that almost $1.5 *trillion* dollars a day crosses borders—a value several times the world money supply, implying that a substantial amount of money crosses several borders in different transactions on any given day.

Capital openness ties states into this web of high-speed, high-volume flows. When industrializing states are tied into global capital networks, and are dependent on the world market for developmental capital, domestic instability or capital-hostile policies can provoke disastrous capital flight. Since most capital is in short-term stocks and bonds, the resulting stock-market crash can create enormous social disruptions with far-reaching political implications. Integration into world capital markets also affects a state's ability to use monetarist or neo-Keynesian policies to achieve domestic economic or political goals such as reduced unemployment or reflation. Perceived social, political, or economic instability can deter capital investments, even with the lure of a higher interest rate. For both developed and developing countries, attempts to tax capital, restrict its mobility, or impose labor standards or other regulations that substantially increase the cost of doing business may benefit domestic political or economic interests, but in a global capital market, potential investment will simply look elsewhere for lower costs and higher returns. In theory, then, a world of integrated capital markets and forward-looking states will result in a "race to the bottom" where labor, which is substantially less internationally mobile than capital, will have to bear all of the costs. States are predicted to engage in competitive reductions of health and labor standards, capital taxes, and the like to attract the most capital possible.

This scenario—a world where capital from the global North exploits labor in the developing global South—is the fear of many antiglobalization activists. Quite unfortunately for both the activists and the theorists, there is very little evidence of such convergence. In fact, OECD research has found the complete opposite to be the case: Countries having the most success in opening to trade and investment have also shown improvement in achieving core labor standards. Since companies invest abroad to tap into new markets, host governments actually retain considerable influence over the multinational's behavior and can effectively resist pressures to reduce regulation (Dresner 2000, 65–66).

Another important consequence of financial integration—on governance, in particular—is that financial integration can often lead to financial crisis contagion. Large flows between a pair of countries mean that a crisis in one will disrupt expected flows to the other, possibly triggering crisis or collapse there as well. In other cases, states with similar structural or policy conditions will experience similar shocks sequentially or simultaneously, as in the 1997 Asian financial crisis. The overvalued Thai baht was the target of speculation, which eventually drove the collapse of both the baht and the Thai banking system. The resulting panic and inflation required massive intervention by the International Monetary Fund (IMF) to restore stability. More important, the attack on the baht prompted similar attacks on other regional currencies that were fixed at overvalued rates. Combined with the weak banking systems in many of these states, and especially the large role of inadequately regulated private banks in corporate investments and the stock market, the speculative attack spread very easily. The only policy response that was even moderately successful at preventing contagion was Malaysia's immediate imposition of capital controls, which was in direct opposition to the prevailing economic wisdom about crisis management and capital behavior.

In tightly integrated or trade-interdependent countries, both financial and nonfinancial crises can be highly contagious. In the 1995 Mexican peso crisis, U.S. policymakers defended their immediate use of a credit facility intended for defense of the dollar to shore up the peso on the grounds that if the peso had been allowed to continue to fall, the dollar would have fallen with it because of the large amount of trade between the two countries. If the Mexican economy had collapsed when the peso was devalued, U.S. officials argued, American businesses would have lost such a large export market that the U.S. economy would likely contract in reaction. Even nonfinancial crises

can spread through financial ties: The 2002 Sudden Acute Respiratory Syndrome (SARS) crisis, which started in China, spread not only the disease but also economic slowdowns through most of East Asia as consumers chose to refrain from going out to eat, shop, and spend money.

Foreign direct investment (FDI) also affects both governance and political systems. States with mineral resources but no domestic capital to exploit those resources often must turn to foreign companies to achieve any benefit. For developing countries with high capital needs, large incentives exist to cut capital taxes and provide only minimal regulation to attract as much capital as possible. Companies are often willing to provide bribes, kickbacks, and other incentives in return for minimal government interference and exclusive rights to mineral exploitation or monopoly of the domestic market. In both cases, the foreign-owned (and often foreign-managed) industry normally accounts for a notable percentage of national income; mineral extraction alone can account for a large part of the hard currency earnings in a less developed country (LDC). Some sources estimate that in Angola in the late 1980s and early 1990s, at the height of a civil war, oil production off the Cabinda coast accounted for over half of Angolan GDP. Quite often, this status as "primary breadwinner" allows these companies to obtain a disproportionate influence in policymaking. As democratization progresses in many of these states, the state's need to placate capital conflicts with the need for leaders to placate their constituents.

According to the OECD, FDI was down by 20 percent in 2002 among developed countries, and it declined again overall in 2003. In contrast, developed countries exported more than $600 billion in capital, largely to developing countries; the People's Republic of China was the single largest recipient in 2002, with US$53 billion in inflows (OECD 2003). In general, FDI accounts for a substantially smaller portion of cross-border flows in this second wave of globalization than in the previous wave, largely because financial ties have shifted into short-term investments rather than long-term projects such as factory construction. What is most important about FDI and capital flows in general, though, is that states have not managed to resist the lure of international capital. Even (nominally) socialist countries such as China allow foreign direct investment; in the Chinese case, the investment must contain a Chinese ownership component, and often the firm must be located in one of the Special Economic Zones in which capitalist industry is permitted.

Cultural Links

One of the more prominent concerns expressed by non-Western globalization foes is the fear that "globalization" really means "westernization." Almost all of the phenomena associated with globalization—the growth of capitalist economies, democratization, the "jeans and T-shirts" lifestyle—were perfected first in the West and then exported to the rest of the world. The erosion of traditional lifestyles, or at least their perceived erosion, is a major concern that could contribute to globalization backlash in the future, changing political systems not by changing the structure of the systems themselves but by changing the nature of inputs into the system. McDonald's franchises are in some 118 countries; the so-called "Golden Arches' thesis," that no two countries with McDonald's have ever fought each other, held until the 1995 U.S. bombing of Sarajevo, in the former Yugoslavia. *National Geographic* magazine photographers have spotted University of Michigan–blazoned apparel in places as remote as rural Tibet and Arctic Eskimo settlements, suggesting that both Western modes of dress as well as American commercialism have spread beyond their initial borders.

Hollywood movies are viewed around the world (in fact, there is such a demand for American films in China that a major trade dispute exists between the United States and the Chinese government over pirated copies of

American films and intellectual property rights). Through most of the 1990s, the world's most-watched television show was *Baywatch* (*Guinness World Records* 2000). Some countries have reacted more negatively to this spread of Western (read "American") culture than others, arguing that barriers to free trade in intellectual property are appropriate when issues of national culture are at stake: France has blocked numerous moves to liberalize broadcasting and telecommunications media in the European Union to preserve a role for French-produced francophone film. Recently, though, non-Western cultures have begun to make headway in cultural exports. Indian film, known colloquially as "Bollywood," has become increasingly popular in Western countries, even those without large Indian expatriate or émigré communities.

Even democratization, with all its economic benefits and normative associations, is often perceived as a Western cultural phenomenon deemed inappropriate for some societies. King Hassan II of Morocco explicitly stated during a 1996 round of constitutional revisions that although he agreed that political life needed more public participation, he did not feel that a Western-style democracy was appropriate for Morocco. Despite this, developing countries very often look explicitly at Western constitutions as models and import institutional designs wholesale, with little regard for the finer points of why those institutions were designed and selected in the first place. France's 1958 ("Fifth Republic") constitution is a common model. Because it provides for two top-level political figures, a president and a prime minister, countries trying to settle a civil war or other dispute between two rival factions often select it to allow both factions major roles in government. In 1991, Russia opted for a semi-presidential system to placate the hard-liner Communists, reduce the sense among them that their ways were under threat, and allow them to influence the speed of change. The 1994 Angolan constitution, produced after the Bicesse Peace Accords, followed this pattern as well. Needless to say, this institutional configuration has not been as successful at creating political stability and the necessary conditions for economic growth in any of these cases as it was in France under Charles de Gaulle, who designed it and also served as the first president under the new system.

Human Rights

Human rights are another "Western" concept that has become part of the "cultural globalization" debate. Human rights as a concept and practice have transformed the international political system as well as many domestic ones. Only Western societies have comparatively long-standing traditions of state respect for persons, lives, and property; customary law in many parts of Africa and the Middle East frequently includes the death penalty, and many repressive regimes rely on intimidation, torture, and large security forces to maintain power. Gender equality as a right is even less widely held, even in the West; Swiss women did not receive the right to vote until 1971. Developing states often resent Western governments' efforts to condition developmental aid on respect for human rights; many of them are so dependent on outside aid and trade concessions, however, that they begrudgingly accept human rights treaties, even if implementation is weak. Nonetheless, even minimal observance of human rights has empowered previously repressed groups. Formerly suppressed women in India (and many other parts of the world) have joined literacy initiatives, and microcredit lending circles now allow women to start their own businesses, for example. Both of these practices contradict long-standing rural social norms about the role of women. Former Moroccan detainees and torture victims and their heirs, using human rights principles, have protested government secrecy about their fates and succeeded in forcing the government to create a Truth and Reconciliation Commission to investigate claims of torture, involuntary imprisonment, and "disappearances," and to pay victims compensation.

Since the seventeenth century, international relations have been based on the doctrine of sovereignty, but some have argued that sovereignty is eroding because of the application of human rights concepts internationally. In theory at least, sovereignty is what allows a state government to behave as it pleases within its own territory, and all other states are forbidden to interfere in that state's domestic policies. The idea of universal human rights violates this fundamental concept. Under human rights theory, other states claim the right to interfere in a state's domestic policies, and even to violate its territorial integrity by invading, if the outside states determine that the state is violating its citizens' human rights. States even claim these rights to interfere if the domestic government of the country in violation has not formally accepted these principles. In an even larger theoretical violation of sovereignty, states have willingly ceded the right to treat their citizens as they choose to the broader international community by signing treaties that give human rights the status of international law. By signing the treaties, leaders essentially cede the rights of their government to determine their internal policies independently and agree to be bound by the international agreements. Many have thus argued that the foundations of sovereignty itself are being undermined and that sovereignty will eventually be replaced as the organizing principle of the international system.

Cultural Linkage and Change

A number of schools of thought suggest that increased exposure to other cultures will enhance tolerance and reduce the likelihood of war. Increasing frequency of interactions via international travel, television programming, people-to-people exchanges, international educational opportunities, and arts and cultural exchanges can contribute to better understanding of other peoples and their cultures and values. Though there is some evidence to the contrary, that too much exposure to other cultures can make individuals feel that their own culture is being invaded and provoke a defensive reaction, there are some grounds for hope on a smaller scale. Several programs send Israeli and Palestinian youths on extended camping retreats, for example; the teens frequently start the program holding antagonistic views of the other group, but conclude the program with much more moderate opinions.

More important for both critics and proponents of cultural globalization arguments, cultural products, cultural practices, and culturally based opinions are not absorbed blindly and in their entirety. Recipients take in new values, customs, and habits in small pieces and in a selective manner, normally working to minimize dissonance between their existing value set and the new information, and translate the messages they receive through their own values and culture. Even if human rights, Hollywood, McDonald's, and democracy are observed around the world with increasing frequency, the cultural meaning of *Baywatch,* or an election, or government renunciation of torture will vary from society to society. Global availability of a cultural product does not mean that it will have global acceptance, or even acceptance in different ways all over the globe. Advertisers and marketing agencies are among the first to acknowledge this and regularly adapt the way they market the same product to different cultural circumstances. This suggests that global culture is not yet truly global: Significant differences remain across societies, regions, and even countries within regions.

Information Flows

Information flows do not normally touch political systems directly but instead affect them in distinct but indirect ways through their influence on governance. The rise of the Internet as a cheap and effective means of disseminating information, for example, has both allowed governments to provide more information to citizens and facilitated the organization of a cross-border opposition to various international policy issues.

Informed citizens are better equipped to make demands on their governments, and in repressive societies these demands often include democratization. At a minimum, many modern authoritarian governments fear what would happen if their citizens obtained accurate information about the rest of the world. China, the People's Democratic Republic of Korea (North Korea), and many other similar states routinely block citizen access to the Internet as well as global media sources such as CNN and BSkyB. They do so with good reason—the 2003 debacle surrounding the emergence and spread of SARS in China is an excellent case in point. Under normal operating circumstances, the Chinese government would have continued to suppress information about the true scope of the illness's spread. When the severity of the illness finally brought the World Health Organization into the picture, Western journalists began investigating. Publication of their discoveries through Western media channels brought international pressure to bear on the Chinese government to provide the truth. More important, Chinese citizens gained access to Western media reports. Fury over the government's decision to deceive citizens in order to maintain its public façade of having the infection under control led to street demonstrations and other forms of protest, resulting in the first known case in which the Chinese government explicitly responded to public opinion when two government ministers were dismissed for their complicity in the scheme.

Even prior to the Internet, though, information was considered dangerous to repressive states. The Soviet Union and many other Communist states frequently censored mail, publishing, and international news media, fearing what could happen if their citizens learned the true disparity between life in the West and what they experienced. The most notable example of the effect of information on political systems occurred in 1975 with the Helsinki Accords, which called for, among other things, unimpeded access for journalists and free circulation of information. Over the next fifteen years, public dissatisfaction with the standard of living under Communist regimes grew as the public learned about lifestyles in the West. Governments were forced to increase expenditures on social and private goods, and both are widely acknowledged contributions to the relative ease with which the Communist regimes of Central and Eastern Europe were dismantled.

International organizations also play a major role in facilitating the exchange of information among states. Many international organizations, which themselves are the products of cooperation among states, provide forums for states to exchange information about policy sectors within that institution's jurisdiction. Within the Association of Southeast Asian Nations (ASEAN), there is an ASEAN Regional Forum (ARF), for example, that enables member states to gather twice a year to discuss their views on current regional political and security issues and to share their thoughts on each other's policies. Many international organizations also provide independent information and monitoring services. The World Health Organization (WHO) disseminates information on potential public health threats and publishes travel advisories; the World Trade Organization (WTO) and the OECD provide annual reviews of members' policies in their areas of competence, highlighting deviations from policies agreed upon under the auspices of the WTO and OECD, respectively.

In many ways, information flows are critical to the other facets of globalization examined here. The rise of modern telecommunications technology permits round-the-clock, round-the-world financial trading and increasing levels of short-term investment. With easier access to information about market conditions, and the ability to monitor behavior more closely than when sailboats took several months to cross the Atlantic, investors are more willing to invest in intangible assets such as stocks and bonds, and they learn about downturns or bad news fast enough to sell. Political actors in one state can make overtures to or try to influence political actors in other states.

Political Ties

Overall, the feature that most distinguishes modern globalization from prewar globalization is the level of interstate political cooperation, and particularly the institutionalization of this cooperation in international organizations. The distinctive feature of prewar globalization was laissez-faire capitalism, where governments were unwilling (and in many ways generally unable) to interfere in economic affairs, domestic or international. The enormous expansion of trade and investment in the late nineteenth century was subject to hardly any regulation or government control; no Gold Standard Monitoring Organization existed to manage the international currency regime. Globalization in that era was primarily economic, featuring a remarkable convergence in factor prices and living standards in the central Atlantic economies, though with little effect on peripheral economies.

In contrast, modern globalization has been supported and, many argue, promoted by a dense network of interlocking agreements between and among states. Chief among these are agreements signed at Bretton Woods, New Hampshire, at the end of World War II that attempted to regularize the conditions for international trade and exchange rate changes and make them more predictable. The Bretton Woods Agreements created the World Bank (known then as the International Bank for Reconstruction and Development, or IBRD), the General Agreement on Tariffs and Trade (GATT, the institutional precursor to today's World Trade Organization), and the International Monetary Fund. By stabilizing the political components of international economics, Bretton Woods facilitated the rapid postwar expansion in trade between developed countries that continues to this day and created the structures needed to bring developing countries into the international trading system. This cooperation and coordination in the economic arena were facilitated and complemented by similar efforts in the political arena (the United Nations), the military arena (the Western European Union, and later, the North Atlantic Treaty Organization, NATO), and a variety of other fields.

Since then, the number of agreements signed each year has grown almost exponentially. International treaties and other agreements govern an incredible range of topics, from the rights of international air travel companies and their passengers (the Warsaw Convention on International Air Carriage, 1929), to permissible catches of certain whales (International Convention for the Prevention of Whaling, 1946), and even what constitutes a treaty (the Vienna Convention on the Law of Treaties, 1980). Many of these treaties are supported by organizations or secretariats of varying sizes that help states carry out their treaty obligations. The densest network of such treaties and organizations is in Western Europe, where twenty-seven states have delegated substantial governance powers to the institutions of the European Union. Members of the EU no longer have the right to make such regulatory decisions as determining who is a dentist, for example, or what colors refrigerator wiring should be, or what percentage milk content is required for a drink to be a called a "milkshake." These powers are shared with the (appointed) European Commission, seated in Brussels, Belgium.

Global Governance

Many authors argue that, taken together, these international agreements and organizations represent a fundamental change in the nature of governance, but opinion is still divided over whether these changes are good. Supporters argue that efforts at "global governance" allow states to find collective solutions to problems in ways that are more efficient than if each state tried to resolve their problems separately. They point to the numerous environmental agreements of the 1990s: One state reducing emissions is not likely to affect global warming, but all states working together may have an impact. Likewise, international efforts to establish

telecommunications standards and consistent e-commerce policies facilitate international trade and investment, making all states better off.

Critics argue that democratic governance processes are being short-circuited because much of the negotiations that occur at the international level go on behind closed doors. The public usually does not have any input on whether action on a particular issue even needs to be taken at this level, and the highly technical nature of the agreements and programs often obscures who the real domestic winners and losers are. The critics also point to the incredible number of major trade liberalization agreements signed in the 1990s, including the formation of the WTO itself. Many of these trade agreements were signed by governments led by those on the left of the political spectrum (Social Democrats, American Democrats, Socialists, and the like), which is more often associated with labor and thus protectionist policies than with free trade. Critics charge that the surrender of sovereignty inherent in agreements of any type restricts national policy choices and constrains the ability to pursue national goals by prohibiting tariff increases or other protectionist measures, in the case of most trade agreements, or by ignoring alternative approaches to reducing global warming, in the case of the Kyoto Protocol, for example.

