Keynes and Hayek

The money economy

G.R. Steele

London and New York

Keynes and Hayek

In the recent history of economics:
Who are the most significant economists?
What are the most significant events?
Which are the biggest theoretical and policy issues?

Prime candidates are:
John Maynard Keynes and Friedrich Hayek
The New York Stock Exchange crash and the Great Depression
Capital theory and problems of the money economy

Keynes and Hayek inspired *the* economic controversy of the twentieth century: the role of the state, and of money and interest rates in an advanced capitalist industrial economy. In his work, Keynes points to high interest rates, low asset values and a negative wealth effect as the principal causes of a slump. By contrast, Hayek points to a system extended beyond its full capacity by low interest rates and high investment yields. Where Keynes argued that under-used capacity is symptomatic of deficient aggregate demand, Hayek viewed under-used capacity as symptomatic of inappropriate investments and of a demand for consumption goods that is too pressing to allow the completion of investments in current gestation.

This book relaunches Alex Leijonhufvud's controversial critique of Keynes's *General Theory*, examining it in conjunction with Hayek's work on capital theory and business cycles. The monetary issues discussed in this book remain both complex and contentious. In contrasting the broad features of Austrian economics with post-Keynesian economics, the book also discusses points raised by more recent protagonists in the debate. Against this background, arguments and events of the twentieth century are examined for economic policy guidance.

G.R. Steele is Lecturer in Economics at Lancaster University. He is the author of *Monetarism and the Demise of Keynesian Economics* (1989) and *The Economics of Friedrich Hayek* (1993)

Foundations of the market economy
Edited by Mario J. Rizzo, *New York University* and
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A central theme in this series is the importance of understanding and assessing the market economy from a perspective broader than the static economics of perfect competition and Pareto optimality. Such a perspective sees markets as causal processes generated by the preferences, expectations and beliefs of economic agents. The creative acts of entrepreneurship that uncover new information about preferences, prices and technology are central to these processes with respect to their ability to promote the discovery and use of knowledge in society.

The market economy consists of a set of institutions that facilitate voluntary cooperation and exchange among individuals. These institutions include the legal and ethical framework as well as more narrowly 'economic' patterns of social interaction. Thus the law, legal institutions and cultural and ethical norms, as well as ordinary business practices and monetary phenomena, fall within the analytical domain of the economist.

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To Claire and Simon

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Preface

I was taught Keynes as an undergraduate, but I discovered Hayek much later and by accident. Then I realised that what I had been taught was not Keynes after all. In my rediscovery I was guided by Axel Leijonhufvud's *On Keynesian Economics and the Economics of Keynes*, from which this book draws heavily. I acknowledge permission from the Oxford University Press to quote extensively from that source.

Although there are many textbooks that purport to represent Keynes, there is none that attempts to represent Hayek. This book is neither textbook, nor original contribution. Rather, its design is to serve those who – alert to criticisms of textbook representations of Keynes and to the revived interest in his great rival – seek a single source as an introduction to the issues. This might be it.

Some of the account and argument of this text have their origin in earlier publications, for which reason acknowledgement is courteously extended to: *The American Journal of Economics and Sociology; Economic Affairs; History of Political Economy; Journal of Social and Evolutionary Systems*; and *The Scottish Journal of Political Economy.*

I am appreciative of Lancaster University for considering it appropriate that academics have periodic study-leave to pursue special interests. For help in shaping the presentation of my arguments, I acknowledge the meticulous attention given by Glenys Ferguson to the whole of the first-draft manuscript. In respect of specific chapters, I am grateful for the helpful comments of John King and Nicholas Snowden. Of course, I alone am responsible for the many faults that remain.

I am unpersuaded by writers who – sensing 'gender imbalance' – believe that there is much to be gained, and little to be lost, in replacing masculine nouns and pronouns with feminine counterparts or in disfiguring their text with repetitious alternates or cumbersome twinnings. Here the traditional forms are adopted with no intention to demean.

G. R. Steele
Lancaster University
Management School

July 2000

1 Introduction

> John Maynard Keynes and Friedrich Hayek differed profoundly in their responses to the interwar world that they inhabited. Both observed a world gone mad. Keynes saw salvation in a thorough revision of the liberal order. Hayek saw it in the rediscovery of one. Their debate over this question continues to this day; it is perhaps the most important issue that democratic regimes, old or new, must address.
>
> (Caldwell 1995: 48)

This book

In the recent history of economics: (1) who are the most significant economists; (2) what are the most significant events; and (3) which are the biggest theoretical and policy issues? Prime candidates are: (1) John Maynard Keynes and Friedrich Hayek; (2) the New York Stock Exchange crash and the Great Depression; and (3) capital theory and problems of the money economy. This book is about: Keynes and Hayek; investment decisions and the business cycle; and the nature of the money economy. Most obviously, no such book would claim to be comprehensive: *The Collected Writings of John Maynard Keynes* are contained in thirty volumes; and *The Collected Works of F.A. Hayek* are provisionally scheduled to cover nineteen volumes. Further, a vast literature has amassed since the mid-1960s on reinterpretations of Keynes's work and, more recently, on the evaluation of Hayek's contributions.

Among the recommendations on the dust-cover to volume I of the *Collected Works*, Roger Scruton describes Hayek as 'one of the great political thinkers of our time' and Sir Karl Popper refers to his 'work as a new opening of the most fundamental debates in the field of political philosophy'. For Keynes, the claim of the publishers of the *Collected Writings* is nothing less than '[n]o other writer in this century has done more . . . to change the ways in which economics is taught and written. No other economist has done more to change the ways in which nations conduct their economic and financial affairs'. In respect of each, this book attempts to show what lies behind such high esteem; and it looks for common ground between two minds that are seemingly opposed.

Keynes

John Maynard Keynes was born in Cambridge on 5 June 1883; he died at his home in Sussex on 21 April 1946. He studied economics only briefly and as part of his preparation for the civil service entrance examination of 1905, when he attributed his low marks to knowing 'more about economics than my examiners' (Harrod 1951: 121). While working as a civil servant, Keynes drew upon his undergraduate studies in mathematics in an attempt to outline a theory of probability that might be applied to unique events in a social context. That dissertation was begun in 1905, submitted in 1907, and successfully resubmitted for his Cambridge fellowship in 1909. After further work on the dissertation was suspended in 1914, Keynes's *A Treatise on Probability* was published in 1920.

After two years as a civil servant in the India Office and two years as a university lecturer at Cambridge, Keynes was elected to a fellowship at King's College in 1910. Based upon his experience as a member of the Royal Commission on Indian Finance and Currency, he published *Indian Currency and Finance* in 1913. From the practicalities of monetary reform in India, Keynes might have drawn the lesson that spontaneous forces impinge upon even the best-laid plans. In this particular context, even though

> various committees and government bodies had affirmed their determination to enthrone a gold standard . . . India actually 'drifted' into a different and better system . . . the gold exchange standard. . . . The product of natural evolution proved to be superior to the product of the wisdom of government bodies.
>
> (Mini 1994: 48–9)

If Keynes was alerted to the supreme importance of evolving structures in the face of the complex forces that lie beyond the grasp of intellectuals, it did not inhibit his later insistence that the state had a prime role to play both in alleviating the particular economic malaise of the 1930s and in responding to 'the development of organised investment markets, which . . . adds greatly to the instability of the system' (Keynes [1936] 1973: 150–1).

Keynes worked in the Treasury during the Great War, at the end of which he became its leading authority on reparation payments. The detail of his many calculations provided the basis for the imposition of the extraordinary demands upon Germany. Any guilt of association that Keynes may have felt would have received some expiation with *The Economic Consequences of the Peace*, which was hurriedly written and published in 1919. Here, Keynes focuses upon the 'betrayal of the Wilson principles on the basis of which Germany had laid down her arms' (Mini 1994: 58). The irony is that this book – inspired by the injustice of the post-war settlement – provided a ready excuse for the subsequent appeasement of Nazi tyranny. When, 'in 1936, a German émigré expressed to Keynes the wish that he had never written *The Economic Consequences* . . . Keynes replied, "So do I" ' (Mini 1994: 71).

From his activities in the arena of inter-war political economy, Keynes must have sensed the limited influence of a purely scientific approach: 'the ideas which civil servants and politicians and even agitators apply to current events are not likely to be the newest' (Keynes [1936] 1973: 384). He certainly appears to have reached the conclusion that time is more usefully employed in persuasion that in research based upon sound analysis. Close scrutiny shows many of his theoretical innovations to be wanting. Indeed, there is a telling view of Keynes as 'an opportunist and an operator' to the extent that 'theory was applied when it was useful . . . and dropped . . . when the immediate purpose had been served or had failed' (Johnson 1975: 115). More particularly,

> [w]ithout an adequate theory of capital, expectations became the wild card in Keynes's arguments. Guided by his 'vision' of economic reality . . . he played this card selectively – ignoring expectations when the theory fit his vision, relying heavily on expectations when he had to make it fit.
>
> (Garrison 1997: 460–1)

Certainly, Keynes began to operate at two distinct levels as he combined his academic work in the 1920s with 'at least a hundred articles and dozens of letters' published in *The Nation and the Athenaeum* 'on matters of reparations and international and domestic affairs . . . [and] . . . to advance his social and cultural ideas' (Mini 1994: 77).

From this period, Keynes is first associated with the problem of chronic unemployment, which is the characteristic feature of the UK economy in the 1920s and most of the western world in the 1930s. Undoubtedly, the loss of markets overseas, together with increased competition from recently industrialised nations and the influence of new technologies contributed to Britain's early problem. However, domestic monetary policy decisions were the root of the problem. In 1918, the recommendation of the Cunliffe Committee – to restore sterling to gold convertibility at the pre-1914 rate of US$4.86 – was enthusiastically endorsed by Treasury and Bank of England officials. Not only was this move considered to be honourable, it was regarded as essential to re-establish London as the centre of international finance. However, the target of US$4.86 was formidable. It required the value of sterling to be raised by over 40 per cent!

In the early months of 1920, the bank rate was raised to 7 per cent, the note issue was restricted and public sector spending was reduced. There followed a precipitate downturn in the economy which caused unemployment to rise from 2.6 per cent in June 1920 to 22.4 per cent in July 1921. An epoch of high widespread chronic unemployment had begun, which was to become a more general feature as '[t]he Anglo-Saxon world, the wartime neutrals and Japan did what they could to deflate, i.e. to get their economies back to . . . sound finance and the gold standard . . .' (Hobsbawm 1994: 99). Of course,

the full implications of this chosen course of deflation were not widely appreciated.

In March 1925, Keynes was one of five principal guests at a dinner party hosted by the Chancellor of the Exchequer, Winston Churchill. Those guests had been asked to respond to a memorandum ('Mr Churchill's Exercise') that presented the case against a return to gold. By the end of that evening, Keynes found himself to be a minority of one against a general endorsement of the policy to resume gold convertibility. In the following month, the wartime embargo on UK gold exports expired and convertibility was restored with sterling at the US$4.86 rate. Keynes's response to that decision was a vehement attack in the form of a pamphlet – 'The Economic Consequences of Mr. Churchill' (1925) – in which he warned of the damage that an overvalued sterling would do to the economy. It counted for little.

Even though monetary contraction had forced down domestic prices over the preceding years (while a booming US economy had caused prices to rise elsewhere), the restoration of the pre-1914 rate of exchange seriously impaired the competitiveness of UK goods. Domestic prices needed to fall still further and monetary deflation was continuous over the next seven years. In the long term, stable prices at a full employment level of output was the expectation; in the short term, the impact upon output and employment lay in uncharted waters. In the event, Churchill would look back on the decision as one of the greatest mistakes of his political career:

> [w]hen I was moved by many arguments and forces in 1925 to return to the Gold Standard I was assured by the highest experts . . . that we were anchoring ourselves to reality and stability; and I accepted their advice. . . . But what has happened? We have had no reality, no stability.
>
> (Churchill 1933)

A policy founded upon conventional economic wisdom had failed; and that failure was conducive to the sympathetic reception (beyond the Treasury) that was afforded to Keynes's alternative maverick rationalisation for an enhanced involvement of the state in economic affairs.

In a retrospective comment upon this episode, Hayek points to the failure to draw upon the scholarship of an earlier generation: in referring to 'the surprising gaps' in Keynes's knowledge of nineteenth-century economic theory and economic history, Hayek recalls: 'I had to tell him of the passage by Ricardo . . . which if he had known it, might well have helped him to win the battle against the return [of sterling] to gold at the old parity' (Hayek 1978: 231). Hayek cites the source: in a letter to a friend dated 18 September 1821, David Ricardo wrote that 'he should never advise a government to restore a currency which had been depreciated 30 per cent to par'. Recognising Keynes's role as an 'intellectual leader' and his failure to move the authorities away from their chosen deflationary path, Hayek continues:

> I ask myself often how different the economic history of the world might have been if in the discussion of the years preceding 1925 one English economist had remembered and pointed out this long-before published passage in one of Ricardo's letters.
>
> (Hayek 1978a: 199)

Of the academic work undertaken by Keynes in the 1920s, *A Tract on Monetary Reform* (1923) is his last major publication within the paradigm of classical monetary theory. Thereafter, dismayed by the formulation of British economic policy and the course of events, Keynes devoted himself to the formulation of arguments with a direct focus upon general patterns of economic activity. These presented themselves in *A Treatise on Money* (1930) and *The General Theory of Employment, Money and Interest* (1936).

The Wall Street *débâcle* of 1929 caused Keynes to take a jaundiced view of financial markets: the more organised they become, the more likely they are to be dominated by short-term speculation, as dealings in securities become further removed from 'either active or prospective' knowledge of 'the business in question'. In effect, Keynes became a critic of the notion of efficient financial markets long before that concept gained popular currency:

> [w]e are assuming, in effect, that the existing market valuation, however arrived at, is uniquely *correct* in relation to our existing knowledge of the facts which will influence the yield on investment, and that it will only change in proportion to changes in this knowledge; though, philosophically speaking, it cannot be uniquely correct, since our existing knowledge does not provide a sufficient basis for a calculated mathematical expectation.
>
> (Keynes [1936] 1973: 152)

Keynes's position led him to conclude that (at least, for the circumstances of the period) private entrepreneurship offered no route to full employment. Furthermore, where private entrepreneurs are preoccupied with short-term gains, Keynes asserts that the state is in a unique position 'to calculate the marginal efficiency of capital-goods on long views and on the basis of general social advantage' (Keynes [936] 1973: 164). Not only is this assertion at odds with the previous citation, it is – by the outcome of the 'socialist calculation debate', which was in full sway in the mid-1930s (chapter 10) – simply wrong.

The speed with which the new ideas of *The General Theory* came to influence the formulation of policy had no precedent:

> [u]nder the stimulus of Keynes . . . *An Analysis of the Sources of War Finance and an Estimate of the National Income and Expenditure for 1938 and 1940* (1941, Cmd. 6261) . . . was published in time for the 1941 Budget. . . . [T]he accompanying budget speech was thoroughly

> Keynesian . . . the use of national income and expenditure estimates in relation to the formulation of the budget was a major event in the history of the application of economics to policy formation.
>
> (Gilbert 1982: 31)

Its 'fit' was perfect to requirements: '[m]ass unemployment had lasted so long that . . . a new theory of its causes that promised an easy cure was . . . virtually certain to sell, provided its author had impeccable professional credentials' (Johnson 1975: 116). Yet its fulsome acceptance was not entirely due to Keynes. The impact of Keynesian economics upon the formulation of fiscal policy in the major western democracies owes much to the ISLM simultaneous equation national income and expenditure (SENIE) structure that was originated by John Hicks in 1937 (see p. 106, figs 6.2a–b). By this interpretation (one that is commonly referred to as the 'neoclassical synthesis'[1]), Hicks represents *The General Theory* as a special case of the classical system:

> Hicks had produced a 'potted version' of *The General Theory* which in 1967 he thought was 'not a bad representation of Keynes' and in a 1972 paper concluded that Keynes accepted it as a fair statement of the nucleus of his position. . . . Hicks summarized Keynes's basic model in the form of three simultaneous equations in the Walrasian framework. Keynes's short-period equilibrium level of income (and hence employment) and the rate of interest are simultaneously determined at the point on the ISLM diagram where the demand for money is equal to the supply in real terms and the rate of investment is equal to the rate of saving.
>
> (Gilbert 1982: 178)

However, there is a growing consensus that Hicks's formulation is at variance with the essence of Keynes's *General Theory*; and that a heavy price has been paid for allowing the easy tractability of Hicks's ISLM geometric (or algebraic SENIE formulation) to gain the ascendancy.[2] How did this happen? Robert Skidelsky suggests simply that 'Keynes, who, above all, sought to influence policy, did not resist this reconciling way of selling his ideas if it made them accessible and acceptable to the younger economists' (Skidelsky 1997: 322). In short, people could make of his theory whatever they liked, so long as policy remained on the right lines!

As Hicks was formulating the neoclassical synthesis, Keynes was drafting a statement of the essence of his ideas for *The Quarterly Journal of Economics* (1937). The contrast with Hicks could hardly be greater: in Keynes's elucidation 'there is no consumption function, no investment multiplier, only vague and uncertain knowledge, fluctuating states of confidence, and courage, fears and hopes, coped with, as best they can be, by strategies and conventions' (Skidelsky 1997: 323). Out of that re-presentation, an alternative to Keynesian (SENIE) macroeconomics was developed. Indeed,

Keynes's 1937 article may be viewed as 'the canonical statement' (Skidelsky 1997: 323) of 'post-Keynesian' economics. The fundamental concerns of the 'post-Keynesians' (chapter 9) derive from the perceived tendency of the money economy to function at a sub-optimal level of employment. This is a problem that recurs whenever – in viewing the future with growing uncertainty – individuals increase the proportion of money held within their assets portfolios. The highly complex ramifications of that abnormal 'liquidity preference' do not lend themselves to a geometrically or algebraically tractable solution. Shifting IS and/or LM schedules (chapter 6) offer no insights into disequilibrium processes.

With the outbreak of the Second World War, Keynes applied his macroeconomic conceptualisations to the problem of minimising inflationary pressures in a fully mobilised war economy. He was able to draw from the experience of the Great War, when price rises caused labour unrest and when inflated profits were expropriated to the state by *ad hoc* taxation and borrowing. His two articles on 'Paying for the War' (*The Times*, November 1939) were expanded and published in booklet form: *How to Pay for the War* (1940). It was by his influence that the authorities kept the long-term interest rate at 3 per cent (as compared to 5 per cent in the Great War). However, his recommendations for deferred wage payments were adopted in only a minor way.

In July 1940 Keynes returned to the Treasury, where he became heavily engaged in matters relating to funding the war effort and with proposals and negotiations in advance of the Bretton Woods exchange rate system (1944) and the loan agreement with the United States (1945). The prolonged negotiations and disappointing outcome in respect of the latter extracted from Keynes the ultimate personal sacrifice.

