ACCOUNTING

ACCOUNTANTS

AUDITING

BOOKKEEPING

ACCOUNTANCY

Accounting describes the information system used to manage economic units. Primarily employed in private sector for-profit businesses, accounting also assists individuals and governmental and eleemosynary organizations in managing their scarce resources and orienting themselves toward future events. Accounting as a field of knowledge exists independent of the medium used to accomplish it, running the gamut from manual journals and ledgers implemented with paper and pencil to highly sophisticated computerized database programs. Accounting information is, typically but not necessarily, measured in monetary terms.

In addition to its collective aggregate sense as an information system, accounting is a measurement method for the translation of economic events. Therefore accounting measures provide information that becomes the elements of accounting information systems or reports. Accounting information refers to that which is abstracted from the details of the individual transactions and events that are entered into by two or more entities. This reduces the complexity of the historical recordation that immortalizes the event. The power of accounting is that it purports to measure in an unambiguous and unequivocal manner. Those close to it, however, understand it to be quite judgmental and selective in its measurement apparatus (partially explained later). Accounting measures determine the moment at which financial events are deemed to have occurred and the single best-point estimate of their magnitudes. For these purposes, accounting measures usually utilize historical monetary units. When accounting is applied, it requires choices to be made from a selection of measures that have traditionally been used for certain types of transactions. In the United States, collectively the reference is to "generally accepted accounting principles," a label that implicitly recognizes that accounting depends more on widespread usage/acceptance by the profession than on scientific validity or legal authority for its legitimacy. With regard to the timing of events, one basic choice pertains to the moment that currency or its equivalent are exchanged (cash method) contrasted with a more intangible method that uses a less identifiable point of recognition (accrual method).

Accounting can also be understood as the art of classifying, recording, and reporting significant financial events. The major discretion lies in the line that separates events that are recorded and measured in the financial statements from nonevents. Even if that demarcation was perfectible, considerable latitude exists in the "accounts" that are used to group similar events and to disaggregate quantities judged to be dissimilar in some important way. For at least the last 500 years, accounting has employed a unique system of recording events that essentially records everything twice. Double-entry bookkeeping records "debits" and "credits" in a way that mandates a situation of perpetual balance. This system may have been devised as a guard against mathematical error. Although it may have outlived its usefulness in a computer environment, this idiosyncratic system is unlikely to be substantively revised in the near term.

Accounting refers to that which is abstracted from the details of the transactions that are entered into by two or more entities. However, it also creates the distinct possibility that information vital to the management of a business enterprise will not be captured by the accounting information system. Furthermore, events that are systematically not found in the accounting system are likely to escape the managerial attention of companies, sometimes producing undesirable results. Whether events are considered important enough to include in accounting records is also partially a matter of public policy. Since the accounting information of publicly traded companies must be reported to external users in the general public (albeit in a limited and highly summarized sense), the definitions used by accounting are determinative of how much disclosure actually occurs. Accounting conventions lie at the intersection between the rights of the public to know and the rights of private owners to safeguard proprietary information in financial affairs. Since shareholder/owners delegate their interests to professional managers, this is translated into rights to secrecy for corporate agendas and directions.

Another general approach to a definition of accounting exists in the identity of its users, combined with a rough idea of their use of accounting information. Businesses use accounting in many diverse ways, from creating a metric for compensating key personnel to determining the proper amount to pay external parties for services such as real property. Accounting measures also create feedback to determine whether measures of performance of certain objectives have occurred. Investors use accounting information to specify their portfolios and to measure absolute and relative changes in their wealth positions. Accounting allows the quantification of expectations and the measurement of the spread between expected and realized results. For creditors, accounting measures often are used as barometers of security for the eventual repayment of loans. Accounting provides a signal of financial distress that may trigger additional contract rights. Governments use accounting in the macromanagement of the economy with measures such as the gross national product and the consumer price index. When government operates as a buyer or seller of commodities or services, accounting measures must be used to assess relative success in operations. Often this requires special imputed measures to be designed and deployed when markets are not present as benchmarks for exchange transactions. Individuals not involved in businesses or investments use accounting for more mundane matters such as establishing and maintaining a household

J. Webster (ed.), *Wiley Encyclopedia of Electrical and Electronics Engineering*. Copyright © 2007 John Wiley & Sons, Inc.

budget. In a sense, accounting forms the basis of tax payments made to governments by individuals. It became clear in this perspective that accounting is the critical linkage between economically defined entities. As such, accounting is a boundary-spanning medium.

Several scholars have attempted to describe accounting according to the functions that it serves. Historically, stewardship is a classic metareason for the existence of accounting. Agents, entrusted with valuable properties or commissioned to enter into transactions on behalf of principals, have been obligated to report periodically on the course of these affairs. In a modern form, this adequately describes the relationship between corporate management (agent) and shareholders (principal), but fails to capture relationships in the nonprofit and public sectors. An expanded stewardship concept might embrace the function of accounting to monitor and report the status of financial conditions and the change in these conditions. For these purposes, the convention that the calendar or fiscal year is the single most important unit of analysis has in many instances been subdivided into quarter years or months. Stewardship requires agents to realize the receipt of inflows and outflows in a manner that summarizes relative progress over such time frames. Likewise, the valuation of properties under management, offset by debt to others, needs to be reported as of particular moments in time.

A second major function of accounting is to attain control over purposely motivated entities. Accounting creates information that monitors prior results. This has considerable relevance to alternative means of coordination. Within the company, accounting provides a structure wherein expectations and actualities can be systematically compared. This process has implications for the future direction and design of the organization. Perhaps more importantly accounting in its control sense creates a discipline that makes people "accountable" for what they do in a way that is quantifiable and therefore comparable to others who are similarly situated. This control underlies the ability to coordinate multiple-purpose, multiple-location organizations. The primary goal of using accounting as a control devise is to achieve efficiency in the use of limited/scarce resources. Ideally, accounting information should be useful in directing the flow of wealth into different forms of resources, and then to distribute those resources not only among organizations, but also to the more productive portions or activities of organizations.

HISTORY OF ACCOUNTING

Diverse threads of historical inquiry have traced some forms of accounting to ancient civilizations such as Rome and Greece. A strong case can be made that servants of the ancient Egyptian pharaohs and Babylonian rulers used a form of accounting to report on their transactions. Early known uses of accounting pertained to the recordkeeping needed to collect and levy taxes. The Roman Empire also used accounting to organize and control its distant enterprises of state. Other than the state uses of accounting in Europe and Asia, accounting was rather dormant during the manorial-bounded, barter-based economic systems of the early Middle Ages. A more agreed upon and direct historical linkage places accounting's origins in the later Middle Ages. Traders on the Mediterranean during this period took commerce to new levels and tended to use accounting in ways more similar to those of the modern world.