International Organizations and Political Behavior

International organizations increasingly make policy on behalf of states; they also provide constraints on current and future policy behavior, particularly in democracies. States may seek to join, create, or otherwise make use of international organizations for these reasons. In other words, sovereignty is ceded for capacity. States trade the ability to set policy independently for some policy capacity they lack, such as the ability to formulate or implement a policy to solve the problem or the ability to pay for the solution.

States facing serious currency crises or balance of payment problems can turn to the IMF for loans to help them weather the crisis. These loans come with strings attached: Countries accepting IMF aid normally must accept a structural adjustment agreement that includes specific policy measures that the government must take to fix whatever the IMF has identified as the "cause" of the country's economic problem. These measures are usually quite politically painful, involving cuts to state subsidies for food, child care, social insurance, and industry, along with regulatory restructuring for banks, insurance, and sometimes other sectors. Since most IMF-assisted bailouts occur after a boom-and-bust cycle, economic deflation resulting directly from the crisis increases unemployment (and raises demand for social insurance), causing additional political pain just as the government is facing the difficult task of reorganizing the economy to fit the vision of the IMF's economists. Without the conditionality of the IMF agreement, which effectively commits a government to the reform policies as a condition of further assistance (and implicitly to enable the country to avoid further disaster or backslide), many developing states with weak or underdeveloped political institutions would not be able to muster the political will to implement these sweeping reforms. Such externally imposed reforms, however, are often thought to undercut democratic governance because voiced popular opinions for enhanced social insurance and government efforts to alleviate suffering and create employment are often ignored in favor of the appointed IMF economists' preferences.

Developed democracies also use international agreements and institutions to commit themselves to policy positions, but for a more sophisticated reason. In a mature developed democracy, international agreements and organizations allow parties of a particular ideology or political preference to commit themselves—and their successors, who will likely be of a different political ideology or preference—to a particular policy or to use or nonuse of a

particular policy instrument. The treaty creates an additional hurdle for future governments, should they wish to deviate from the current incumbent's preferences, and helps to ensure that current preferences will remain national policy well after the incumbent and his or her party lose office. Pro-EU British Prime Minister Tony Blair (Labour Party, 1997–), for example, signed the EU's Social Charter as part of the Treaty of Amsterdam, which his Conservative predecessor John Major (1991–1997) had refused to do. Future British prime ministers, Labour or Conservative, will have to contend with social policy obligations that are not only enshrined in domestic law but also part of a binding international agreement as well as part of a larger package of agreements. The same rationale can also be used by developing states. Mexican leaders followed Central European leaders in admitting very bluntly that their major goal for signing free trade agreements with their larger, democratic neighbors (and in the Central European case, applying for EU membership) was to lock in reforms and help deter or prevent backslides into authoritarianism. In these cases, politics and economics have become thoroughly intertwined so that developments in one almost automatically affect the other.

The EU deserves special mention here for its demonstration of multilevel governance. Policy is made there on several levels: the European level, the national level, the subnational level (for federal states), and the local level. The EU practices *subsidiarity,* a policy that argues for decisions to be taken at the closest possible level to the citizen. Issues are only taken up at the European level if national policies have been insufficient and if national political leaders consent to its consideration at the European level. For the past several decades, the EU has been held up as a model of postterritorial or postsovereignty governance. Recently, however, some arguments have been made suggesting that this practice of taking nationally unresolvable issues to the European level will put incredible strain on EU institutions. The EU's institutions were not designed for direct governance over the range of issues now considered regularly at the Union level. Eventually, the institutions may be confronted with a severe crisis imperiling the entire political structure of the European Union. Given the level of integration achieved by EU members, if the Union institutions prove unable to respond to such a crisis in a manner that is satisfactory to the general public, the resulting collapse could become the basis of an unprecedented economic and political disaster (see also James 2001, chap. 6).

New Actors in the International Political System

In the traditional model of Westphalian international relations, which forms the dominant paradigm for most scholarly work, the primary if not sole actors were states. It is now incredibly difficult to argue that states are the only actors in world politics, and it is increasingly a challenge even to argue that states are the major actors in world politics. States now compete with multinational corporations (many of whom have annual revenues greater than states' GDPs), international organizations, transnational pressure groups, and international governmental networks. The rise of new actors, which is largely attributable to globalization's different facets presented here, represents a fundamental shift in the nature of the international system.

These new actors also affect the concept of governance at the national and international levels insofar as these groups and individuals have the ability to raise issues for policy consideration and action. Sometimes, nonstate actors are directly involved in the implementation of the policies they help design. International organizations fill the many roles discussed above. Transnational pressure groups include environmental activist groups such as Greenpeace, human rights groups such as Amnesty International and Médecins Sans Frontières (Doctors Without Borders, which won the 1999 Nobel Peace Prize for its work in

war-torn areas), and a variety of other groups in different fields of work. Some individuals are increasingly able to manipulate policy attention on the global level through their high-profile personal involvement: South Africa's Nelson Mandela, Britain's late Princess Diana, and former U.S. president Jimmy Carter are all examples of people advancing particular causes through individual action. Policy networks—consisting of national officials with expertise in particular areas meeting with their foreign counterparts to discuss issues of concern—are also a little-known facet of global governance. These networks of central bankers, bank examiners, constitutional judges, police officials, health officers, and so on come to a consensus on a preferred policy, return home, and implement the policy through their own national policymaking processes (Slaughter 1997).

Democracy and Globalization

Those who believe that globalization undermines democratic governance also contend that the shift in policymaking from the national to the global level relaxes many of the constraints that normally operate in democratic societies. Mass publics around the world are notoriously uninformed about international politics, even in Western societies, where information is plentiful and access is relatively easy. Treaty politics differs from domestic politics in that the legislature, the people's elected representatives, did not formulate the policy they vote on, and unlike domestic politics, treaty ratification votes rarely permit amendment. Whatever the executive branch submitted is either approved or rejected in entirety. Domestic interests may be compromised in search of a draft with a net gain. Moreover, the treaty negotiation was most likely secret, and the length and highly technical nature of the resulting document means that most legislators will not have time to study the entire draft, determine its likely effects, and weigh their votes. State leaders go over the heads of their own legislators, sometimes using complex international package deals to obtain policies and programs that would otherwise be unachievable in the domestic context. The EU is often criticized for having a "democratic deficit," where policymaking is subject to insufficient popular control. The directly elected European Parliament has very little ability to stop a policy that national leaders want; on many sensitive policy issues, it has no role at all. For policies where competence is solely at the European level, national parliaments are then given no chance to consent to the policy or hold their leadership responsible for its behavior at the European level.

Global governance therefore provides a new set of democratic accountability problems. Policy and regulations made by international organizations in many ways lack democratic legitimacy. The bureaucrats who staff the secretariats are sometimes seconded from national governments, but many of the more policymaking-oriented organizations, such as the World Bank, the International Monetary Fund, and the European Union, recruit their own staff through open competition in all member countries. International staff have no political or national affiliation; they are supposed to be technocrats in every sense of the word, appointed rather than elected to their posts, accountable only to their own (often appointed) superiors. They are often alleged to act without any regard for the political, social, or environmental implications of their proposed policies. In a sense, this is what lies behind many of the WTO, World Bank, and IMF protesters' calls for representation of labor, environmental organizations, or other interests on institution boards. If representation of national interests is not possible or appropriate, at least policy would then contain some direct input from the affected parties. However, many advocates of the protesters' ideas fail to realize that democracy, or at least popular legitimacy, would not ultimately be better served by the appointment of self-appointed issue advocates to these boards.

Leanne C. Powner

See Also Monopolies and Antitrust Legislation; International Monetary Fund (IMF); Conflict, Cooperation, and Security; Culture and Globalization; Human Rights and Globalization; Labor Rights and Standards

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Population Growth

The twentieth century witnessed unprecedented population growth rates resulting in large population sizes worldwide. Currently the world population has reached 6,414,378,456 people, according to The U.S. Bureau of the Census (Census 2004). Every second, 4.1 babies are born and 1.8 deaths occur, thus contributing to a net increase of 2.3 people. Each successive billion has been added to the world population in a shorter time span over the course of history (see Table 1).

The timeline in Table 1 shows that within a span of sixty-nine years, from 1930 to 1999, the population of planet Earth grew by 4 billion people, and approximately 200,000 people are currently added every day (Weeks 2001, 5).

Historical demographers claim that sizable population growth took place after the agricultural revolution between 1750 and 1900. However, wars, territorial invasions, plagues, and pestilence kept the population size small. It is only after the Industrial Revolution in Europe that population growth accelerated, surpassing previous growth rates. For instance, the annual world population growth rate in 1750 was 0.34 percent; it gradually increased to 0.53 percent in 1850 and reached 1.07 percent in 1930. Since 1930, the growth rate has steadily increased, peaking in 1970 at 2.07 percent (Census 2001). Some of the highest population growth rates occurred following World War II owing to the temporary "baby boom" experienced by the developed countries of North America and Europe during 1946–1964 and high birthrates in the developing countries of Asia, Latin America, and Africa. At the same time, the world experienced a medical revolution that curtailed infant mortality rates and increased life expectancy. Together, fertility increase and mortality reduction led to substantial additions to the world population.

Although the current population growth rate has decreased over time to 1.26 percent per annum, the world population will keep growing into the future because of "population momentum," that is, the tendency of the population to continue growing despite low growth rates because of a relatively high concentration of women in their childbearing years. An easy way to gauge the population growth potential is to calculate the doubling time, the time required for a population to double its size given the current rate of population growth. Since human populations grow exponentially, the "rule of 69" (natural logarithm of 2) can be applied to population estimation. The doubling time is approximately equal to 69 divided by the growth rate. The world population will double in fifty-five years at the current growth rate of 1.26 percent per year.

The Demographic Divide

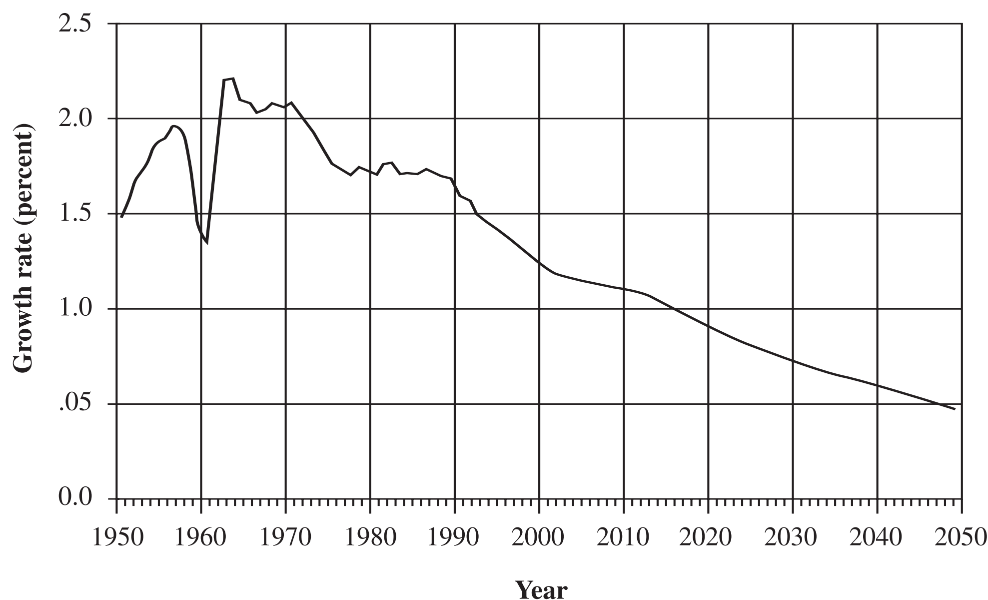
A focus on the world population size and growth rates conceals the international regional variation in such rates. More than 80 percent of the world's population lives in the less developed regions. In 2004, developed regions contained 1.206 billion people, whereas the less developed regions contained 5.190 billion people. Within the less developed regions,

Table 1: World Population Landmarks

1st	billion	reached in 1800
2nd	billion	reached in 1930 after a period of 130 years
3rd	billion	reached in 1960 after a period of 30 years
4th	billion	reached in 1974 after a period of 14 years
5th	billion	reached in 1987 after a period of 13 years
6th	billion	reached in 1999 after a period of 12 years
7th	billion	projected by 2013 after a period of 14 years
8th	billion	projected by 2028 after a period of 15 years
9th	billion	projected by 2054 after a period of 26 years

Source: United Nations, World Population Prospects (New York: United Nations, 2004).

Figure 1: World Population Growth Rate: 1950–2050



Source: U.S. Census Bureau, International Data Base, September 2004 version.

China, with 1.3 billion people, and India, with 1.087 billion people, accounted for 37 percent of the world's 6.4 billion population. Table 2 presents the world's ten most populous countries in 2004 and projected in 2050.

In 2004, only two of the ten most populated countries, namely the United States and Japan, were from the developed regions. The projected estimates for 2050 show the United States, with a population of 420 million people, to be the only developed country included in the top ten countries of the world. By that time, 90 percent of the global population will be living in the less developed regions, and Asia and Africa will contain the most populated countries of the future.

Table 2: World's Ten Most Populous Countries in 2004 and Projected in 2050

2004			*2050*		
Rank	*Country*	*Population (millions)*	*Rank*	*Country*	*Population (millions)*
1	China	1,300	1	India	1,628
2	India	1,087	2	China	1,437
3	United States	294	3	United States	420
4	Indonesia	219	4	Indonesia	308
5	Brazil	179	5	Nigeria	307
6	Pakistan	159	6	Pakistan	295
7	Russia	144	7	Bangladesh	280
8	Bangladesh	141	8	Brazil	221
9	Nigeria	137	9	Congo, Dem. Rep.	181
10	Japan	128	10	Ethiopia	173

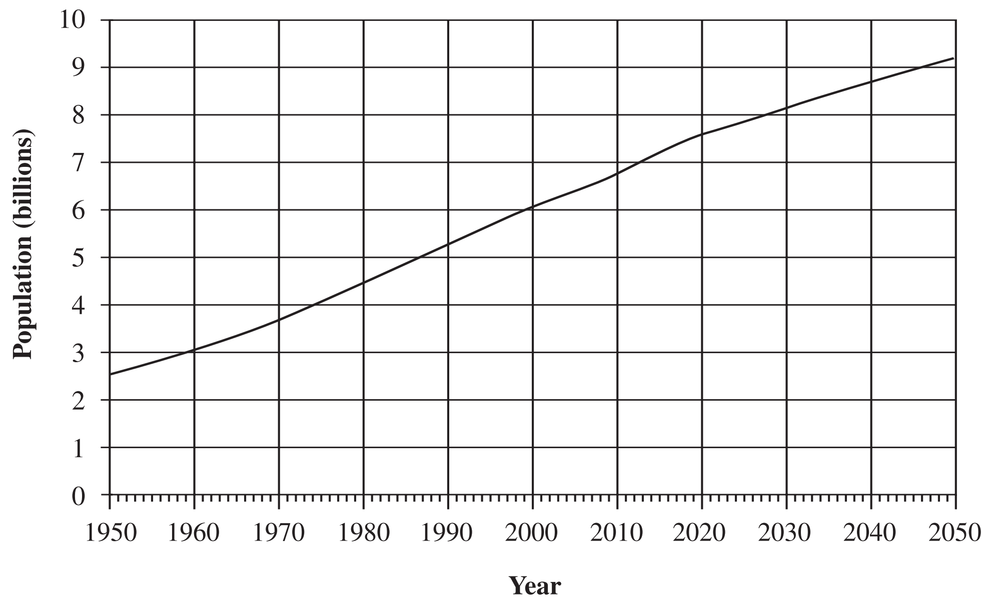
Source: Population Reference Bureau, World Population Data Sheet (Washington, DC: PRB, 2004).

The African continent, with a population of 885 million, is growing at an annual rate of 2.4 percent. Within this region, the growth rates vary from 1 percent in South Africa and 1.2 percent in Zimbabwe to 2.4 percent in Libya and Ethiopia and a high of 3.1 percent in Congo and Malawi. Much of the future projected increase in population will take place in this region. Countries with a growth of 3 percent will double in twenty-three years. Another region that has a high growth rate is Western Asia, where Saudi Arabia and the Palestinian territory have growth rates of 3 percent and 3.5 percent, respectively. In contrast, Turkey and the United Arab Emirates have a growth rate of only 1.4 percent. Within Latin America, Guatemala and Honduras are the rapidly growing countries, at a rate of 2.8 percent. Mexico, the most populous country in the region with 106.2 million people, is currently growing at a rate of 2.1 percent. In South America, Argentina, Chile, and Brazil have reduced their growth rates to 1.1 percent, 1.2 percent, and 1.3 percent, respectively. Bolivia, Paraguay, and Ecuador have growth rates above 2 percent. In South Central Asia, India is the most populated country, with 1.086 billion people and a growth rate of 1.7 percent. Currently Afghanistan, Pakistan, and Bangladesh have growth rates above 2.3 percent. In Southeast Asia, Cambodia and the Philippines have growth rates above 2 percent, whereas Indonesia, Myanmar, and Vietnam are growing at a rate of between 1.3 and 1.6 percent. The most significant statistic has been in the region of East Asia, where China has a growth rate of 0.6 percent. South Korea and Taiwan have growth rates between 0.4 and 0.5 percent.

The European region has the lowest growth rates in the world. Most of Eastern Europe is experiencing a negative growth rate. Russia, Belarus, and Bulgaria combined have a growth rate of –0.6 percent. The United Kingdom, Sweden, and Denmark are growing at a rate of 0.1 percent. In Western Europe, Germany has a negative growth rate, whereas France and the Netherlands share a growth rate of 0.4 percent. The "demographic divide" refers to the fact that some countries are growing quickly while others are experiencing net losses. Nigeria is expected to double its population to 53 million by 2050, for example, whereas Bulgaria should see its current population of 7.5 million decline to 5 million by that same date.

Such fluctuations in growth rates necessitate a deeper understanding of the demographic processes of fertility and mortality. Changes in fertility and mortality influence the

Figure 2: World Population 1950–2050



Source: U.S. Census Bureau, International Data Base, September 2004 version.

demographic transition of nations from high growth rates to low growth rates and vice versa.

Fertility Transition

Population changes are directly affected by the demographic processes of fertility and mortality and indirectly by net migration. The relationship between these variables is best expressed in the "Balancing Equation," a simple calculation of population change over time.