Hayek

Friedrich August von Hayek was born in Vienna on 8 May 1899;[3] he died at his home in Freiburg on 23 March 1992. As a young man he pursued interests in genetics, psychology and psychiatry. After serving in the multinational Austro-Hungarian army (March 1917 to November 1918), Hayek attended classes in philosophy and also gained his university entry qualification. From his war experience, his interests turned to social science:

> I served in a battle in which eleven different languages were spoken. It's bound to draw your attention to the problems of political organisation.
>
> It was during the war service in Italy that I more or less decided to do economics. But I really got hooked when I found Menger's *Grundsätze* such a fascinating book, so satisfying. Even then, you see, I came back to study law in order to be able to do economics, but I was equally interested in economics and psychology.
>
> (Hayek 1994: 48)

In the three years to 1921, Hayek participated in a wide range of cultural and intellectual activities at the University of Vienna. Although he gained a first-class degree in jurisprudence, he had divided his time 'about equally between economics and psychology' (Hayek 1992: 173) and had also taken time 'to study half a dozen other subjects' (Hayek 1994: 52).

Like many who were moved by the poverty of post-war Vienna, Hayek was inclined towards socialist ideals; but this was countered by the teaching of Ludwig von Mises which explains how the market is a prerequisite for economic calculation. In this respect, the publication in 1922 of Mises's *Die Gemeinwirtschaft* (to be translated as *Socialism*) was a turning-point (see Hayek 1992: 133).

Between 1921 and 1923, Hayek worked as a civil servant (as Mises's subordinate) in a temporary institution that had been set up to implement the provisions of the St Germain peace treaty. During this eighteen-month period, he also completed his doctoral dissertation in political science. Then, with letters of introduction from Joseph Schumpeter (that proved of no avail) and the 'half-promise of a job', he set off for the United States where, working as a research assistant at the Alexander Hamilton Institute in New York, he 'gatecrashed' courses at Columbia University and the New School of Social Research. The experience of his fourteen months in the United States – where the key words were stabilisation, economic forecasting, and the analysis of economic time series – caused Hayek to turn his attention to 'the relations between monetary theory and the trade cycle' (Hayek 1992: 37).

Hayek returned to Vienna in the summer of 1924, and took up his former occupation under Mises; at the same time, he was admitted to the 'Mises seminar', which met fortnightly and where concerns were with 'problems of the methodology of the social sciences, but rarely with problems of economic theory (except those of the subjective theory of value)' (Hayek 1992: 155). Hayek used his American experiences as the basis for his preparation for a 'major work on monetary theory' that he hoped would lead to a university position. In a draft account of American monetary policy, Hayek employed a theory which he attributed to Mises. After his attention had been drawn to the fact that this had not appeared in published form, he incorporated the basic ideas into an essay which appeared in 1925: 'The Monetary Policy of the United States after the Recovery from the 1920 Crisis' (see McCloughry 1984: 5–32). The idea that monetary expansion distorts the structure of capital in such a way that it does not correspond to real savings, and the implications thereof, was to be further developed and refined.

These efforts were interrupted in 1927, when Hayek was appointed as the first director of das Österreichische Konjunkturforschungsinstitut (Austrian Institute for Business-Cycle Research). This he ran virtually single-handed until additional American funding allowed the appointment of Oskar Morgenstern in 1929. Morgenstern's arrival enabled Hayek to devote more time to monetary theory. Also in 1929, Hayek was admitted to the University of Vienna as lecturer (*Privatdozent*).

In the February 1929 report of the Institute, Hayek made his bold prediction of an impending business crisis in the United States. Whereas orthodox monetary theorists were misled by the experience of economic growth without inflation,[4] Hayek warned that maladjustments were the inevitable consequence of monetary expansion and that a crisis was impending. To Hayek, price stability in a decade of sustained growth in real output is evidence of excessive monetary expansion. On the favourable side, US prices had not actually risen prior to 1927, so there was every reason to suppose that the (inevitable) recession would be mild. However, the US authorities

> succeeded, by means of an easy-money policy, inaugurated as soon as the symptoms of an impeding reaction were noticed, in prolonging the boom for two years beyond what would otherwise have been its natural end. And when the crisis finally occurred, for almost two more years, deliberate attempts were made to prevent, by all conceivable means, the normal process of liquidation.
>
> (Hayek 1935b: 162)

In 1931, Lionel Robbins invited Hayek to give a series of guest lectures at the London School of Economics where, later that same year, he was appointed Tooke Professor of Economic Science and Statistics. A feeling that the appointment was motivated, not only by a desire to boost the School's reputation in economic theory, but also 'to provide a counter-attraction to Keynes' (Robinson 1978: 2–3) seemed to be confirmed by Hayek's critical reviews of Keynes's *A Treatise on Money*, which aroused considerable anger in Cambridge. More particularly, Robbins would have felt the need of support in his disputes with Keynes on the Economic Advisory Council, set up by the Prime Minister.

Hayek spent the war years in Cambridge – the temporary location of the LSE – where Keynes was instrumental in his obtaining accommodation in King's College. Thereafter, Hayek became a frequent visitor to American universities. He remained at the LSE until 1950, when the scandal of his long yearned-for divorce and his wish to re-marry were the pressing reasons for his move to the University of Chicago as Professor of Social and Moral Sciences (see: Hayek 1994: 129; Gamble 1996: 17). By his disputes with Cambridge and by the publication of *The Road to Serfdom* in 1944, Hayek's reputation in economics had fallen so low that Chicago's economics faculty – dominated by econometricians and mathematical economists – refused to consider him. Hayek was viewed as an ideologist and apologist (or, at best, a philosopher) rather than an economic scientist.

From 1962 to 1967 Hayek was Professor of Economic Policy at the University of Freiburg im Breisgau, after which he retired and accepted an appointment as honorary professor at the University of Salzburg. In October 1974, he was awarded the Nobel Prize in Economics. The joint award was to

Friedrich Hayek and Gunner Myrdal 'for their pioneering work in the theory of money and economic fluctuations and for their penetrating analysis of the interdependence of economic, social and institutional phenomenon' (Machlup 1977: xv). (That citation is deceptive for, in their respective views on free trade and market competition, these is no empathy between the two economists.) In 1984, at the instigation of the British Prime Minister, Margaret Thatcher,[5] Hayek was made Companion of Honour; and, in 1991, he was awarded the US Presidential Medal of Freedom.

The 1930s

With the banking failures that followed in the wake of the Wall Street stock market crash of 1929, the associated US monetary contraction exacerbated the severity of the Great Depression. In the three years to 1932, US industrial output fell by one-half; and, as British export and invisible earnings fell, the UK was left vulnerable by long-term commitments to investments overseas. As gold reserves fell, UK unemployment rose from 10 per cent in 1929 to 21 per cent in 1931.

These events raised theoretical and policy issues that demanded some immediate response. In January 1930, the UK Prime Minister Ramsay MacDonald appointed an Economic Advisory Council, to advise on the state of the economy and to recommend appropriate action. As a member of that body, Keynes brought together a small *ad hoc* sub-committee of economists, among whom Lionel Robbins opposed Keynes's proposal to recommend the imposition of import tariffs. Robbins submitted a minority report in support of free trade.

The Macmillan Committee on Finance and Industry had itself met between November 1929 and May 1931. Here, too, Keynes was involved, both as a member and in submitting evidence. Within that short period of little more than two years, Keynes's opposition, support and opposition to tariff protection gained him the infamous reputation: '[w]here five economists are gathered together there will be six conflicting opinions, and two of them will be held by Keynes' (Jones 1954; cited from Caldwell 1995: 9n.). More generally, this was a bad time for economics: '[w]hen the most famous and articulate British economist supports first one policy, then another, the making of economic policy very quickly becomes subservient to political concerns, and principle yields to expediency' (Caldwell 1995: 9).

Keynes's particular involvement with the Macmillan Committee turned on the issue that Britain's foreign earnings were no longer sufficient to cover her foreign lending. With interest rates raised to depress the domestic demand for imports and to boost the capital account, Keynes was open regarding his own position: '[t]he consequences of the extreme freedom for foreign lending . . . has troubled me since I first studied economics' (Keynes [1929] 1981: 9). When pressed on the benefits from further regulation and

asked 'whether he believed that in a closed system there was 'no need why anyone should be unemployed', Keynes's answer had been an unequivocal, "Yes"' (Mini 1994: 111).

Although he was 'brought up, like most Englishmen, to respect free trade' (Keynes [1933] 1982c: 233), Keynes considered that the situation had been changed by '[t]he divorce between ownership and the real responsibility of management'. Measures were now required to counter the effects of 'that remoteness between ownership and operation [that] is an evil in the relations between men' (Keynes [1933] 1982c: 236). Small open economies are too vulnerable to events elsewhere. Tariffs gain the necessary independence for domestic monetary policy. With UK investment below the level of saving, with profits and prices falling and with no abatement of unemployment, Keynes believed that the crux of the matter lay in the level set for the long-term interest rate. There is little doubt that the development of Keynes's macroeconomic theory was shaped with an intention to bolster that conclusion. This gave rise to a series of contentious issues.

The early 1930s witnessed academic disputation the like of which had not been seen before, nor has been equalled since. The bickering is hard to exaggerate and – without invoking an ideological agenda – would be equally hard to understand. Keynes had asked Cambridge's Piero Sraffa to review Hayek's *Prices and Production* for the *Economic Journal*. At virtually the same time, Lionel Robbins had asked Hayek to review the two volumes of Keynes's *Treatise on Money* for *Economica.* Hayek's two-part review article appeared in August 1931 and February 1932, and was highly critical of Keynes for the concentration upon purely monetary effects to the neglect of the impact of monetary policy upon the structure of production processes:

> Keynes' reply to the first half of Hayek's review appeared, together with Hayek's rejoinder, in the November 1931 issue of *Economica.* This exchange led to a heated correspondence between Keynes and Hayek from December 1931 to February 1932, of which eleven letters survive, including a letter from Hayek to Keynes on Christmas day with a reply the same day.
>
> (Dimand 1988: 57)

However, the full salvo of the Cambridge response came with the publication of Sraffa's offensively hostile review of *Prices and Production* in March 1932. Hayek's reply was published in June, alongside Sraffa's rejoinder. Thereafter, others joined in, including Ralph Hawtrey, A.C. Pigou and Dennis Robertson. Between 1932 and 1936 Hayek wrote a further ten articles on the subject.

A sense of the passionate commitment can be given: Keynes to A.C. Pigou, '[t]he misunderstanding has been due . . . to your supposing that I held . . .'; to Dennis Robertson, '[w]hat bothers me is not so much that I should have failed to convince you that it is false, as that I should have failed

to convince you that I deny it!'; on Ralph Hawtrey, 'like arguing with a madman'; and to Hayek, 'I am left . . . in doubt as to just what you mean by . . .' (cited from Mini 1994: 168–9). Hayek of Keynes: 'almost all his fundamental concepts are ambiguous, and . . . some are even defined in flatly contradictory ways' (Hayek 1931b: 399); 'he neglects theory, not because he thinks it is wrong, but simply because he has never bothered to make himself acquainted with it' (ibid.: 401). On Hayek: from his erstwhile collaborator Nicholas Kaldor, '[t]o argue this way, involves the same fallacy as . . .' (Kaldor 1942: 169–70); and from Keynes, '[i]t is an extraordinary example of how, starting with a mistake, a remorseless logician can end up in Bedlam' (Keynes [1931] 1973a: 252).

Such comments are typical of situations that are devoid of empathy; that is, where there are 'different (unstated) philosophical presuppositions about the nature of reality implicit in the minds of the disputants' (Mini 1994: 167). There is an incompatibility of vision. That so many issues between Keynes and Hayek were unresolved contemporaneously does not imply that none of them is resolvable. In that prospect of synthesis rests much of the fascination of Keynes and Hayek. It is beyond dispute that 'whatever we may think of the answers, Hayek at least asked good questions' (Laidler 1994: 22); and that although '[t]he effect of the Keynesian revolution was to kill capital theory . . . [t]he challenge of integrating money and heterogeneous capital . . . still remains' (Desai 1991: 54–5).

Neoclassical and New Classical economics

The particular instigation of this book rests upon conversational remarks made by Axel Leijonhufvud at a Hayek centenary conference in 1999. These were to the effect that an association between himself and Hayek had developed after the publication of *On Keynesian Economics and the Economics of Keynes* in 1968; and that this could be ascribed to comments made towards the conclusion of that book. Among those comments are: that 'the Keynesian revolution got off on the wrong track and continued on it' (Leijonhufvud 1968: 388); and that '[i]f one must retrace some steps of past developments in order to get on the right track . . . my own preference is to go back to Hayek' (ibid.: 401). Although this and other issues raised by Leijonhufvud remain contentious, it warrants reporting that – whatever view is taken of Keynes – few would challenge the notion that Leijonhufvud's text is a 'monumentally scholarly work of exegesis and interpretation' (Johnson 1972: 29). That text serves here as a conceptual bridge between Keynes and Hayek.

Axel Leijonhufvud cites three essays by Hayek – 'Economics and Knowledge' (1937), 'The Use of Knowledge in Society' (1945) and the 'The Meaning of Competition' (1946) – as 'masterpieces' that deal with fundamental problems. To complete the set, there must be added 'Competition as a Discovery Procedure' (1968). Leijonhufvud's citations are

prescient. By the reputation that has become securely founded upon those publications, Hayek is widely acknowledged to have pointed to a serious analytical omission. This is the failure of economics generally, and of neoclassical economics especially, to deal with the 'knowledge problem'.

Under the late nineteenth-century neoclassical archetype of atomistic competition and perfect information, every market trader is a price-taker. In a wider perspective, competitive prices serve to gauge allocative efficiency. Here, neoclassical theory dwells upon the characteristics of markets that already have been cleared, but to the neglect of any consideration of the process whereby that clearance is achieved. Yet, if all traders were price-takers, the absence of a market-clearing process would leave price-setting in chaos. So how is market-clearing achieved?

The mid-twentieth-century emergence of New Classical economics was, in part, a consequence of the need to consider the nature of the adjustment from disequilibrium to equilibrium. The New Classical School approaches that problem by attempting to ground macroeconomic relationships in microeconomic theory. However, by its use of the device of a representative agent, New Classical economics delivers no advance, for the reason that '[w]hat the representative agent represents is the aggregate' (Garrison 1997: 467). Even so, some of the characteristics of New Classical economics appear close to those of Austrian economics. Indeed, it shares the first of two important assumptions with the Austrian School. This is the assumption that movements in prices (including wages and interest rates) are a vital instrument for the coordination of economic activity. Unfortunately, its second assumption undermines the relevance of the first. The second assumption is that entrepreneurs are uniformly endowed with information, but are unable to distinguish real movements in prices (that is, those that are driven by movements in relative scarcities) from nominal changes in prices (that is, those that are purely monetary in origin). Upon the basis of this second assumption, monetary manipulations cause temporary changes to real magnitudes. This is the driving force of the New Classical 'monetary misconception theory of the business cycle' (Garrison 1997: 469).

The second assumption precludes the realistic contention that every economic agent is uniquely endowed with some special knowledge. In recognising the existence of those unique endowments, it follows that there can be no *representative* agent. In this circumstance, the problem – the 'knowledge problem' – is to find the most effective way of utilising a wide body of unorganised and uniquely specialised knowledge of particular circumstances and of special processes that apply at different times and in diverse locations. Here, 'practically every individual has some advantage over all others because he possesses unique information of which beneficial use might be made'; and the 'various ways in which the knowledge on which people base their plans is communicated to them is the crucial problem for any theory explaining the economic process' (Hayek 1945: 78–9).

The knowledge problem

Austrian economics points to the market as the mechanism that delivers – from hoards of diverse participants – the most effective solution to the knowledge problem; but the New Classical device of the representative agent allows an equally effective solution to emerge (*pace* the socialist calculation debate) from a representative central planning authority. Quite simply, New Classical economics leaves no economic problem for the market to solve. In practice, however, 'the empirical observation that prices tend to correspond to costs of production' (Hayek 1941: 27, n. 2) must be explained as the outcome of some aspect of a coordinating process: '[p]rices are not only conveyors of information in the standard sense – imperfect conveyors, in fact, given that they are disequilibrium prices – they also contain the incentives to the correction of their imperfection' (Thomsen 1992: 58). Here, cybernetics – the study of communication and control – has an application to markets. There is communication (prices give information) and there is control (prices give incentives); but, how do market prices *simultaneously* convey information (equilibrium prices reflecting relative scarcities) and give incentives (disequilibrium prices signalling opportunities for entrepreneurial initiative)? An analogy with scientific discovery gives the clue to that twin achievement. An entrepreneur is no more an equilibrium price-taker than a scientist is a theory-taker: '[i]n both cases a background of unquestioned prices or theories is relied upon subsidiarily by the entrepreneur or scientist, but the focus of the activity is on disagreeing with certain market prices or scientific theories' (Lavoie 1985b: 83–4). This rationale has the same form as Otto Neurath's powerful image of 'sailors who on the open sea must reconstruct their ship but are never able to start afresh from the bottom' (Neurath [1921]; cited from Blackburn 1994: 259). There must be some structure upon which reconstruction can take place.

Although each entrepreneur operates within the bounds of his unique understanding of a particular 'locality', price signals encourage apparently independent entrepreneurial activities to become harmonised. Although there is no single person who oversees the whole field, 'limited individual fields of vision sufficiently overlap so that through many intermediaries the relevant information is communicated to all' (Hayek 1945: 86). This formulation is in the same spirit as the eighteenth-century teaching of Adam Smith (the origin of classical economics); that is, the 'market economy works without the market participants themselves having to understand just how it works' (Garrison 1997: 476). As Leijonhufvud contends, the possibility of a synthesis of the most worthwhile elements of classical economics and Keynes's macroeconomics was lost with the failure of modern analysis to incorporate the two vital functions of the price mechanism: to indicate allocative efficiency and to coordinate entrepreneurial activity.

In *The General Theory*, Keynes traces the implications for a market system that has already gone wrong: resources are under-used because activities have

become uncoordinated. Adjustments of price relativities are necessary, but those adjustments are compromised by the greater rapidity of quantity adjustments. Although this scenario is reflected in some small degree in the Keynesian multiplier, the multiplier mechanism is a gross simplification of a very complex dynamic problem; and it misleads by dealing only with real magnitudes of production and employment to the exclusion of market evaluations in the form of price relativities.

Yet Keynes's analysis does not entirely neglect the role of price relativities. There is, of course, the relative price of labour to that of wage goods, that is crucial to Keynes's novel concept of 'involuntary unemployment'. However, Leijonhufvud points to the particular significance of capital values (that is current 'wealth' in relation to the current value of consumption goods). This has relevance both for consumers' behaviour – 'unforeseen changes in the money-value of . . . wealth . . . should be classified amongst the major factors capable of causing short-period changes in the propensity to consume' (Keynes [1936] 1973: 93) – and for capital investment decisions: 'it is not sensible to pay 25 for an investment of which you believe the prospective yield to justify a value of 30, if you also believe that the market will value it at 20 three months hence' (Keynes [1936] 1973: 155). Thus, the pre-eminence that Keynes affords to capital assets and to the expenditures that create them; and, because capital investment expenditures represent hazardous long-term commitments, '[t]he social object of skilled investment should be to defeat the dark forces of time and ignorance' (Keynes [1936] 1973: 155). According to Keynes, this is more likely to be accomplished by the state than by private entrepreneurial initiatives.