The person credited with the invention of double-entry accounting is Luca de Bargo-Pacioli. His publication of *Summa de arithmetica* in 1494 was hailed by Da Vinci as the greatest invention in world history. Recently, celebrations in recognition of the 500th anniversary of this milestone were attended by a worldwide gathering of historians and scholars in Italy.

For a long time, accounting was considered a subfield of economics and did not enjoy separate intellectual recognition. In fact, not until the last half of the nineteenth century did a group of accounting practitioners emerge as a distinct profession. Prior to that time, accounting work was a matter that occupied a small amount of the time of entrepreneurs and professional management. Very few instances of accounting in support of decisionmaking or accounting reports to external parties have survived. Notable exceptions include the Wedgeworth manufacturing works in the United Kingdom and the Du Pont Company in the United States, both of which trace their accounting heritages back to the early eighteenth century.

A distinct accounting history began with the organization of independent accountants that sold accounting services to a mainly business clientele in the United Kingdom near the turn of the twentieth century. With the emergence of the US economy, parallel developments also occurred within the United States. This suggests an approximate single century of clear accounting professional history. Notable moments in the United States during this time include the early days of the firms that would later come to dominate practice, the first introduction of accountancy as an academic discipline at the University of Pennsylvania and New York University, and the emergence of a licensing exam for professional practice. The involvement of government also contributes a major part of the US history of accounting with the requirement of an admission to practice to perform audit work by New York State in 1896, and the passage of the Federal Securities Act in 1933 and 1934. The first legislative act created a monopoly with regard to the audit of financial statements. The latter legislation, which also created the Securities and Exchange Commission, required major companies to provide audited financial statements and thereby ensured a continuing demand for the services of accountants. Amending the US Constitution to allow for a federal income tax in 1913 would also prove critical for these purposes. In other nations, similar pivotal moments of governmental activity have correspondingly pushed the development of the accounting profession.

The emergence of accounting has paralleled the development of business enterprise since World War II. The increased size and scale of business enterprises are believed to have contributed to the development of an oligopolistic market structure, wherein public accounting is dominated on a worldwide basis by a few firms (currently referred to as "the Big 6"). Within companies, accounting functions have risen to greater prominence as a heightened awareness of the importance of accounting to external credibil-

ity and internal success has grown. On a technological basis, accounting has profoundly been influenced by modern data processing capabilities. The extent of this simultaneously threatens deprofessionalization of its bookkeeping aspects (as software overtakes manual recordation and calculation) and questions its continued relevance (with less rigidly structured database capabilities outstripping the conventional accounting model). At the same time, however, other forces elevate the prospects for the future of accounting. Although accounting may not be as relevant as once was believed, it is deeply embedded in our way of understanding organizations. There does not seem to be any major competitors with a highly structured, seemingly self-contained, system that would supplant accounting. In addition, the information-saturated computer-networked future world is likely to possess a high need for assurance services. To the extent that accounting and auditing have been historically linked (see later discussion), greater levels of penetration may result.

Some might argue that no history of accounting could be complete without mention of how it was affected by the sustained expansionary economy of the 1990s and its rapid collapse in the early 2000s. In retrospect, accounting appears to have facilitated some degree of market manipulation during this era. However, such was not intrinsic to accounting, but just a reflection of the perpetual battle of substance and form that is embedded within it.

A new social history of accounting is also beginning to gain credibility. Although difficult to summarize, this history challenges the functional accounts of how accounting naturally reflects the needs of business. Accounting can also be appreciated as a mechanism of power and as a tool for the promotion of class interests. Accounting itself should not be understood as neutral information but a rhetorical communication that can possess ideological bias. At a minimum, the new social history of accounting reduces our confidence that there is a singular way to conceive of the origins of accounting.

FINANCIAL ACCOUNTING

Financial accounting refers to the identification, measurement, and communication of accounting information to external users. This typically entails the production of financial statements wherein the financial history and current status of an entity are summarized. As such, financial accounting is the most visible type of accounting and garners the bulk of the attention in college curricula, professional examinations, and scholarly journals of the discipline.

An initial attempt to summarize financial accounting can be done according to its major communicative attempts. Accordingly, the form of the balance sheet, income statement, cash flow statement, and statement of owner's equity will be addressed.

Historically, greatest emphasis has been placed on the balance sheet. This device is created by accountants to convey a sense of position as of a particular moment in time. The balance sheet uses the basic accounting equation that suggests that assets are equal to liabilities plus owner's equity. This identity suggests that all property owned by an entity (assets) for which accounting is done either is offset by amounts it owes to its creditors (liabilities) or belongs to its owners (owner's equity). Another path to this fundamental identity is that the excess of assets over liabilities at any particular moment is defined to be the residual claim (or net worth) of owners.

The balance sheet endeavors to identify and disaggregate major types of assets and liabilities. Although there is considerable variation from one entity to another, some illustration of these categories is generic. Some common assets include cash, investments in securities, inventory receivables, equipment, land, and supplies. Under some circumstances, an intangible asset recognizing the goodwill of a firm (in the eyes of those that might do business with it) might be included. In the United States, this is constrained to special situations such as the acquisition of a business for more than the fair market value of its tangible assets. Other intangibles that are considered assets are accounts receivable (payments expected on past sales to customers) and creative source monopoly rights (e.g., patents, copyrights). Among these classifications, it is common to distinguish "current" assets from "long-term" or "fixed" assets. Liabilities reflect the current recognition of future payments to be made to creditors under legally enforceable obligations. Liabilities are typically identified by the classification of the party that is owed. Often seen groups include suppliers ("Accounts payable"), employees ("Wages payable"), and governmental entities ("Taxes payable"). Liability types are then grouped for presentation based on the timing of payment, differentiating current liabilities from long-term liabilities roughly at the 1 year point. The latter category is likely to pertain to more permanent financing arrangements, containing items that reflect the need to pay commercial note and bond holders many years in the future.

The owner's equity section of the balance sheet reflects an underlying principle of financial accounting. Since accounting is performed on an entity basis, a strict separation is necessary between the business and its owners. Accordingly, transitions between these parties are recorded as if they were between parties at arm's length. The owner's equity section of the balance sheet reflects the amounts contributed by owners for their ownership rights and any returns that were achieved by owners on their investment. How this is presented will depend on the legal form of the entity. Whereas sole proprietorships and partnerships will use one and more than one (respectively) "capital" accounts, the corporation's owner's equity section requires more detail and distinction. This breaks out the legally required minimum collections for equity from the surplus contributions and past earnings that are retained by the business.