Population Size$_t$ = *Population Size*$_{t-1}$ + *(B – D)* + *(I – E)*, where
Population Size$_t$ = population at time t
B = total number of births between the time t – 1 and t
D = total number of deaths between the time t – 1 and t
I = total number of immigrants entering a country between t –1 and t
E = total number of emigrants leaving the country between t – 1 and t

"Natural increase" is said to take place when births outnumber deaths. The current natural increase of world population consists of an addition of 77 million people annually (132 million babies will be born in the world while 55 million people will die, resulting in a net addition of 77 million people) (Population Reference Bureau 2004, 3).

"Fertility" refers to the actual reproductive performance of a population. It differs from "fecundity," the physiological capability of couples to reproduce. Fertility thus encompasses fecundity and the other social attributes, such as age at marriage or cohabitation, availability and use of contraceptives, economic development, the status of women, the desire for children and the age-sex structure desired, that will eventually influence the number of children born to women.

The Crude Birth Rate (CBR) calculates the

number of live births per 1,000 population in a given year. For instance, in 2004 the world CBR was 22 births per 1,000 population. Niger, with 55 births per 1,000 population, had the highest CBR, Pakistan had a CBR of 39, Spain and Italy a CBR of 9, and China a CBR of 7 per 1,000 population. This is a useful but crude measure of a region's fertility because it ignores the age and sex structure of the population, which can immensely affect the number of children born in a given year. Hence, improved measures take into account the number of live births per 1,000 women aged fifteen to forty-nine years in a given year. For international comparative purposes, for example, most demographers focus on the Total Fertility Rate (TFR) of a given year. The TFR is a synthetic measure that calculates the average number of children a woman would have if she were to follow the age-specific fertility rates of women in a given age group from fifteen to forty-nine years. It is a useful indicator that answers the question of how many children women are having. A TFR of 7, for example, implies that a typical woman will have seven live births in her reproductive years. TFRs today vary from 1.2 in Eastern Europe to 1.7 in China, 2 in the United States, 3.1 in India, 5.7 in the Palestinian territory, and 6.9 in Uganda. A TFR of 2.1 is considered to be fertility at replacement level such that one generation can be replaced by the next generation, resulting in a stable population. Most European countries have a TFR that is below replacement levels, whereas most countries in Africa, West Asia, and South Asia are above replacement levels.

Correlates of Fertility

Historically, very high fertility in premodern societies was a response to the high infant and maternal mortality rates of the regions. Over time, certain institutional structures and ideological systems were created such that people were encouraged to have large families to offset the high death rates in the interest of reproduction. Europe was the first to experience a decline in mortality levels with improvements in sanitation and personal hygiene. As more infants survived to adulthood, large families became unnecessary, and small family sizes became more common (Davis 1963). Rapid industrialization and urbanization created further disincentives for couples to have large families, thus setting up an attitudinal change toward desire for children. As the conditions of the supply of children and the demand for children were modified, couples chose options that further delayed childbearing or reduced the number of children ever born. For instance, as the supply of children increased owing to improvements in rates of infant survivorship, it exceeded the actual demand, thus producing a response from couples to use some method of fertility regulation (Easterlin 1978). In post–World War II, Japan made fertility reduction its national goal and encouraged women to delay marriage or use contraception or abortion to limit their family size. As the costs of childbearing and childrearing increased, placing greater demands on the quality rather than the quantity of children, couples used various means of fertility regulation.

With industrialization, urbanization, and mass education, the status of women in European nations was challenged by many feminist movements demanding equal rights in the areas of education, work, property ownership, and reproductive rights. As these rights were accomplished, the opportunity cost of children increased for women, lowering fertility. Based on the European experience, one can identify a set of factors that can produce lower fertility levels.

However, such factors may not lead to lower fertility levels in the less developed regions of the world, where the transition is taking place in a different economic, political, and social context. The biggest challenge facing the less developed countries in their fertility transition is that mortality rates are rapidly declining, but without concomitant changes in economic development, educational achievement, and the

status of women. Many countries in Africa, South Asia, and some parts of Latin America are predominantly agrarian. They have a history of colonization, face capital scarcity and high levels of poverty, and still hold traditional value systems promoting large family size ideals and a low status for women. As long as these structures remain intact, the motivation for couples to reduce family size will be weak or absent in the less developed world.

The birth of children, especially sons, is perceived to bring prestige, power, and social security in old age to parents (Cain 1981). Such androcentric beliefs and traditions of patriarchy pressure parents to desire sons that will survive into adulthood. Traditions of patriarchy, supported by fundamental religious beliefs in the countries of Asia and Africa, hinder the reduction of fertility rates in such regions.

Mortality Transition

World population growth is taking place because mortality rates decreased dramatically in the twentieth century. "Mortality" refers to both the biological and the social components of death. Variations in the death rate and its incidence reveal much about a population's quality of life and health care. "Life span" refers to the maximum number of years human beings can survive. Different estimates all place the limit at 122 years. "Longevity," however, refers to the age to which one actually survives, based on given social, cultural, political, and economic conditions.

Mortality can be measured through the Crude Death Rate (CDR), which is the total number of deaths in a year per 1,000 population. The world has a CDR of 9 per 1,000 population. The more developed regions have CDRs of 10 per 1,000 population, whereas the less developed regions have a CDR of 8 per 1,000.

The "life expectancy" is an estimate of the average number of years a person can expect to live, given certain age-specific death rates for a given year. It is an index that sums up the mortality experience of a population in a hypothetical case while taking into account the age and sex structure of the population. The life expectancy at birth in the world as a whole is 67 years, which is approximately half of the human life span. Measures of life expectancy display tremendous regional variations. Sub-Saharan Africa, for example, has one of the lowest life expectancies in the world, at 49 years, with Sierra Leone at 35 years. Some African nations, such as Nigeria, Sudan, and Ghana, have made recent improvements, reaching life expectancies of 52, 57, and 58, respectively. Low life expectancies reflect higher infant and child mortality rates. Much of Latin and South America have life expectancies in the mid-70s, although in Nicaragua and Guatemala the figure is lower. In South Asia, India, Pakistan, and Bangladesh have life expectancies of 62, 61, and 60, respectively. China and South Korea have life expectancies of 71 and 77 years, respectively. Japan has the world's highest life expectancy, 82 years. Japan is closely followed by northern and Western European countries such as Switzerland, Sweden, Denmark, and the Netherlands, all with a life expectancy of 80 years. Relative to other industrialized countries, the United States has a lower life expectancy, 77 years.

Life expectancies can also be calculated separately for males and females. Differences in male and female expectancies reflect biological and social differences. Females are born with a biological advantage over males where female infants have lower infant mortality rates. However, social disadvantages due to the preference for sons in traditional societies can even this gap. For instance, women outlive men by seven years in Japan, by six years in Germany, and by five years in the United States. However, this gap is narrowed to three years in China, two years in India, and one year in Saudi Arabia. In Afghanistan, Bangladesh, and Nepal, males outlive females by a slim margin of a year. Such regional variations can be understood by examining the epidemiological transition experienced worldwide.

Epidemiological Transition

The term "epidemiological transition" refers to the shifts in health and morbidity conditions that have resulted in lower death rates, primarily the decline in infectious diseases in the general population and in degenerative diseases among the elderly.

Control of communicable diseases has resulted in mortality declines worldwide. However, less developed nations, unlike more developed nations, have experienced such declines through transfer of medical technology and public health knowledge without the necessary socioeconomic development. Less developed countries have achieved low mortality levels in just fifty years, whereas European countries took five centuries to reach those levels. However, major economic obstacles hinder further successes in lowering mortality rates. Lack of economic development limits public health delivery systems and provision of potable water, sewage systems, and electricity. John Caldwell (1982, 1986) also identified education for women as a critical variable in the reduction of infant and child mortality rates. As caregivers, women play a crucial link to such improvements in the overall health of the nations. On one hand, for example, in Kerala, Sri Lanka, and Costa Rica, higher than expected life expectancies, despite low levels of development, are thought to be due to a more egalitarian attitude toward women and a commitment to education in those countries. On the other hand, the low status of women in some wealthier nations, such as Saudi Arabia, Oman, and Iran, may be largely responsible for the lower than expected life expectancies in those regions.

As nations around the world are confronting their health challenges and conquering some traditional infectious diseases, new viruses, such as HIV/AIDS, and preventable diseases, such as cancer, strokes, diabetes, and heart risks, are becoming the leading causes of death in the advanced and less developed nations.

One 2004 United Nations report estimated that between 2001 and 2003, the incidence of HIV/AIDS increased from 35 million to 38 million worldwide. Two-thirds of the HIV/AIDS-affected individuals were concentrated in sub-Saharan Africa. Of the 6.5 million cases of HIV/AIDS in Southeast Asia, 5 million cases were from India. AIDS is now the leading cause of death in Africa. The Joint United Nations Programme on HIV/AIDS (UNAIDS) estimated that 2.9 million adults and children worldwide died of symptoms associated with AIDS in 2003. The number of children orphaned has increased from 12 million to 15 million in two years.

UNAIDS has identified six sociobehavioral risk factors that promote HIV/AIDS: (1) infrequent or no condom use; (2) large proportion of population with multiple sexual partners; (3) overlapping sexual partnerships; (4) large sexual networks, as seen in migrant workers; (5) age mixing, as in older men with younger females; and (6) women's economic dependence on marriage or prostitution. HIV/AIDS in less developed nations is spread through heterosexual intercourse. A high incidence of premarital and extramarital sexual relations, along with extensive sexual networking and polygyny and a low status for women, which forces women to submit to sex without condom use, thus contribute to a higher incidence of HIV transmission in sub-Saharan Africa.

Changing Age Structure

Increasing life expectancies have contributed to another demographic shift: an aging world population. The changing age structure has created a further regional divide. Whereas more developed nations are facing an increasingly older population that is nearing death, the less developed nations are beset with younger populations that will be in their reproductive prime in the future.

A population is considered relatively "young" if 35 percent of its population is under age fifteen, and relatively "old" if 12 percent of its population is over the age sixty-five. An ag-

Table 3: Prevalence of HIV/AIDS, Top Fifteen Countries, Within Africa and Excluding Africa (2003)

Africa			*Out of Africa*		
Rank	*Country of Population*	*Percent*	*Rank*	*Country of Population*	*Percent*
1	Swaziland	38.8	1	Haiti	5.6
2	Botswana	37.3	2	Trinidad and Tobago	3.2
3	Lesotho	28.9	3	Bahamas	3.0
4	Zimbabwe	24.6	4	Cambodia	2.6
5	South Africa	21.5	5	Guyana	2.5
6	Namibia	21.3	6	Belize	2.4
7	Zambia	16.5	7	Honduras	1.8
8	Malawi	14.2	8	Dominican Republic	1.7
9	Central African Rep.	13.5	9	Suriname	1.7
10	Mozambique	12.2	10	Thailand	1.5
11	Tanzania	8.8	11	Barbados	1.5
12	Gabon	8.1	12	Ukraine	1.4
13	Côte d'Ivoire	7.0	13	Myanmar	1.2
14	Cameroon	6.9	14	Jamaica	1.2
15	Kenya	6.7	15	Estonia	1.1

Source: Population Reference Bureau, World Population Data Sheet (Washington, DC: PRB, 2004).

ing population is one where the proportion of the older population to the total population is increasing. As mortality rates are controlled and a larger percentage of infants survive into adulthood, the percentage of population aged sixty-five years an up is expected to double over the next fifty years, increasing from 7 percent to 16 percent. In Japan, only 14 percent of the population is below age fifteen, while 19 percent is above age sixty-five. Nearly half of Nigeria's population is below age fifteen, and only 3 percent is above age sixty-five (Population Reference Bureau 2004, 2). Many of the European countries that are experiencing declining population growth rates are also experiencing an aging population structure. This presents another set of challenges, a growing demand for better provision of health and social services geared toward those over eighty-five, as more than 50 percent of the baby boomers in Europe and North America are expected to survive into their eighties. Management of more debilitative and degenerative diseases, such as Alzheimer's, arthritis, various forms of cancer, diabetes, and osteoporosis, will become the focus of future research in the attempt to achieve compression of morbidity in the older age groups.

A related phenomenon is the feminization of old age. As people survive into the later years, females have a better chance of surviving than males, and this has resulted in an imbalance of the sex ratio in old age. For the United States, between the ages of sixty-five and seventy-four, there are 84 males per 100 females; this ratio drops to 54 males per 100 females in the age category for those seventy-five and up (Census 2001).

The less developed countries will also soon encounter the challenges of an increasing elderly population. Indeed, large increases in elderly populations are expected to be found in developing countries by 2020. China already has a sizable population of older people, at 89 million, and this figure is projected to increase to 198 million by 2025. China already contains 20 percent of the world's older population; however, this group (those sixty-five and up)

represents only 7 percent of China's total population. China is already beset with an imbalance in its sex ratio in the younger age groups due to its rigorous population policies, which favor the birth of sons.

Population Policies

An understanding of factors influencing demographic causes and consequences can be utilized to shape and improve the human condition through the policymaking process. Population policies are strategies and procedural guidelines used to achieve a certain population goal. The specific development needs of a nation and its endowment of natural and human resources will influence a nation's population goals. Political ideologies—conservative, liberal, or radical—will influence policy formulation. Policies aiming to reduce mortality and expand longevity rarely encounter much opposition; however, the availability of resources may severely hinder attainment of such goals. It is in the area of fertility and migration that policymaking bodies encounter many moral dilemmas and challenges. Governments may take a pro-natalist or an anti-natalist position, for example, on population goals.

Pro-natalist policies encourage births to increase population growth. European countries faced with declining populations into the future and aging populations have adopted variations of policies that provide incentives to have larger family sizes. France has adopted a social policy that provides monthly allowances to couples that have more than two children. To reduce the opportunity cost of having children, working families have access to nursery school placement by age three, so that mothers can return to work. In 1985, to ensure the vitality of the population in European countries, the European Parliament passed a resolution promoting higher birthrates through subsidized childcare and extended maternity and paternity leave.

Anti-natalist policies focus on providing incentives and the means to reduce reproduction with the overall goal of slowing population growth. These approaches present moral challenges to fundamental religions that may oppose use of contraceptives, legal access to abortions, increases in the age at marriage for women, and improvements in the status of women within a patriarchal society.

Despite its traditional patriarchal roots, for example, India introduced the Family Planning Program in 1952, soon after gaining its independence, to limit its galloping population growth through fertility reduction (Visaria and Chari 1998). The program was geared toward providing education about reproduction, birth prevention, and infant and child care and increasing access to birth control. The initial program, however, did not educate men about their reproductive responsibilities and failed to challenge the traditional link of sexual performance with virility and manhood. As a result, it was not successful in promoting the use of condoms or male sterilization as a means of reducing fertility. Nor has the Family Planning Program succeeded in changing attitudes, beliefs, and values that promote the desire for sons or large families. Those changes must occur through cultural transformation and economic development and are unlikely to occur without increases in the status of women and improvements in per capita income. It took India fifty-two years to reduce its fertility rate from five children per woman in 1952 to three children per woman in 2004.

China did not take its population growth seriously as a crisis to its future development until the 1970s. Before then, it had adopted a Marxist view on population as a vast human resource with the potential of increasing the wealth and prosperity of the nation. Attempts to reduce fertility began in 1971 with education campaigns to introduce the masses to a new concept: *wan xi shao,* which means "later, longer, fewer" (that is, later marriage, longer intervals between births, and fewer children). By 1979, the government strongly advocated birth planning and set a target of reaching a stable population of 1.2 billion people by the year 2000 (Chen 1979).

To achieve this goal, the government adopted the "one child policy" in 1979. This program uses incentives and disincentives to limit family size. Implementation occurs at the local level, where urban families that pledge to have only one child receive a monthly support allowance until the child reaches the age of fourteen, a higher pension in their retirement years, and housing and school enrollment preferences. The program also discourages higher birthrates in the rural areas. Couples with more than one child are expected to cover the additional maternity costs, must pay higher taxes, and receive the same grain ration and plot size for cultivation as those with one child. The policy has resulted in lower rural fertility rates within a short span of time. China exceeded its initial target of 1.2 billion, but in 2004 it reached a population of 1.3 billion, with a below-replacement fertility rate of 1.7 per woman and a population growth rate of 0.6 percent per annum. Although this appears to be a remarkable achievement, many critics feel that the cost of this success is too high. The consequence has been female neglect and abortion of female fetuses, resulting in a severely imbalanced sex structure consisting of 133 males for every 100 females. The sex imbalance will have social, intergenerational, and care-giving consequences for many years to come.

There are other demographic policies concerning international migration, retirement benefits to an aging population, health-care delivery, human rights of women, provision of education to the future workers of the society, and ecological preservation that may or may not be incorporated by nations based on their ideologies, competing interests, and resources.

Conclusion

The twentieth century experienced historic demographic shifts in its size, composition, and distribution worldwide. Currently the world is experiencing a major demographic divide. The developed nations are encountering slow population growth or declining populations, and have an aging population that is facing financial security issues and the possibility of degenerative diseases, whereas the less developed nations are struggling to reduce their high population growth rates and improve life expectancies, and have a younger population facing the challenges of obtaining education, jobs, and opportunities to realize their human potential. This divide has resulted in differences among nations in the specific population policies that they implement to achieve their goals. It has also resulted in divergent interests among nations. Historically, when population pressures in one land increased, people migrated to other regions to find new opportunities, but since the formation of nation-states, crossing international boundaries has become more difficult. Migrants are now facing even more restrictive policies in some cases as nations confront issues of national security.

Meanwhile, the population increases that are occurring today are putting increased stress on the earth's resources and ecosystems. Despite some losses and gains in population sizes by region, globally nations will have to address issues concerning the preservation of ecological diversity and focus on pursuing a more equitable and sustainable development of natural resources for the future well-being of current and future populations.

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See Also International Migration; Economic and Social Council (ECOSOC); World Health Organization (WHO); Sustainable Development; Urbanization

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Public Health

Health-care issues are inherently global issues. Disease and pollution are not contained by national borders, and knowledge gained about healthy living in one locale may be shared and at least partly applicable in another. The hallmarks of globalization—the movement of peoples, goods, information, and ideologies—all inform and are in turn informed by notions of public health.