This emphasis that Keynes gives to fundamental uncertainties is underlined by his *Quarterly Journal of Economics* article of 1937:

> we have, as a rule, only the vaguest idea of any but the most direct consequences of our acts. . . . But sometimes we are intensely concerned with them . . . Now of all the human activities which are affected by this remoter preoccupation, it happens that one of the most important is . . . wealth. The whole object of the accumulation of wealth is to produce results, or potential results, at a comparatively distant, and sometimes *indefinitely* distant, date.
>
> (Keynes [1937a] 1973b: 113)

By his exegesis of *The General Theory*, Leijonhufvud shows the particular relevance of variations in the value of long-duration capital assets; but it is his further contention that is of special significance for this book. This is that the Keynesian revolution took a wrong track when the factors emphasised by Keynes were interpreted to be a special case of classical theory. That turning is bizarre: 'models which do not assume perfect information are "special cases" of the perfect information model!' (Leijonhufvud 1968: 394). Stated thus, the absurdity is obvious.

The relevance of Hayek – to putting the Keynesian revolution back on 'the right track' – takes the debate to the heart of the theory of a money economy and to the further relevance of price relativities to the *kinds* of investments that are undertaken:

> a distortion of relative prices and a misdirection of production could only be avoided if, *firstly*, the total money stream remained constant, and *secondly*, all prices were completely flexible, and, *thirdly*, all long term contracts were based on a correct anticipation of future price movements.
>
> (Hayek 1935b: 131)

Given the second and third requirements and the unlikely prospect of this ideal being 'realized by any kind of monetary policy', Hayek looks to an alternative regulatory function. Instead of central policy options, he analyses and propagates the importance of the market as an impartial and effective instrument for the coordination of prices and patterns of investment (chapter 8), production, consumption and even the *types* of money in circulation (chapter 10).

From Leijonhufvud's viewpoint, Keynes's departure from classical economics is 'based principally on the importance he assigned to variations in the relative price of . . . two aggregates' (Leijonhufvud 1968: 40); that of consumption goods and capital goods. Leijonhufvud's examination of the relevance of that variation is detailed at length in chapters 6 and 7. However, as previously suggested, it is possible to extend Leijonhufvud's insight. The same relativity is a crucial feature of Hayek's business cycle analysis, which is the subject of chapter 8.

It is in the nature of a market economy that price relativities are always affected by monetary expansion. Even if, for example, Milton Friedman's helicopter miracle were performed, so that the effects of monetary expansion were uniformly distributed throughout the economy, the balance of liquidity within financial assets portfolios would still be affected. Only if all financial assets were incorporated into that helicopter fable might there be 'neutral money' (or rather 'neutral financial assets'[6]) in the sense that 'events . . . could take place . . . as if they were influenced only by the "real" factors which are taken into account in equilibrium economics' (Hayek 1935b: 130). Something akin to a portfolio analysis of neutral financial assets would then be required; and that might have emerged but for the abrupt termination of Hayek's work on *The Pure Theory of Capital* (see Hayek 1983: 48; Nentjes 1988: 146). Hayek's intention had been to write a second volume, dealing with the financial counterpart to his analysis of roundabout methods of production. Perhaps this was a vision unfulfilled. Hayek has intimated as much: 'I rather hoped that what I'd done in capital theory would be continued by others. This was a new opening which was fascinating. . . . No one has done what I hoped would be done by others' (Hayek 1994: 97).

For Leijonhufvud, the relevance of Keynes's *General Theory* turns upon the financial arrangements that accompany long-term commitments to capital investments within a money economy; but, although Leijonhufvud finds that Keynes's 'basic theoretical conception' has an affinity with Hayek's aspiration, he doubts that Keynes's 'analytical apparatus can ever be the vehicle for its development and the realization of its promise' (Leijonhufvud 1968: 399). Rather, the 'unclear mix of statics and dynamics' ought to be discarded in favour of 'Hayek's Gestalt-conception of what happens during business cycles' (Leijonhufvud 1968: 400–1).

Nevertheless, Keynes's *General Theory* is instructive for the heavy emphasis that it places upon individuals' expectations; and there is a view that, 'in countering Keynes's "expectations without capital theory, Hayek produced a capital theory without expectations"' (Garrison 1997: 461). So, even though a capital-based macroeconomics may be long overdue, and even though some synthesis of Keynes and Hayek might represent a move towards that end, the full task is truly an awesome one. Perhaps this book might be regarded – in all modesty – as a prospectus for that objective.

In chapters 2 and 3, Keynes and Hayek are discussed in the context of man's (or some men's) vision and attention is drawn to similarities and differences in their respective philosophical disposition. While each recognises the distinction between rational action (in the strict logical sense) and reasonable behaviour (in the sense of the best practical means to secure a coherent socio-economic order), Hayek adopts an explicitly evolutionary approach to social cohesion and to the relationship between market processes and the free society. While the creativity that derives from spontaneity demands freedom for the individual, the universal tendency to err demands caution and respect for cultural taboos. Although Keynes also endeavours to use ethical principles to forge a link between a dynamic economy and the ideal of a liberal and just civilisation, his political programme – in sharp contrast with Hayek's – remains essentially elitist and *dirigiste*

Chapter 4 deals with money issues that are relevant to the workings of an advanced capitalist industrial economy. Although many of the economic 'bads' that are associated with business cycles and international payments disequilibria originate in monetary disturbances, by its long-term perspective, classical economics avoids all the issues that arise from non-neutral money. Although, in attempting to deal with those issues, Keynes and Hayek are both influenced by Knut Wicksell, their respective analysis diverges. In Hayek's approach, any difference between the *market* rate of interest and Wicksell's *natural* rate has important consequences for the choice of production methods and provides the starting point for his business cycle theory. In Keynes's approach, the usefulness of the *natural* rate is rejected outright as attention is directed to speculation in financial markets that sets the *market* rate above a hypothetical *neutral* or *optimal* rate that is consistent with full employment.

In chapter 5, Keynes's inauguration of *macro*economics and the characteristics of a money economy in disequilibrium are critically examined. Chapters 6 and 7 review Keynes's *General Theory* and the interpretation that is implicit in the way it is conventionally taught. These chapters deal at length with Leijonhufvud's exegesis of *The General Theory* and the significance of the relativity between the price of consumption goods and the price of capital goods for aggregate demand. Chapter 8 shows that same price relativity to be a crucial feature of Hayek's business cycle analysis. Thus, chapters 6, 7 and 8 examine alternative explanations for an economic slump: Keynes points to high interest rates, low asset values and a negative wealth effect, where a surfeit of consumption goods is symptomatic; Hayek points to a system that has been extended beyond its full capacity by low interest rates and high investment yields, where a deficiency of consumption goods is symptomatic. By Keynes's analysis, underused capacity in a recession is symptomatic of deficient aggregate demand. By Hayek's analysis, underused capacity in a recession is symptomatic of previous malinvestments and of a demand for consumption goods that is too urgent to allow the completion of investments in gestation. These are complex issues that remain contentious. In contrasting the broad features of Austrian economics with modern post-Keynesian economics, chapter 9 discusses issues raised by more recent protagonists, who purport to draw from the work of Hayek and Keynes. Against that background, the final chapter examines arguments and events of the twentieth century for the economic guidance that might be drawn.

2 Vision in economics

> Many of the monetary and theoretical issues that were at the heart of the Keynes–Hayek debate have never been resolved; they have just been swept under the rug.
>
> (Garrison 1999: x)

Vision

Whether in the natural sciences or the social sciences, every orthodoxy derives from a vision – 'a pre-analytical cognitive act' (Schumpeter 1954: 41) – of how the world functions. A vision is uniquely personal. No vision can be reproduced with any accuracy. A vision 'takes off from Popper-Lynkeus's good saying that when a man dies *a world goes out of existence*. . . . the authors of disturbing new ideas typically think them up and develop them within a "world" of their own' (Watkins 1999: 232). Every representation is necessarily inadequate to the vision itself; but we must always strive. Such comments apply as much to artistic as to scientific endeavour: a composer or a painter or a poet or a man uses his chosen medium to represent his private vision as best he can; but he is forced by the medium to simplify or to abbreviate. In regard to everyday experience, for example, a drive through a national park is different both from the information contained in a guide book and from any retrospective report of the journey. The true content of any vision can be represented only imperfectly. Although its most essential features may be communicated by the nature of their differences to those from some alternative perspective, in the final analysis the visionary stands alone.

Aspects of a vision may become 'caught' by canonical texts. However, if those texts are contingent (upon, say, 'people, times and places'), they will remain open to subsequent re-'vision'. Students and practitioners may be kept to 'the straight and narrow if there develops an interpretative tradition that makes it unnecessary to consult the canonical texts with all their ambiguity, passion and contingency. The development of textbooks is the hallmark of that interpretative tradition' (Pearce and Hoover 1995: 184), Yet, the

possibility will always remain of the 'straight and narrow' turning out to be the 'wrong track' in the context of alternative contingent circumstances.

Setting aside all nuance, the commonality between Keynes and Hayek is a vision that monetary theory and value theory might be integrated; and that this integration might give some understanding of the nature of the patterns of economic prosperity and depression. Classical economics leaves monetary theory and value theory as disjoint entities: the postulate of monetary theory is that of proportionality between monetary growth and price inflation; the postulate of value theory is that relative price adjustments accommodate variations in relative economic scarcities. The vision is to bridge this 'classical dichotomy'.

Keynes: the vision

The nature of Keynes's vision has generated debate over many years. Although interest in Keynes's message reached a peak after the publication of *The General Theory* in 1936, other works by Keynes (and other authors) are relevant to grasping (or missing) that vision. Indeed, it is pertinent to ask 'the question of to what extent the "Keynesian Revolution" represents the realization and refinement of Keynes' theoretical aims' (Leijonhufvud 1968: 6). Certainly the Keynesian revolution saw the development of a Keynesian (and post-Keynesian) tradition along lines which Keynes had no means to anticipate or opportunity to pass comment upon. From among many who have addressed the nature of Keynes's vision, an intimation of some of the issues may be drawn from the following:

- Axel Leijonhufvud (*On Keynesian Economics and the Economics of Keynes* 1968) points to Keynes's attempt to integrate monetary theory and value theory so as to reveal the communication problems within modern economic systems and to address the interrelationships between monetary policy and disequilibrium processes. Classical economics presents a 'false division' (Keynes [1936] 1973: 294) where monetary variations drive prices at the level of the economy and marginal considerations of cost and revenues are the forces of price determination at the level of the firm. However, Keynes's analysis departs 'from the postulate of the Classical doctrine on only one point' (Leijonhufvud 1968: 47): there is no auctioneer to elicit and to disseminate a set of equilibrium prices. In the absence of that *tâtonnement*, Leijonhufvud identifies the primary cause of disequilibrium as the ratio of money wages to the price of augmentable assets. The absence of the means to reduce the long-term interest rate (so as to raise the price of assets) is the crux of the matter.
- Anthol Fitzgibbons (*Keynes' Vision* 1988) points to the doctrine of political expediency that Keynes draws from the eighteenth-century philosopher and politician Edmund Burke. Although Keynes adopts Burke's philosophy of Natural Law (that principles are derivable from

human nature), he rejects the notion that the stability of western society rests upon the sanctity of the Church and private property; he sets aside (as mere detail) Burke's opposition to state intervention in the areas of commerce and property; and, against Burke, he holds that morality must be intuited according to circumstances. The primary feature that he draws from Burke is that 'the public wisdom must always be supreme over individual discretion' (Fitzgibbons 1988: 54). From *A Tract on Monetary Reform,* through *A Treatise on Money* and *The General Theory*, the development of 'Keynes' theories of value and interest represent his attempt to formalise a new non-deterministic method of economics' (Fitzgibbons 1988: 129).

- Piero Mini (*John Maynard Keynes* 1994) gives an existentialist interpretation: 'through the experiences of anguish man acquires direct and intuitive insight into the main problems of life' (Mini 1994: 150–1). Keynes rejects the rigour of abstract (essentialist) systems that are devoid of social content. The Ricardian free trade doctrines of classical political economy and the vulgarity of neoclassical marginal analysis and general equilibrium theory are modern Platonic forms: abstract, removed and offering nothing in the way of guidance to policy and institutional reform. Mini cites Keynes's opinion of Hicks's *Value and Capital* 1939: 'a book by an obviously clever man . . . about nothing whatsoever . . . the emptiest of platitudes paraded as generalisations of vast import' (Mini 1994: 165). The technical recasting and popularisation of *The General Theory* overlooked: 'Keynes's vision and concern, to wit, the inherent Veblenian conflict between manufacturers (enterprise) and greed (speculation, high finance) . . . [so that] the main positive proposal of *The General Theory* is not discretionary fiscal policy but the severe curbing of "high finance"' (Mini 1994: 90–1). Men of vision can 'see the 'destination' before discovering the route to it; it is Keynes's vision 'that the economy is not self-correcting, that it is, in fact, neurotic' (Mini 1994: 164).

Though each has its own perspective, there is a coherence across these interpretations of Keynes's vision. Leijonhufvud looks to theoretical form; Fitzgibbons looks to purpose and method; and Mini looks to the insight that is inherent in the psyche. Although the 'true' perspective would be much wider still, these contributions reveal important details of the common ground between Keynes and Hayek. Undoubtedly, Hayek would agree that classical economics presents a 'false division' between monetary theory and value theory; and he would empathise with the notion of 'a new non-deterministic method of economics'; and he would not dispute that 'the economy is not self-correcting' in the absence of appropriate institutional structures.

The opportunity to grasp the essentials of Keynes's vision from the outset was soon gone; and the responsibility lies partly with Keynes: for such poor

writing and for such unguarded generosity to the ISLM representation (see chapter 6) of simultaneous equation national income and expenditure (SENIE) macromodels. That familiar textbook presentation of *The General Theory* follows a 'suggested interpretation' by John Hicks (1937). About six months after receiving a pre-publication copy of Hicks's presentation, Keynes comments: 'I found it very interesting and have nothing really to say by way of criticism' (Keynes [1937b] 1973b: 79). Given the near-unanimous view of serious scholars, that ISLM conveys next-to-nothing of Keynes's true vision, that response is both curious and unfortunate. In retrospect, it allows a chastened and defensive Hicks to write:

> I think I am justified in concluding from that letter that Keynes did not wholly disapprove of what I had made of him. All the same, I must say that that diagram is now much less popular with me than I think it still is with many other people. It reduces *The General Theory* to equilibrium economics; it is not really *in* time.
>
> (Hicks 1984: 270)

It is clear that Hicks accepts a share of the blame; but the whole episode is salutary in that it illustrates the error of Keynes's presumption that short-cuts across technical details do not matter. They matter a great deal, especially when they allow others to bridge gaps as best they can and without adequate grasp of the vision. In particular (and contra Mini, above), Keynes's rejection of Hicks's masterful apparatus for the analysis of value – in an economy in which time is afforded the status of the key consideration – did not augur well for keeping Keynes's revolution 'on the right track'. Furthermore, Keynes's own treatment of capital in *The General Theory* – 'the extent of its actual utilisation changing in virtual lockstep with changes in the employment of labour' (Garrison 1997: 463) – is inadequate to the task of dealing with the problems of a money economy (see chapter 8).

Hayek: the vision

The 'vision thing' for Hayek undoubtedly derives from the one 'big thing' he claims to know: that is, the hugely limiting constraints upon human knowledge. Every detail of Hayek's considerable legacy is consistent with that understanding: that civilisation rests upon custom and tradition; that only a small proportion of our cultural inheritance exists in articulated form; that institutional structures, tacit understandings and traditional practices endure, not because of their intellectual appeal, but because they enhance social cohesion.

Evolved social institutions impede action that is motivated purely by the emotions; overt aggression and sentimentality are tempered by a disciplined structure of rules, either explicit or only tacitly understood: '[t]he possibility of men living together in peace and to their mutual advantage without having to agree on common concrete aims, and bound only by abstract rules

of conduct, was perhaps the greatest discovery mankind ever made' (Hayek 1976a: 136). Successful practices are not born of the intellect. They are propagated through imitative learning and, at their highest level, they become enshrined in the common law. Natural or common law is the means by which the actions of individuals, corporate bodies and, most importantly, governments, are restrained by impartial rules. Here lies the concept of freedom under the law: 'when we obey laws, in the sense of general abstract rules laid down irrespective of their general application to us, we are not subject to another man's will and are therefore free' (Hayek 1960: 153).

Human dignity – individual self-esteem – rests upon the exercise of initiative and the acceptance of personal responsibility, but the potential for social disharmony demands restraint. Within a small group, this is achieved by tribal affiliation: there is a consensus upon objectives. In this context, social (or distributional) justice is meaningful, because the consequences of an action may be anticipated to a large degree. Actions may be appraised upon the basis of their anticipated results. This is not so within the extended order of modern economies where every action has diverse and unintended consequences that extend far beyond any individual's comprehension. Justice must then relate to the action *per se* rather than to its consequences.

Within the extended order of human society, freedom under the law relies upon the natural justice of civilised *behaviour.* Here is the root of Hayek's hostility to socialism: in its quest for distributional justice it seeks the unobtainable. This is, perhaps, the sharpest image of Hayek's vision. Not only is the quest for distributional justice futile, it damages civilised values. Hayek condemns egalitarianism: 'that different treatment which is necessary in order to place people who are individually very different into the same material position seems to me not only incompatible with personal freedom, but highly immoral' (Hayek 1978b: 157–8). Just rules can determine legitimate behaviour but not legitimate outcomes; they cannot secure entitlements. Just laws are abstract, general, prospective, known, certain, and equitable; they are beyond time and place and their enforcement involves no coercion for, in observing them, 'we do not serve another person's end, nor can we properly be said to be subject to his will' (Hayek 1960: 152).

The positive side of Hayek's vision is that liberty is valued because it allows an individual to discover what he can do; and through his discoveries he can enjoy 'the gift of his intelligence' (Hayek 1960: 41). The market process is essential to preserve that personal liberty; but personal advancement cannot then be expected to reflect merit. Any view of the socially just society as one where

> the initial chances of all individuals are the same at the start . . . would require a deliberate manipulation of the environment . . . [and] . . . would be wholly irreconcilable with the ideal of a freedom in which individuals can use their own knowledge and skill to shape this environment.
>
> (Hayek 1978b: 141–2)

If the common cry of 'an equality of opportunity' is to have the status of a legitimate demand in a free society, it must mean no more than the removal of the privileges that inhibit access to given positions in society. In a free society, the distribution of income and wealth emerge as the consequences of self-interested acts. Without mutual recognition of legal entitlements to property there can be no voluntary exchange (catallaxy) and no basis for social cohesion to emerge from independent human action.

Hayek emphasises the division of knowledge, the problems of coordination and the role of human action and market transactions in producing a coherent social structure. His economics is structured upon uncertainty, upon the costs of acquiring information and upon the implications of human responses to changing circumstances. Every action involves choice, and the combination of individuals' choices produces complex institutional structures. Our knowledge of these structures is never complete nor certain. In the attempt to gain some limited insight into that complexity, the use of statistical aggregates by economists is unsound. The kind of knowledge upon which economic success depends is hardly ever quantifiable; and statistics are crude amalgams that leave important differences unrecorded. Yet the modern macroeconomic approach to policy issues is set in terms of broad categories of national income data. Heavy reliance is then placed upon budgetary policy: that is, upon the balance between the government's expenditures and the means by which those expenditures are financed. Hayek consistently dismisses this macroeconomic approach as simplistic, pseudo-scientific and damaging to incentives and to the network of linkages within the extended economic order. Hayek's greatest intellectual regret is that he did not write a full-scale critique of Keynes's *General Theory* (see Caldwell 1998 for an assessment of the possible explanations).