In recent years, more attention has been paid to the income statement. This statement expresses the results of operations and transactions that have occurred within a stated period of time (usually 1 year). Unlike the balance sheet, all items on the income statement start from zero each year. This may give the income statement greater currency and more relevance to many important assessments. The simple equation underlying the income statement is Revenues minus Expenses equals Income. The income statement may be prepared on a single-step basis

following this formula or in a way that distinguishes between the core ("operating") transactions and other incidental items. The latter approach produces a subtotal (often called gross margin) prior to developing income and provides a superior expression of the most important monetary flows (Sales Revenue minus Cost of Goods Sold). In either approach, the income statement attempts to provide detail on the revenue side by making whatever distinctions are called for by the nature of the entity's business. This may be driven by product line or customer type. In a similar vein, expenses must be disaggregated in some logical manner. Typically, firms obtain contributions to their productive efforts from the factors of production. Expenses reflect current monetary transfers necessary to secure and utilize increments of labor, materials, and financing. However, since income is produced for owners, payments made to owners as a return on their investments (e.g., dividends) are not considered an expense.

Expenses should consider not only those that occurred in cash during the stated time period but also those deemed to occur. This opens expense recordation to cash-based transactions that occurred in earlier periods and to those that will result in cash flows in future periods. Income statements distinguish between normal recurring transactions and extraordinary transactions. The latter are separately stated and are reported near the bottom of the income statement. This distinction allows the income statement to be useful to those who desire to project its "core" results into future years. By definition, extraordinary items should not affect a user's expectation of income in future periods. Corporate income statements also compute income on a per share basis. This provides a more contextualized expression than would a singular dollar amount.

The difficulty pertaining to the income statement is ascertaining whether transactions are counted or not during the current period. Material contingencies may exist that would reverse the outcome of transactions set in motion, which either promise future revenue or necessitate future expenditure. Toward this end, the "matching" concept attempts to align the periods benefited by the values acquired and the obligations that are triggered with revenues recorded during this period. Nonetheless, gray areas remain, which may usually tempt those preparing accounts to accelerate revenue recognition while delaying expense recognition. The opposite motivation may also exist, in response to taxation and compensation incentives. The acquisition of long-term assets expected to contribute to productive activity also creates uncertainty for the income statement. In keeping with the matching objective, some, but not all, of an asset's cost relates to the production of revenues in the current year. This necessitates an allocation of total cost and periodic recordation of a related expense. Called depreciation, this process exponentially increases the complexity of the income statement by moving expenses further from cash events. Several major methods of depreciation, all with a logic rooted in physical deterioration (wear and tear) and economic factors (inadequacy and obsolesence), exist.

A third statement attempts to undo some of the difficulty caused by the income statement's use of the accrual concept. The cash flow statement (previously called the Statement of Changes in Financial Position) attempts to explain the change in cash from one period to another. This is done by stating the ways in which cash is obtained and ways that it is dispersed. This is typically organized into three core activities that form the sections of this statement: operating, investing, and financing. For the first, rather than reperform the income statement, aggregate net income is used in these calculations. Importantly, noncash expenses (i.e., depreciation) are added back for this purpose. Other important adjustments to income include nonoperating gains and losses and accrual/deferrals (i.e., changes in accounts receivable, inventory, and accounts payable). Essentially, this performs a reconciliation of the income statement to a cash basis for the next two sections of this statement, which focus on financing activities with creditors and owners and on changes in asset and liability balances (investing activities). The cash flow statement is believed to be particularly valuable to those interested in assessing the ability of an entity to meet its obligations as they come due. Unless an entity has sufficient cash and cash-equivalents to do this, the attributes contained in the other statements may produce a deceptive picture.

A fourth statement focuses attention on the status of the owners of the business entity. The statement of owner's equity provides details on transactions that affect the valuation of these residual claims. Events such as the issuance of stock or the payment of dividends would appear here. More regularly, the crediting of income to this total would be observed. In corporations, the term "retained earnings" reflects income earned by the entity since its inception above and beyond dividend distributions to owners. The statement explicitly shows the articulation between the income statement and the balance sheet. On a more mechanical basis, income statement accounts must be closed (to anticipate the beginning of a new period) into the ongoing balance sheet equity accounts.

The external focus of financial statements necessitates their preparation in keeping with some guidelines that are believed to benefit users. First, accounting is predicated on the assumption that transactions or events affecting the entity have occurred. In other words, a "realization" is required under most circumstances. This provides some degree of objectivity and permanence to accounting information. However, in some areas such as inventory and marketable securities alternative evidence is used to "mark to market" notwithstanding the lack of a transaction. Second, accounting has a bias for conservatism in its valuations and judgments. When gray areas exist, choices should systematically be made to understate income and understate net assets. Third, accounting should strive for consistency in financial statements. In order that statements from different periods be comparable, the same transaction should receive the same accounting treatment over time. Changes in valuating conventions should be infrequent. When they do occur, their impact should be separately stated whenever possible.

Perhaps the most important attribute of financial accounting statements is disclosure. In addition to providing sufficiently disaggregated descriptions for various categories on the income statement and balance sheet, supplemental disclosures are necessary to amplify events and ac-

counting methods. This is often accomplished in footnotes to the statements. Ideally, disclosure should be sufficient to relate all important contingencies and provide some underlying details of the aggregate totals that appear in financial statements. Disclosure should also allow a careful reader to "unravel" the accounting effects of management's choices and judgments, perhaps by restating totals under alternative techniques. In actuality, disclosure is limited by the pervasive belief that excessive disclosure would reveal strategy and competitive positioning to competitors.

Financial statements present many difficult valuation problems. By using historical costs as the usual measurement device, statements blend differing degrees of purchasing power as if a constant dollar actually existed. Experiments with supplemental statements that mitigated dependence on historical cost by restating account balance in terms of a constant measuring unit were attempted in the early 1980s but were abandoned shortly thereafter. Another measurement issue pertains to relating accounting numbers to physical stocks. For example, when the specific identification of items of inventory is not possible, its valuation between the balance sheet (as assets for the items remaining) and the income statement (as expense for the items sold) becomes problematic. In a period of changing prices, assuming that either group came from the first or the last acquired or constructed will matter to the valuation of assets and the estimation of net income. For these purposes, many alternative conventions are used. A third important issue pertains to the many allocations and estimations that need to be made when a long-lived asset is acquired. Taking only a portion of this cost into expense in the year of acquisition uses the going concern assumption. To wit, we have to assume that the entity will continue in existence for sufficient years to absorb the continuing prorations. If this assumption is not tenable, a larger current expense would be necessary.