Globalization presents new challenges for public health, as the movement of people and goods allows for a more rapid spread of communicable disease than occurred in the past and may also contribute to the dissemination of concepts related to unhealthy ways of life. Modern medical knowledge, medicines, and technologies have risen to face the challenges of globalization, such as the growth of diseases encouraged by urban sprawl and the spread of HIV/AIDS. Global institutions such as the World Health Organization (WHO) have taken it upon themselves to aid in coordinating global efforts to combat disease and provide a healthy living environment for all. But in some cases, modern medicines have actually created problems—overuse of antibiotics, for example, has contributed to the growth of stronger, more drug-resistant viruses—and the challenge faced by many nations to fund comprehensive health programs inhibits full-scale attempts to put public health at the top of national priorities.

What Is Public Health?

Definitions of public health and its goals vary according to the beliefs and ideals of those who practice it. Most public health officials agree, however, that they are concerned with improving the health of a particular population (whether at the national, regional, or social level), not simply providing health care for individuals (Baum 2002, 14; Walley et al. 2001, 2).

Providing health care to individuals, whether in clinics, hospitals, or doctors' offices, is a *part* of public health, alongside larger issues that may affect a population's well-being, such as sanitation issues, hygiene, the general structure of medical services, the control of communicable infections, and the importance of health care within the concerns of a community (Gebbie et al. 2003, 29). But although all public health practitioners would agree that their concern is with the health of a particular population, they might differ in terms of the focus of that concern. For example, some public health workers are concerned with making primary health-care accessible to all, whereas others focus on the eradication of communicable diseases. Some health-care workers may be concerned with the economic health of populations as an underlying indicator of people's physical health, while others may want to target environmental pollutants as the biggest threat to populations. Because many populations have limited funds to spend on their health programs, however, these goals must be prioritized. The ideological underpinnings of the choices themselves may or may not be in harmony with other choices that a population has made. For instance, placing heavy restrictions on the actions of companies that are environmental polluters may drive industry away from a population that depends on it for income. Such a move

could ultimately undermine health goals, as money gained from that industry would not be available to provide primary health care for all.

Definitions of public health, and indeed, of health itself, have varied over time and from one place to another. Differences in beliefs about human health can make it difficult to assess or implement a public health program in a particular area. Thus, public health agencies often adopt a standardized means of seeing and understanding health that can help them to identify the areas of greatest crisis as well as the greatest health successes, and to allocate funds or share important health knowledge as needed. In surveying a particular population's public health situation, theorists about public health consider such questions as, What is health, and why are some people considered healthy and others not? There have been many attempts in various times and places to measure the health of a particular population, often through statistics displaying the causes of death or disease, or compiling various multidimensional health profiles. By collecting this information, it is possible for public health officials to consider the health trends of specific populations over time and to compare the health status of one population with that of other populations. This is an imprecise exercise at best, however, as such recordkeeping is neither globally standardized nor uniformly or completely fulfilled. As part of an overall public health infrastructure, recordkeeping becomes one of many priorities for funding and resource allocation, and it may not get all of the attention that health professionals would like.

It is especially important to consider financial and ideological constraints and differences in public health priorities and concepts when addressing public health issues within a global context. Political borders are not effective deterrents to the spread of disease, and yet how different populations choose to address their own health issues will have consequences for them all.

The World Health Organization (WHO) represents the most extensive effort to date in the international community to coordinate a global public health campaign. WHO has spearheaded various public health initiatives at various times throughout its history, including attempts to eradicate diseases such as polio and malaria, and adopted the goal of ensuring primary health care for the entire world population (WHO 1988, 23). The goals of the WHO initiatives have been difficult to meet, however, often simply because of the enormity of coordinating such projects on a global scale. These are challenges faced by all public health workers within the globalization of health issues, but they are not wholly unique to modern times. Epidemics, environmental changes, and new approaches to understanding health care have a history as long and varied as that of populations themselves.

Public Health in Historical Perspective

The modern conception of public health is about 200 years old and can be traced to Europe and the United States, where groups of professionals such as scientists, social workers, and statisticians began to study the way people lived in correlation with their health, longevity, and rates of infectious diseases in the late 1700s. Eventually, these studies allowed people to draw connections between the hygiene and sanitation practices of particular populations and their health status (Raeburn and Macfarlane 2003, 244). These early connections were the beginning of the discipline or movement of modern public health, but most societies have always had some consideration for the health of their populations. The Roman baths are one famous example of this, and whenever and wherever there was an outbreak of disease or a perceived threat to the well-being of individuals, regulatory measures were taken. Prostitution was regulated in ancient Greece and Rome, for example, and in Venice ships were quarantined in an effort to prevent the spread of disease (Baum 2002, 18).

Consideration of public health as a formal discipline that needed to be taught, however, is a fairly modern invention. In the United States in 1918, the Johns Hopkins University School of Hygiene and Public Health opened and helped to solidify the discipline in the country (Gebbie et al. 2003, 60). Throughout the twentieth century, public health improved as death rates declined, particularly thanks to improvements in sanitation and hygiene, but also in terms of food and workplace safety (ibid., 27).

How people understand health has also altered over time: Although the health of a population continues to be measured in terms of rates of death and disease, in the 1950s WHO promoted a view of health that embraced the mental and social aspects of health, not just the physical. This idea was set out in an influential Canadian white paper by Marc Lalonde, Canada's minister of national health and welfare, in 1974. The Lalonde report encouraged populations to consider health as an overall state that took into account not just physical well-being but environment, lifestyle, health-care organization, and other considerations (ibid., 31). Entitled *A New Perspective on the Health of Canadians,* this paper went beyond health as something diagnosed by a physician to encompass a larger concept of health, one that was embraced by health-care professionals around the world as well as by WHO (Health Promotion Agency of Northern Ireland 2004).

Public Health in Global Perspective

As people, money, goods, services, and information continue to become more connected and less impeded by geographical distance, the importance of public health as a concern that crosses political borders increases. Indeed, public health decisions have potential consequences for all populations. Communicable diseases such as HIV/AIDS have spread to all corners of the globe, and travelers in one country may spread epidemics to others. As well, decisions to over-prescribe and misuse antibiotics by health-care workers in some populations have led to the emergence of drug-resistant strains of bacteria that may threaten a number of populations (Gebbie et al. 2003, 35–36). Unlike most national or state policies, health concerns and decisions in one locality have consequences for other populations far beyond those borders.

The Global Spread of Disease

From the plagues that spread across Europe via trade routes to the transatlantic jump of measles and smallpox carried by European explorers and colonists to the Americas, the movement of peoples has long been a transmitter of exotic disease (ibid., 34). These historical examples were the precursors to contemporary epidemics such as HIV/AIDS, which in Africa has tended to spread along major road transport routes (Brower and Chalk 2003, 16; Walley et al. 2001, 224). As people make contact with each other, the risk of transmitting infection runs high. Although the process of globalization has caused new health concerns to arise, the spread of disease through the movement of people and goods through travel and trade is not a new phenomenon, and there are global institutions in place to help coordinate resistance to global health problems.

Contemporary Issues

Historical plagues that spread across regions have their contemporary versions in today's deadly crop of infectious diseases: HIV/AIDS, Ebola, Creutzfeldt-Jakob disease, and Legionnaires' disease, to name a few. Even some diseases that were believed to be either eradicated or under control have reemerged in modern times in newer, stronger, forms. Tuberculosis, for instance, has reemerged in a form that is resistant to past methods of treatment and must now be treated with daily doses of medication (Brower and Chalk 2003, 13). These health concerns are spread in part by the greater movement of, and contact between, populations, but concerns about health safety do not begin and end with human interaction.

As animals are moved from country to country and region to region as a commodity to be bought, sold, and often eventually consumed, health concerns move with them. For instance, Creutzfeldt-Jakob disease emerged in Europe owing to the consumption of British beef derived from cattle afflicted with bovine spongiform encephalopathy, or "Mad Cow Disease." In this case, a disease carried by an animal is later passed on to human populations through the consumption of that animal. There is also concern over the method of movement as a means of spreading disease. Both animals and humans often travel in cramped, unsanitary conditions. As people travel together in crowded, poorly ventilated vehicles, such as airplanes, they may transmit viruses and bacteria indigenous to one locale to people traveling to and from others (ibid., 15–16). In such a scenario, individuals may contract and then disseminate a disease that is indigenous to a part of the world they have never visited.

Contemporary public health issues have widened the scope of health beyond the challenge of simply combating disease, and in some cases embraces a notion of total population well-being. The post–September 11, 2001, War on Terror by the United States has widened notions of public health as a concept linked to concerns with terrorist activity. Concerns with biological warfare following the American anthrax scare have caused political officials to consider the possibility of contaminated food and water supplies and to tighten measures to protect America's resources (Beaglehole 2003, vii–viii). Public health in this regard has become entwined with notions of national security, although it is a particular definition of health that is being used here, and as these particular policy effects are still quite recent, it is too soon to tell what the ramifications will be of understanding certain kinds of health as important to national security.

Even some more contentious aspects of globalization, such as global warming, could pose future public health concerns. For instance, warmer weather could mean that disease-carrying insects, such as mosquitoes, could survive for longer periods of time in geographical areas that were not normally hospitable to them, exposing new populations to dangers such as malaria or yellow fever (Brower and Chalk 2003, 24). These health issues may not be considered a priority, however, until the effects of global warming become more apparent, unless the debate surrounding global warming is resolved before that point is reached.

All of these contemporary global challenges faced by public health workers are also compounded by another more mundane, but equally important, consideration: financing. As national political entities consider which health concerns they will prioritize and what approaches and recommendations they will take, one major concern will be to consider what they can and cannot afford. Or, put another way, health considerations will have to be weighed against other needs that compete for financial resources, such as development initiatives, education, the military, or national infrastructure (Baum 2002, 46). Societies will also have to determine how costs for global health problems should be levied in a global arena. Although efforts have been made to create institutions that will coordinate global responses to many public health concerns, the challenges involved go beyond getting a majority to agree on how health concerns should be addressed to encompass how they should be paid for.

The Globalization of Health and Health-Mandated Institutions

As such epidemic diseases as cholera, the plague, and yellow fever continued to spread through Europe in the 1800s, accelerated by the increase of trade and commerce among nations, the first international coordination of public health was born (Beigbeder et al. 1998, 1). Initially a scattering of international public health institutions followed by international sanitary conferences and conventions, this first attempt at international public health coordi-

nation was transformed into a global Health Organization by the post–World War I creation of the League of Nations (WHO 1988, 2). The organization was composed of member nations, which it would aid, at their request, in dealing with public health issues. These concerns ranged from improving health services to reducing infant mortality rates or fighting epidemic diseases (Beigbeder et al. 1998, 5). The collapse of the League of Nations, and the creation of a new global body, the United Nations, resulted in a new global health organization, WHO, which took up and expanded its predecessor's mandate.

With the adoption of its constitution in 1948, WHO was officially created and given a mandate as a global agency in charge of organizing and directing international health (WHO 1988, v). Although the methods WHO has chosen to fulfill this mandate have changed over the ensuing decades depending on the priorities and goals of its member nations, the organization has consistently attempted to conceive of health as more than just the physical wellbeing of individuals within a population and to include concerns of mental and social health as well.

WHO's annual budget is not large enough to fund large-scale disease-eradication programs or to set up major health infrastructures in localities that need it. Rather, WHO is a coordinating body with access to information and experts in various areas of health care that can advise member states on how to best allocate their health resources to accomplish their public health objectives. WHO can also propose and coordinate global health initiatives funded by money donated by its member states. An example of WHO's capacity as a global health organizer would be its creation of a central health database whereby members facing a particular health situation can study how other states have tackled similar issues and learn from their successes and mistakes. WHO also has helped nations with a dearth of well-trained health professionals to develop training programs for their citizens. The agency has provided fellowships so that individuals without financial means can attend this training (ibid., 8). WHO has also helped to lead initiatives to provide sanitary water supplies for people around the globe and to establish the correlation of certain diseases with unclean drinking-water and lack of hygiene in order to promote healthier living practices in various localities.

Although WHO's medical authorities may have knowledge of how diseases are spread and what constitutes a healthy lifestyle, however, those ideas are not universally shared or even understood. Attempting to create a change in behavior in one locale—practicing safer sex by using condoms in order to stem the spread of HIV/AIDS, for example—may lead to fear, anxiety, or social mishaps if it is introduced in a way that runs counter to local beliefs and customs or explained by people who hold no local authority (Walley et al. 2001, 224). WHO's task is not only to promote concerns regarding global public health, but to do so in a way that may become locally translatable.

Because WHO's concerns are transnational, it was created as a global institution that must consider the viewpoints and problems of all of its members. However, WHO's members are representatives of national entities that must contend with their own local, cultural beliefs about the nature and form of health and sickness, as well as their own ambitions and financial abilities, to create a comprehensive healthcare program (Beigbeder et al. 1998, 187). These global-national tensions, which are often political in nature, are in play in any discussion of global health mediated through the institution of WHO or through any other multilateral organization.

Looking Ahead

Public health as both a discipline and a policy area continues to affect and be affected by the process of globalization, and although it is making great strides in creating a healthier environment for all, it still faces great challenges.

On the one hand, advances in medicine, technology, and health-related knowledge have prolonged life and general physical well-being in most parts of the world. In addition, concern that health is an international as well as a national issue has prompted greater global cooperation in how public health should be considered and protected. On the other hand, globalization has brought challenges, resulting from increased travel, trade, and urbanization, that may affect public health in negative ways, especially if a locality does not have the financial or social resources to combat them.

Urban sprawl can lead to poor housing, overcrowding, and poor sanitation if not adequately maintained, and this in turn can lead to more rapid spread of infectious diseases. The modern diet, a lack of exercise, smoking, and urban pollution can lead to heart and lung diseases and asthma, and a lack of education and prevention methods have contributed to the spread of HIV/AIDS (Walley et al. 2001, 252). Lack of oversight and study into the overprescription and misuse of antibiotics have contributed to the rise of drug-resistant bacteria. These challenges for global public health must also be considered in the future in light of the U.S.-led global War on Terror, which combines issues of public health with concerns about biological warfare and contaminated food and water supplies.

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See Also Pharmaceuticals; World Health Organization (WHO); Food Safety

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Social Policy

Social policy may be defined broadly as that set of public policies that aim to improve the social and economic well-being of the population. Social policy objectives often include the provision of an adequate income, sufficient education, affordable housing, and decent healthcare, although governments have historically also seen such redistributive policies as a political tradeoff to counter popular resistance to their rule and as a practical means to secure a healthy and competent workforce.

Governments in market economies have traditionally affected the distribution of incomes and benefits in two ways: (1) by topping up wages or improving access to employment; and (2) by transferring income or lowering taxes to those disadvantaged in the labor market or unable to work. Unemployment insurance, pensions, welfare, education, and health care constitute the most common components of modern social programs in most countries. Social policy is thus intimately related to and affected by wider economic and political structures and forces. In recent decades, the increasingly global nature of economies and societies—the accelerated internationalization of trade and financial markets and the establishment of a set of international political rules governing economic policies—has helped to shape a new social policy context. Although observers are sharply divided over its exact nature and impact, there is convincing evidence that globalization, coupled with the widespread adoption of market-friendly policies by national governments, has set definite limits to and even weakened social policies.

Social Policies and the Economy in Historical Context

Social policies have varied enormously across time and distance. In preindustrial Europe and Asia, all societies relied on limited forms of family or community welfare. Comprehensive states in the modern sense did not exist, and the limited political structures that did focused almost exclusively on military matters. Economies were geared mostly toward subsistence agriculture for family consumption or expropriation by feudal rulers and small-scale production for local markets. In Europe, the eighteenth-century development and spread of capitalism—an economic system based on production for profit in the market with a wage labor force—gradually altered the role of the state in society. On both an international and national scale, economic activities became much more complex owing to the increasing volume of international trade, the establishment of a colonial system by the great European powers such as Britain and France, technological innovations, and expanded domestic industrial development. States enlarged their military activities to protect and further their spheres of influence around the world. They also took initial steps to regulate conditions of trade and work in an attempt to tame the largely anarchic process of capitalist development.

The massing of large groups of workers in urban factory settings, for instance, necessitated government regulation to ensure health, efficiency, and stability. Evidence mounted that

unregulated industrial capitalism led to extremely poor health conditions among European workers and therefore reduced competitive efficiency and the ability to wage effective wars. The state needed to systematically support and control the healthy reproduction of the workforce through regulation of the employment relationship and wider social benefits. Gradually, governments passed legislation to govern working hours and employment benefits, prohibit child labor, manage the growing poor of the urban centers, and establish rudimentary forms of public education, social assistance, and health care. Working populations themselves were also changing as a result of international migration. Immigration policies and citizenship regulations would form part of the emerging social policy apparatus. Finally, the imperialist state system of the nineteenth century led to increasing military and economic competition among the major nations, which provided a clear incentive for social policy development. By the late nineteenth century, broad agreement existed among most politicians, employers, and the general public that a modern society needed healthy and educated workers to ensure a competitive national economy and military. As British Prime Minister Lloyd George quipped in the early twentieth century: "You can't have an A1 army on a C3 population." Social policy thus evolved into a conscious state strategy to gain competitive advantage over economic and military rivals.

Perceived threats to the social order from below were also central to the establishment of social programs in this period. Working-class organizations used strikes, demonstrations, and other forms of political struggle to demand better economic benefits from employers and political rights from the state. The right to vote was extended through these struggles, and governments soon had to contend with the wishes of a much larger section of the working population. A layer of increasingly influential voices—trade unions, progressive churches, social reform groups, academics, and sympathetic members of the middle and upper classes—developed theories of and advocated for more active government intervention on behalf of the poor and working class. Governments themselves were worried about rebellion by the masses and sometimes adopted social policies as a preemptive measure to undercut political challenges.

Families, religious institutions, and private charities continued to be the main forms of social assistance until the twentieth century even in industrial societies, but by the World War I period, many European, North and South American, and some Asian states had begun to build a basic social safety net that included workers' compensation, state schools and hospitals, and some forms of public welfare. Quite limited and highly controlling of those in need, early social policies were nevertheless increasingly regarded as essential to maintain economic growth and promote social peace.

The first half of the twentieth century witnessed an acceleration of the social, economic, and political developments—inter-imperialist economic and military rivalry, class and popular struggles, socioeconomic deprivation, and increased migrations—that had sparked the first social policy interventions in the preceding century. The devastating impacts of World War I and World War II, the Great Depression of the 1930s, and general economic instability encouraged economic theorists and policymakers to embrace interventionist social policies in a wide range of areas. Many industrial societies began to construct what would later be called "welfare states" with sustained government financial and political support in family policy, housing, education, social care, and social security.