In the light of the extensive criticism that Hayek levelled at Keynes's *Treatise*, his failure to respond to *The General Theory*, together with the content of his own subsequent writing, left many with the impression that he had quit economics. Although his interest turned to wider politico-philosophical issues, this is only a half-truth. In post-war decades, Hayek's work in political theory, jurisprudence and liberal philosophy broadened his economics into a rich social theory of human action; and he took time to expose the dangers that he believes are inherent in the enlargement of state activity to the detriment of liberalism.

These developments in Hayek's career were contemporaneous with the gutting of Keynes's *General Theory*, with the removal of its essential focus upon uncertainty and with the propagation of Keynesian macroeconomics: a novel trickery that engages monetary and fiscal policy in order to put men to work irrespective of what is produced. In a 'modern theoretical dichotomy' – which has no part in Keynes's vision – aggregate demand determines the level of employment, while the questions of what and how to produce are resolved within a general equilibrium system of perfect foresight and perfectly competitive barter price ratios. Isolated by the popular accord

afforded to these developments, Hayek made his own way in relative scholarly obscurity. First undermined by the popularisation of *The Road to Serfdom* 1944, Hayek's reputation among economists became buried under the Keynesian avalanche (see McCormick 1992).

Socialism and liberalism

From the experience of chronic UK unemployment in the 1920s, and with the Liberal Party a spent political force, Keynes had looked to the Labour Party for 'constructive opposition on the basis of a programme of expansion' (Harrod 1951: 439). In a pamphlet – *The End of Laissez-Faire* – published in 1926, Keynes had rejected state socialism in favour of the semi-autonomous public corporation; and, although he had supported the 1932 Labour Party Conference proposals for a managed currency and a National Investment Board, he had resisted the call for closer state involvement with the Bank of England and in commercial banking. So, it is understandable that, prior to *The General Theory*, Keynes's appeal to the intelligentsia of the political left was not great; but, thereafter, 'it is not difficult to see how enthusiastically a non-Marxist socialist could take to and develop Keynes's ideas' (Winch 1969: 349). In *The General Theory* Keynes tells: how wage reductions are inexpedient; how the state needs to become involved with the level of investment; and how it would benefit the economy to redistribute income from the wealthy to the poor.

Hayek emphatically opposes such proposals as bad economics. More generally, he repudiates socialism, though not through passion. Socialism is rejected from the basis of an analytical approach that shows that it is impossible to secure the means (of knowledge acquisition and communication) that are necessary to deliver the promised ends.

In drawing from the socialist calculation debates of the 1930s (see Lavoie 1985a and O'Neill 1998), Hayek is resolute in pointing to the many futilities within socialist aspirations. His objections are unremitting: *Freedom and the Economic System* (1938), *The Road to Serfdom* (1944), *Individualism and Economic Order* (1949), *The Constitution of Liberty* (1960), *Law, Legislation and Liberty* (1973–9) and *The Fatal Conceit: The Errors of Socialism* (1988). Hayek's fears of the insidious totalitarian threat to civilisation are the reason for his instigation in 1947 of an academy of liberal intellectuals – the Mont Pèlerin Society[1] – whose objective is 'to reconstruct a liberal philosophy' (Hayek 1967: 149) and for his involvement in the founding of the Institute of Economic Affairs in London. When asked by Sir Antony Fisher, a successful entrepreneur, for advice on measures 'to thwart the ominous growth of socialism', Hayek had argued against politics or mass propaganda, and had advised on the need for institutions to function as 'second hand dealers of ideas' (Hayek 1992: 193).

It was during this period that Hayek became a hate figure of the British political left. Clement Attlee attributed Winston Churchill's infamous 1945 General Election broadcast, in which he associated the Labour Party with the

notion of a Gestapo, to Hayek's influence (see Gamble 1996: 77–8). Furthermore, although *The Road to Serfdom* was 'directed less against communism than against fascism', the Soviets saw it as a hostile tract and obliged the occupying powers to prohibit its importation into Germany (see Hayek 1992: 190).

Although, at face value, Hayek's war-time and post-war writing might be seen to confirm his categorisation as the right-wing apostle of *laissez-faire* economics, further reflection would be invited by consistent remarks made over many years: '[w]hile the presumption must favour the free market, laissez-faire is not the ultimate and only conclusion' (Hayek 1933b: 134); '[p]robably nothing has done so much harm to the liberal cause as the wooden insistence of some liberals on certain rules of thumb, above all the principle of laissez-faire' (Hayek 1944: 13); '[o]ur main problems begin when we ask what ought to be the contents of property rights, what contracts should be enforceable, and how contracts should be interpreted or, rather, what standard forms of contract should be read into the informal agreements of everyday transactions' (Hayek 1949: 113); '[l]aissez-faire was never more than rule of thumb. It indeed expressed protest against abuses of governmental power, but never provided a criterion by which one could decide what were the proper functions of government' (Hayek 1973: 61–2). Even so, each of these comments is consistent with the presumption that, under liberalism, the market process of modern capitalism offers the most secure basis for economic and social harmony: '[t]he proletariat which capitalism can be said to have "created" was . . . an additional population which was enabled to grow up by new opportunities for employment which capitalism provided' (Hayek 1954b: 16).

Hayek regards himself as a liberal 'in the European nineteenth-century meaning of the word'; that is, one whose fundamental concern is 'with limiting the coercive powers of all government' (Hayek 1960: 103). The postulates of classical liberalism include: 'to distrust reason to the extent . . . that we do not know all the answers'; 'not [to] disdain to seek assistance from whatever non-rational institutions or habits have proved their worth'; 'to let others seek their happiness in their own fashion'; and to have 'no quarrel with religion' (Hayek 1960: 406–7).

In examining the features of an extensive liberal economic order, Hayek gives explicit consideration to the limits to human understanding and to the market as an information gathering process. He shows the role of the market in a free society, where moral and political issues are understood within a continuously evolving framework. There are no means to determine whether an institutional adaptation is likely to enhance or to jeopardise that social order. Rather, it is necessary for diverse forms to be tested in order to secure the most successful adaptations. Political liberalism is the creed that secures the diversity that is necessary to achieve an harmonious social evolution.

Under the precepts of liberalism, government administers only those resources that are placed at its disposal by the wishes of a majority; but

government constrained by the law is unsuited to the further task of legislation. Hayek suggests that this might rest with a constitutionally bound legislative assembly, whose sole function would be to make and amend general laws of contract, tort and property. An independent constitutional court would define the properties of valid law and resolve any dispute between the legislative assembly and the government. The separation of these distinct tasks offers best protection to the liberal ethic, and a basis for successful social adaptation (see Hayek 1978b: 160ff.).

Keynes has a similar ideological disposition. In the 'Concluding Notes' to *The General Theory*, he defends liberalism as

> the best safeguard of personal liberty in the sense that, compared with any other system, it greatly widens the field for the exercise of personal choice. It is the best safeguard of the variety of life, which emerges precisely from this extended field of personal choice . . . For this variety preserves the traditions which embody the most secure and successful choices of former generations; it colours the present with the diversification of its fancy; and, being the handmaid of experience as well as of tradition and of fancy, it is the most powerful instrument to better the future.
>
> (Keynes [1936] 1973: 380)

Notwithstanding these comments, nor the associated condemnation of the 'authoritarian state systems of to-day' (Keynes [1936] 1973: 380), Keynes's unguarded trust in the action of statesmen (whose powers he would wish to extend) contrasts sharply with Hayek's proposals for a powerful and independent judicial system.

Keynes's position is surely born of exasperation, not consideration. In particular, Keynes has a problem with modern capitalism. By its twentieth-century transformation into a dispassionate, market-driven decision-making creed, Keynes regards capitalism as aesthetically and morally damned (see Hession 1984: 366–78), for which reason he justifies 'the enlargement of the functions of government . . . as the only practicable means of avoiding the destruction of existing economic forms in their entirety and as the condition of the successful functioning of individual initiative' (Keynes [1936] 1973: 380). Made aghast by the plight of the mass of chronically unemployed workers, Keynes's objective became that of saving 'a capitalist system he did not admire' (Skidelsky 1992: xv):

> [t]he decadent international but individualistic capitalism . . . is not a success. It is not intelligent, it is not beautiful, it is not just, it is not virtuous – and it doesn't deliver the goods. In short we are beginning to despise it. But when we wonder what to put in its place, we are extremely perplexed.
>
> (Keynes [1933] 1982c: 239)

So, Keynes has no insight into alternative, more desirable, social arrangements. Although he accepts that capitalism is the most practically effective economic delivery system that is known, his macroeconomic theory is constructed to show the need for a permanently active macroeconomic role for the state: to secure jobs for the masses.

Scholarly rivals

Keynes and Hayek may be represented as scholarly rivals with much in common and much that sets them apart. Each is responsible for original and highly distinctive work, born of an attempt to integrate time and money into economic analysis. They share a common philosophical perception of human action in the face of fundamental uncertainty and they recognise the important function of money: 'with perfect foresight, there would be no place for money' (Hicks 1982: 7). Each sees the classical quantity theory of money as a potentially misleading simplification that begs questions relating to the immediate short-term effects of monetary changes. Yet, where Keynes emphasises a role for counteractive monetary and fiscal measures, Hayek views state intervention as a cause of, rather than a cure for, cyclical instability. This is a big difference.

Keynes and Hayek introduce ideas that undermine entrenched positions. Keynes counters the view of the contemporary political establishment that government can do little to moderate the manifest evils of high unemployment. Hayek counters an intellectual presumption that rational social planning can achieve an economic efficiency to surpass the achievements of the market process. Here is the big issue of contention between Keynes and Hayek: might the socio-economic order benefit from the attention of an enlightened economic policy guru or are there reliable self-regulating automatic systems of adjustment? Although both recognise that any theoretical analysis that invokes omniscience and prescience affords no basis to address that issue, their own respective analyses and conclusions are poles apart. Where Keynes argues for more state intervention, Hayek fears the consequences of powerful government. Upon the divergent reputations that rest upon that difference, Keynes and Hayek became the respective doyens of the political left and right. Yet, neither man is wholly responsible for what he became.

Keynes's reputation is attributable largely to the work of a set of Cambridge economists (see chapter 9) that follow after him. These are the early post-Keynesians, who represent economic science before *The General Theory* as an unashamed justification of the capitalist system that was drawn from 'a theological system of orthodox axioms' (Robinson 1971: ix). Then, after Keynes shows the way forward, there remain only 'the tattered remnants of the laissez-faire doctrine that what is profitable is right' (Robinson 1971: 51). This is stirring stuff.

Those who are responsible for the 'post-Keynesian' orthodoxy regard the significance of individual choice, whether under *laissez-faire* or *dirigisme*, as

secondary to deep societal mechanisms that direct human activity. The mark of post-Keynesians is the view that is taken of the desirable characteristics of an unambiguously socialist societal order. Among post-Keynesians there is a widespread and firm belief in a social justice that is achievable through the rational evaluation and determination of policy options. Whether impartial analysis leads to those conclusions, or whether those with inculcated socialist leanings become post-Keynesians, is a moot issue. If they have made their analysis fit their conclusions, they have some affinity with Keynes. That Keynes led his economic theory by his prior conclusions on policy is variously commented upon (see Caldwell 1998: 560; Garrison 1997: 461; Hayek 1995: 22; Johnson 1975: 115).

Although Hayek has great respect for the man, he has little respect for Keynes as an economist: 'before he started to develop his own theories, Keynes was not a highly trained or a very sophisticated economic theorist' (Hayek 1978b: 284); '[h]is ideas were rooted entirely in Marshallian economics, which was in fact the only economics he knew. Widely read as Keynes was in many fields, his education in economics was somewhat narrow' (Hayek 1972: 101); 'I don't think he spent more than a year learning economics' (Hayek 1994: 93). Not only does Hayek view Keynes's analysis of economic phenomena in the aggregate as naïve, he is deeply concerned by 'the enthusiasm for all sorts of planning among the non-economist intelligentsia of Britain' (Caldwell 1997: 43) and the wider implications of that strong government upon which the application of Keynes's policy prescriptions clearly rely. The first intermittent exchanges between Hayek and Keynes in the 1930s convey the cross-criticism of Keynes's policy-oriented analysis of 'macroeconomic' aggregates and of Hayek's more abstract approach to money, capital and business fluctuations. Though there was no more persistent nor resolute critic of Keynes during Keynes's lifetime, Hayek came to realise that what was required was 'not to criticize Keynes's particular form of macroeconomics, but . . . macroeconomics as such' (Hayek 1975c; cited from Cochran and Glahe 1999: 10).

In the event, Keynes's star is coruscant as Hayek's dims. Yet, as Keynes reminds us with the last sentence of *The General Theory*, 'soon or late, it is ideas, not vested interests, which are dangerous for good or evil' (Keynes [1936] 1973: 384). From the late 1940s through to the mid 1970s, Hayek's preoccupation in other areas of social science allows his economics to become almost totally lost to the narrowly focused fraternity of neo-classicals. However, as that obscurity begins to lift in the late 1970s, Hayek's ideas take hold of the interest of an ever-widening set of scholars. After the conjunction of high inflation and high unemployment became commonplace – a manifest failure of the Keynesian prospectus – other options were sought:

> [f]or forty years I have preached that the time to prevent a depression is during the preceding boom; and that once a depression has started, there

> is little one can do about it. My advice was completely disregarded . . . Now suddenly, when my prediction has come true . . . people suddenly turn to me and ask for my opinion.
>
> (Hayek 1975a: 8)

Within academic circles, an intellectual rivalry is, once again, being played out.

In the first instance, the counter-Keynesian revolution was inspired by a revival of the classical quantity theory tradition (that is, Milton Friedman's monetarism) in the mid 1970s. Although Hayek has always accepted the general content of that tradition –

> I do not propose to quarrel with the positive content of this theory: I am even ready to concede that so far as it goes it is true, and that, from a practical point of view, it would be one of the worst things which would befall us if the general public should ever again cease to believe the elementary propositions of the Quantity Theory.
>
> (Hayek 1935b: 5)

– he is critical of the analysis of macroeconomic aggregations: 'average movements of general prices show us nothing of the really relevant facts' (Hayek 1935b: 99). Nevertheless, the co-existence of inflation and unemployment gave support to the expectations-augmented Phillips curve hypotheses and a fillip to the monetarist counter-revolution. Thereafter a more fulsome reawakening to the benefits of a liberal order followed upon Thatcherism in the UK, Reaganomics in the USA, and the collapse of the Soviet empire. Only then did Hayek begin to acquire something like due recognition for his extensive contributions.

Monetary economics

In the ten years or so to the mid 1930s, Hayek and Keynes give attention to the relevance of money in determining the level of, and variations in, business activity. Each recognises the crucial importance of uncertainty and sees the relevance of money to incorporate this essential element into their economic analysis.

Keynes's principal publications are all in the area of monetary economics: *Indian Currency and Finance* (1913), *A Tract on Monetary Reform* (1923), *A Treatise on Money* (1930) and *The General Theory of Employment, Interest and Money* (1936). The first two are rooted firmly in the classical quantity theory tradition: price instability and business cycles have monetary origins. In the *Treatise* and *The General Theory,* the analysis addresses the division of money income (between consumption and saving) and the inequality of saving and investment (that causes variations in real income). In the *Treatise*, variations in saving and investment affect prices directly and output indirectly; in *The*

General Theory, output is affected directly (*via* the multiplier process) with indirect effects upon prices (*via* changes to unit costs of production).

Hayek, too, is taken by monetary economics from an early stage. With the practical experience of working as a research assistant in New York in 1923, Hayek turns his attention to the relationship between monetary policy and the business cycle. 'The Monetary Policy of the United States after the Recovery from the 1920 Crisis' (1925) – his first published essay in monetary theory – marks the beginning of an involvement, over the next fifteen years or so, with the manner in which monetary expansion distorts the capitalistic structure of production and the implications thereof.

Hayek's ideas are set down in two publications. His *Monetary Theory and the Trade Cycle* is published in 1929, with the first English version in 1933; and *Prices and Production* is published in 1931, with a revised and extended edition in 1935. In the later version, Hayek acknowledges the incomplete elaboration of complex ideas and he warns of its omissions. Similarly, even before publication in 1930 of *A Treatise on Money,* Keynes recognises that his work is a premature presentation, for which reason Hayek's trenchant criticisms of that book are met with a certain equanimity –

> [c]oncluding that their respective theories occupied different terrains, Keynes admitted that Hayek was right in saying that he did not have a clear account of the factors determining the natural rate of interest and that he would endeavour to make good this deficiency.
>
> (Hession 1984: 261)

– but Hayek obtains an early perception of where Keynes's economics might lead and his opposition to Keynes, and to Keynesianism, is to be restated and refined over many years. In retrospect, he sees that '[t]he real issue was the validity of what we now call macro-analysis' (Hayek 1972: 100).

In Hayek's analysis, capital investments are undertaken in order to raise (eventually) the output of 'commodities' (consumer goods). In the terminology of the 1930s, capital investment permits 'roundabout' methods of production (for example, machines are produced in order that commodities can be produced; or land is drained in order that commodities may be grown). After a period of gestation, those capital investments yield earnings from the sale of the commodities whose production they make possible. 'Shallow' investments bring commodities to the market relatively quickly, but 'deep' (or, in modern terminology, highly capital-intensive) investments are technically (though not necessarily economically) more productive. Roundabout methods are 'shallow' or 'deep' in varying degree. The range of roundabout methods – the 'structure of production' – is in terms of the length of the period from the moment when the investment is initiated to the moment when either the last commodity is sold or the final residue of the plant is decommissioned (whichever is the later).

An economically driven change in the capitalistic structure of production might occur as a reaction to a change in the rate of interest or to a change in

the relative prices of capital goods and commodities. Either causes a change in the relative incentive to invest in either shallow or deep production methods. Hayek's analysis shows that any deepening in the structure of production that is brought about by a credit expansion that lowers the rate of interest is impossible to sustain. The reason is that consequential shortages in the supply of commodities eventually require deep projects to be abandoned prematurely. (Hayek's analysis is detailed in chapter 8.)

The further detail of the explanation is that, when an investment boom is sustained by easy credit, the implication is that investments are insufficiently covered by saving; consumption is too high and shortages will accumulate. A painful retrenchment is inevitable. This is the nub of Hayek's over-consumption theory of business recession. His conclusions are that business recession is the inevitable consequence of investments that are financed by credit expansion rather than through the present sacrifice of real saving; and that the remedy cannot lie with more credit expansion and/or measures to raise consumers' expenditure still further. This is precisely opposite to the conclusion reached by Keynes.