Recently, battle lines have been drawn that depend upon the very conceptualization of financial accounting. Some argue that accounting should be based on concepts. This would avoid the necessity of highly detailed rules that could easily be avoided by those intent upon distorting actual conditions and transactions to fit within the "bright lines" often arbitrarily used by these rules. Others believe that sufficiently precise and detailed rules should be developed since concepts are inherently judgmental and therefore unreliable. As of this writing, a victory by either camp is unlikely. Thus, financial accounting will continue to evince considerable tension between the mechanistic and the organic.

MANAGERIAL ACCOUNTING

Just as financial accounting is externally focused, managerial accounting possesses an internal orientation. In this regard, accounting is used by businesses to control and plan operations. Controlling the organization requires the formation of expectations and the measurement of actual results. The planning function knows few bounds extending to production, investment, and pricing decisions. Each function can result in reward consequences for employees, as accounting seeks to establish goal congruence behavior of individuals within the organization and the organization itself.

Managerial accounting has often been called cost accounting. That these terms are still fairly interchangeable suggests the priority of matters pertaining to cost in this area. Simultaneously with the rise of scientific management, the study of costs by a specialized group began in earnest around World War I. The core of this domain is the expertise that has built up around cost behavior. Costs are believed to conform to two ideal possibilities relative to the activity level of the enterprise. Variable costs correlate in some material degree with activity level, whereas fixed costs are relatively constant. Costs also are logically linked to production and therefore follow product lines for its accounting treatment, or are incurred in the period they are experienced. These ideas support cost–volume–profit analysis. Using cost behavior logic and projections for product sales, accountants compute "break-even points" of production. This point identifies the volume of sales necessary to cover fixed costs. Above this level, profit can be expressed as a function of production. This is made more challenging when multiple product sales mix, and income taxes and "semifixed" costs are considered. In order to accommodate great degrees of uncertainty, nonlinearity and seasonality in the underlying relationships can also be incorporated into the analysis.

Another primary tool of management accounting is the budget. Costs should not just be tabulated as they occur, but should also be anticipated. With an adequately expected set of cost categories, managerial accountants facilitate the means to pay for these costs and to evaluate the magnitude of costs as they are actually incurred. Budgeting as a technique has permeated many levels of society beyond business organizations and requires little introduction. However, for accountants, it is a highly articulated tool that in many ways directs the business entity. For these purposes, several specific budgets are used in ways that are linked to each other and across several accounting periods. For example, the cash budget must be integrated with budgets for acquisitions, including those that anticipate the need to replace and update capital equipment several years into the future. Together, budgets are combined into master budgets that represent the sum of all expected events.

The challenge in budgeting is to understand the factors that increase or decrease costs and to adjust budgets accordingly. Unless flexibility is built into budgets they soon become artifacts incapable of providing much direction. In for-profit environments, sales projections are usually the critical factor that will cause almost all other budgets to vary. Budgets require very close attention by accountants, who cannot be indifferent to the behavioral consequence that they possess. Here, how budgets change behavior is critical, as is the extent to which those subjected to budgets ought to be allowed to participate in their design.

Budgets provide the basis for the development of standard costs. Standard costs for materials and labor attempt to disaggregate variances caused by abnormal utilization from those due to unexpected unit cost or inefficiencies in materials or labor usage. These calculations enable more

finely tuned investigation into cost overruns. The development of standards, as well as their periodic review, requires the incorporation of broad ideas about the configuration and interconnections of productive processes.

Cost accounting contributes to cost control in other ways as well. The timekeeping and payroll systems that are required for cost assignments help to assure management that workers are actually on the job, that workers are being paid according to wage agreements, and that costs are assigned to the proper job or department. Control of issuance of materials is usually built into the cost-accounting system, as are detailed records of machine and tool availability and maintenance costs.

Not all costs can be attributed directly to the production process. "Overhead" refers to indirect costs that support production but do not directly enter into products in a way similar to materials and labor. In order to truly determine a product's cost, overhead must be allocated to the product. In a multiproduct environment, this can be rather complex. Overhead also has to be budgeted, leading to variances due to quantity variations, price variations, and the overall activity level of the facility. The latter factor is especially important since it affects the application rate of overhead to that which is produced.

In addition to maintaining budgetary systems in order to keep operations under control and to identify and correct departures, accountants must provide information about costs for the production of financial statements. Toward these ends, accountants must treat costs as occurring within the period of their expenditure or as attaching to goods in inventory. How this is done will produce different levels of income and different asset balances for the balance sheet. This also shows that the distinction between financial and managerial accounting is not exclusive. Management accounting also makes sizable contributions to the process of making key business decisions. For example, how goods are priced is a function of what they cost. In the long run, pricing must be sufficient to cover variable costs and to make a contribution to recover fixed costs. However, the belief that costs can be completely passed on to consumers is inconsistent with the demands of a competitive marketplace. Increasingly, accountants are being called upon to participate in "target costing," wherein prices are set by the increasingly global marketplace. Costs must be driven down if a company can afford to participate in such a market. These objectives cannot be met through purposeful overhead reallocations. However, on some occasions, special orders that do not cover total costs should be accepted if idle capacity exists. Full costing approaches can sometimes lead to deceptive conclusions at odds with the need to contribute toward the coverage of fixed costs.

Another major decision faced by companies is whether to make or buy component parts. Notwithstanding the profit that will be made by a supplier in the event of the latter choice, making parts cannot always be justified. For this decision, as well as many others, the accountant must focus on contribution margins and opportunity costs for the use of productive capacity.

Whether or not a productive facility should remain in operation is a question upon which accounting expertise can be brought to bear. Unless costs are properly viewed, a company might lose money by closing an "unprofitable" unit. Again, a clear understanding of cost behavior and cost traceability is required.

Capital budgeting refers to the process of planning to acquire major productive assets. These investments offer revenue streams into a rather lengthy future if they are acquired. Accountants calculate the profitability of these investments by modeling the timing of returns with the magnitude of expected costs. Techniques require clear designation of relevant costs (costs that vary between alternatives) and the possibilities for the incurrence of past costs (some cannot be recovered under any alternative). Accountants compute the time it will take to recover costs and the rate of return that can be earned considering the time value of money invested. Some attempts are also under way to quantify and analyze the uncertainty that expected returns will not be realized as part of this decision analysis.