With secure economic growth and full employment, the post–World War II era would witness unprecedented state intervention in the market, the workplace, and the home. In the state Communist regimes of Russia, Eastern Europe, and China, a commitment to a full-fledged welfare state was, in theory at least, a founding principle of these societies. Even in many underdeveloped nations and those still

Table 1: Four Social Policy Regime Types in Europe and North America

Model	*Liberal*	*Conservative*	*Social Democratic*	*Catholic*
Principles of welfare provision	Minimal assistance aimed only at the most needy in society	Insurance-based, funded by employee and employer contributions	Universal social rights linked with citizenship	Minimal, but a strong religious focus on family solidarity
Degree of inter-vention	Low: Social security regarded as the responsibility of the individual	Medium: Welfare benefits based on paid work	High: The state intervenes to reduce dependency on the market and social inequality	Low: Social benefits focused on the most needy and accumulated through labor-market participation
Typical receiving unit	Individual	Family	Individual	Family
Gender variations	"Male breadwinner model": Women's standard of living and social protection derive primarily from the husband	"Parental model": Women are seen as wives, mothers, and workers and men solely as workers. The state, however, makes significant contributions to child-care facilities	"Dual breadwinner model": Formal equality between men and women is recognized and the state socializes family care	"Male breadwinner model," but with generous benefits in pensions and healthcare
Represen-tative nations	Ireland, the United Kingdom, the United States, Canada	Germany, Belgium, France, the Netherlands	Sweden, Finland, Norway, Denmark	Italy, Greece, Portugal, Spain

Source: Adapted and revised from Esping-Andersen, Hillmert, Le Feuvre and Andriocci.

under the yoke of European colonial powers, there were steps taken toward the provision of basic social services. There was widespread popular, intellectual, and government support for social policies that aimed to reduce inequality. Despite a generalized move toward welfare-state policies around the world, however, the timing, nature, and extent still varied greatly by nation.

Current Social Policy Regimes

Gosta Esping-Andersen (1990), the leading scholar of the European welfare state, has provided a useful general schema to classify what he calls the social policy regimes of Europe and North America. He focused on three different empirical indicators to distinguish different "ideal types" of welfare states: (1) the nature and extent of social rights; (2) the concrete effects of public policies on the redistribution of income; and (3) the kinds of interactions among the state, the market, and families. Incorporating recent critiques of Esping-Andersen's schema, especially by feminist scholars who have criticized his neglect of how women have historically been responsible for much of the unpaid domestic labor involved in caring for family members, Table 1 summarizes four ideal types of welfare states.

There has inevitably been some overlapping among these ideal types and even variations in the details within particular models. For in-

stance, Australia and Canada may be reasonably classified as liberal social policy regimes. Yet Canada has a national unemployment insurance program based on earnings that is delivered on a local level, and Australia has only a single flat-rate benefit. Canada has a publicly provided, universal health-care system, whereas health care in Australia is provided through a mixed public-private system. Indeed, in some programs, Canada and the Netherlands approximate the social democratic model. In several of the catholic and conservative social policy regimes, local particularities have resulted in extremely generous benefits in some programs.

Nations outside of Europe and North America have also constructed social programs that do not easily fit into these ideal types. Japan and South Korea have extensive national pension and health-care systems based on participation in the labor market, but few welfare policies for those who do not work. Personal investments, savings, and family support still constitute a significant part of the social safety net in Asia. Regionally significant and populous nations such as Brazil have also introduced various social security programs in recent decades. All legally registered Brazilian workers, for example, enjoy an extra "thirteenth salary" paid at the end of the year and one full month of paid holidays. However, salaries for most occupations are extremely low. Moreover, almost half the workforce relies on employment in the informal sector of street trading and various forms of casual labor and therefore are not eligible for any benefits. Other developing nations, such as India, suffer from similar obstacles. In general, deep poverty and inequality have prevented many developing nations in Africa, Latin America, and Asia from instituting public policies to better the social and economic situation of their peoples.

The schema of ideal types has proved useful, however, for comparative analysis and illustrates the great diversity of social policies around the world. It is essential to emphasize this diversity because economic pressures, political changes, and social policy developments in response to globalization have differed considerably around the world according to the general health of economies, historical traditions, and the level of social struggle.

Globalization and Its Impact on Social Policies

In broad outline, the globalization of trade and finances has opened up economies around the world, resulting in much greater competition, deregulation of key economic sectors, and growing sensitivity to international economic fluctuations. Global financial markets that lend money to governments and buy and sell their currencies and bonds have imposed an external financial discipline that has induced governments to adopt more market-friendly policies. Powerful multinational companies have been able to negotiate favorable investment, production, and taxation benefits from states. The resulting shift in labor-market, macroeconomic, and industrial policies has certainly favored corporations and contributed to the end of full employment; caused downward pressures on wages, working conditions, and benefits; and affected changes in the labor market resulting in less stable and secure jobs. Traditional unionized industries that offered high wages and benefits have restructured, leading to contracting out of production and services to low-wage companies or sometimes even the transfer of production to other countries with lower wages and benefits. The jobs that have been created have tended to be in low-paid, insecure positions, often in the services sector, that offer few opportunities for long-term advancement.

By and large, the global economic pressures levied by corporations have been undertaken not in opposition to but in alliance with political strategies determined by national domestic concerns. A strong ideological transformation among economists, political parties, and policymakers in favor of the corporate agenda,

along with the weakening of traditional social movements and trade unions, has prompted governments to lessen income redistribution and social investment. With some exceptions, governments now routinely accept the existence of income inequality and high unemployment, reject structural causes of poverty, and promote a more or less socially conservative social policy agenda that stresses individual morality.

Studies of income distribution over an extended period in the richest countries belonging to the Organisation of Economic Cooperation and Development (OECD) have demonstrated clearly that there has been an increase in income inequality in almost all member countries. In the most powerful economy in the world, the United States, average real income was only slightly higher in 1993 than in 1973, largely because more married women entered the workforce. In the same twenty years, there was even what Karl Marx called "absolute impoverishment": The working year increased in the United States by up to a week and a half.

During the 1990s, some developing countries enjoyed rises in average incomes, but many groups, such as women, ethnic minorities, and rural workers, benefited slowly, while wealthy segments of these countries surged ahead. According to the 2003 United Nations *Human Development Report* (UNHDR), fifty-four countries, mostly in Africa, are poorer now than they were in 1990. The Russian Federation saw the fastest rise in income inequality ever, and the entire continent of Latin America stagnated. Needless to say, on a global level the gap between the richest and poorest has increased substantially. The ratio of income of the richest fifth of the population to that of the poorest fifth rose from 30 to 1 in 1960 to 60 to 1 in 1990. By 1997, the ratio had widened to 74 to 1.

A general reduction in labor-market equality has had negative impacts on social policies. The erosion of employment prospects and political support for improved labor-market conditions for workers has placed a higher burden on unemployment insurance and welfare. This has had the effect of undermining the political potential for continued maintenance or expansion of unemployment benefits, and in several advanced countries it has led to outright cutbacks and restrictions in coverage. There has also been a shift from what has been termed "passive" to "active" social policies in the OECD countries. Passive schemes refer to policies such as unemployment insurance and welfare that mitigate the effects of job losses on family incomes. Historically, such policies have had positive effects in leveling out regional inequalities within countries and cushioning the workforce from the cyclical instability inherent to capitalist economies. Nowadays, the advanced countries prefer more flexible social policies, such as the subsidization of a factory's operations through wage or training assistance to ensure that firms remain competitive and maintain employment. Yet there is a clear contradiction in these reforms. At the same time as governments shift their priorities toward active social policies, there is increasing pressure under new international trade agreements, such as the World Trade Organization (WTO), to end all interventionist policies that give certain companies a competitive advantage.

Countries such as Canada, the United States, and Britain also introduced "workfare" programs in the mid-1990s that forced social assistance recipients to work for their welfare benefits. In addition to potentially undermining the jobs of other better-paid workers, workfare resolutely cuts against traditionally accepted notions of social equality: A poorly paid job chosen by somebody else is not really a right, and there is no convincing evidence that workfare has truly improved workers' long-term chances of employment success. Indeed, workfare represents a reversal back to a highly moralistic social policy orientation that subjectively separates out "deserving" from "undeserving" workers. Moreover, it has particularly penalized single mothers and visible minorities who are already the most disadvantaged in the labor market.

Not all national governments have responded to globalization by worsening employment programs and labor-market conditions. In the realm of unemployment and job training, institutional variations, levels of benefits, and the percentage of beneficiaries differ greatly across European nations, for example. France introduced a shortened work week in the late 1990s without a loss of pay for a large percentage of workers. Belgium, France, and Germany continue to administer extensive vocational training schemes and unemployment insurance.

Despite the worsening labor market for many workers, the intense pressures resulting from the adoption of decidedly pro-business government policies, and the relentless competition of the global economy, specific impacts on social expenditures and income redistribution programs as a whole have so far been mixed. On the one hand, governments in the Anglo-Saxon countries (Canada, the United States, Britain, Australia, and New Zealand) began to cut social programs and introduce harsh rules in the 1980s. There is abundant evidence that universal-type welfare programs and comprehensive public provision are slowly being whittled away in favor of selective policies targeted to smaller groups, a greater reliance on the private sector, and a consciously moralistic emphasis on individual responsibility. Governments reduced funding for a range of programs in these countries, including public housing, social assistance (welfare), public education, health care, and a wide variety of other social services.

Under the New Labour government in Britain, for instance, funding for welfare, disabled people, education, pensions, single parents, and refugees has come under new and highly moralistic rules that have resulted in reductions in benefits and beneficiaries. Moreover, numerous government programs were farmed out to the private sector under new public-private arrangements. In Canada, the funding formulas for public health and education were reformed in the mid-1990s, resulting in substantial reductions in per capita spending. In several Canadian provinces, welfare payments were slashed significantly and eligibility rules were tightened. In the United States, the 1996 Personal Responsibility and Work Opportunity Reconciliation Act abolished universal entitlement to aid and introduced a five-year limit of state support. Many individual states have followed suit with social service reductions.

Yet it is dangerous to generalize from the experience of the Anglo-Saxon countries alone. Statistics show that in terms of expenditures and beneficiaries, the welfare states of Western Europe continued to grow in the 1980s and 1990s. There has been no uniform pattern of cutbacks. Popular support for established social policy rights and entitlements have remained constant in Europe, and attempts to implement radical cutbacks have been met with widespread and largely successful resistance by trade unions and popular organizations. Some positive reforms to European welfare states have allowed the public sector to successfully meet new and growing needs, especially in health care and unemployment. The Scandinavian countries, in particular, have generally maintained their welfare systems largely intact.

The experience has also been mixed in the so-called Third World. A context of deep poverty and inequality, weak industry, and the inability to compete in world markets has handicapped many developing nations. Most countries in Africa have largely been unable to maintain the already limited structures of social assistance established in the postcolonial era. Yet some poor nations have recently established and increased social policy commitments. In several Indian states, for instance, comprehensive state-mediated social security systems were established in the 1990s. The end of the military dictatorships and other forms of authoritarian governments in Latin America sometimes saw new initiatives in social policy emerging, even though many redistributive policies have faced crises and political shifts

since the late 1990s that have put all social programs in peril. It is symptomatic that the first legislation passed by the Workers' Party government in Brazil in 2003 was a substantial cutback in the national pension program.

Social Policy Futures

In conclusion, there is a diverse range of social policies around the world. Political traditions, types of economies, dominant ideas, and social struggles have all determined the nature and extent of social policies. Social policy futures will undoubtedly vary. There are, however, certain observable trends. The internationalization of trade and finance will continue unabated. Sweeping reforms intended to restrict social policies remain a stated commitment of the business community and most political parties in many countries. Although not all governments have been able to implement radical changes to date, rising public debt levels and continued global economic integration will continue to put social policies under intense pressure for restructuring in most of the world. Yet traditional political principles, such as redistribution, equality, and solidarity, have not died, as witnessed in the significant rise of the anticapitalist movement that has recently confronted the corporate globalization agenda. The outcome of these ongoing struggles will largely determine social policy in the decades to come.

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See Also Conflict, Cooperation, and Security; Culture and Globalization; Gender and Globalization; Human Rights and Globalization

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Sustainable Development

In the broadest sense of the term, "sustainable development" refers to meeting the needs of present generations without reducing the options of future generations for meeting their own needs. In its general as well as its more specific formulation, it is an approach to development that is increasingly recognized to be one of the most important legacies of the twentieth century, and it is expected to shape development concepts and theory, as well as policy and strategy, for decades to come. Indeed, the sustainable development approach calls for a fundamental reformulation of conventional perspectives on economic development, social change, international relations, and private as well as public policy, nationally and internationally.

Context and Concept

To a large extent, the origins of sustainable development theory can be traced to the early years of environmental awareness during the second part of the twentieth century. As such, it was often considered a by-product of environmentalism, and the initial formulation of "eco-development" at the Stockholm Environment Conference in 1972 clearly connected environmental concerns and development. But these early linkages were undermined by the emphasis on industrialization and wealth-maximization as the main goals of social change, most notably in developing countries, which assumed that their own development should emulate the economic growth process of the industrial countries. This basic assumption set the stage for a major reframing of the notion of development, the goals of development strategies, and the management of social change.

It is commonly recognized that the World Economic Commission of the United Nations General Assembly and its final report of 1987 provided the first general statement about the sustainable development concept. The report was somewhat vague, however, and avoided specific definitions and recommendations. In many ways, its genius lay in this very lack of precision. The commission was thus able to avoid stirring up powerful contentions, conceptual as well as political. Development theorists began to identify what sustainable development is not, rather than stipulating what it is. As it turned out, appreciating the former is an important prerequisite for reaching an understanding of the latter.

Gradually, the concept of sustainable development assumed some specific features. It came to include intergenerational and international equity, intertemporal considerations, environmental valuation, recognition of irreversibilities, and other ideas, but these ideas remained to be integrated into an overall conceptual framework. Moreover, the initial formulation, outlined in broad terms, was dominated by the state-centric view of international relations and did not address the sustainability of other entities, such as social systems, firms and corporations, subnational unities, economic sectors, and so forth. Invariably, this oversight obscured inquiry into a seemingly fundamental matter, namely, the possibility that the quest

for sustainable development on the aggregate might imply little, if anything, about the potential sustainability of individual components or constituent elements of the society.

Elements of Consensus

Defining sustainable development has become something of a cottage industry—perhaps even a large-scale enterprise. The term is used in a variety of often contradictory and sometimes mutually exclusive ways. There is, however, something of a general consensus about what sustainable development is *not.* Sustainability is *not,* for example, unrestricted growth; nor does it include activities that entail pollution of the environment, poverty, or deprivation. It is not about the accumulation of wealth per se; it is not about material well-being as such; it is not about meeting targets for economic performance; and above all, it is not about maintaining the traditional economic growth model, which is rooted in the historical development of the industrial West over the past several centuries. It does not accept unlimited expansion, exploitation of resources, unabated population growth, or wasteful energy use. And the list goes on.

More recently, the term "sustainable growth" has been used to amend the initial concept, or perhaps to reintroduce the very concept that *sustainability* was designed to avoid, namely *growth* per se. The debates continue, as do the contentions, conflicts, and conceptual clashes —and their attendant policy implications. In this connection, the 1992 United Nations Conference on Environment and Development left a significant impact on both policymaking and strategic thinking, to one degree or another, and at all levels of development. Especially notable are the new organizational developments that have occurred within the framework of international institutions in order to help support states as well as civil societies in their anticipated transitions toward sustainable development. The Global Conference on Oceans and Coasts at Rio+10, for instance, convened in 2002 in Rio de Janeiro, with the aim of assessing the present status of oceans and coasts and progress achieved over the last decade, addressing continuing and new challenges, and laying the groundwork for the inclusion of an oceans perspective at the 2002 World Summit on Sustainable Development (WSSD). Although critics and cynics alike argue that the Rio+10 review showed that *plus ca change, plus c'est la meme chose* (the more things change, the more they stay the same), there is nonetheless a general sense that the intervening years were significant because during this time development theorists and policymakers were able to begin to chart new ways of thinking about and acting on matters of sustainability.

Transcending the "Market"

Much of the development process throughout the second part of the twentieth century was shaped by neoclassical economic approaches to growth. This traditional view grounds the notion of development in the context of the market economy and sets the system boundary for the entire domain at issue (or discourse of relevance) as the market, with the implication that the effects will spill over into other social domains. In other words, the relevant "world" is that of the marketplace; everything else is outside the bounds of relevance, and most of the potentially relevant factors are, at most, in the nature of "externalities."

Notions of sustainable development provide powerful criticism of neoclassical economics that sees (and defines) social and biological interactions at one level of analysis, that of market exchange disembedded from its contextual conditions, with social preference functions based on individual choices made in markets, and individual choices having no adverse effects on other individuals. Even when the limits of the market are recognized, the economist's tendency is to expand the scope of market valuation and proceed *as if* the basic precepts

held. This conceptual edifice is especially problematic to social scientists and others who recognize the necessity of addressing the role of economics in the quest for development but at the same time realize the serious limitations of the market-focused orientation of compartmentalized mainstream thinking. The challenge for sustainability thinking, therefore, is to provide some alternative to the neoclassical approach.

Critical Drivers

Although the roots of sustainability debates are generally to be found in environmental concerns, the critical factors shaping the quest for sustainable development are to be found in population dynamics (including expected dangers of rapid population growth), persistent growth in energy use (and attendant reliance on fossil fuels), and the imperatives of technological change (with the distortions embedded in the technological trajectories of the industrial West). Individually and collectively, these factors constitute the basic variables, the fundamental building blocks, or critical drivers of social interactions (and of human activity at the roots of these interactions) and contribute directly to specific patterns of environmental degradation.

Thus, at a fundamental level, the critical drivers of sustainable development (and at the same time the core challenges to sustainability) are to be found in the levels, composition, distribution, and changes in population, resources, and technology—and in the interactions among these factors—all embedded in the context of the natural environment. Indeed, recognition of the dual and interactive context within which all human activities are embedded—namely, the natural environment, on the one hand, and the social environment, on the other—is one of the most critical features of sustainable development. Humans are part of nature, not separate from it, and social activities are anchored in environmental, ecological, atmospheric, terrestrial, and other modalities of nature's dimensionalities.