There would have been fewer differences between the two men had Keynes's *Tract on Monetary Reform*, and then his extensive collaboration with Dennis Robertson, not been largely repudiated by Keynes. However, the *Tract* was superseded by the *Treatise*; and the *Treatise* was superseded by *The General Theory*. With the latter, Keynes's attack upon 'orthodoxy' becomes focused, rather surprisingly, upon a concept – neutral money – that had long been regarded as one that begs many important questions. Monetary theory had moved on. Indeed, Hayek's own contemporaneous publications are concerned to explore the details of the intricate ramifications that arise from non-neutral monetary forces and their relevance to the business cycle; but Keynes quite simply understands neither the contemporaneous state of monetary theory nor the foundations upon which it is based.

Hayek's work is not the easiest to follow and so is readily neglected. *The Pure Theory of Capital* (1941) is especially overlooked, which is a pity, for it might have precluded the long and largely futile dispute between Cambridge (UK) and Cambridge (MIT) economists – the capital theory controversy – that extended into the early 1970s. The early post-Keynesian Cambridge (UK) economists wished to engage the Cambridge (MIT) neoclassical conception of an aggregate production function: 'it is impossible to conceive of a quantity of "capital in general", the value of which is independent of the rates of interest . . . and wages' (Harcourt 1972: 20). However, they were unwilling (or sufficiently uninformed) to use Hayek in support:

> [i]n order to arrive at an aggregate figure of the amount of waiting involved in each process we have to assign different weights to the different units of input, and these weights must necessarily be expressed in terms of value. But the relative values of the different kinds of input will inevitably depend on the rate of interest, so that such an aggregate

> cannot be regarded as something that is independent of, or as a datum determining the rate of interest.
>
> (Hayek 1941: 143)

That Hayek's perceptive and original comments did not feature in the controversy marks the extent of the neglect of his work by the generation that followed.

Hayek and Keynes's *General Theory*

Relatively few economists were not won over to Keynes's macroeconomic approach; but Hayek resists what he regards as a bizarre analysis of aggregates and averages where, by the assumption of freely available unemployed resources, there is no scarcity and, therefore, no *economic* problem to be solved.

Hayek sees *The General Theory* as the last of a series of previously unsuccessful attempts by Keynes to create theoretical arguments to buttress his 'practical inclinations';[2] and he believes that it is likely to be regarded 'as no more than a passing phase in the history of economic thought' (Hayek 1995: 238). Although Hayek insists that Keynes's ideas did great harm –

> if Lenin's statement is correct . . . that the best way to destroy the capitalist system is to debauch the currency, it will be largely due to Keynes' influence if this prescription is followed.
>
> (Hayek [1952b] 1969: 347)

> Sir John Hicks has even proposed that we call the third quarter of this century 1950 to 1975, the age of Keynes, as the second quarter was the age of Hitler. I do not feel that the harm Keynes did is really so great as to justify *that* description.
>
> (Hayek 1978b: 219)

– Hayek suggests that Keynes is not entirely to blame and he believes that he would have opposed the policies that caused the world-wide post-war inflation. He recalls asking Keynes

> whether he was not concerned about what some of his disciples were making of his theories. After a not very complementary remark about the persons concerned he proceeded to reassure me: those ideas had been badly needed at the time he had launched them. But I need not be alarmed: if they should ever become dangerous I could rely upon him that he would again quickly swing round public opinion – indicating by a quick movement of his hand how rapidly that would be done. But three months later he was dead.
>
> (Hayek [1952b] 1969: 348)

Although Keynes's premature death undoubtedly gave scope for others to Bowdlerise his work, it is unlikely that Hayek would have drawn much comfort from those remarks. Keynes misjudged the force of the entirely restructured Keynesian economics that was beginning to emerge: a mechanistic simultaneous equation national income and expenditure (SENIE) model that is entirely consistent with (that is, a special case of) the 'classical' economics that Keynes had attacked. This 'neo-classical synthesis' is 'a doctrine which denies the *General Theory* any fundamental contribution to pure theory'; a conclusion that, if correct, would be somewhat devastating to a book that is 'almost exclusively devoted to pure theory' (Leijonhufvud 1968. p. 402). The further irony is that Keynes considered that by his 'method of analyzing the economic behaviour of the present under the influence of changing ideas about the future . . . [he had been] . . . led to a more general theory, which includes the classical theory . . . as a special case' (Keynes 1936: 1973, vii). There should be no confusion: as Axel Leijonhufvud's exegesis so admirably shows, SENIE macroeconomics is different in kind to the economics of *The General Theory*.

With irony, there is also a paradox in that two sets of theorists – those who continue to present a radical Keynes (and who are comfortable to be called 'post-Keynesians') and those who empathise with the 'truth' they discover in Hayek (the neo-Austrians) – find more to discuss among themselves than with those who are conventionally schooled in neoclassical microeconomics and SENIE macroeconomics. Against that micro/macro textbook analysis, their common ground is the recognition that economics is an integral part of social science and that economics has been served badly by the application of inappropriate mathematical and statistical tools. The necessity to make simplifying assumptions is not the same as the drive for mathematical tractability; and modern econometric modelling shows scant appreciation that there is 'no magic formula for wringing reasonable conjectures from refractory and inaccurate evidence' (Friedman and Schwartz 1991: 39).

Choice and rationality

The formal analysis that is possible within a framework of omniscience and prescience that is the hallmark of neoclassical microeconomics involves a manipulation of tautologies. Logical deductions drawn from tightly specified assumptions relating to resources, techniques and goals reveal the conditions for an economically efficient outcome. Although important insights may be achieved, these can relate only to the intentions of a single agency that has full knowledge of all the relevant details. Nothing precludes the incorporation of those formal features of neoclassical economics – axiomatic reasoning based upon first principles – into economic analysis; but the use of purely logical deduction must be accompanied by an understanding of the socio-economic structure that supports the causal sequences of the interaction

between agencies. Logic cannot apply to social processes where 'the decisions of many individuals influence one another and necessarily succeed one another in time' (Hayek [1946] 1949: 93). This demands an entirely different approach. Propositions about causal relationships require the identification of the empirical processes whereby knowledge is acquired and disseminated.

In principle, rationality is *not* a characteristic of an individual agent, but a property of the problem-situation in which that individual wishes to make a decision. The commonplace setting of rationality in a psychological context has led to a presumed connection (the 'rationality postulate') between the logic of a individual's situation and his behaviour. The rationality postulate assumes that an individual has the abilities to obtain knowledge about a situation, to deduce logically the action that is necessary and the power to achieve that action. In a social context, the rationality postulate applies to very few situations. Most situations are open-ended. Even when they are not, it is rare for an individual to be able to gain a definitive knowledge of the situation that is faced. So, it is more usual for action to be taken upon the basis of a subjective interpretation of incomplete and inexact evidence. It is, therefore, important to recognise an ambiguity of meaning and a potential for confusion that arises from loose usage of the adjective 'rational':

> if the desire to make reason as effective as possible is what is meant by rationalism, I am myself a rationalist. If, however, the term means that conscious reason ought to determine every particular action, I am not a rationalist, and such rationalism seems to me to be very unreasonable. Surely one of the tasks of reason is to decide how far it is to extend its control or how far it ought to rely on other forces which it cannot wholly control.
>
> (Hayek 1973: 29)

Hayek suggests that this ambiguity can be avoided if – instead of opposing rationalist with anti-rationalist – a distinction were drawn between constructivist and evolutionary. In conditions that permit the constructivist rationalist approach, it is possible to plan a desirable social order. By contrast, an evolutionary approach recognises the embodiment of experience in culture and tradition.

The potential for misunderstanding might be mitigated by an appropriate substitution of the term 'reasonable'. In an open context, reasonable behaviour is based upon an individual's motives and his subjective perceptions of the situation. Since perception and knowledge formation bring psychological and behavioural elements into consideration, it would be necessary to understand the psychology of an individual – his perception of a situation – in order to judge if his behaviour were reasonable within his perceived situation. Here, a theory of knowledge formation (epistemology) becomes relevant. Thus, the empirical content of economic analysis consists of

propositions relating to foresight, to anticipations and to the acquisition of knowledge.

However, where Hayek stresses the importance of the inarticulated (or tacit) knowledge that is caught by generally accepted institutional practices that compensate for each individual's unique ignorance and uncertainty, Keynes equivocates in respect of the role of culture and traditional forms. Although Keynes describes his early self as a rationalist, 'who believed in reasonable human nature and a world characterised by 'decent rational human beings' led astray by obscurantist customs and traditions . . . from which, however, they could be detached by the power of reason' (Mini 1994: 62), his endorsement of 'the traditions which embody the most secure and successful choices of former generations' (Keynes [1936] 1973: 380) is clearly contradictory.

It is a safe assertion that Keynes and Hayek are close in the distinction that each suggests should be drawn between rational action (in the strict logical sense) and reasonable behaviour (in the sense of the best practical means to secure a coherent socio-economic order). However, Hayek presents a more closely detailed argument in support of his position. His vision suggests an explicitly evolutionary approach to social cohesion that is necessarily retrospective. There are no means to identify in advance the rules or safe actions that are likely to enhance the prospects for survival. The justification of traditional practices is that they are plausible in having passed the test of time; but there is no suggestion of their immutability. Proposals for reform are not inconsistent with the value placed upon custom and tradition, but political action must proceed with caution to enable some account to be taken of the limitless unintended consequences.

3 Philosophy and political economy

> If a being from outer space tried to reconstruct Western civilisation from a study of the preoccupations of our philosophers through the centuries, he should certainly conclude that we are all addicted to explanations by the exercise of reason, that we have few social and personal problems, and that those few we have we solve by the application of that same reason.
>
> (Mini 1994: 149–50)

> If superior creatures from space ever visit earth, the first question they will ask in order to assess the level of our civilisation, is: Have they discovered evolution yet?'
>
> (Dawkins [1976] 1989: 1)

Introduction

Although the details of the broad sweep of the respective conclusions reached by Hayek and Keynes concerning the proper relationship between government and the economy are widely documented and discussed, there is little recognition of shared precepts of political economy. Indeed, there are striking similarities between the two men. However, whereas Keynes reaches a strong philosophical position long before he gains his reputation in economics, Hayek articulates his philosophy only after his reputation as an economist was bruised by the debates with Keynes and his followers. This is not to infer that the former grew out of the latter. Hayek's philosophy, politics and economics are fully integrated and draw upon his early research into psychology; where the focus is upon 'the central problem of the nature of mental phenomena' (Hayek 1952a: vii). Nevertheless, much of Hayek's exposition is given as an explicit counter to the *dirigiste* systems that were encouraged by Keynesian economics and the promise of aggregate demand management.

Epistemology is an area of philosophy that poses questions about the formation of knowledge. More generally, philosophy seeks a fundamental framework within which a coherent structure of consistent knowledge can be articulated; it examines the relevance of reason (rationalism) and experience

(empiricism) to the formation of knowledge. These are age-old considerations. Classical rationalism holds that knowledge lies within ourselves, but requires hard intellectual endeavour (mathematics and logic) to draw it forth. Empiricism regards the five senses as the only means to obtain knowledge of the world. There are midpoints between these two fundamentals: in their different ways Keynes and Hayek attempt to show the strengths and the limitations of rationality in drawing sound conclusions from sensory experiences.

Nature, nurture and understanding

Explanations (whether true or false) are manifestations of our knowledge (whether true or false) of the world, both as it is and as it is anticipated to be. Action based upon knowledge is action which can be explained. Explanations are necessarily based upon reason, which is the force of argument. Explanations are false if, given sound argument, the premises are false.

Introspection is a necessary part of explanation. It provides the means by which one individual might understand (have an explanation for) another individual's behaviour. This is illustrated by language. Words have meaning only in consequence of shared precepts. Premises that are empirically based (that is, based upon *a posteriori* knowledge contingent upon experience) are generally less reliable than those that are removed from a particular cultural context. Mathematicians who are from different cultures are more likely to break the 'language barrier' than are mystics. Even so, whereas classical rationalism regards *a posteriori* knowledge as an inferior approximation to the *a priori* certainty of mathematical truths, empiricism regards all understanding as a derivative of the intellectual reorganisation of knowledge that can only originate in the impressions formed from the five senses.

Plato set the standard for classical rationalism that has endured for more than two thousand years: the still widely-accepted Platonic account of knowledge is that of beliefs that are certified by reason. Platonic forms (ideas) are abstract, independent, timeless, objective entities. Although the truth about forms lies innately within ourselves, hard intellectual endeavour is required to draw forth that truth. The presumption is that we have an ability to access truth by *anamnesis* (recollection). Here, our sensory perceptions might hinder rather than help: any attempt to verify truth by experience is a vain exercise. This is contentious. Contra classical rationalism, empiricism presents a second permanent strand in philosophy. Although concurring with classical rationalism, in regard to the relevance of recollection and introspection, empiricists regard sensory experience as the data upon which the mind must work to gain knowledge of the material world.

A synthesis of rationalism and empiricism is presented by Immanuel Kant, for whom sensibility and understanding (experience) is conditional upon a conceptual apparatus (reason). Although reason alone gives no access

to reality, Kant seeks a rational basis for the interpretation of sensory experience. He argues that experience must conform to the *a priori* truths of mathematics. Although knowledge arises from a conjunction of prior disposition and sensory perception, Kant imposes tight limitations upon the former: only the concepts of space, time and causality are logically prior to experience. Yet, these are crucial: there can be no sensory experience of objects that are not spatial and temporal and that do not obey causal laws.

A modern interpretation of *anamnesis* is in terms of the prior knowledge that exists in the form of the genetically determined pre-sensory neurological structure of the central nervous system. This structure is the product of events that are typically encountered by a species over successive generations. This constitutes instinctive knowledge (the primary heuristic) that is embodied within the genetic structure, that evolves by natural selection to accommodate events that recur within the generational cycle (the period between the conception and reproductive adulthood of an organism). The linkage between this more recent interpretation and classical rationalism was alluded to by Charles Darwin: in '[c]ommenting on the claim that Plato thought our "necessary ideas" arise from the pre-existence of the soul, Darwin wrote: "read monkeys for pre-existence"' (Dennett 1995: 130). Our innate knowledge is genetically – not spiritually – determined.

The deficiency of instinctive adaptations – those that evolve by natural selection – is that they cannot accommodate non-recurrent events. Evolution by natural selection requires some degree of constancy in order to shape this primary heuristic. By contrast, unique or irregular events require a special class of adaptation (a secondary heuristic, intelligence) to allow an organism to cope with a future that is unlike its past. Intelligence tracks events that are too rapid to become genetically imprinted within the primary heuristic. Intelligent learning proceeds by the (genetically transmitted) power of reason. However, this is constrained by the capacity of the brain; and, since an investigation of the consequences of every new sensation would cause intelligent learning to be impossibly slow, intelligence must be primed by the primary heuristic 'which "tells" the secondary heuristic what to learn' (Plotkin 1994: 162). The neurophysiological explanation is that a deep-seated cerebral structure (the 'value system') projects over the entire cortex:

> [v]alues reflect events involving the nervous system that have been selected during evolution because they contribute to adaptive behaviour and to phenotype fitness. Examples of low-level values are: 'eating is better than not-eating' or 'seeing is better than not seeing'.
>
> (Edelman and Tononi 1995: 85)

Thus, all living creatures – 'right from the beginning' – enter the world with genetically based innate knowledge: '[w]e all come into the world knowing what it is we have to learn and think about. The rest of our intellectual lives are spent filling in the spaces' (Plotkin 1994: 237).

Neurological adaptations are not solely determined by the 'value system'. The spontaneous development of an infant's physical coordination is implausible as an explanation of (say) Dick Fosbury's high-jump technique; and what is true of conscious movement is true of conscious thought: '[o]nce intelligence has evolved in a species, then thereafter brains have a causal force equal to that of genes' (Plotkin 1994: 177). That consciousness builds upon communication: the ability to share in a collective knowledge allows more rapid adaptation than is offered by biological evolution: '[t]he guidance of a consciously planned life by some value system more than anything else sets man apart from animals' (Eccles 1984: 118). Yet, conscious planning requires the base of cultural institutions that are themselves moulded by continuous adaptation:

> it may be helpful to think of culture as being a third level heuristic, another form of Darwinian machine and hence another means of gaining knowledge of the world based upon evolutionary processes, those same processes that operate for the primary and secondary heuristics but involving separate mechanisms. In this case the complete system of human knowledge would be a three-level control hierarchy, each level operating on evolutionary principles.
>
> (Plotkin 1994: 225)

Culturally transmitted knowledge (explicit and tacit) is a tertiary heuristic that removes the need for successive generations to rediscover the speed of light, the precepts of sound hygiene and the features of political fascism and parliamentary democracy.

Instinctive (primary), intellectual (secondary) and – for *homo sapiens* – cultural (tertiary) knowledge may all be regarded as phenotype components that contribute to an organism's adaptational fitness to survive. The modern philosophical construct of 'universal Darwinism' is the notion that processes that drive adaptations have the very widest existence: 'adaptations, and the explanation of adaptations are central to the biological enterprise, and that includes the social sciences' (Plotkin 1994: 55). Truth lies within ourselves, embedded therein by our evolved genotypal, neurological and cultural inheritance; and we have the capacity to uncover some of the details of that innate truth – 'filling in the spaces' – by the use of our intellect.

Thus are we equipped to act a role within a socio-economic order that, having been extended beyond small hunter-gatherer groupings by specialisation in production and trade, leaves more unfathomables than certainties. Within that order, socio-economic forces are manifest as rapidly changing events for which any precedent is either weak or non-existent. Under such fundamental uncertainty, Keynes and Hayek sought to establish the precepts for a sound political economy and for a scientific approach to guide economic policy.

Action under uncertainty

Human action (decision) is rational if the actor has a coherent explanation for the choice that is made over the options that are rejected. Without rationality, a choice is either instinctive or arbitrary. However, rationality need not imply conscious reason in the manner of a set of specific arguments. Actions and decisions may be based upon conventions or traditions which, though they may defy explanation, give structure to human rationality by providing a context for the exercise of reasoned choice.

Although complex social interaction may preclude the exercise of conscious reason, the widespread observance of conventions, traditions and institutional norms permits purposeful choice and action to be decided within a framework that sets limits to possible outcomes. Such observance creates social cohesion and that 'regularity in the world which makes it possible to predict events correctly' (Hayek 1949: 49). Of course, any reliance upon convention implicitly assumes 'that the existing state of affairs will continue indefinitely' (Keynes [1936] 1973: 152). The certainty of the present is projected into the future, modified only to the extent to which there are reasons to believe otherwise: reasons that rest upon an understanding of causation. Only upon that basis, is it possible for rational conduct (actions, decisions, argument) to be undertaken with some confidence in situations of uncertainty.

From a shared recognition of the pervasive uncertainty that shrouds the consequences of human actions, Keynes and Hayek point to the inadequacy of an economic approach that assumes perfect knowledge and given resources. This is the methodology of neoclassical economics, where rationality is defined in terms of correct deductions from given premises. This has little relevance for social issues; that is, to the human condition in a dynamic and uncertain historical context. The social framework for decisions is open-ended in that the full circumstances are not known and, in principle, may be unknowable. Action is taken under uncertainty.