Cost accounting enables the appointment of responsibility for costs throughout the organization. This entails creating a model whereby the processing of product is configured as a series of transfers between departments. Each unit confines its unique infusions of labor and materials to the transferred-in costs accumulated by other departments. This system allows the specific cost problems to be clearly identified within a department. Rewards can be built into performance evaluation to keep these costs in check, making sufficient allowance for controllable and uncontrollable events.

Taken one step further, the tracing of costs through the organization facilitates decentralized organizational forms. The organization is believed to benefit when entrepreneurial type motivation is pushed down to lower levels. Units can be set up as profit centers if, in addition to costs to manage, they can "sell" internally or externally to generate revenues. If sales are made to other organizational units within the organization, transfer prices must be fairly set or interrelated entities will be disadvantaged. Decisionmakers should also not be obliged to prefer insiders to outsiders if competitive markets exist and they are evaluated based on their units' profitability.

Traditional cost accounting has been problematized by a group of writers who suggest that cost accounting practices have contributed to the inability of US businesses to be competitive in the global marketplace. These individuals have advocated new systems of aggregation, most notably Activity Based Costing, that in essence seeks to allocate fixed costs across related activities rather than to singular products. In such a system costs are categorized as occurring at the unit level, batch level, or product level, or as a production-sustaining cost. This separation facilitates the interpretation of cost behavior (variable or fixed) and permits the identification of "cost drivers." Others contend, however, that this revision is actually very modest in terms of its novelty or its consequences.

What empirical evidence suggests is that very little improvement in efficiency or effectiveness can be attributed to managerial accounting innovations. This failure may also be related to the inadequate theorization of this domain.

Although accountants that specialize in managerial accounting work have very similar training backgrounds with other accountants, recent efforts to make the intrapro-

fessional division more permanent and distinct have been under way. Management accountants have a unique professional association (the Institute of Managerial Accountants) and their own credential of professional expertise (Certified Management Accountant). Recently, they have been more active advocates for their interests among institutions of higher education.

AUDITING

The cornerstone of the accountant's social privilege exists in the independent audit of financial statements. Laws in all 50 US states and in many countries grant accountants a monopoly on the audit of financial statements. Since accounting information is only good if it is both relevant and reliable, accounting and the auditing of that information are difficult to separate.

The purpose of auditing is to attest to the fairness of the communication of financial information. Here it is important to realize that auditing must be done by accountants other than those employed to construct the accounting information found in the financial statements in the first place. Auditing is valuable only if it is the work of a skeptical independent accountant. Hence the concept of independence, in fact and appearance, is a much debated and contested parameter of auditing practice. However, financial statements remain the representations and responsibility of management.

Auditing also does not guarantee the perfect accuracy of financial information. The standard of fair presentation allows for some departure from absolute precision. First, auditing imposes a materiality threshold upon the scope of its inquiry. Errors and discrepancies that are not material are not considered. Second, the concept of fair presentation suggests that alternative reports might also be acceptable. Implicit within this idea is also the adequacy of disclosure. Here, fairness often requires more detail than can be packed within the financial statements. This necessitates footnotes and other elaborations that are the product of negotiations between corporate entities and auditors.

A major component of today's audit is the auditor's evaluation on internal control. This is typically not included in the auditor's report but instead is communicated separately to management. Increasingly, auditing techniques are reducing their reliance on the ability to replicate client transactions and to verify their details. As the scale of business would make this cost prohibitive, auditing has come to depend on the client's own systems to ensure that valid and reliable data have entered into the accounting records. Thus auditors increasingly test these systems and make suggestions for their improvement aimed at the objective of making less likely and less successful any attempt to compromise quality control. Auditors are also increasing their sensitivity to qualitative elements of the business environment of the company they audit. Nonetheless, heavily quantitative techniques, such as statistical sampling, continue to play a major part in audits. These have been extended in recent years to a broad range of computer-assisted techniques that mine business data and evaluate business processes.

One of the major tensions that exists in the audit involves the balance between judgment and structure. The former involves idiosyncratic investigatory procedures that are best implemented by experienced professionals. The latter is highly analytic and attempts to induce a higher degree of homogeneity into the audit work effort, but does not require sophisticated judgment. Greater reliance on automated methods (including expert systems), combined with pressure for an efficient audit, suggests the slow triumph of this highly structured approach. This has resulted in many new views of the audit work, including analytical attempts to quantify various types of risk.

The auditing process produces an opinion that is signed by the auditor. This standardized form usually accompanies the financial statements. Companies seek an "unqualified" opinion that expresses the fair presentation and adequate disclosure conclusions, together with a brief statement of the audit process that produced these results. The other opinions (qualified and disclaimed) are used in rare circumstances of unresolved auditor–company disagreement or frustration. Although research suggests that auditor opinions are rarely read and imperfectly understood, they have considerable symbolic value. Their presence asserts that the audit process has occurred and has been brought (usually) to a satisfactory conclusion.

Contrary to popular opinion, audits are not specifically designed to detect fraud. They also are not primarily purposed by the chance that fraud may lurk within companies, thereby eroding the confidence people should place in accounting information. This point existed at the fulcrum of what was commonly referred to as the "expectations gap" between auditors and the various users of the financial statements (mainly investors and creditors). More attention has been given by standard-setting bodies to providing guidance in this matter. Although this might imply the acceptance of a higher (albeit still limited) responsibility to detect fraud in audits, the auditor's responsibility remains contentious. This has not stopped auditors from developing a specialty service (often dubbed forensic auditing) that can be delivered on a free-standing basis. At the same time, federal securities legislation has directly modified auditor conduct pertaining to the audit of publically traded companies. A similar situation pertains to the conundrum wherein an auditor's unqualified opinion is rapidly followed by the unexpected bankruptcy of a client. Auditors have maintained that this situation is not indicative of improper auditing. They reason that the audit is directed toward past transactions and that their opinion pertains to an entity's financial position as of a particular past date. Others have claimed, however, that unless the audit had some predictive power, and therefore renders the juxtaposition of events into an auditing problem, the audit would have no real value. The controversy has been temporarily and partially addressed by the profession's recently acknowledged duty to more thoroughly investigate the assumption that routinely has been made in auditing.