Theory Matters

On theoretical grounds alone, the concept of sustainability is not just a major departure from conventional economic growth and development theory; it is an explicit effort to reject traditional premises and assumptions about the nature of economic and social systems and to reformulate the entire model. This reformulation is currently in the making. It is fair to say that the nascent theory of sustainable development is at its earliest stages, as are its rejection of economic growth as a desirable model of social change and its rejection of traditional economic assumptions as viable anchors for thinking about the future.

For the most part, the early interdisciplinary formulation of sustainability-related concerns has been centered on linkages between ecological and economic variables. "Ecological-economics" thus took shape as an addition to the knowledge strategies of the social sciences.

A common distinction is made between "weak" and "strong" sustainability. Whether sustainability is weak or strong depends upon the degree of "substitutability"(the ability to substitute one commodity for another) that can be assumed. To simplify a complex part of sustainability theory, weak sustainability assumes that there are no constraints on substitutability—an example would be the weak sustainability of oil since it has low substitution possibilities—whereas strong sustainability recognizes some critical differences between, for example, renewable and nonrenewable resources. In this connection, for strong sustainability to take place, the stock of nonrenewable resources should be sufficient to last indefinitely at the current rate of technological change and/or with the rate of savings through conservation. Roughly in the same vein, rates of use of renewable resources should be kept equal to or less than the rates of their

Table 1: The Quest for Sustainable Development

Issue Areas	*Critical Questions*
Key dimensions	What is it that must become "sustainable"?
Core processes	How is it that the quest for sustainability might proceed?
Behavior principles	Which norms (conceptual and computational) could facilitate transitions toward sustainability?
Performance goals	What would be the generic, society-wide outcomes desired?
Implementation conditions	What conditions would facilitate the implementation of sustainability strategies?
Decisions and policy	What decisions must be made, and what are the available choices?

Source: Adapted from Nazli Choucri, "The Political Logic of Sustainability," in Egon Becker and Thomas Jahn, eds., *Sustainability and the Social Sciences* (New York: Zed, 1999), 147.

regeneration. Resources, in other words, should be maintained.

Framing the Fundamentals

Efforts to extend the notion of sustainability beyond ecology and economy have raised a new set of questions, many of which are summed up in Table 1. The left-hand side of the table identifies the key elements (or components) of interest, and the right-hand side lists the corresponding questions that need to be answered. This table is largely for schematic purposes to help articulate an internally consistent and more dynamic conception of sustainability that takes both contextual variations and socioeconomic differences into account.

Integrative Definition

Since there is very little that is formally "recognized" about sustainability or sustainable development, there is no formally understood set over which this function is defined. There may well be as many definitions of "sustainable development" as there are theorists attempting to pin down a definition. Thus, the fundamental challenge is to put in place systems or methods that enable theorists and others to "recognize" sustainable development as a "defined function."

Drawing on a wide range of literatures, it is useful to formulate a coherent conception of sustainable development as a process associated with variable initial conditions, and to extend this conception into an operational approach to the representation of sustainable development as a knowledge domain. The sustainable development view centers on human activities and places human beings in social systems at its core, while taking into account and respecting the imperatives of nature and natural systems. Most notable among the social sciences are concepts derived from political science (comparative and international politics, public policy); economics (neoclassical, development, and ecological economics); business and management (system dynamics and decision theory); law and new legal reasoning (including new instruments for sustainable development); science and engineering (global change science, ecology, and technology applied to social needs); and complexity, as reflected in emerging understandings of adaptive systems and innovative computational techniques to facilitate access to electronic networks (and improve uses of communication technologies). Also relevant, clearly, are evolving trends in international law seeking to respond to challenges.

Sustainable development may thus be defined as *the process of meeting the needs of current and future generations without undermining the resilience of the life-supporting properties or the integrity and cohesion of social systems.* In this connection, it is useful to follow the overall thrust of Table 1. Accordingly, the key *dimensions* of sustainable development include: (1) ecology, (2) economy, (3) governance, and (4) institutions, with the understanding that society as a whole is the underlying system encompassing these dimensions.

The processes shaping propensities toward sustainability emerge from this general definition. The notion of sustainable development can thus be classified further in terms of: (1) ecological conditions, in terms of ecological resilience and balances; (2) economic activity that involves less polluting and supports "cleaner" types and forms of production and consumption; (3) governance modes and political processes that involve some consideration of representation and respect for equity; and (4) institutional performance that involves or incorporates mechanisms for adaptation and responsiveness.

These essential processes that are required for shaping propensities toward sustainable development lead, in turn, to some decision principles. The intersections of ecology and economy (and their derivative elements) yield the principle of "eco-efficiency," one of the most widely cited principles or norms in sustainable development discourse. By the same token, the intersection of governance and institutions yields a companion principle, namely that of "accountability."

On this basis, sustainable development proponents put forth the proposition that, to become sustainable, a system must meet four "conditions"—that is, processes, not discrete outcomes. More specifically, they define these processes as consisting of: (1) *ecological systems* exhibiting balance and resilience; (2) *economic production and consumption* protecting the resilience of ecological systems; (3) *governance modes* reflecting participation and responsiveness; and (4) *institutional performance* demonstrating adaptation and feedback. Overall, if, and only if, these conditions hold will a system be disposed toward sustainability. The degree of sustainability, therefore, is a function of the above processes, and invariably, these must bear directly on implications for overall security.

If these are the dimensions, processes, principles, and expected "output," so to speak, what is next? Clearly, the step that follows pertains to determining the *implementation* conditions that facilitate decisions and choices supporting sustainability—in all contexts and at all levels of social aggregation. What are the most fundamental decisions? Completing this logic, the most fundamental decisions are those that bear upon and influence each of the four dimensions of sustainable development—ecology, economy, governance, and institutions—by facilitating their core processes, as defined above. And the operational principles to help guide these decisions would then be eco-efficiency and accountability.

Dilemmas of definition aside, there is a mounting international consensus that some form of "sustainability" must be devised for the peoples of this world—in all political entities and in all geographical localities. This conception of sustainable development is commonly cast in the context of social systems, countries, economies, or states. Yet its fundamentals are relevant and applicable to other units and other levels of abstraction and with other forms of aggregation around various organizing principles.

The definition of sustainable development and the views presented above provide an important point of departure—but only a point of departure. They enable development workers and researchers to focus on matters of knowledge and knowledge management about human activities broadly defined, that is, those that both include and transcend models of economic growth, persistent deprivation, and related dilemmas, and to look at "sustainable development" as a domain of knowledge.

Generic Dilemma

This brings us back to an issue hinted at above—namely, *whose* sustainability is being promoted? Or, alternatively, the sustainability of *what?* There is currently little that can be agreed upon as constituting the "political economy" of sustainable development. However, there are some important advances pertaining to economic concepts of sustainability, on the one hand, and the political logic thereof, on the other. Jointly, these may well provide the foundations for the "political economy" of sustainable development.

What might be considered sustainable development from the perspective of the state or its society, or even adjacent areas, may not necessarily be viewed as such by other entities. Increasingly, people may speak of the sustainability of such entities as firms, organizations, social units, and the like. Debates about "sustainability," however, have not yet entered the domain of corporate strategy. Indeed, the notion of "sustainable corporate activity" remains beyond the acceptable discourse in most executive boardrooms. Nonetheless, the corporate community is beginning to recognize the ubiquity of environment and sustainability issues. It might be foolhardy indeed for any self-respecting national leader or chief executive officer to express indifference to environmental conditions, or even to proclaim their irrelevance to corporate goals. At a minimum, it would be rather poor public relations; at most, it could serve as a magnet for litigation.

The relation between state and firm is especially thorny in the context of sustainable development. Indeed, the proposition that the firm's own sustainability does not require taking into account the sustainability of the home state, the host community, or even the attendant markets is certainly one that requires systematic inquiry. Since, by definition, the corporation seeks to maximize profits and/or maximize its control over its own organization and operations, depending on the theoretical precepts at hand, there seems to be no built-in logic for the pursuit of sustainable development as a prime goal. However, if sustainability were to be viewed in light of the long-term survival (hence profitability) of the firm itself, then the gap between profitability and sustainability would be considerably reduced.

Sustainable Development as a Knowledge Domain

Against this background, the next major challenge is to chart sustainable development as a domain of knowledge. This can be done by starting with the critical drivers—that is, the critical variables underlying the types of human activities (organized patterns of behavior), on the one hand, and the commensurate environmental, social, economic, and other disturbances that invariably result, on the other. This is not to say that all activity is detrimental, far from it, but rather to stress that all activity does leave an impact and that, with the best of intentions, actions designed to solve one set of problems will, more often than not, bring added and sometimes novel and unintended impacts. All of this points to new and emergent efforts to provide multidimensional perspectives to help further develop, or map out, the meanings and realities of perhaps the single most important issue for the twenty-first century, the quest for sustainable development.

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See Also Economic and Social Council (ECOSOC); Culture and Globalization; Environmental Impacts of Globalization; Global Climate Change; Natural Resources; Population Growth

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Urbanization

Urbanization was an important feature of human life in a limited number of regions by about 5,000 years ago, but it became the dominant mode of existence for the first time in parts of Western Europe during the construction of the current world system. By the early seventeenth century, when the Netherlands came to play a dominant role in transcontinental commerce, 60 percent of its population lived in cities. After Great Britain came to dominate the world system, the proportion of urban dwellers there reached 54 percent by 1851, and 78 percent by 1901 (Geyer 2002, 88, 186).

During the subsequent process that created the conditions for "modernization" in country after country around the world, the growth of cities has always been a crucial component. During the early phases of this process, there was a tendency for migrants to crowd into a limited number of "primate" cities that dominate the urban spaces of entire regions or nations, as in the examples of London, New York, or Tokyo. Later phases have witnessed movements toward deconcentration of population, through the spreading of suburbs into the countryside around major centers and through the growth of regional or national networks of small- and mid-sized cities. This process of urbanization, exhibiting common features in many countries, is a truly global experience.

The transition from a primarily agricultural economy and rural habitation for most people occurred in Europe and North America by the early twentieth century, but at the current scale of city formation, soon most of the human race will be involved. In the year 2000, 2.9 billion people already lived in cities out of a total world population of about 6 billion, but projections indicate that the world's urban population in 2030 will encompass 60 percent of the total population, amounting to some 5 billion people. The annual increase in city dwellers at the end of the twentieth century was 43 million; by 2020–2025 this figure is expected to peak at 75 million new urbanites every year. During the first three decades of the twenty-first century, cities will absorb nearly all of the world's population increase (UN 2002, 5, 15).

The vast majority of new city dwellers will be citizens of what the United Nations calls "developing" countries, where urban population is projected to double in twenty-nine years. Inhabitants of cities in "developed" countries already amounted to 75.4 percent of their nations' populations in 2000 and are projected to reach 83 percent in 2030. In developing countries, 40 percent of the population lived in cities in 2000, but 56 percent will live there in 2030 (a level reached by developed countries in the 1950s), and 70 percent by the year 2054. The absolute numbers of people involved is staggering. In the 1950s, 447 million people were living in cities within developed countries, and only 304 million in developing nations. By 2000, those figures had already grown to 898 million and 1.9 billion, respectively; by 2030, when urban population in developed countries will just exceed 1 billion (including 335 million in North America), almost 4 billion people will be living in the cities of the currently developing world. Absorbing over 80 percent of average annual urban growth, Asia (2.8 billion) and

Africa (787 million) are each expected to have more urban dwellers than any other world region by 2030, even though they will still be the least urbanized continents (UN 2002).

Urbanization can be understood through an analysis of "global cities," or "global city-regions," that sees urban sites as nodes within a worldwide network of economic control. At the highest level of the global hierarchy, three cities—London, New York, and Tokyo—support the largest concentrations of institutions that coordinate the flow of capital throughout the world, grouped around their stock markets. The headquarters of finance, insurance, and real estate firms aggregate in these cities because of the ready availability of producer services—the consulting, advertising, and accounting firms that support decisionmaking. Although other cities might demonstrate the characteristics of these truly "world" cities, they remain at a second level within the global urban hierarchy, specializing in particular types of coordinating functions. One example is Hong Kong, serving as a financial center oriented specifically toward the Chinese economy; another example is Washington, DC, serving as the node for articulation of the national and transnational economy of the U.S. government and its military apparatus.

Lower levels in the urban hierarchy provide central-place services for smaller hinterlands, supporting regional and local organizations that connect finance to the world system. A standard feature of the contemporary city, therefore, is its central business district, anchored by a collection of financial institutions providing links to regional, national, and ultimately transnational credit, aided by the nearby offices of companies that provide producer services. An urban center with a higher rank within the global financial hierarchy exhibits a more extensive high-rise environment housing its financial offices and associated service firms and exhibits more complex interactions within these firms and with organizations outside the metropolitan region (Friedman 1986; Sassen 2000, 2002; Scott 2001).

Changes in transportation and in information and communication technologies, supported by massive investment or financial subsidies by governments, have made possible the global mobilization of capital and a continuous alteration of the physical contours of cities. Suburban growth around rail transit lines was already a feature of major cities in the early twentieth century, but the increasing affordability of automobiles, combined with the construction of superhighways linking central business districts to the suburbs, has allowed a massive deconcentration of population and workplaces. The driving force behind this movement is the globalized petroleum industry, dominated by some of the world's largest transnational corporations, which in turn have benefited from advances in shipbuilding technology allowing the construction of supertankers. Investing in cars fueled by the petroleum industry, and seeking affordable housing and space for the family, a large percentage of the middle class throughout the world has headed to the suburbs. This migration has brought with it the phenomenon of the beltway (alias bypass or ring road), which allows long-distance traffic to avoid the city and also enables suburb-to-suburb commuting.

The result, immediately visible in North America, is the proliferation of the "edge city" (Garreau 1991), or a low-rise sprawl, that reaches far into the surrounding countryside. Commuters from more than 100 kilometers away travel to work in offices near the beltways, completely avoiding the central city. Firms looking for cheaper office space and skilled labor similarly migrate to the peripheries around beltways or even farther into rural communities. In this way, the city of Atlanta, Georgia, for example, has generated a sprawl extending many kilometers north toward the foothills of the Appalachian Mountains, and only 20 percent of the metropolitan region's population lives within the city limits. Washington, DC, is surrounded by high-rise business centers in such outlying areas as Silver Spring, Maryland, or Falls Church, Virginia, which are home to

hundreds of consulting firms nicknamed the "beltway bandits" at the intersections of ribbon development, rapid transit lines, and interstate highways. In countries such as Taiwan or Thailand, where superhighways to and through the suburbs have developed more slowly, the neighborhoods of the central city experience sometimes continuous traffic jams. In North America, where the interstate highway system facilitates suburb-to-suburb commuting and peripheral concentration of workplaces, traffic jams have relocated to metropolitan beltways.

Changes in global transportation networks have had additional impacts on port cities. The shift to containers for the movement of sea freight (allowing ready interface with road transport systems) has resulted in the relative decline of many ocean ports, such as San Francisco in the United States or Amsterdam in the Netherlands, which originally owed their rise to waterborne trade. Meanwhile, other ports that have significantly upgraded their container-handling facilities have been able to position themselves as major transit points. Thus, Oakland, California, and Rotterdam in the Netherlands have been able to take over leading regional roles as centers for land-sea freight processing.

Simultaneously, the shift from ships to airplanes for long-distance passenger traffic has led to the development of large international airports that have become a necessity for urban primacy. Schiphol Airport near Amsterdam, for example, has allowed the city to retain its character as a major coordinating and entry point for northwestern Europe. Hartsfield Airport, in becoming one of the largest passenger transit centers in North America, has been a major factor in the explosive growth of the Atlanta metropolitan region, making the inland city a port for transoceanic travel and immigration. The growing volume of air freight has reinforced these tendencies.

Cities have experienced major impacts from the rapid development of computer technology and its integration with communications for the construction of global digital networks. The survival of central city business districts with their financial institutions and producer service firms rests on their connectivity with national and global finance through high-speed data lines. The clustering of the headquarters of the world's transnational corporations in urban regions depends on access to high-bandwidth data networks. The continued viability of major urban centers thus requires their appearance as points of presence within a global telecommunications system including transcontinental cables and satellites. Within metropolitan regions, the same networks allow for a reorganization of space: the transfer of back-office functions to campuses in suburbs or in smaller cities; the relocation of corporate offices beyond the beltways; and the opportunity for managerial control of production and service activities in multiple locations.

The shift in the regional profile of national employment (for example, from the northeastern United States to the south, or from northern to southeastern Britain), affecting primarily the suburban rings of older cities, follows the location of service industries relying heavily on telecommunications infrastructure. The hollowing-out of older industrial regions through the relocation of factories to low-wage regions globally also relies on the ability of transnational corporations to monitor activities in multiple locations and in multiple outsourcing arrangements supported by telecommunications systems. Early commentators on the Internet suggested that these technologies would contribute to the dissolution of cities as more people within the service economy worked from home. Although this phenomenon has affected a minority of workers globally, the dominant trend has been a strengthening of central places through the clustering of service firms or through rapid industrialization in the vicinity of older settlements.

Science and technology play their roles in the globalization of cities in regions described by Manuel Castells and Peter Hall (1994) as "milieus of innovation" or "technopoles." These urban forms have been evolving since the early

twentieth century in areas where a concentration of research and industrial development establishments has produced next-generation innovations using advanced electronics. Emerging either from market-driven product development or from state-sponsored projects, and manifested as sprawling agglomerations of private enterprises or as industrial parks, these urban spaces have became planned or unplanned cities employing thousands of highly paid specialists and generating thousands of semiskilled factory jobs.

The prototype of the innovative milieu, Silicon Valley (an extended suburban sprawl southeast of San Francisco), originated in entrepreneurial startups and early forms of venture capital that interacted with electronic engineering faculty from Stanford University. The Route 128 phenomenon in the suburbs of Boston displayed similar dynamics, including significant stimulation by the central government in the form of defense contracts (Kenney 2000). Standard descriptions of Silicon Valley society picture a predominantly middle-class, professional workforce, with little patience for hierarchy, putting in long hours in pleasant surroundings. The problems of traffic jams, pollution, the rising cost of living, and the growth of a large proletarian workforce in low-skilled manufacturing jobs have not detracted from the allure of a unique Silicon Valley cultural ethos (Fainstein and Campbell 2002, 57–91).