In the context of neoclassical economics – the textbook microeconomics of marginal analysis – rational decisions relate either (in a mathematical context) to logical deductions from the basis of axiomatic certainties or (in a statistical context) to risk calculations founded upon well-defined probability distributions. With both, rationality is a characteristic that pertains, not to an individual, but to the problem situation in which the individual makes a decision. However, even with the clarity of those abstractions, it has become commonplace to represent rationality as a *psychological* attribute. In that context, the rational economic man of neoclassical economics is one who is endowed with a set of enviable abilities: to select a well-defined objective; to obtain all the information that is relevant to meeting that objective; to deduce logically the action that is necessary; and, finally, to put that action into effect. Other than in highly contrived circumstances, such as probabilistic games of chance, the opportunity for an individual to enact that kind of rationality is generally remote.

In a social context, it is more usual for action to be decided on the basis of a subjective appraisal of incomplete and inexact information that often amounts to little more than a hunch. The social context brings environmental, psychological and social behavioural elements into consideration. In circumstances far removed from the certainties of neoclassical economics, the relevant determinants of decision-making are the cultural and physical environment, genetically based instinctive predispositions, human intelligence and the five sense perceptions. All of these contribute to the formation of knowledge that is relevant to decisions in a social context.

Hayek: the knowledge problem

In the winter of 1919–20, Hayek 'worked for a few weeks in the laboratory of the brain anatomist von Monakow, tracing fibre bundles through the different parts of the human brain' (Hayek 1994: 64). There he gained a crucial insight: '[w]hat I had from the beginning been unable to swallow was the conception that a sensory fibre could carry, or a nerve cell store, those distinctive attributes that we know mental phenomena to possess' (Hayek 1952b: 289). He realised that an alternative conceptual approach was required, but he made only limited progress: 'though I felt that I had found an answer to an important problem, I could not explain precisely what the problem was' (Hayek 1952b: v). It was not until 1948 (and for the ensuing three years) that Hayek returned to issues raised by that early experience. In rejecting the orthodox notion that sensory fibres transmit mental phenomena to be stored in nerve cells, *The Sensory Order* (1952a) is an early statement of the 'connectionism' paradigm, according to which memory and thought engage (potentially) the whole brain, by the variable strength of interneural impulses.

The proposition is that memory and thought are indistinguishable neurological processes – particular configurations of an intricate neural network – that comprise an understanding of the external world. The mind is not a store of 'sense data' that reflect (or are correlated with) characteristics of elements in the physical world:

> we do not first have sensations which are then preserved by memory, but it is a result of physiological memory that the physiological impulses are converted into sensations. The connections between the physiological elements are thus the primary phenomenon which creates the mental phenomena.
>
> (Hayek 1952b: 53)

Sensory qualities are determined by the 'differentiating' neurological responses of the system as a whole. The significance of each stimulus derives from its relationship to, and combination with, other stimuli. It is by the co-ordination of those sensory impulses that an effect is created. Neurological linkages convert stimuli into sensations:

> [p]erception is thus always an interpretation, the placing of something into one of several classes of objects. An event of an entirely new kind which has never occurred before, and which sets up impulses which arrive in the brain for the first time, could not be perceived at all.
>
> (Hayek 1952b: 142)

At the highest levels of consciousness, responses to external stimuli are modified by the influence of a wide range of impulses from predisposition and memory. For simple reflex action, higher centres receive simultaneous reports of both stimulus and response. Between these extremes of conscious and reflex response, a continuous range of 'engaged' connections is hypothesised within which no qualitative distinction is afforded to the most abstract processes of thought. All experience is shaped by memory and understanding; and, whenever a new experience is inconsistent with 'the classification based upon past linkages', the classification must be revised:

> [w]hile there can thus be nothing in our mind which is not the result of past linkages (even though, perhaps, acquired not by the individual but by the species), the experience that the classification based on past linkages does not always work, i.e., does not always lead to valid predictions, forces us to revise the classification.
>
> (Hayek 1952b: 168)

By this interpretation, the differentiating responses of the neurophysiological system are determined by linkages previously created within the organisational structure of the central nervous system. This system of connections is 'acquired in the course of development of the species and the individual by a kind of "experience" or "learning"' (Hayek 1952b: 53). Pre-sensory linkages determine 'the order of the apparatus of classification', that is the framework which determines all our 'conscious experience of qualitative attributes of external events'. Pre-sensory linkages – 'relations of which we are not consciously aware' (Hayek 1952b: 142) – are that part of *a priori* knowledge which 'is not learnt by sensory experience, but is rather implicit in the means through which we can obtain such experience' (Hayek 1952b: 167).

Knowledge is constructed by the human mind, as it classifies each physiological impulse to form a physiological memory that is under continuous modification. From his seminal explorations in psychology, Hayek represents human rationality in terms of a vast neurophysiological network that recreates and revises past and present associations between stimuli to the central nervous system. Stimuli from sense receptors shape the physical material of the brain and create the mind, which is the vehicle of reason. The human mind recognises and classifies regularities, as the experience of living in a material world is interpreted through the construction of mental models; but the representation of reality that can be achieved by this kind of intellectual creativity is limited by our ability to generalise.

Although knowledge of the mind by the mind's own activity is fundamentally unknowable, self-knowledge of mental events can still be used to 'understand', and even to predict, the results to which mental processes might lead (either for ourselves or for others) under certain conditions. The insights to be drawn from this kind of introspection rest upon a 'uniformity (of human minds) thesis', for which precedents are to be found in Kant, Hobbes, Hume and Smith (see Fitzgibbons 1995: 62ff.). Without some degree of uniformity, there can be no meaningful social interaction: a human is more sensitive to (the perceptions of) another human than to a rat or (less still) to a bat or (less still) to a gnat. Introspection reveals (hypothetically, and given genetic and cultural similarities) what is thought by other minds; and that same kind of conscious self-examination provides a basis for ameliorating purely instinctive (or emotional) responses. It thereby admits a social dimension that invites both conditioned and considered reactions. The emphasis of Hayek's economics draws upon these psychological and epistemological premises.

Hayek's awareness of the limitations of neoclassical optimisation and Walrasian general equilibrium analysis (for its neglect of the informational aspects of competitive markets in a social context) was sharpened by the socialist calculation debate(s).[1] The details of his criticism are contained in four publications: 'Economics and Knowledge' (Hayek [1937] 1949), 'The Use of Knowledge in Society' (Hayek [1945] 1949), 'The Meaning of Competition' (Hayek [1946] 1949), and 'Competition as a Discovery Procedure' (Hayek [1968a] 1978b).

'Economics and knowledge' is notable for Hayek's claim 'that the coordination problem is *the* central problem' and for his attempt 'to define equilibrium for both the individual and for society' (Caldwell 1988: 514, 529). The 'knowledge and intentions of different members of society are supposed to come more and more into agreement' (Hayek [1937] 1949: 45); but this could happen only if 'the subjective data of different people . . . were due to the experience of the same objective facts' (ibid.: 44). Yet, objective knowledge 'only exists in the dispersed, incomplete, and inconsistent form in which it appears in many individual minds, and the dispersion and imperfection of all knowledge are two of the basic facts from which the social sciences have to start' (Hayek 1952a: 50). The scientific problem is 'how the "data" of different individuals on which they base their plans are adjusted to the objective facts of their environment (which includes the action of other people)' (Hayek [1946] 1949: 93).

If economics is to explain this process of harmonisation, it must deal with 'propositions . . . about causation in the real world' that rest upon 'statements about how knowledge is acquired and communicated' (Hayek [1937] 1949: 33). A high degree of correspondence between 'objective facts' and 'subjective data' is essential. For economics to explain how that correspondence is achieved, an empirically testable theory of learning and expectations formation is necessary. Learning improves the ability to form

expectations, so that events can be anticipated with some degree of accuracy: the 'empirical element in economic theory . . . consists of propositions about foresight . . . [and] . . . the concept of equilibrium itself can be made definite and clear only in terms of assumptions concerning foresight' (Hayek [1937] 1949: 33–4).

This joint emphasis upon subjectivism and knowledge coordination is taken further in 'The Use of Knowledge in Society', where Hayek defines 'the problem of a rational economic order' as 'a problem of the utilization of knowledge which is not given to anyone in its totality' (Hayek [1945] 1949: 78). A central authority cannot deal adequately with 'the economic problem of society [which] is mainly one of rapid adaptation to changes in the particular circumstances of time and place'. It is not only that the information is (at least initially) dispersed, but that the statistical procedure of 'lumping together . . . items which differ as regards location, quality, and other particulars leaves the central planner in ignorance of these circumstances of time and place' (Hayek [1945] 1949: 83). Non-theoretical, practical, inarticulated, individually held knowledge of local circumstances (endogenous knowledge) is crucial:

> [t]he shipper who earns his living from using otherwise empty or half-filled journeys of tramp steamers, or the estate agent whose whole knowledge is almost exclusively one of temporary opportunities, or the *arbitrageur* who gains from local differences of commodity prices – are all performing eminently useful functions based on special knowledge of circumstances of the fleeting moment not known to others.
>
> (Hayek [1945] 1949: 80)

Most information is not generally available; it is endogenous to some particular individual. The implication is that social coordination benefits from institutional structures that encourage the use of endogenous information; that is, those structures that 'provide inducements which will make individuals do the desirable things without anyone having to tell them what to do' (Hayek [1945] 1949: 88); a second implication is that endogenous knowledge makes any *ex post* appraisal of past decisions difficult, because only the decision-maker is ever in a position to know what he knew.

In 'The Meaning of Competition', Hayek gives further emphasis to the nature of social relationships as empirical processes of knowledge acquisition and dissemination: 'the decisions of many individuals influence one another and necessarily succeed one another in time' (Hayek [1946] 1949: 93). This is the purposeless, continuously readjusting, spontaneous market order of free exchange (catallactics) that has nothing remotely equivalent to the optimal conditions for achieving some well-defined organisational goal (economics). Prosperity derives from profits earned by those who 'discover new ways of doing things better than they have been done before' (Hayek [1946] 1949: 101). Bankruptcies are important to processes of discovery in

which efficiency and ingenuity are tested in open competition. Economically efficient methods of production and distribution become evident only as some producers succeed and as others fail, through an adaptive competitive process in which both merit and luck are relevant: '[w]e allow the individual share to be determined partly by luck in order to make the total to be shared as large as possible' (Hayek [1968b] 1978b: 91).

In addition to 'the mutual adjustment of individual plans' that the catallaxy achieves, Hayek asserts a further quality. It 'produces in some sense a maximum or optimum' (Hayek [1968a] 1978b: 183) in that 'as much will be produced as we know to bring about by any known method' (ibid.: 185). So, competition 'is not a zero-sum game, but one through which, by playing it according to the rules, the pool to be shared is enlarged' (Hayek [1968a] 1978b: 186); and, unlike the pure logic of economic choice that defines *a priori* a set of optimal conditions, the invisible hand is an empirical social mechanism that facilitates the communication and resources allocation that achieve an optimum 'in some sense'. To qualify as a social (rather than as a mathematical) science, economics must analyse such social processes: how does convergence (social equilibrium) occur in the context of changing endowments, changing technologies, changing preferences and changing expectations? More generally, the focus is upon empirical propositions of the kind that 'if we find such and such conditions, such and such consequences will follow' (Hayek [1946] 1949: 94); but the greater the extent of social, economic and environmental change, the more problematic is our knowledge and behaviour.

For Hayek, the 'various ways in which the knowledge on which people base their plans is communicated to them is the crucial problem for any theory explaining the economic process' (Hayek 1945: 78). It is generally the case that social circumstances do not permit the application of individual rationality to identify the logical requirements necessary to attain specific goals. The outcome of any action is essentially unknowable, because of a multitude of unintended consequences. Nevertheless, rationality can be applied to the processes whereby goals are selected and tested interactively with practical attempts to attain them, but it is a rationality that is based upon culturally determined rules that draw the distinction between approved and disreputable acts. While the evolution of cultural norms is not a rational process, the guidance that they give to human action provides a basis for reasonable conduct that generates social cohesion. It is the cultural context that permits rationality to achieve 'some degree of coherence and consistency in a person's action, some lasting knowledge or insight which, once acquired, will affect his action at a later date and in different circumstances' (Hayek 1960: 77). Propositions that relate to social cohesion are based upon assumptions about how people acquire knowledge and how they learn from experience so as to acquire the 'relevant knowledge' that is necessary for rational behaviour.

Keynes: the knowledge problem

Where Hayek builds from his understanding of the neurophysiological structure of the brain to construct a theory of mind and to argue the validity of introspection as the basis for knowledgeable social interaction, Keynes begins with a philosophical and psychological inquiry into the nature of knowledge and the validity of induction as the basis for relying upon experience: '[m]ost of his intellectual energy before 1914 went into turning his dissertation into the *Treatise on Probability*, not published till 1921, in which he tried to widen the field of logical argument to cover those cases where conclusions were uncertain' (Skidelsky 1997: 243). The widely recognised fallacy with induction is that, even if all known x have always led to y, there is no implication that any x must lead to y. Even so, Keynes argues that David Hume's scepticism goes 'too far'. Since reason cannot establish the nature of empirical regularities, it is left to an individual to proportion his beliefs to the evidence, according to his psychological tendencies or dispositions: '[t]he judgements of probability, upon which we depend for almost all our beliefs in matters of experience, undoubtedly depend on a strong psychological propensity in us to consider objects in a particular light' (Keynes [1921] 1973: 56). Keynes sets himself the task of showing that we can argue that the evidence (h) favours the proposition (p). The foundation of Keynes's epistemology – and the general manner in which he deals with uncertainty – is elucidated in *A Treatise on Probability*.

Keynes draws upon mathematics to illustrate the basis for the wider applicability of induction. The parallel that he draws between 'the meaning of a number' and 'the nature of our phenomenal experiences' touches upon the notion of Platonic form:

> [o]ur justification for using inductive methods in an argument about numbers arises out of our perceiving directly, when we understand the meaning of a number, that they are of the required character. And when we perceive the nature of our phenomenal experiences, we have direct assurance that in their case also the assumption is legitimate.
>
> (Keynes [1921] 1973: 293)

The equivalent to Platonic form is 'the required character' that 'we perceive' in 'our phenomenal experiences'. As evidence of the worth of induction from empirical arguments, Keynes notes 'that many mathematical theorems have actually been discovered by such methods' (Keynes [1921] 1973: 271–2).

Keynes attaches probability to a proposition rather that to an event. A probability can be assigned to a proposition (p), if justifiable induction can be made from the evidence (h). Upon this conceptual base, Keynes distinguishes two types of knowledge: indirect knowledge or evidence (h) of the primary proposition (p); and direct knowledge of a secondary proposition ($q=p|h$), that is derived from 'experience, understanding and perception' (Keynes [1921] 1973: 292).

The approach may be illustrated by two gambling options (see Lawson 1985: 915): that of holding one of a million draw tickets (which defines risk precisely) and that of holding one of an unknown number of draw tickets (so that the risk is unknown). In the latter situation, the relationship between the conclusion p (of a win) and the relevant premise h (more than one ticket exists) defines a probability relationship ($q=p|h$). Further evidence h_1, might cause a reappraisal of that probability ($p|hh_1$); it might even change the situation to that of risk (as in the case of h_1=*the total number of tickets*). Evidence might continuously present itself; but, notwithstanding the reappraisals that would follow, the validity of inductive reasoning would not be refuted by any failure to achieve empirical corroboration: 'the evidence with which our experience has supplied us in the past may have proved misleading, but this is entirely irrelevant to the question of what conclusion we ought reasonably have drawn from the evidence before us' (Keynes [1921] 1973: 245). We are who we have become; and if our experience has not equipped us to appraise a secondary proposition, that does not reflect adversely upon the method of inductive reasoning.

The '*kinds* of things' about which 'we are capable of knowing propositions directly' include knowledge of 'our own existence, our own sense data, some logical ideas, and some logical relations' (Keynes [1921] 1973: 14). However, Keynes suggests that 'we are capable of direct knowledge about empirical entities which goes beyond a mere expression of our understanding or sensation of them'. He cites two examples of such direct knowledge: that cause is not identifiable by 'mere position in time and space'; and that 'every object in time has a "necessary" connection with some sets of objects at a previous time' (Keynes [1921] 1973: 292–3).

In more general circumstances, direct knowledge is of secondary propositions: a 'probable degree of rational belief in a proposition . . . arises out of knowledge of some corresponding secondary proposition' (Keynes [1921] 1973: 11). That secondary proposition ($q=p|h$) comprises a 'logical relation between the conclusion and the premise', that is derived from 'contemplating the objects of acquaintance' (Keynes [1921] 1973: 18). Of course, the big question is the manner – 'some mental process of which it is difficult to give an account' (Keynes [1921] 1973: 13) – by which 'experience, understanding and perception' reveals the relationship between the proposition *(p)* and the evidence *(h)*. What constitutes justifiable induction?

In seeking a rational basis to distinguish between sound and unsound induction, Keynes argues for the principle of limited variety: 'that the amount of variety in the universe is limited in such a way that there is no one object so complex that its qualities fall into an infinite number of independent groups' (Keynes [1921] 1973: 287). Then, the properties of x that we experience must be a subset of a finite number of properties so that, in principle, the ratio between these two would establish a probability for any given hypothesis about x.

Keynes distinguishes between our *knowledge of* and our *knowledge about* some primary proposition (p). In both cases, relevant evidence (h) is to hand. *Knowledge of* the primary proposition derives from certain knowledge of the secondary proposition ($p|h=1$). *Knowledge about* the primary proposition implies that the secondary proposition involves some lesser degree of probability ($p|h<1$). *Knowledge about* is alternatively described as a *rational degree of belief of the appropriate degree*; that is, 'the degree of belief which it is *rational* for a person to hold given the information available' (Lawson 1985: 911). In that a *rational degree of belief* is not subject to caprice, it might be regarded as an objective probability. In that the evidence (h) can vary across individuals or that individuals may differ in their powers of reasoning, a *rational degree of belief* might be regarded as a subjective probability. This is not the only terminological difficulty: another relates to 'uncertainty'.

Although Keynes gives no explicit definition of uncertainty in *A Treatise on Probability*, 'there is only one interpretation that is consistent with his account' (Lawson 1985: 913). Uncertainty exists if there is no direct knowledge of the secondary proposition; that is, where skill deficiencies preclude argument from the evidence (or lead to false conclusions) or where 'there is *no method possible* for determining a numerical measure of the probability relationship between given hypotheses and evidence' (Lawson 1985: 913). By this definition, an uncertain situation holds no analytical interest: 'there is no scientific basis on which to form any calculable probability whatever' (Keynes [1936] 1973: 113). In this regard, and although Keynes's writings in economics 'maintain a consistent viewpoint over a span of thirty years' (Lawson 1985: 914), less confusion is likely if the terminology 'action under uncertainty' is adopted to denote an individual who is motivated by some *knowledge about* ($q=p|h<1$) the primary proposition.

What economics is and is not

Hayek and Keynes both reject the hedonistic principle of utilitarian economics. Although Hayek places a supreme value upon individual liberty, he recognises that the argument for liberty cannot be utilitarian since, in a dynamic context, '[p]rogress in the sense of the cumulative growth of knowledge and power over nature is a term that says little about whether the new state will give us more satisfaction than the old' (Hayek 1960: 41). Moreover, the static utilitarian concentration upon the formation of preferences overlooks the important question of what kind of preferences are worth having; for preferences are conditioned by experience. In this regard, it is unfortunate that so many critics of Hayek are inclined to conflate his approach (that of the Austrian School) with the neoclassical paradigm.