Many issues in auditing devolve toward disputations pertaining to audit quality. Unlike the utility extracted from goods or other services, auditing is an intangible with difficult to measure attributes. Barring rare circumstances such as corporate bankruptcy or major defalcation, no ex-

ternal visibility of deficient quality of the audit exists. This problem is compounded by the fact that most of the value of the audit of larger companies goes to third parties, such as investors and creditors. This reduces the interest of the party paying for the audit that they receive quality. Notwithstanding efforts by accounting firms to reconfigure the audit as a "value added" service, these forces put efficiency ahead of effectiveness in the minds of the contracting parties and hasten the commodification of the audit.

Over the past 30 years, auditing activities have resulted in unprecedented levels of malpractice liability for public accountants. This has been caused by a confluence of circumstances including the increased litigiousness of society, the undefendable nature of auditing practices, and the "deep pockets" tendency of juries. Also of note are statutes and judicial precedents that have exposed auditors to lawsuits by a broad class of third-party investors and creditors. Several congressional inquiries have occurred pertaining to this situation and have added fire to the situation. Increasingly, auditors are treated as if they were the insurers of corporate financial statements and the guarantors of investment returns.

Many rightly interpreted the sudden corporate collapses of 2001–2003 (e.g., Enron, WorldCom, Health South) as audit failures. The legislative response that followed in their wake more closely regulated auditing in a variety of ways. Importantly, in the name of the protection of the integrity of the capital markets, audit firms ceded considerable discretion to a new government agency and were prohibited from selling consulting services to publicly held audit clients. Audit firms proclaimed a "back to basics" initiative that stressed traditional lines of service and a refreshed commitment to ethics and independence.

TAXATION SERVICES

In order to obtain revenues to finance government, individuals and corporations are required to pay federal income taxes as determined by the Internal Revenue Code. As the processes whereby taxpayers find "loopholes" and government legislates to close and tighten such escapes and avoidances evolve the law to greater degrees of complexity and difficulty, professional assistance becomes increasingly necessary just to comply with the law. Compliance services provide accountants with their greatest mass market visibility. Unlike auditing, accountants do not possess a monopoly over the service and instead compete in an unregulated market with many others. Nonetheless, by virtue of their training and their experience, accountants have a competitive edge in the tax work that exists at the higher end of the market. The difficulties and complexities of corporate tax provide accountants with the promise of continuing highly compensated work. Notwithstanding some small statutory penalties, the prospects for large-scale malpractice losses are slight in the tax practice area.

In a more proactive vein, accountants often provide tax planning services that are aimed to minimize future tax liability. For these purposes, a diverse set of concerns exist that transcend the limits of the accounting data and thereby transform accountants into business advisors. In contrast to compliance work, where the transactions have already occurred, tax planning allows the accountant to be more creative, structuring transactions to minimize tax. Part of this work exploits the differences that exist between accounting standards and taxation provisions. In the last few years, major accounting firms have been convicted of devising and selling abusive tax shelters from wealthy taxpayers. This illustrates the fine line between the public welfare and client advocacy that exists for this line of business.

As of this writing, tax services are still a growing but rapidly maturing market sector. Fields of intense growth exist in state and local taxation services and international taxation. The former diversifies accountants into a concern with taxes other than those based on income. The latter services efforts by multinational corporations to manage their worldwide tax liability and to fully utilize credits given in one jurisdiction for taxes paid in others.

ACCOUNTING STANDARDS

Rules by which accounting is done are necessary to achieve some degree of comparability and consistency. However, with regard to any particular decision it is unlikely that a single rule can be specified that could cover the great transactional variation encompassed by accounting. It has also been felt that industry-specific circumstances could not be so well-specified in advance so as to match them with a particular accounting treatment. Nations that have implemented a detailed rule-oriented approach (e.g., Germany) have experienced legislative profusion similar to the US tax laws, a situation believed by most to be dysfunctional.

In addition to mandatory audits for major companies, the US securities laws of the 1930s vested authority for accounting standard setting in the Securities and Exchange Commission (*SEC*) of the federal government. Shortly thereafter, in a fateful 2-1 vote of the SEC commissioners that has never been formally revised, this authority was delegated back to the accounting profession. The belief that the profession understood accounting better than the government ever could has waxed and waned ever since. The SEC occasionally exercises its legislative rulemaking authority when developments in the profession's accounting standards are deemed to be unprudently delayed or to be contrary to the public interest. However, this agency has shown little inclination or readiness to undertake major systematic responsibility for this area. This agency has been content to informally pursue its accounting agenda with the separate standard-setting bodies that have existed, and to directly modify reporting requirements for publically traded companies.

The profession's early attempts at discharging this responsibility were oriented toward the announcement of principles. Accounting in the 1930s and 1940s suffered from a lack of definitive texts from which the array of accounting choices could even be appreciated. Theory, from which principles could be axiomatically derived, was nonexistent. The emergence of a singular professional association, the American Institute of Certified Professional

Accountants (*AICPA*), led to the formation of committees that worked toward the objective of narrowing the range of permissible accounting treatments. However, these efforts were hampered by the lack of a full-time organizational presence and meaningful enforcement powers. The last of a succession of entities, the Accounting Principles Board, presided over the development of accounting standards from 1959 to 1973 and issued nearly 31 opinions, several of which still represent the definitive treatment of selected topics.

The modern era of accounting standard setting began in 1973 with the organization of today's standard-setting body, the Financial Accounting Standards Board (*FASB*). The organization of this full-time professionalized standard-setting body, funded by its major constituents, led to unprecedented activity in standard formulation, visibility, and adoption. The FASB embraced ideas of due process with its procedures, which included provisional exposure drafts, the solicitation of comment letters, open hearings, and "sunshine" deliberations. At one point, the FASB devoted considerable resources to the development of a conceptual framework that it hoped would guide future standard setting. Through December 1996, it has formulated 127 Statements, which are enforced through their default treatment as appropriate behavior in the Code of Ethics of the AICPA. Despite occasional expressions of concern, the SEC has continued to endorse FASB pronouncements as the definitive expression of generally accepted accounting principles. Nonetheless, accounting standards remain heavily imprinted by a political process and are only theoretically guided in a very general sense. Although progress has been made in forcing companies to recognize some costs in advance of their cash settlement, major inroads against sizable discretion have yet to occur. Many standards have pushed companies toward higher levels of disclosure, potentially enabling users to better unravel the impact of accounting choice. Nonetheless, as a private sector entity performing what is essentially a public sector task, the FASB's existence is perpetually precarious.