Technopoles have become a global phenomenon because national governments view their presence as necessary for the development of indigenous high-technology capacity, and local governments view them as the centerpiece of economic rejuvenation. Many cities in the United States have spent considerable effort to duplicate the initial conditions for growing their own Silicon Valleys; although most of these endeavors have yielded mixed results, some cities, including Austin, Minneapolis, and Phoenix, and regions in northern Virginia or North Carolina, have created smaller concentrations of high-technology firms. Similar efforts have produced technopoles in other countries. Many of these initiatives have resulted in the relocation of branch facilities of transnational corporations. They have also facilitated numerous startups of small- and medium-sized businesses (Markusen et al. 1999, 223–266).

In France, a national-level technopole program built on the success of Sophia-Antipolis in the Riviera, a large industrial park initiated in the 1960s as a scheme to help remedy the hyper-centralization of research around Paris. By the end of the millennium, Sophia-Antipolis had become the site of one of the largest concentrations of information and communication industries in Europe, employing about 20,000 people directly and ultimately generating employment for 120,000 people. Known locally as "Telecom Valley," it is now an advanced telecommunications zone with an optical fiber backbone and a heavy concentration of nationalized French communications facilities, government-funded university and research departments, and offices of transnational corporations.

The Japanese technopolis program took off in the 1980s. Designed to redistribute high-technology facilities away from Tokyo, it involved several dozen medium-sized cities in major upgrades of transportation and telecommunications infrastructure, the expansion of education facilities, and the construction of extensive industrial parks. In India, the city of Bangalore became a major national center for technology firms, the site of the Indian Institute of Science, and the headquarters of the Indian Space Research Organisation. By the 1990s, benefiting from high-speed data communications facilities and intense entrepreneurial activity, the city was gaining a transnational reputation as the "Silicon Valley of India," specializing in software production and consulting (Heitzman 2004). Similar tales of technology appeared wherever national efforts at infrastructure development and local initiative intersected with the programs of transna-

tional corporations—for example, Cambridge in the United Kingdom, Munich in Germany, and Shanghai in China.

Technopoles are magnets not only for national and transnational investment, but also for the migration of well-educated scientists, technologists, and managers from throughout the world. Silicon Valley itself has come to be the home base for large numbers of foreign telecommunications experts, especially from India and China (Saxenian 1999), and the global shortage of skilled programmers has prompted similar movements of personnel from developing countries into high-tech clusters from Munich to Sydney. This migration of personnel at the high end of the education spectrum is only the edge of a truly massive transfer of populations across political borders in search of employment that, in turn, often emerges as the result of technological innovations. Most of this migration, once rural-to-urban, now involves moving from one city to another.

The United States has long been familiar with the immigration of laborers from Mexico and other Central American countries in search of agricultural jobs, but most immigrants from those sources are now targeting urban centers ranging from Los Angeles to Miami as their final destinations. Similar movements of workers from southern Europe, the Caribbean, or Africa into northern Europe have resulted in highly visible minority groups who often end up in ghettoized urban neighborhoods. Large numbers of migrants from northeastern Africa and South Asia have headed toward opportunities for mostly manual labor in Saudi Arabia and other Persian Gulf countries, where they help to produce the world's fastest rates of urbanization. In Saudi Arabia, for example, where the urban population has soared from 16 to 93 percent in only two generations, they typically occupy specified neighborhoods for guestworkers in Riyadh or Jidda (where annual growth rates after 1975 reached 7.4 and 6.7 percent, respectively). In Southeast Asia and the Pacific Rim, the Chinese diaspora has been important at least since the fourteenth century, but recent liberalization initiatives, and the reunion of Hong Kong with the People's Republic, have produced a new wave of emigration affecting cities from Singapore to Vancouver (Ong and Nonini 1996).

The extent of transnational migration to cities pales in comparison to the domestic migration occurring in response to the penetration of global capital. Perhaps the most striking example is the Pearl River Delta in southern China, where investment funneled through the Chinese diaspora and financial institutions in Hong Kong has been creating a multicity cluster of perhaps 20 million people. Many thousands of workers (including a large percentage of women) from all over China have moved to this region in search of low-paying but steady employment in production facilities, many oriented toward export. The case of Malaysia, where 37 percent of the population was urban in 1975, and 67 percent in 2000, shows a similar impact of national openness to foreign direct investment in the low-paying production facilities of transnational investors.

But even when the climate for global investment worsens, massive migration can continue, leading to the extensive slums associated with the urban peripheries of many cities in South America, Africa, and South Asia. The situation in Lagos, Nigeria, is an example. Until the 1980s, supported by the dynamic exploitation of fossil fuels, the economy of this capital city was developing rapidly, but deterioration in the world market for oil resulted in a dramatic downturn. The population of the city nonetheless continues to grow at a rate of 300,000 people per year, a path that could lead to a population of over 20 million in 2020, making it one of the world's largest cities. The resulting expansion of slums, traffic congestion, and failures of water and sewerage systems are signs of a population that cannot find enough jobs and an urban government that cannot find adequate funds. In such circum-

stances, the "informal" economy, operating outside the taxation system of the state, provides subsistence employment for over 50 percent of the urban population.

Thus, the global city, the site of transnational finance and corporate headquarters closely linked to high-technology productivity in the milieu of innovation, is also the site of gigantic economic disparities. In almost every country, the gap between the highest tier and the lowest tier of earners has widened in recent decades. In almost every major city, gated communities with security systems for well-to-do citizens stand in stark contrast with street people commanding few resources. Edward Fowler (1996) described the depressing underside of the city even in Japan at the height of its prosperity when he worked with temporary day laborers in Tokyo, demonstrating that the most advanced infrastructure and the fullest array of personal services depend, paradoxically, on the labor of the poor. The very construction of the infrastructure for globalized finance and transnational corporations may in fact create the conditions for a radical displacement of the poor and the working class.

One of the most well-known cases exemplifying the relationship between globalized development and humble citizens is the renovation of the Docklands area in the east of London during the late twentieth century. Here a combination of government intervention and private investment eliminated an obsolete industrial landscape and created a high-rise office and residential complex that attracted many transnational companies. The success of this well-publicized project also involved social costs, including the disruption of communities of longtime residents who could not afford the new housing, and the establishment of new communities sharply divided along class and racial lines (Foster 1999). The situation at the Docklands highlights, within one of the world's global cities, the creative and divisive processes visible in every major city of the world, as the established poor and the immigrant poor confront the investment priorities of global capital.

To fully examine urban environments, it is necessary to position the metropolis within a more complete perspective on urban hierarchies. The world's 16 megacities, that is, agglomerations including more than 10 million people, were home to only 4.4 percent of the world's urban population in 2000, a proportion expected to rise to only 8.8 percent by 2015, when the number of such places will increase to 21. Additional cities with populations between 5 million and 10 million (numbering 23 in 2000, with 37 projected for 2030) accounted for 5.9 percent of the world's urban population in 2000, and will include only 6.8 percent in 2030. A more important demographic phenomenon consists of cities with between 1 million and 5 million inhabitants (numbering 348 in 2000, with 496 projected for 2030), encompassing almost one-quarter of global urbanites. But it is the small- and medium-sized settlements that continue to absorb the greatest share of urban demographic growth; throughout the early twenty-first century, 50 to 55 percent of the world's urban population will live in cities with less than 500,000 people. This last category is already the most important one in Europe, encompassing nearly two-thirds of the urban population (UN 2002, 7, 77, 82). For most people, therefore, the confrontation with globalization occurs within the fourth- or fifth-level nodes of a global urban hierarchy.

One of the most well-known phenomena demonstrating the rapid formation of small- and medium-sized cities is the development of northern Brazil, which has been destroying the world's largest remaining rain forests. This epochal process is related to programs of the Brazilian government designed to shift industry and population away from the southern part of the country, and especially away from São Paolo, which alone contained almost 18 million people in 2000 (the world's third largest city). In the northern region of the country that includes the Amazon River Basin, an area as large as the eastern United States, the population rose from less than 2 million in 1950 to almost 13 million in 2001 (changing from 3.5 to

7.6 percent of the country's total population). The rate of urbanization in the northern region grew from 32 percent to almost 70 percent (in a nation 81 percent urbanized). In the 1960s, just 22 cities in the northern region had populations of more than 5,000; by the early 1990s, the number of such cities already had grown to 133, with 8 exceeding 100,000 residents. Well over half of the residences in these new cities stood within self-built shantytowns.

The case of the Amazon demonstrates the intersecting personal and institutional arenas linked to the transnational economy that are simultaneously altering ecosystems while generating fast urbanization. A number of Amazonian cities have sprung up around major projects promoted by the state but funded or constructed through transnational organizations, aiming primarily at extractive industries (such as rubber, gold, and timber) or at tapping the huge hydroelectric potential of the Amazon watershed. Even the hundreds of thousands of poor farmers who are destroying the rainforest while attempting to survive on their own lands are linked to the projects or financing of institutions linked back through the bigger cities to national and transnational finance.

The port of Belém (population 1.4 million in 2003) at the mouth of the river has long served as the import-export center for the region, but the city of Manaus (population 1.6 million in 2003), 1,300 kilometers (800 miles) inland, has grown rapidly as a coordinating center for regional growth. The Manaus Free Trade Zone, established in 1967, was originally conceived as an attraction for branch plants of transnational corporations. By 2003, its "industrial pole" employed 50,000 people, with mature electrical and electronics industries accounting for 55 percent of a US$10 billion income and exports valued at US$851 million. In practice, however, the free trade zone has functioned primarily as a transit point for the import of foreign-produced goods to the Amazon Basin (Browder and Godfrey 1997; Markusen et al. 1999, 97–145; Superintendence of the Manaus Free Trade Zone, http://www.suframa.gov.br).

Cities, the gateways for economic exchange, are also the sites for the display of cultural artifacts and behavior affected by globalization. Perhaps the most visible phenomenon is Americanization, or the diffusion of commercial products and styles originating in the United States. The U.S. core copyright industries, for example, exported US$88.97 billion worth of goods and services in 2001, including a large percentage contributed by the film industry, consumed primarily by moneyed people in cities throughout the world. When one combines this massive cultural load with the exported output of other sectors, such as the fashion industry and retail franchises such as McDonald's, Pizza Hut, or Kentucky Fried Chicken, one quickly gains the impression of a one-way transmission of signs and organizational forms.

Two perspectives may serve to qualify this perception. First, the diffusion of cultural products to an urbane public is creating a global "metropolitan" culture that includes contributions from many sources. Consider just a few examples: India's "Bollywood" film industry (based in Bombay/Mumbai), which produces more titles annually than Hollywood, not only dominates South Asia but reaches audiences from Russia to Cairo, with increasing visibility in Europe and North America; East Asian martial arts have found global audiences in schools and theaters globally; and a "world" music form is evolving with inputs from the four Atlantic continents and spreading in cities throughout the world. Second, the diffusion of cultural attributes is not simply the reception of a unitary message, but involves the agency of social groups who adopt artifacts or ideas and adapt them to specific urban environments. For example, in western Africa one may encounter among the fashion-conscious a distinct preference for the "Italian" style that includes a particular brand of shoe made in the United States. The choice of footware does not result from aggressive U.S. marketing, but from the self-conscious choices of Senegalese transnational migrants interacting with ur-

banites at home who are constructing class markers connected to a perception of global chic (Scheld 2003). In this way, one may see in the ubiquitous urban accessibility of MTV the acculturation of a young global elite, or one may notice in the regional shifts of its presentation the marks of identity formation.

The city is thus the most conspicuous sphere for the construction and manifestation of identity, an arena for often conflicting claims on the definition of citizenship, now defined not only at the national level, but also at the level of the urban node. If one looks at citizenship through the urban lens, a space appears between the legal definition of the citizen and the cultural or social definitions of the city dweller. One of the most potent sources for social definition is urban religiosity. One can view its more destructive forms in the recurring "communal" riots (mostly pitting Hindus against Muslims) in South Asian cities. But many of its forms are subtle, following the paths of transnational migrants but spinning off regional or national variations on common themes. For example, more than 10 million people worldwide (mostly middle-class urbanites) are devotees of the Indian spiritual leader Sathya Sai Baba (b. 1926). His original messages and devotional practices in the Telugu language have been translated to a wide variety of regional styles in Indian cities and worldwide among nonresident Indians alongside a large percentage of non-Indian adherents.

But perhaps the most dynamic contemporary examples of transnational urban religiosity come from Islam. The veneration of the sufi saint Amadou Bamba (1853–1927) has deeply affected the visual culture of his native Senegal. But it also has followed the migrations of trading communities to become a feature of city life throughout Muslim communities in Africa and also in North America and Europe (Diouf 2000; Roberts and Roberts 2003). In Istanbul, a global city for the past seventeen centuries, one can experience a full array of transnational influences: Women in miniskirts and men in black business suits, conjuring the image of 1920s secular nationalism, jostle in the streets with women in the *tesuttür* fashion of long coats and large headscarves, the "traditional" style of Islam. In the 1990s, when the Islamicist Welfare Party took control of the city government in Istanbul, the capital of a nation promoting modernist and globalizing credentials, the world witnessed the power of a different kind of globalization proclaiming Islamic cultural principles. A closer look at the language used by the Islamicists reveals Arabic terms blended with distinctly Ottomon Turkish elements, and a closer look at "traditional" garb reveals embellishments constituting a new "Islamic chic" that signals class differences (Keyder 1999). As in other spheres, therefore, global cultural phenomena express a variety of particularistic social affiliations and class cleavages within the city.

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See Also Natural Resources; Population Growth

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U.S. Trade Laws

The U.S. Constitution provides the foundation of the nation's trade laws and remained the primary instrument of trade regulation for many years. The term "commerce" is synonymous with "trade" in the U.S. Constitution and refers to the business of buying and selling goods. Through the Commerce Clause, the constitution grants power over trade activities, both between the states and between the United States and foreign countries, to the U.S. Congress. The states are allowed to regulate trade that occurs within the confines of their own jurisdiction, however. Today, trade that occurs within a single state is almost nonexistent, as more reliance is placed on other states and countries for goods and services in the global economy.

Early Trade Laws

The Fordney-McCumber Tariff Act

President Warren G. Harding signed the Fordney-McCumber Tariff Act into law on September 21, 1922. Many tariff acts had been passed before this date; however, this tariff initiated a new stance attempting to take account of changing international conditions after World War I. Early in its history, the United States had been forced to rely on other countries for certain goods that it could not produce itself, and it could not rely on the goods of certain countries because of the difficulty in transporting items. Most U.S. international trade before World War I had been conducted with the European nations that had colonized the United States. During World War I, the United States was the only nation still capable of engaging in significant international trade. International trade had gained in importance with the Industrial Revolution, which made the production and transport of goods easier. The United States had been seeking to protect its domestic interests through tariffs since the 1800s, and this concept also gained importance during World War I.

The Fordney-McCumber tariff was created as a protectionist measure, and the tariff on goods that it established was high. With its passage, the United States had the highest tariff rate of any nation of the time, which posed many problems. The act granted the president the power to raise or lower the tariff by as much as 50 percent on items that were recommended for adjustment by the Tariff Commission. It used an "American selling price" as a means of protecting the higher prices of American goods. During World War I, when there was a high demand for goods, but few countries capable of providing any goods, these high prices had been justified. However, the tariff did not have the beneficial effects that had been expected, and soon a movement was afoot to change the tariff, as many blamed it for their economic woes. In effect, the Fordney-McCumber tariff created an artificial barrier around the country, restricting both imports and exports. U.S. citizens were forced to pay higher prices for many goods because they could not reap the comparative advantage effect that is essential to creating a thriving capitalistic society.

American agriculture reaped many profits during World War I because, in addition to supplying products to U.S. residents, it was called upon to supply many of the agricultural needs of war-torn Europe. To match a rising demand, American farmers increased production acres. After the war, however, they were left with a lowered demand as European farmers began to recover. The surplus of products led to lower prices for agricultural products and introduced farmers to a depression that would spread to the rest of the nation ten years later. Many farmers blamed these problems on the high tariffs because they were stuck with overpriced goods that no one wanted or could afford to purchase, and the tariff did nothing to solve this problem.

The high tariff rates also hurt bankers, who were seeking repayment of wartime loans. Europe's economic resources were drained during the war, and many American institutions had made loans to Europe. These were calculated to amount to about $10 billion. Lenders wanted their money back, and Europe was struggling to repay them. The tariff was applied to debt repayments, however, which made it even more difficult for lenders to recover their money.

Hawley-Smoot Tariff Act

The Hawley-Smoot Tariff Act of 1930 was a response to the Fordney-McCumber tariff and followed a decade-long agricultural depression. Created by House Ways and Means Committee Chairman Willis Hawley and Senate Finance Committee Chairman Reed Smoot, it was signed into law on June 17, 1930, by President Herbert Hoover. A compromise between the Senate and House leaders, it increased the protectionist efforts of the United States through tariffs on farm products and manufactured goods. Although the act did not comply with Hoover's recommendations, he signed it into law in an attempt to deal with the worsening economic state of the nation at the time. The country was already beginning to feel the effects of the Great Depression.

The tariff rates were higher under the Hawley-Smoot Tariff Act than they had been under the Fordney-McCumber Act. Most products had tariff rates twice as high in 1930 than ten years prior, especially agricultural products. Tariffs were placed on some items, such as bricks, leather, and shoes, for the first time. Import duties were 50 to 100 percent higher on raw materials in 1930 than in 1920. One of the few exceptions to the increased tariff rates was a decrease on the automobile tariff, which went from 25 percent to 10 percent.

Foreign governments expressed their opposition to the Hawley-Smoot Tariff Act by directing protests to the U.S. government, by publishing articles criticizing the new tariff, and though tariff retaliation. Thirty-eight countries sent protest letters to Congress urging its members not to pass the bill. Countries hurt by World War I needed markets for revenue and a favorable trade balance. European countries instituted favored-nation trading status with each other and discontinued trade with the United States. French Foreign Minister Aristide Briand proposed the idea of a European Federation that would give Europe a market of its own and leave out the United States entirely. Without the support of all of Europe for such a federation, France established a quota system in retaliation to the United States. The quotas placed limitations on the number of goods that could be imported into the country and were applied to coal, flax, wines, woods, meats, eggs, and poultry.