It is fair to indict neoclassical economics for taking 'as given the wants people happen to have' (O'Neill 1998: 165) and for the failure to 'acknowledge that norms and conventions may actually result in the adaptation of the character and purposes of the individual' (Hodgson 1988: 137). Models

afford few insights into social interaction when they are so structured. Hayek concurs: social progress is 'a process of formation and modification of the human intellect . . . in which . . . our values and desires continually change' (Hayek 1960: 40). This is clearly at variance with any notion of immutable preferences. In contradiction to the many critics who fail to recognise the distinctiveness of the Austrian School, there is full acceptance 'that norms and conventions may actually result in the adaptation of the character and purposes of the individual' (Hayek 1967: 232). Hayek cites the abolition of slavery, penal and prison reform, the prevention of cruelty to children and animals, and the humane treatment of the insane as having become accepted norms only 'after lonely pioneers had devoted their lives and fortunes to arousing the public conscience' (Hayek 1960: 127).

Social progress is valued, not because it extends happiness, but because it extends human intelligence. Against the background of uncertain outcomes, it is possible to judge the action but not the result:

> [w]hat matters is the successful striving for what at each moment seems attainable . . . Progress is movement for movement's sake, for it is in the process of learning, and in the effects of having learned something new, that man enjoys the gift of his intelligence.
>
> (Hayek 1960: 41)

In arriving at a similar position, Keynes draws from two sources. Edmund Burke provides a framework for political thought, whereby concern is not with objectives, but with the means to facilitate individuals in pursuit of personal goals. The fulfilment of personal goals is constrained only by the principle of equity: 'Keynes accepts equity not in the modern sense of realising certain end states, but in the Burkean (or Hayekian) sense of the absence in law or policy of "artificial discrimination in regard to individuals and to classes"' (Skidelsky 1991: 113). However, a secure path to personal fulfilment is not enough, because personal fulfilment provides no framework for ethics. Here, Keynes draws (as his second source) from his Cambridge mentor G.E. Moore.

Keynes shares Moore's belief that good intuition might grasp the ultimate ideals of duty and virtue. Those ideals had been usurped by utilitarianism. Yet where Moore advises adherence to conventions, believing that sheer complexity precludes any ethical justification for economic or political acts, Keynes sees a connection between ethics and action, between what is good and what ought to be done:

> [t]he key aspect of Keynes's general hostility to Moore's view that certain rules should be universally followed is not an opposition to rules *per se,* but a belief in the right and wisdom or ability of individuals in most, if not all, contexts to judge the reasonableness of any course of action for themselves.
>
> (Lawson 1991: 207)

Whereas conventional and political structures give form to interdependent activity, the choice of the course of action is directed by the exercise of animal spirits; that is, by 'the spontaneous urge to action rather than inaction' (Keynes 1973a: 161); but this is not a leap into the unknown.

The probabilities relating to future events are: for utilitarianism, quantifiable; for Moore, unknowable; for Keynes, unquantifiable but, given intuitive judgement, they are knowable in the limited sense that probabilities might be compared, providing they are similar in kind. In general, however, this is not the case. It follows that judgements must be exercised in respect of possible outcomes that are so essentially different that 'the magnitudes of probability relations must be measured in various units according to the particular case in question, these units being incommensurable among themselves' (Keynes 1909: 67; cited from Carabelli 1992: 9). In respect of such complex issues, motivations to act 'are not "rational" in the sense of being concerned with the evaluation of consequences, but they are decided by habit, instinct, preference, desire, will, etc.' (Keynes [1938] 1979b: 294).

From a shared belief in advancement for its own sake, Hayek and Keynes both emphasise the responsibilities, as against the rights, of an individual. From Hayek comes the view that '[l]earnt moral rules, customs, progressively displaced innate responses, not because men recognised by reason that they were better but because they made possible the growth of an extended order exceeding anyone's vision' (Hayek 1988: 23), while Keynes quotes Edmund Burke: 'out of the physical causes unknown to us, perhaps unknowable, arise moral duties, which, as we are perfectly able to comprehend, we are bound indispensably to perform' (Keynes; cited from Fitzgibbons 1988: 57). These various citations reflect the concern of both men to focus upon features that are essential, not to the satisfaction of local desires, but to understanding the interrelationship between personal advancement and the advancement of civilisation.

Alternatives to reason

Hayek employed reason to refute the possibility of a rational evaluation of the outcome of human action –

> if the desire to make reason as effective as possible is what is meant by rationalism, I am myself a rationalist. If, however, the term means that conscious reason ought to determine every particular action, I am not a rationalist, and such rationalism seems to me very unreasonable.
>
> (Hayek 1973: 29)

– and to argue that judgement is utterly dependent upon tacit knowledge, that is embodied in cultural habits and procedures. These lie 'between instinct and reason'[2] – '[j]ust as instinct is older than custom and tradition, so then are the latter older than reason – logically, psychologically, tempor-

ally. They are due neither to what is sometimes called the unconscious, nor to intuition, nor to rational understanding' (Hayek 1988: 23) – and carry the implication that we always know much more than we can express.

Keynes, too, subverts reason. His thesis is that logical chains are ill-equipped to reveal the vitality of an organic system. Intuition is the basis for the 'rational degrees of belief' of *A Treatise on Probability*; and the 'schematism' of *The General Theory* was presented as a means to facilitate intuitive insights into complex events: 'our practical intuition (which can take account of a more detailed complex of facts than can be treated on general principles) will be offered a less intractable material upon which to work' (Keynes [1936] 1973: 249).

It is rational that individual decision-making should be based upon wise intuition; but, for Hayek, those decisions are more tightly bounded by custom and tradition. Although quantifiable only in terms of degrees of belief, the former (Keynes's intuition) implies a knowledge of circumstances that the latter (Hayek's custom and tradition) does not. Hayek deals with the semantics as follows:

> action which is guided by rules we are not aware of is described as 'instinctive' or 'intuitive'. There is not much harm in these words except that both, specially 'intuitive', usually refer to the perception of the particular properties of the action taken. As commonly used, the term 'intuitive' suggests an attribute not possessed by abstract rules which we follow in our actions, and for this reason it had better be avoided.
>
> (Hayek 1973: 31)

Although intuition may be unique to an individual, while tacit knowledge is more likely to be shared, in many practical circumstances Keynes's intuition and Hayek's tacit knowledge may amount to the same thing; or, at least, they may be mutually compatible. More controversial is the application of intuition to economic theory and to policy choice:

> [t]hough endowed with supreme mental powers, his [that is Keynes's] thinking was as much influenced by aesthetic and intuitive as by purely rational factors. . . . the intuition which made him sure of the results before he had demonstrated them . . . made him rather impatient of the slow, painstaking intellectual work by which knowledge is normally advanced.
>
> (Hayek 1978: 287)

Although it is argued that Keynes's 'economics was informed by a kind of humanistic historicism' (Mini 1994: 105), it might – following Hayek's criticism – be more pertinent to consider the extent to which Keynes's social analysis is informed by economics at all.

Keynes's *Tract on Monetary Reform* (1923) adopts the full rigour of the quantity theory, but social considerations surface in respect of concern about the differential impact of deflation upon the debtor–creditor relationship and

in respect of the conflict of interest between overseas investors and workers in the domestic economy. Undoubtedly, those wider concerns grew and it is plausible to suggest that, after the *Tract*, 'Keynes was not looking at the flow of investment as a modern economist but as an intelligent, concerned layman' (Mini 1994: 100). Whereas, for Keynes, economic efficiency is secondary to economic stability and the continuity of employment, Hayek points to the 'function of competition', which is 'to teach us *who* will serve us well' (Hayek 1949: 97), and to the difference between the coordination of action and the coordination of knowledge. Traditional societies – those that do not rely upon an extensive network of markets – may achieve co-ordination of actions. Although harmony may be everywhere apparent, the absence of an institutional framework to encourage entrepreneurship brings a lack of coordination of knowledge. Such societies might be stable – and stagnant – because of that omission; action would be highly coordinated but progress inhibited for the reason that isolated islands of knowledge would remain unbridged.

Moving beyond this important difference, both Keynes and Hayek have due regard for the complexity in economics that defies mathematical modelling, a feature that is missed by those responsible for the creation of Keynesian macroeconomics. In dealing with net output or prices generally, theory does not lend itself to quantification – '[o]ur precision will be a mock precision if we try to use such partly vague and non-quantitative concepts as the basis of a quantitative analysis' (Keynes [1936] 1973: 40) – a view that is endorsed by Hayek's criticism of 'the pseudo-scientific economics of averages' (Hayek 1972: 20). In *A Treatise on Probability,* Keynes argues that the methodology of the natural sciences is inappropriate to economics. Yet, although the essential points are the same – '[e]conomics deals with motives, expectations, psychological uncertainty. One has to be constantly on guard against treating the material as constant and homogeneous' (Keynes 1973b: 300) – his warnings against the attempt to erect a quantitative science of macroeconomics are largely overlooked.

Keynes's objections to pseudo-measurement have a close parallel in Hayek's work: 'economic values or prices, cannot be interpreted by simple causal or 'nomothetic' theories, but require explanation in terms of the joint effects of a larger number of distinct elements than we can ever hope individually to observe or manipulate' (Hayek 1988: 148). Yet, even though

> Hayek and Keynes strikingly share in a number of important misgivings about the quantification of economics, that affinity abruptly stops when they consider the implications for public policy of the essentially and irreducibly 'complex' nature of social phenomena.
>
> (Böhm 1989: 170)

So, notwithstanding the closeness of their philosophical perceptions, the two men gave radically different explanations for one particular social pheno-

memon – the general economic malaise of the 1930s – and they offered radically different suggestions as to the most likely way forward.

Chronic unemployment

Unlike Keynes and certainly a majority among economists and politicians, Hayek is not distracted by the unusual circumstances of the 1930s and the problem of chronic high unemployment. However reasonable they might appear to some, short-lived panaceas for a pressing problem are of no interest and his focus remains fixed upon the complexities of an extended economic and social order.

So Hayek continues with his investigations of the linkages between the business cycle and efficient resources allocation across a market economy. These give emphasis to the dynamic supply constraints that preclude any easy notion of sustainable full employment. Although Hayek recognises that business fluctuations might be reduced if bank credit creation were closely controlled, he warns that the 'stability of the economic system would be obtained at the price of curbing economic progress' (Hayek [1929] 1933a: 190). His confidence of the development of theory to investigate more closely the non-neutrality of money –

> I am of the opinion that in the near future, monetary theory will not only reject the explanation in terms of a direct relation between money and the price level, but will even throw overboard the concept of a general price level and substitute for it investigations into the causes of the changes of relative prices and their effects on production.
>
> (Hayek 1935b: 29)

– was to be undermined by the influence of Keynes. The paradox is that, while Keynes's appreciation of the problems of a money economy is compatible with the theory that Hayek was developing, Keynes's wish to achieve a 'quick fix' for high unemployment led to the creation of conceptual aggregations that obscure important questions. In particular, the focus upon investment as a category of expenditure, rather than as the provision of resources to support a multitude of different capitalistic production methods, diverts attention from the need for continuous and accurate adjustments in the face of varying expenditure patterns.

The idea that public expenditure might sustain an economy in a state of high employment runs counter to Hayek's perception of a vital economy, but his ideas came to full maturity too late to rebut the hostile reaction of an economics profession that had been captivated by Keynes (see, for example, Wilson 1940 and Kaldor 1942). Hayek's argument that recession is typically the outcome of *too much* investment incites particular rage, for an over-investment theory of economic slump is menacing to Keynes's prescription of a state investment programme to ensure high aggregate demand. While

there can be no doubt that Keynes (and Keynesians) won the battles that secured the high ground for many years, the reassessment of those conquests remains a contentious issue within the economics profession: 'there was a time when the new theories of Hayek were the principal rivals of the new theories of Keynes. Which was right, Keynes or Hayek?' (Hicks 1967: 203). The choice to be made must surely rest, not upon the basis of econometric evidence of market efficiency or failure, nor upon time-series estimates of relationships between statistical aggregates, but upon a judgement of the alternative precepts for a sound political economy.

The power of the state

Keynes's political precepts are derived largely from Burke, who emphasises the value of ethical norms and social conventions, none of which is of any legitimate concern to government. According to Burke, the stability of Western society rests upon the absolute sanctity of the Church and of private property. While Keynes accepts that it is of crucial importance to define the proper domain and functions of the state, he denies that this might be based upon any notion of universal absolutes. Instead, expediency requires that rights and responsibilities (morality) should be shaped by intuition according to circumstances. So Burke's opposition to state intervention in commerce and property is set aside as mere detail; and the crucial feature which Keynes draws from Burke's theory is that 'the public wisdom must always be supreme over individual discretion' (Fitzgibbons 1988: 54). Keynes's goal is to produce an 'economics of practical wisdom' (Fitzgibbons 1988: 198) that recognises that, while decisions necessarily have a subjective element, they ought not to be arbitrary. Judgement replaces dogmatism.

Two other political maxims are drawn from Burke, namely that close attention should be paid to the prejudices of the people and that reform should never be violent. Hayek also recognises the dangers inherent in radical change, but Keynes's presumption that it might be possible to plot a rational course of development – '[a] rapid transition will involve so much pure destruction of wealth that the new state of affairs will be, at first, far worse than the old, and the grand experiment will be discredited' (Keynes [1933] 1982c: 245) – is less modest than the position taken by Hayek, for whom the purpose of supporting slow evolutionary change is to ensure that developments enhance, rather than detract from, a just society. Hayek rules out the 'grand experiment' for the reasons that any outcome could not be determined in advance and that small mistakes are more happily rectified than large ones. Moreover, human nature – the prejudices of the people – that Keynes feels ought to be managed by 'wise and prudent statesmanship' (Keynes 1973a: 374) are, according to Hayek, harnessed only by the mechanisms of evolving custom and tradition.

Keynes believes that there are individuals who must be heard because of their superior perception, wisdom and statesmanship. These select few – an

elite – have licence: they are set free from constricting dogma. In trusting his own abilities to inspire and to set a high moral tone for the masses, Keynes (like Plato and Aristotle) is concerned about the kind of person who is fit to govern. Civil virtue is attained by actions towards a common good.

In great contrast, the important questions for Hayek concern the limitations to be imposed upon the authority of government. Recognising both the potential for economic advance that is created by a trustworthy money order, and that the state might illicitly coerce its citizens by corrupting that money order, Hayek follows John Locke in seeking to establish principles to protect individual rights against arbitrary political encroachment.

Money and commerce were regarded by the ancients as a potential political threat. By their business contacts, traders and merchants are exposed to new customs, thoughts and values that might challenge the existing order. Keynes provides a modern rationale for those age-old fears and confirms the hostility to industrial and commercial values that forms part of the British tradition of the leisured elite, his own class. His rationalisation of these conclusions takes in a monetary theory of interest rate determination and an argument for the state to set a local rate for the domestic economy. State involvement is necessary to counter volatile expectations and entrepreneurial investment decisions that – founded upon business conventions – 'will be compatible with a considerable measure of continuity and stability in our affairs, *so long as we can rely on the maintenance of the convention*' (Keynes [1936] 1973: 152). In the past, entrepreneurs had acted for action's sake; but the modern age had dispensed with that co-operation and altruism, whereby

> the labouring classes accepted from ignorance or powerlessness, or were compelled, persuaded or cajoled by custom, convention, authority, and the well-established order of society into accepting, a situation in which they could own very little of the cake . . . And on the other hand the capitalist classes were allowed to call the best part of the cake theirs and were theoretically free to consume it, on the tacit condition that they consumed very little of it in practice.
>
> (Keynes [1919] 1971: 11–12)

Such conventions were insufficiently robust to survive the Great War; and there needed to be substituted a political judgement soundly based upon ethics. Macroeconomic intervention by the government becomes necessary as businessmen begin single-mindedly to follow profit.

Economics and politics are thus joined and receive direction from a common set of social values. In close parallel with Plato's ideal – that only those who apprehend the form of the good are fit to rule – Keynes 'implied that the political solution is a guardian class unswayed by venal passions of humanity' (Fitzgibbons 1988: 174). Here, too, there is a similarity with Hayek's proposals (Hayek 1978: 152–62) for a legislature – representative of

general opinion but immune from special interest pressure – composed of individuals who would take a long-term view, unswayed by fashion or passion; and uninfluenced by any desire for re-election.

Although the proposals are superficially alike, Hayek's are made within the context of an argument for the separation of the powers of government (with a responsibility to administer those limited resources placed at its disposal by the wishes of a majority and in accordance with just laws) from those of a legislature. The object is to protect the rule of law from encroachment by government. Keynes, in stark contrast, sees no conflict between liberty and a strong state. Keynes quotes Burke to support a pragmatic approach to resolve 'one of the finest problems in legislation, namely, to determine what the state ought to take upon itself to direct by the public wisdom, and what it ought to leave, with as little interference as possible to individual exertion' (Keynes; cited from Fitzgibbons 1988: 54).

Although Keynes cuts loose from Burke, by conceding to government more discretionary power 'to exercise a practical wisdom in its affairs, meaning a commitment to truth combined with familiarity with all the details of the data' (Fitzgibbons 1988: 163–4), there is an unresolvable contradiction: '[n]o one was more critical of government error than Keynes; but the most disturbing feature of Keynes's attitude was his tendency to conclude such criticisms by proposing to increase the power and responsibilities of those criticised' (Loasby 1989: 188). Having climbed down on one side of the fence, Keynes ignores the philosophical conundrum that Hayek acknowledges, having climbed down on the other; for, although Hayek is represented as the apostle of *laissez-faire,* it is Hayek who criticises 'the wooden insistence of some liberals on . . . the principle of *laissez-faire*' (Hayek 1944: 13). Undoubtedly, there is a presumption that favours competition but, for this to 'work beneficially, a carefully thought-out legal framework is required' (Hayek 1944: 27). These requirements – necessary to achieve cohesion within a context of continuous change – are essential components of any theoretical structure for economic analysis, where the task is to understand the existing state of affairs in order to reach 'a prognosis of what is likely to happen in the future' (Hayek 1941: 22).

Economic decisions need to be coherently based upon experience and the 'various ways in which the knowledge on which people base their plans is communicated to them is the crucial problem for any theory explaining the economic process' (Hayek 1945: 78). The policy objective is to find the most effective way of utilising knowledge. This is the principle of effective planning. Is it to be achieved by centralised decision-making or by allowing decisions to be dispersed across individuals within the processes of competition? Which information can be accessed only by individuals and which is more readily accessed by a body of experts? Although a presumption in favour of experts might be justified for scientific knowledge, there is a wider body of unorganised knowledge of rules governing particular circumstances and special processes. Here, 'practically every individual has

some advantage over all others because he possesses unique information of which beneficial use might be made' (Hayek 1945: 80). Such information is no less vital than the scientific knowledge of technical experts but, because it is less readily identified and documented, it is grossly underrated.