The globalization of business has led to more frequent and intense calls for international accounting standards. Progress toward the harmonization of accounting standards at first was slow for several reasons. First, accounting is heavily grounded in national culture, which is itself a poorly understood construct. Second, accounting is highly politicized. Nations do not favor abandoning their sovereignty especially when economic consequences are possible. Third, large-company and small-company interests within a nation are likely to differ, making problematic a strong position in favor of either. Large companies, seeking access to the worldwide capital markets, tend to support cost-reducing harmonization agendas. More recently significant progress has been made such that international standards represent a viable alternative to US standards. Whether the US surrenders its sovereignty, by submitting to an international body in this regard, remains to be seen.

The Sarbanes-Oxley Act of 2002 revolutionized the control of accounting standards for publicly held companies. The actions of the FASB must now be understood in the context of even broader powers held by the Public Companies Accounting Oversight Board (PCAOB). Although the new entity has not yet been active in the setting of accounting standards, they may become so in the future. Their limited jurisdiction (public companies) threatens the prospect of two sets of standards, one for large companies and another for small companies.

THE ACCOUNTING PROFESSION

A full understanding of accounting cannot occur without an understanding of its practitioners. Like every professionalized domain, accounting is perpetually reshaped by those that do it. They, in turn, are bound by the structures and conventions of their occupation. As the most advanced case, the profession in the United States will provide an illustrative treatment of this material.

Accounting services are performed under the regulations of individual states. Status within the profession is concentrated in the area of highest regulation. A certified public accountant (*CPA*) passes a uniform admission examination and usually possesses some degree of prior work experience. This exam includes coverage of business law and accounting ethics as well as those topics squarely within the domain of accounting (i.e., auditing, accounting standards, accounting procedures, taxation). Successful completion of these requirements qualifies that person to sign audit opinions of financial statements. Licensed practitioners must complete continuing professional education. In a majority of states, recent legislation has increased the minimum education required to sit for the CPA exam. This will have the impact of making graduate-level training more persuasive.

Notwithstanding the above, accounting is virtually unregulated. Only very limited regulation pertains to generic bookkeeping services. Prior to the advent of widespread computerization, corporations employed large numbers of individuals doing essentially unregulated work with accounting data.

The autonomy of the accounting practitioner has been eroded over the past 20 years. Concerns over audit quality have led to the development of peer oversight programs. Organized by the AICPA and sanctioned by the SEC, these programs review the systems in place that pertain to quality, rather than the quality that actually adheres to the work. Currently, peer review is required for any accounting firm that audits a publicly traded company. Additional special reviews are necessary when malpractice litigation is initiated. Other reviews are conducted within firms to ensure independence from clients and adherence to firm policies.

Official legal control over licensed accountants vests with individual states. This is often delegated to state boards that oversee admissions, suspensions, and expulsions. They also established rules that implement the more general legislation. Although some state boards run proactive programs to measure adherence to professional standards, most await notification from members or the public about practice problems. Less formal control is exercised by professional societies that exist in every state and by the nationally based AICPA. These organizations are able to censure their members and to recommend acceptable

or expected behaviors, but they ultimately are only able to expel violators. Working separately or in conjunction, the regulation of accountants involves elements of strict statutory regulation and self-regulation. As a result, it can be effective or ineffective, reinforcing or inconsistent, real or nominal.

Any assessments of the accounting profession cannot ignore its oligopolistic structure. Unlike other professions, accounting is dominated by a small group of firms that conduct business on a global basis. The "Big 4" firms each employ in excess of 50,000 professionals and therefore have interests quite different from local and regional practices. These firms play a large role in decisions made within the profession. They also are quite persuasive pertaining to matters controlled by others (i.e., accounting education, state boards, and accounting standards). Organizations that purport to speak on behalf of the entirety of the profession, including members not in public practice and sole proprietors, have a difficult time balancing the divergent interests of these constituents. Often it is difficult to recognize an accounting profession apart from the Big 4 due to their superior ability to mobilize influence and resources.

Like many professions, accounting is undergoing remarkable change in its demographic conditions. For several years, female recruits have equaled or exceeded male recruits. Higher female turnover, combined with some degree of latent discrimination, has resulted in much less gender parity in leadership roles within firms and in professional associations. While some progress among minorities has been made, accounting remains predominately Caucasian in its racial mix. Whether future demographic diversity will change the nature of accounting remains an open question. Despite demographic shifts, the largely negative accountant stereotype as a narrow, uncharismatic, numbers-focused individual also tends to persist.

Public accounting firms continue to be organized along partnership lines, distinguishing equity participants (i.e., partners) from professional staff. Technically, many of these firms have become limited liability partnerships under recent state legislation. The economic reality of practice requires that the work done by the latter contribute to the success and income of the former, and that not all staff can become partners (a career path commonly called "Up or Out"). Accordingly, public accounting continues to serve as a training ground for midlevel financial managers of the private sector.

In recent years, public accounting partnerships have become increasingly focused on profitability and growth. This has resulted in much more aggressive marketing and bidding for business and the development of many nontraditional services. The consulting sector of most firms has proved the most lucrative and most dynamic. Trading on an image of integrity, independence, and competence, larger public accounting firms have become much more full-service business service providers than ever before. This has come at some cost to its image as a profession that prioritized the public interest.

ACCOUNTING RESEARCH

The knowledge base of accounting must continue to advance or stagnation and decline will set in. The academic arm of any profession plays a large part in this process. Therefore academic research is a vital part of the future of accounting.

Academic accounting has had a rather short history. Until the 1960s, part-time practitioners performed the bulk of the educational duties that typically justify the presence of an academic cadre. What research was conducted through this time tended to be unsuitable as a groundwork for sustained future efforts. It tended to be nonempirical, normative, and descriptive in a rather casual way. This deficiency underlies why accounting as an academic discipline did not attain full independence from economics for most of this era.

Over the last three decades, accounting research has borrowed extensively from several more established disciplines. This has introduced considerable intellectual diversity within that which has been recognized as the research of the field. However, this borrowing has precluded the formulation of a singular paradigm similar to that which distinguishes other academic disciplines.

The alignment of accounting and finance has produced what probably constitutes the broadest and deepest mainstream of the accounting research endeavor. Accounting information is conceived of as a signal to which other reactions can be measured and predicted. Typically, the association between the release of accounting information and stock market fluctuations is studied. Similar reactions can be seen in the context of auditor opinions and tax law changes. For these purposes, the maintained hypothesis that the market is "efficient" provides a background against which information-induced anomalies can be sought.

Managerial accounting has been heavily influenced by economics in general and information economics in particular. The possession of actual knowledge of results by some and not others has led to the conceptual depiction of pivotal corporate relationships as principal–agent dilemmas. Accounting here is a means used by the agent (usually management) to report to principals (shareholders, creditors, etc.). The agent seeks to minimize the costs related to endemic distrust and information asymmetry and to maximize personal gains.