Italy reacted to the Hawley-Smoot Tariff Act by increasing its import duties on automobiles, of which the United States was the primary supplier. Later in 1930, Italian dictator Benito Mussolini declared that Italy would only buy products from countries that bought its agricultural products. The Hawley-Smoot Tariff Act restricted imports of Italian agricultural goods into the United States. Spain reacted by withdrawing from a treaty that had been in place between Spain and the United States since 1908, ending most-favored-nation trading status between the two countries. In addi-

tion, on July 22, 1930, Spain passed the Wais Tariff, which raised duties on American goods such as automobiles, tire, rubber, and motion pictures. Although other countries were also affected by the Spanish tariff, Spain negotiated special commercial treaties with them.

Great Britain had few protectionist tariffs in place prior to 1931 and was a strong supporter of free trade. However, it passed an Import Duties Act in February 1932 and the Ottawa agreements a few months later, in July, to protect Great Britain and its colonies. These acts imposed high duties on all imports from the United States. Although U.S. imports had entered Great Britain, including its colonies, duty free 70.5 percent of the time in 1930, by 1932 this figure had dropped to 20.5 percent. The United States' biggest trading partner, Canada, was also outraged. The Canadian government passed the Canadian Emergency Tariff, which imposed high duties on U.S. imports, including textiles, agricultural products, electrical equipment, meats, gasoline, shoes, jewelry, and fertilizers.

The Hawley-Smoot Tariff Act did not have the positive effects that Congress had hoped it would have on the U.S. economy. Although it cannot be blamed for causing the Great Depression, it did contribute to the Depression, and it prolonged the economic misery that the nation suffered. It also made it even less likely that the United States would ever recover the money it had lent the world during World War I. It caused prices to increase, compounding the difficulties people faced from the Great Depression. President Franklin D. Roosevelt altered the Hawley-Smoot Tariff Act as part of the New Deal legislation he created. American politicians identified the need for a more liberal trade policy to create an economy that could thrive in a more international environment. The New Deal prevented the economy from continuing its downward recessionary spiral, and as the economy recovered there was a need to encourage a more open and free trading environment between nations.

General Agreement on Tariffs and Trade (GATT)

In 1948, following the failure of the United States to ratify the treaty for a proposed International Trade Organization, President Harry S. Truman led the United States into a new trade arrangement, the General Agreement on Tariffs and Trade (GATT), that became the basis of U.S. trade until the creation of the World Trade Organization (WTO) in 1995.

Part of the GATT's success was due to the absence of a defined institutional structure. This allowed states to introduce changes gradually and to preserve their national sovereignty. The only physical manifestation of the GATT was its Geneva-based Secretariat, which was operated well, earning the respect of the member states. The GATT was one of the very few dynamic international organizations of the era that was able to grow through consensus among its members, though its lack of enforcement capability meant that decisionmaking was sometimes considered slow and frustrating, and critics complained that there was no assurance against violations.

The GATT's primary concern was with the elimination of nontariff barriers to trade and the gradual reduction of tariffs through mutual agreement. One rule that made every GATT tariff reduction more sound was that once two or more members agreed to a new lowering of tariffs, the figure could not be raised again. Members had to be more certain of their decisions, and raising and lowering of tariffs for political reasons were not as likely to occur in this situation.

Two significant GATT provisions guided the process. First, each member state was entitled to the same benefits and concessions that any other member state received. Second, every member held the equivalent of most-favored-nation status with every other member, entitling it to the best possible benefits offered by a state. Bilateral agreements, in essence, were multilateral agreements with every other

member state. Nevertheless, in order to ensure that each member had a fair chance, the GATT allowed for members, under extreme circumstances, to suspend benefits when they would unjustly cause unneeded burden to a segment of a member's economy.

Although the GATT ceased to exist with the inception of the World Trade Organization in 1995, it had enduring results. There had been an unprecedented lowering of tariffs among dozens of states, including the United States. The levels of tariffs were so low as to be almost insignificant to commercial enterprise.

One of the GATT's only real failures was in part the result of the U.S. Congress's decision not to approve the otherwise accepted GATT agreement against "dumping." "Dumping" in international trade refers to when a country exports goods to another country at a higher price than the cost of production, when the goods are being sold at prices below production in the home country. In other words, a business is able to provide low-priced goods domestically and still make a profit from its international sales. This allows it to undercut domestic producers who only sell goods in that market. The GATT and the United States have worked to develop antidumping laws that try to punish such actions by imposing tariffs or taxes on imported goods that meet these standards. As a result, the antidumping clause was dropped. The Tokyo Round of negotiations in the 1970s, however, was hailed as a success in the development of rules against nontariff barriers to trade.

Trade Laws of the 1960s: Reciprocal Trade Agreements and the Kennedy Round

After the end of World War II, the world witnessed the growing power and influence of the European Economic Community (EEC), now the European Union (EU). President John F. Kennedy wanted a way to reduce trade barriers with the EEC so that the United States could tap into its expanding market. President Kennedy, who believed the United States should take a leading role in trade, persuaded Congress to give him the power to abolish the item-by-item negotiations established under the Reciprocal Trade Agreements (RTA) Act of 1934 and adopt the European method of across-the-board negotiations.

Early in his presidency in 1961, Kennedy's top advisers warned him about the polarization of the American and European markets. Without the support of Congress, since they still favored more protectionist trade policies, Kennedy waited until 1962 to introduce the Trade Expansion Act, after gaining the support of the Committee for National Trade Policy and various business and labor leaders. The legislation included many provisions aimed at improving the international trading position of the United States. Tariffs were reduced or eliminated on many products, such as tractors, automobiles, heavy machinery, machine tools, washing machines, aircraft, and perfumes, and the tariff reductions would be implemented over a five-year period. A position for a special trade representative who would report directly to the president was to be created by the House Ways and Means Committee and the Senate Finance Committee.

Two days after its passage, the EEC announced that it was ready to discuss tariff reduction agreements with the United States. The United States recommended to the GATT in November 1962 that a ministerial meeting be convened in 1963 to discuss tariff reductions. On May 16, 1963, GATT ministerial meetings, with 600 delegates from fifty countries, met in Geneva to determine an agenda for tariff reduction meetings. These negotiations came to be known as the Kennedy Round, since President Kennedy had pushed the legislation through Congress. The actual Kennedy Round negotiations began in May 1964.

An agreement was reached on June 30, 1967, and President Lyndon B. Johnson signed the proclamations of the Kennedy Rounds into

law, which would be in effect starting January 1, 1968. The Kennedy Rounds resulted in a U.S. tariff reduction of 35 percent over five years and similar reductions to European tariffs over the same period. It also lowered the investigation time for inspected goods from ninety days under existing U.S. antidumping laws. Uniform antidumping laws were applied to all countries. The United States was also supposed to end the U.S. selling price system initiated by earlier tariffs. Congress did not agree with this provision, however, so U.S. selling price regulations remained in effect for many more years.

Trade Laws of the 1970s: The Trade Reform Act and the Tokyo Round

Farmers and labor unions were not satisfied with the provisions of the Kennedy Round, and protectionist sentiments in Congress began to grow. President Richard M. Nixon was opposed to the protectionist view of foreign policy and presented Congress with the Trade Reform Act, a bill that would grant the president more power over trade policy After much debate and compromise in Congress, the Trade Reform Act was passed in December 1974. The Trade Reform Act introduced new provisions to trade laws, but in its final form it was not exactly what President Nixon had requested, although it did give the president more power in trade matters. The president had more control over tariff levels than ever before. A president could abolish tariffs entirely that were at a rate of 5 percent or below. Tariffs that were above 5 percent could be reduced by three-fifths by the president. In addition, the president was granted more power in international trade negotiations. He could change or rescind nontariff barriers such as quotas, safety standards, and special custom valuations procedures as he saw fit in exchange for other foreign concessions.

The Trade Reform Act also created the U.S. Trade Commission, which provided a way for domestic industries to make their case before a government agency if they felt they were being injured by international trade. In such situations, the commission could make recommendations to the president to grant relief to domestic industries. A portion of the bill referred to as "Adjustment Assistance" made it easier for domestic workers to make the case that they had lost their jobs owing to imports. Cash and other benefits could be provided to companies or communities that showed that import competition had damaged their businesses.

The Trade Reform Act enabled the United States to trade with more countries because it granted Communist countries most-favored-nation trading status. Tariffs were also reduced for poorer countries that wanted to export goods to the United States. Moreover, the act changed the status of the trade representative position created by the Trade Expansion Act passed during the Kennedy administration, moving it to the executive office and giving it a cabinet rank. This change helped the executive branch achieve its trade goals in the Tokyo Round trade negotiations that began in 1973.

During the Tokyo Round, representatives from the European Union, Japan, the United States, and many other nations met in Geneva to discuss the status of international trade. The negotiations were dubbed the Tokyo Round because the Japanese prime minister chaired the opening session of the discussions. The results of the Tokyo Round, including an international agreement on codes for nontariff trade barriers, were approved by all negotiating parties in 1979. However, agricultural trade barriers were left in place, leaving an area for future trade negotiations. The Tokyo Round also included the Section 301 laws, discussed below.

Trade Laws of the 1980s: Steps toward Fair Trade

Trade and budget deficits were rapidly expanding by 1980. As protectionist sentiments grew in the country, politicians were seeking new trade laws to assist the U.S. economy. A ministerial meeting was called by the GATT Consul-

tative Group to begin in Geneva in November 1982 to improve international trade laws. The aims of the United States for what would be known as the Uruguay Round were to open up the world's agricultural markets and to modernize the GATT to include elements such as intellectual property laws.

On October 30, 1984, President Ronald Reagan signed the Trade and Tariff Act into law. The provisions of this act included a bilateral trade agreement with Israel, protection of the U.S. steel industry, an extension of duty-free access to the U.S. market to developing countries, and import relief to U.S. grape growers and wine makers.

Congress passed the Omnibus Trade and Competitiveness Act in 1988 with the purpose of creating fair trade standards for the United States. This act defined unfair trade practices and gave the United States Trade Representative (USTR) the capability to investigate unfair trade actions and issue sanctions. Super 301 and Special 301 were added to existing trade laws (see "Section 301 Laws," below).

The Uruguay Round met in Geneva beginning in 1986 with 116 countries represented and lasted until 1994. Its name comes from the fact that Uruguay's foreign minister chaired the opening session of the conference. This was the first round of GATT negotiations to address trade in services as well as of goods in its trade discussions.

Many decisions were made during the Uruguay Round. All nations agreed to reduce their tariffs by an average of one-third. The United States and the European Union made a special agreement to reduce tariffs on each other by 50 percent to help them achieve their one-third reduction average. Quotas were eliminated on most clothing items. All nations approved the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), which addressed protection of patents, copyrights, trade secrets, and trademarks. The Agreement on Trade-Related Investment Measures (TRIMS Agreement) eliminated the requirement for manufacturers, such as car makers, to purchase a large portion of their products from domestic rather than international manufacturers. Countries are now allowed to alter their tariffs and other trade barriers when their local market is flooded with too much of a particular import.

The United States signed the provisions of the Uruguay Round into law on December 8, 1994, after the provisions were ratified by Congress and signed by President Bill Clinton. The United States also became a member of the World Trade Organization at this time. The WTO was created during the Uruguay Round to replace the GATT as an international economic policymaking organization.

Intellectual Property Laws

Globalization has allowed almost every country in the world to participate in an international economy. Although this has been good for many countries, globalization is often cited for the increased amount of counterfeit products sold worldwide. Globalization has created a strong interest in intellectual property laws that are relied upon to ease the economic threat of counterfeit intellectual property goods.

In most of the developed world, and especially in the United States, intellectual property laws are a necessary inclusion in trade policy. As pirating and counterfeiting of goods increases, laws are needed to protect the ownership rights of the creators of such goods. Intellectual property crimes have grown from simply copying a pattern or a logo on an item of clothing to the duplication of electronic devices and computer software. In order to maintain world trade, these infringements must be reduced and virtually halted. Furthermore, without enforcement of intellectual property laws, investment in research and development of new technology would stagnate. Even intellectual advancement would suffer as knowledge-based jobs disappeared.

Intellectual property infringements have three primary debilitating effects. First, for

every pirated good sold, one less legitimate good is sold. In other words, profitability decreases and motivation for market expansion is taken away, increasing per unit costs. Second, exports from the legitimate producer's country, as well as royalties and sales based on the legitimate goods, decrease. Finally, counterfeited goods are exported to other markets, reducing the desire for more expensive legitimate goods that would otherwise be mass marketed. The major costs of developing a new product contrast sharply with the cost of duplicating it illegally. Replication often costs less than 1 percent of the original development costs, making it a profitable activity for counterfeiters, but one that is devastating to innovators. With per-unit costs included, a software title in the United States, for example, may cost over $500, but a counterfeit copy can be sold in Eastern Europe or Asia for only $5 to $8. The primary difficulty facing proponents of intellectual property laws is that no consensus exists about what amount of protection is adequate. In fact, often the introduction of high-priced goods into a state's market is deemed counterproductive to national economic security. As a result, either regulatory laws or their enforcement practices are lacking. As an example, many states protect their pharmaceutical and technology industries, allowing for blatant copyright infringement.

When such unfair trading conditions exist for the United States, a list is compiled of countries that allow intellectual property infringements, and certain extreme cases are given priority status. Each of these countries is investigated, and a plan of action is produced to stop the abuses. Though few states are placed on the priority list, the list of violating states is usually quite long. Brazil, India, Mexico, China, South Korea, Saudi Arabia, Taiwan, and Thailand have often been cited as the primary abusers since the list was started.

Unfortunately, the only realistic bilateral tools to dissuade these violations are coercion and reciprocity. For the United States, which has strong economic and political advantages, these are viable tools. However, for weaker nations, multilateral treaties are the only logical and useful approach. Nevertheless, until the Uruguay Round of the GATT, no useful treaties existed, since those that were in effect lacked the dispute-settlement and enforcement protocol. As more countries join the developed world, more names will be added to the list of beneficiaries of a comprehensive set of enforceable intellectual property laws.

Section 301 Laws

Section 301 was introduced during the Tokyo Round. It gave the United States retaliatory powers against nations whose trade practices hurt the United States. The president was given the power to impose special duties that the exporting governments subsidized. Super 301 laws were passed as a part of the Omnibus Trade and Competitiveness Act of 1988. Super 301 required the United States Trade Representative to review U.S. trade policy starting in 1989. The USTR was to identify trade-liberalizing priorities and practices depending upon the relationship between the United States and the country under review. The USTR also had the power to initiate investigations of the trade practices of certain countries to remove measures deemed unfair. This process often took from twelve to eighteen months to complete.

Special 301 was also a part of the Omnibus act and included many provisions to promote fair trade practices. It allowed the USTR to impose sanctions against countries that did not provide adequate intellectual property laws. It also made government-funded relief available to industries that were seriously harmed by imports. It provided $1 billion worth of federal funds to the states so they could create retraining programs for workers displaced by imports, and it stated that U.S. corporate officials could be held liable if they received certain types of information from their foreign employees. Relationships between foreign investors were forced to be more equal under

Special 301, because foreign companies could only be primary dealers of U.S. government securities if their home country granted the same privileges to U.S.-owned companies. The president was given the capability to continue negotiations in the Uruguay Round under the Special 301 provisions. Moreover, under Special 301, government purchases from the Toshiba Corporation were banned for three years because the company had violated a provision of the export rules. Finally, Special 301 required notice to be given to any employees sixty days prior to any long-term layoffs or plant closings by companies that employed more than 100 people, if one-third of the workforce would be affected, or if the layoffs affected 500 people or more.

Trade Laws of the 1990s: North American Free Trade Agreement

President Ronald Reagan proposed eliminating all trade barriers between the United States and Canada in 1985 in what would come to be known as the U.S.-Canada Free Trade Agreement. Any trade disputes would be settled by a joint committee. Negotiations began between Canada and the United States in late 1987, and the agreement was ratified by the U.S. Congress in September 1988.

Mexico asked to join the free trade agreement with Canada and the United States in 1992 and the resulting treaty was called the North American Free Trade Agreement (NAFTA). NAFTA linked the United States with its largest trading partners and produced competition with the world's largest single market, the European Union. President Bill Clinton signed NAFTA into law on December 8, 1993, and it went into effect on January 1, 1994.

NAFTA included many provisions and expanded some of the agreements of the treaty with Canada. All tariffs between Canada, Mexico, and the United States were to be phased out within ten years. To be considered as coming from one of these countries, a product had to have a certain percentage of its content or production originating in North America. Agricultural trade barriers, including tariffs and quotas, were to be phased out within ten years. Automotive goods that contained 60 to 62.5 percent North American goods were to have no trade or investment restrictions after 2004. Tariffs and quotas on fabrics and clothing items were eliminated immediately. Banking, insurance, and securities companies run by a NAFTA country company can sell their products or services to anyone in a NAFTA country. NAFTA also applied the same intellectual property rights to all member nations, and applied environmental protection standards to NAFTA members.

Trade Law Enforcement Agencies of the United States

Certain federal agencies are assigned the duty of regulating trade and making policy recommendations in the United States. The U.S. Department of Commerce (DOC) has the primary responsibility for the enforcement of most U.S. trade laws. The mission of this agency is to promote international trade, economic growth, and technological advancement. The International Trade Administration (ITA) is a branch of the DOC that aims to improve the international trade position of the United States. The Bureau of Export Administration is also under the DOC and is responsible for implementing much of the export control policy, including export licensing, research on relaxation of export controls, and enforcement of export control laws.

Other agencies also play a role in regulating U.S. trade laws, even though that is not their primary purpose. Overall U.S. foreign policy is coordinated and supervised by the Department of State. Domestic and international financial, economic, and tax policy is created by the U.S. Treasury Department. The secretary of

the treasury serves as the U.S. representative to the International Monetary Fund (IMF). The Customs Service, established in 1789 and part of the Treasury Department since 1927, collects tariffs, enforces customs laws, and is known as the principal border enforcement agency.

The Office of the United States Trade Representative was created by President John F. Kennedy in 1963 and became an agency of the executive branch in 1974. The USTR directs all trade negotiations and plans all trade policy for the United States. The USTR appears on behalf of the United States before the World Trade Organization, the Organisation for Economic Cooperation and Development, and the United Nations Conference on Trade and Development.

Carol Walker

See Also Antidumping and Countervailing Duties; National Government Policies; National Tax Rules and Sovereignty;Nontariff Barriers; Protectionism; Tariffs; General Agreement on Tariffs and Trade (GATT); World Trade Organization (WTO)

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