Because accounting in most countries is not rigorously constrained by mandatory standards, many interesting behavioral dimensions are presented. This line of research usually exploits psychological theory. Decisionmaking by auditors has particularly been focused upon in this vein. Typically, cues are offered to subjects and their decisions are related to cue usage. Unfortunately, since performance standards (e.g., correct answers) are rare, this work accepts consistency and consensus as alternative outcomes.

Linkages to organizational behavior and theory can be seen as an effort to better understand the accounting choices made by firms. This research effort, often called positive accounting, typically associates a discretionary accounting practice with attempts to manage its earnings. This often translates into some discrete economic advantage with some external constituent group such as govern-

ment, creditors, or stockholders. Often the timing of selections can meaningfully be compared to the effective dates of new regulatory provisions. Efforts have been made to quantify the "economic consequences" of accounting standard change.

Sociologically based work tends to adopt a more critical view of accounting and its practice. Separate inquiries have characterized the economic interests served by accounting in a Marxian tradition, the bureaucratic tendencies of organization exacerbated by accounting following Weber, and consequences of accounting as a Foucaultian power/knowledge mechanism.

THE FUTURE OF ACCOUNTING

In its sense as an information system or as a language of commerce, accounting is likely to continue in ways similar to those described earlier. However, several issues need to be resolved if the accounting that we know in the late 1990s will continue over that time frame. Most of these concerns have either been caused by or aggravated by technological and competitive change.

The bright line that has historically separated accounting information from other business information is under considerable attack. This has stemmed primarily from the inadequacies of yesterday's accounting model as a decisionmaking tool in today's rapidly changing environment. Accounting as an accumulation of historical information about transactions does not provide an adequate guide to the future in turbulent times. The incorporation of additional information is made problematic by the limitations imposed by the structure of financial statements, as well as by resistance from preparer groups offering their interest in competitive secrecy as a reason to avoid information.

Changes in the nature of capitalism also call for a response by accounting. The prototype of direct equity ownership by a widely distributed set of investors is giving way to a more mediated structure wherein large institutional investors (i.e., pension funds, mutual funds) are the primary owners. Insofar as these investors possess rich private sources of information about the companies in which they might invest, accounting, in its publicly disclosed sense, loses its exclusive importance to the capital markets.

Although computer technology has made the accumulation and distribution of accounting information more efficient, it also poses a serious threat. The proliferation and growing acceptance of technologies' databases and their ability to capture data and then service customized inquiries could make the highly structured aggregations and classifications of accounting rather unnecessary. Information necessary to make decisions may, in other words, burst free from the constraints of outdated bookkeeping models, to be more available to both internal and external users in a more timely fashion.

The ability for accounting to retain its image as objective, neutral, and value-free may not continue forever. Increasingly, the manipulation of accounting data by preparers of financial statements erodes the reliability of accounting. Since this is more systematic than through the occasional fraud, it will be harder to dismiss. In the final analysis, accounting is intertwined with society in many complex ways. Resisting the conclusions supported by accounting may not be as illogical an act as some think.

For the time being, however, the future of accounting seems bright. There are many realms of life and enterprise that have not been penetrated by accounting. Demands for greater accountability and higher efficiency in areas such as government and nonprofit entities will usually translate into more accounting and a victory of accounting over other evidentiary ideas. What remains to be seen is if accounting can keep pace with demands for the many positive outcomes that many believe it has historically delivered.

BIBLIOGRAPHY

Monographs

Accountants' Index: A Bibliography of Accounting Literature to December, 1920, New York: American Institute of Certified Public Accountants, 1921. The Index is kept up-to-date by supplements.

E. O. Edwards, P. W. Bell, *The Theory and Measurement of Business Income*, Berkeley: University of California Press, 1961.

J. Heck, R. Derstine, R. Huefner, *Accounting Literature Index*, 4th ed., New York: McGraw-Hill, 1996.

C. T. Horngren, G. Foster, *Cost Accounting: A Managerial Emphasis*, Englewood Cliffs, NJ: Prentice-Hall, 1995.

E. L. Kohler, *A Dictionary for Accountants*, 3rd ed., Englewood Cliffs, NJ: Prentice-Hall, 1963.

A. C. Littleton, *Accounting Evolution to 1900*, New York: American Institute Publishing Company, 1933.

R. K. Mautz, H. A. Sharaf, *The Philosophy of Auditing*, Madison, WI: American Accounting Association, 1961.

W. A. Paton, *Asset Accounting: An Intermediate Course*, New York: Macmillan, 1952.

W. A. Paton, *Corporation Accounts and Statements: An Advanced Course*, New York: Macmillan, 1955.

W. A. Paton, A. C. Littleton, *An Introduction to Corporate Accounting Standards*, Chicago: American Accounting Association, 1940.

G. Previts, B. Merino, *The History of Accountancy in America*, New York: Wiley, 1997.

M. Scholes, M. Wolfson, *Taxes and Business Strategy*, Englewood Cliffs, NJ: Prentice-Hall, 1991.

Periodicals

The Accountant. Published weekly since 1874. A U.K. practitioner journal.

Accounting, Organizations and Society. Published four to eight times a year since 1976. Eclectic international scholarship from accounting academics, currently published at Oxford University.

The Accounting Review. Published quarterly since 1926 by the American Accounting Association. Academic research, usually using financial and economic traditions of inquiry.

Journal of Accountancy. Published monthly by the AICPA since 1905. A U.S. practitioner magazine focusing on public practice.

Journal of Accounting Research. Published semiannually since 1963 by the University of Chicago. Finance and economics-based academic research.

Journal of Information Systems. Published semiannually since 1986. Computer intensive, information-centered academic research.

Strategic Finance (formerly the N.A.A. Bulletin and Management Accounting). Published by the Institute of Management Accountants (nee National Association of Accountants) since 1919. A practitioner publication for accountants not in public accounting.

Web Pages

http://www.aicpa.org. Maintained by the American Institute of Certified Public Accountants. Diverse content about accounting, the accounting profession, and accounting organizations.

http://aaahq.org. Maintained by the American Accounting Association. Content pertains to the teaching, research, and service activities of academic accountants.

http://www.town.hall.org/edgar/edgar. This site contains recent filings of accounting information with the Securities and Exchange Commision.

http://www.best.com/ ftmexpat/html/taxsites. This site provides an index of tax materials on the Internet.

TIMOTHY FOGARTY
Case Western Reserve University, Cleveland, OH, 44106