The minutiae of interactive changes are beyond the compass of a single mind. Centralised planning, conducted upon the basis of statistical artefacts, can take no account of the special circumstances of time and place that are of critical importance to decisions taken at the local level. The authority and responsibility for economic decisions are for those with local knowledge, for the man on the spot, where the 'continuous flow of goods and services is maintained by constant deliberate adjustments, by new dispositions made in the light of circumstances not known the day before' (Hayek 1945: 83). Nevertheless, the principle of *laissez-faire* leaves many important questions unanswered. Which constraints apply? What sets the boundaries to the areas where formal scientific knowledge is paramount? When is it legitimate for the state to coerce individual action? How is the law to evolve? These and many other related issues are central to Hayek's life's work which, like that of Keynes, goes far beyond the pristine boundaries of modern economics.

While *The General Theory* emphasises the efficiency gains from 'the decentralisation of decisions and of individual responsibility' (Keynes [1936] 1973: 380), it warns against reliance upon market forces to sustain full employment. Although it recognises that authoritarian state systems could solve 'the problem of unemployment at the expense of efficiency and freedom' (Keynes [1936] 1973: 381), it calls, nevertheless, for 'a somewhat comprehensive socialisation of investment' (Keynes [1936] 1973: 378). Keynes's support of *dirigism* is reaffirmed, when he takes Hayek to task for 'the very doubtful assumption that planning is not more efficient' (Keynes [1944a] 1980b: 386). Keynes is commenting upon Hayek's uncompromising condemnation of socialism in *The Road to Serfdom*. Even though Keynes is both 'morally and philosophically . . . in agreement with virtually the whole of it', Hayek is held to have confused 'the moral and the material issues' (Keynes [1944a] 1980b: 385).

Although there is some difficulty in reaching a firm conclusion, a fair summary of Keynes's position might be that centralised planning is efficient though potentially dangerous; that it is a 'safe' strategy when undertaken by those 'rightly orientated in their own minds and hearts to the moral issue' (Keynes [1944a] 1980b: 387). By taking (in Hayek's terms) a rational constructivist approach, Keynes would set right-minded economists the task of persuading, not only those in places of power but the public at large, in order to 'change the social understanding of the economic agent and, consequently, his behaviour and action too' (Carabelli 1985: 173).

Conundrums

By his emphasis upon 'the historical nature of society, the passionate nature of man, and the artificial nature of morality', Hayek is set firmly within the liberal tradition of David Hume, where justice and morality are valued as instruments of a civilised historical order. Yet, he also shares an affinity with Immanuel Kant and the object of assuring 'to reason its lawful claims, and [to] dismiss all groundless pretentions' (Kant 1781; cited from Blackburn 1994: 205). From Kant, justice can be established only by rules that have a rationally based universal applicability. Where Hume argues that it is impossible to defend reason with reason, Kant uses reason to emphasise 'man's autonomy, rationality, and his equal right to freedom' (Kukathas 1989: 17). Thus, '[o]ne of the most intriguing features of Hayek's political philosophy is its attempt to mark out a *tertium quid* between the view of justice of Hume and Kant' (Gray 1984: 8); and Hayek's attempt to provide a coherent defence of the liberal social order is 'an attempt to marry a Kantian view of justice as an institution concerned with the distribution of *freedom,* with a Humean view of justice as an institution preserving *order* among men of limited benevolence, living in a world of scarcity' (Kukathas 1989: 205). Although close to Hume by the rejection of constructivist rationalism, and by his support for the notion of the spontaneous order and the nature of society and with the view of morality and justice as social institutions, Hayek rejects the conservatism that these might seem to imply. Hayek sees it as a task for economists to probe the issues that determine the legitimate scope for state intervention.

A first requirement is the separation of the powers of government from that of law-making, for 'government under the law' cannot survive omnipotent legislatures: 'to call "law" everything that the elected representatives of the majority resolve . . . is a very bad joke. It is in truth lawless government' (Hayek 1978a: 153). So Hayek attempts to create a more extensive political economy, with an explicit consideration of the relationship between market processes and the free society, where moral and political issues are understood within a framework of evolving cultural practices. However, the unifying abstract feature of all just systems (drawn from Kant) – that of an individual's equal right to *freedom* – is ultimately incompatible with his scepticism of the existence of absolute guide-lines.

The creativity that derives from spontaneity demands freedom for the individual; but the universal tendency to err demands caution and respect for cultural taboos. So, there is an unresolvable contradiction – 'Hayek has tried to cast himself in the image of the most improbable of creatures: the principled sceptic' (Kukathas 1989: 215) – and, like Keynes, he endeavours to use ethical principles to forge a link between a dynamic economy and the ideal of a liberal and just civilisation. It was inevitable that Keynes's own political programme should have become elitist and anti-democratic, for his

particular emphasis, that the human spirit would be liberated by the forces of art and culture, has yet to be demonstrated: 'for all his insight and intuition, Keynes was, even by his own account, misled by a superficial and exaggerated notion of the power of ideas' (Fitzgibbons 1988: 197). Moreover, Keynes's constructivist vision of a new world order – '[t]he prospect for civilisation had receded over the horizon. The rest of Keynes's life was spent in trying to bring it back into sight' (Skidelsky 1983: 402) – is incompatible with evolutionary cultural forms.

4 Money issues

> Hayek, like Keynes . . . wished to analyse the effects of monetary disturbances on economic activity *before equilibrium is restored*.
>
> (O'Driscoll 1977: 1)

The money economy

The use of money released mankind from primitive arrangements for production and barter; but, in facilitating a high degree of specialisation and exchange, money has caused individuals to rely upon the entrepreneurial success of others. Yet, even the normal hazards of business and trading relationships can be exacerbated if the monetary system is destabilising. Price signals – the means by which diverse activity is coordinated – are corrupted by monetary disturbances.

When requirements are uncertain, money also allows expenditure to be deferred; but this creates another problem. If income is retained as money, no indication is given of the goods and services that will be required when that income is eventually spent. To maintain levels of income and employment, goods (of equivalent value to the deferred expenditure) must continue to be produced; but of which kind?

So, there is a basic paradox in the use of money: 'a market system without money has no very sure means of arriving at the equilibrium which our moneyless theory predicts, but the introduction of money into a market system entails risks of serious coordination failures' (Loasby 1989: 9). The nature and detail of that disruption is a focus of monetary economics, where a primary requirement is to identify ideal conditions under which economic coordination may best be achieved.

Neutral money

The influence of money is described as 'neutral' when it neither impedes nor stimulates economic activity. This is the ideal. With neutrality, markets and money are analogous to engines and lubricating oil. Although the fundamentals of free exchange (or engineering) can be explained in the absence of

money (or lubricating oil), the practicalities remain. Neutral money (like a frictionless engine) provides a conceptual bench-mark.

In practice, a neutral money would add to the convenience of exchange, *without* disturbing the price relativities that would exist in an ideal barter economy. A neutral money would imply a monetary policy that does not disturb the processes of resources allocation. Yet the very connotation of neutral money suggests 'recognition of the fact that money need not be neutral' (Schumpeter 1954: 1088). This is the practical problem. Since the presence of money necessarily intrudes upon the circumstances of real resources allocation and exchange, neutrality must remain a theoretical abstraction: the conditions for neutral money can never be given in the real world, not least for the fact that money does not exist in a pure form.[1] Although a theory of neutral money would seek to identify the conditions that can set in motion those 'tendencies towards a stage of equilibrium which are described by general economic theory' (Hayek 1935b: 130–1), there is no simple stratagem: no 'maxim which is immediately applicable to the practical problems of monetary policy' (Hayek 1935b: 129). Rather, the concept of neutral money is simply an enabling device to reach a greater depth of understanding of the essential problems of the money economy.

Where, by its long-term perspective, classical economics avoids all the issues of non-neutrality, Keynes and Hayek do not. It is because '[a] monetary economy . . . is essentially one in which changing views about the future are capable of influencing the quantity of employment and not merely its direction' (Keynes [1936] 1973: vii), that 'the task of monetary theory is . . . to cover a second time the whole field which is treated by the pure theory under the assumption of barter' (Hayek 1935b: 127). Whether in the context of classical economics or that of modern macroeconomics, many of the economic 'bads' that are associated with business cycles and international payments disequilibria originate in monetary disturbances.

Classical monetary economics incorporates the quantity theory of money, whose analysis is conducted 'in terms of the demand and supply of a subset of assets called "money"' (O'Driscoll 1977: 42). Quantity theorists look ahead to the ultimate consequences of a monetary disturbance that breaks the equilibrium between supply and demand. Their conclusion is that, whatever the duration and detail of the events that lead from a monetary disturbance to a new equilibrium, an excess/deficiency of money results – eventually – in a higher/lower general level of prices. However, the details of the interim inflationary/deflationary path receive perfunctory consideration.

Although the quantity theory of money has very early antecedents, its first 'theoretically satisfactory presentation' (Schumpeter 1954: 311) was detailed by Jean Bodin in the sixteenth century. In the eighteenth century, Richard Cantillon pointed to the evidence that a monetary disturbance affects some transactions before it affects others; in the nineteenth century, Henry Thornton examined the initial impact of a monetary disturbance and 'the gradual effects on spending by way of changes in the interest rates on

marketable securities' (O'Driscoll 1977: 42); and in the twentieth century, the relevance of changes in interest rates was taken further, as Knut Wicksell incorporated the capital theory of Eugen von Böhm-Bawerk to analyse monetary influences upon capital formation. Although Keynes and Hayek are both influenced by Wicksell, the analysis diverges as 'Wicksell plus Keynes said one thing, but Wicksell plus Hayek said quite another' (see chapter 5).

Forced saving

A corollary of non-neutral money is the concept of 'forced saving'. This occurs when price inflation reduces the purchasing power of a given level of money income. A monetary expansion does not have a uniform impact across all sectors of the economy. The expenditures of those who have early use of any new source of purchasing power raise prices and incomes in specific sectors of the economy. Thereafter, ripple effects of successively raised levels of income and expenditure cause incomes and prices more generally to rise. In this process, those individuals whose incomes rise before the more general rise in prices benefit, while those whose incomes rise at a later stage are harmed. A measure of that harm is the amount of forced saving.

The origins of the concept of forced saving rest in pre-classical writings. In the nineteenth century, Jeremy Bentham acknowledged Henry Thornton's *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain* (1802) as containing many of his own ideas (see Hayek [1932c] 1939b: 183–97); and, between 1800 and 1850 the doctrine was elaborated by many classical writers including Malthus, Ricardo, Dugdale, Stewart, Torrens and Lauderdale (see Presley 1979: 108).

Forced saving forms the basis of Hayek's business cycle theory. With an upswing in business activity, the demand for bank credit increases. Since prosperity reduces the risk of default, banks readily accommodate that demand by allowing the ratio of their holdings of reserve assets to fall. As the expansion of bank credit money lowers the market rate of interest, prices begin to rise. To this stage, the argument is exactly as expressed by Wicksell in 1898 (see Hayek [1929] 1933a: 111); but Hayek draws upon Cantillon's insight that prices do *not* rise simultaneously. If they did, there might be little impact upon the real economy. Hayek's contribution (owing much to Ludvig von Mises) is to emphasise the distortions to relative prices.

Hayek assumes: that the impact of new bank credit is primarily to increase entrepreneurs' command over resources; and that their expenditure forces up the prices of capital goods; and that this gives the incentive to switch resources away from the production of consumption goods and to the production of capital goods. In Hayek's analysis, forced saving redirects resources to meet the increased expenditures by entrepreneurs on capital goods. The economic consequences that follow are complex, and Hayek was occupied throughout the 1930s in attempting to construct a coherent

theoretical structure that would do justice to that complexity. Hayek's business cycle theory is examined in chapter 8. However, the problems of a money economy relate to every production and trading arrangement. For these issues to be addressed, the propositions of classical economics – Say's Law and the loanable funds theory of interest rate determination – and of Keynes's *General Theory* must also be examined.

Classical economics: Say's Law and mercantilism

Jean Baptiste Say had expounded and elaborated upon Adam Smith's great work, *The Wealth of Nations*, 1776. Say's proposition – that supply creates its own demand (that is, Say's Law of markets) – has come to epitomise classical economics, not least for the fact that Keynes selected Say's Law for sacrifice to a new principle of effective demand: '[t]he fact that [Say's Law] has become the target of adverse criticism from Keynes and Keynesians has invested it with an importance not naturally its own' (Schumpeter 1954: 615).

The significance of Say's Law of markets rests with its contradiction of the mercantilist case against free trade. Mercantilism derives from the transition from the feudal economy to merchant capitalism and international commerce, during the sixteenth and seventeenth centuries. A strong central authority was considered essential to the expansion of markets and it was a mercantilist imperative that the power of the state should be enhanced by an accumulation of wealth. Here, a general concern with business recession became focused in a particular fear that productivity might outstrip consumers' purchasing power. Mercantilists argued that nations compete for business opportunities; they asserted that a nation prospers only at the expense of other nations; and they concluded that a trade surplus provides the wealth necessary to support the international prestige and power of the state.

By Say's Law, the mercantilist fear of a general glut is shown to be unfounded, for the reason that individuals produce goods either for personal consumption or to buy other goods. In supplying one set of goods, they effectively demand another set of goods. Further, because supply and demand are concepts that relate to a nexus of diverse commodities, the idea of general over-production is meaningless:

> [s]trictly speaking, there is no more sense in speaking of an economic system's total or aggregate demand and supply and, incidentally, of overproduction than there is in speaking of the exchange of value of all vendible things taken together or of the weight of the solar system taken as a whole.
>
> (Schumpeter 1954: 615)

Recessions result, not from any general over-production, but from the over-production of particular items beyond their levels of demand. In a market

system, this implies a deficiency in the production of some other items, so that business recessions are symptomatic of a necessity to redeploy (or to re-price) productive factors.

The argument against mercantilism and in favour of free trade applies to domestic and international markets alike. The efficiency gains that derive from specialisation and the division of labour imply that variety in the composition of consumption is almost entirely dependent upon trade. Consumption and investment goods are generally produced for sale; and the implication is that production creates not only a supply of goods but also (through a willingness to trade) a demand for goods. Free trade allows the creation and distribution of a greater diversity of goods; and export sales are retarded only by a refusal to allow foreign goods access to home markets. As a corollary, the mercantilist assertion that prosperity requires preferential access to foreign markets and the protection of domestic markets is also phoney.

Classical economics: money and interest rate determination

With the denunciation of mercantilism, the goal of economic activity is redefined: wealth accumulation by the state is superseded by the satisfaction of individuals' wants. The latter is not served by the accumulation of export surpluses. The impartial and spontaneous mechanisms that are encompassed by Adam Smith's 'invisible hand' allow individuals to achieve mutual gains from trade and independent economic actions to become coordinated. By the market mechanism of continuous price adjustments, demand and supply are moved towards ever-closer harmony. Although unexpected developments are endemic, personal incentives both motivate and inform speculative entrepreneurship. Through active and competitive bidding, entrepreneurs drive prices towards a mutually consistent configuration. There is no claim to optimality. Rather, the system of market price adjustments offers a practical arrangement for the production and distribution of wealth across an extended economic order.

Yet in addressing the issue of the consequences (for market price signals) of monetary disturbances, the classical paradigm was developed far beyond Say's Law. The expectation that money would be neutral is plausibly argued to hold for the long run; but what of the more immediate consequences for economic activity, of changes in the volume of money in circulation?

The analysis of classical monetary economics for the short term centres upon the loanable funds theory of interest rate determination. The demand for loanable funds (to finance investments and other expenditures) is brought into equilibrium with the supply of voluntary saving, by means of adjustments to the (natural) rate of interest. In this regard, the market for credit is no different from any other market: it relies upon the price mechanism (adjustments of the interest rate). However, money has the potential to intrude upon the interest rate price mechanism. For example, the creation of

new bank credit money adds to the current supply of voluntary saving and pushes the market rate of interest below that (natural) rate which would otherwise have held. In so doing, bank credit creation alters (through forced saving) the magnitude and the direction of investment expenditures and, thereby, redirects the course of real economic activity.

The concept of natural rate of interest has its origins in Henry Thornton's *An Inquiry into the Nature of the Paper Credit of Great Britain* (1802); and it is discussed in detail in Knut Wicksell's *Lectures on Political Economy* (1906) (see O'Driscoll 1977: 44). The more recent conceptualisation of the natural rate of unemployment runs in parallel with that of the natural rate of interest (see Friedman 1977: 15). In driving the market rate from the natural rate, money is non-neutral; and the details of the potential consequences (see chapter 8) receive close examination (Hayek [1929] 1933a, 1935b, 1939c, 1941). In the briefest of summary: bank credit expansion stimulates capital investments, but its particular bias in favour of long-gestation projects cannot be sustained because of ever-increasing shortages of consumption goods.

Keynes's *General Theory*

As John Hicks observes, 'Keynes in 1936 was not the first Cambridge economist to have temperate faith in Public Works' (Hicks 1937: 136); but with *The General Theory*, there is a difference. The salient features of classical economics – Say's Law, forced saving, and Wicksell's natural rate of interest – are attacked with one purpose in mind. Keynes's *General Theory* can be viewed as an economist's attempt to develop new theory to show that public works 'made sense' in a money economy; and that monetary policy, taxation and public expenditure might be coordinated to achieve appropriate adjustments to the level of economic activity. The underlying notion – that the state 'should add to the effective demand for labour at a time when the effective demand of private traders falls off' – was 'originally proposed in the Minority report of the Royal Commission on the Poor Law in 1909' (Hawtrey 1925: 38). That proposition *per se* was unremarkable. As a piece of pragmatism, the policy had the appeal of showing that action was being undertaken to alleviate hardship. At an intellectual level it made no sense at all. According to contemporary theory, the conclusion was unequivocal:

> a creation of credit unaccompanied by any expenditure on public works would be equally effective in giving employment.
>
> The public works are merely a piece of ritual, convenient to people who want to be able to say that they are doing something, but otherwise irrelevant.
>
> (Hawtrey 1925: 44)

Keynes's wish to deny the conclusion that derives from classical analysis demanded that he produce a new theory.

In the construction of *The General Theory*, a further requirement is the need to incorporate new circumstances: the 1930s were different from the 1900s. High and chronic unemployment had superseded the problem of a succession of boom and slump. For those circumstances, Keynes shows that public works are more than a ritual. Credit creation unaccompanied by public works leads to a greater export of capital; public works without credit creation diverts saving. Both activities are essential to raising output and employment. In addition to those practicalities, Keynes faces a methodological issue: a fully deterministic model (in the mode of classical general equilibrium) is inappropriate to an open, adaptive, path-dependent, economy-wide macroeconomic system of adjustments and re-adjustments. Yet, at the same time, a new theory needs to be sufficiently 'robust' to give conclusive backing to the predetermined solution: public works.

The General Theory . . . on one page!

To summarise *The General Theory* is necessarily to misrepresent it: '[a]ny undergraduate will nowadays write out (what he thinks to be) Keynesian economics in two pages; but Keynes needed 400, wasting no words' (Bensusan-Butt 1966: 32). Yet, the nature of explaining a big theme is to summarise without misrepresenting or omitting the essence of the work. The following is a summary of Keynes's *General Theory* that might be expected from a graduate in economics (degree classification withheld).

- *Prologue:* having censured economists for their long-term view – 'this long run is a misleading guide to current affairs' (Keynes 1923: 80) – Keynes focuses *The General Theory* upon the more pertinent issues of the immediate impact of (and the most appropriate response to) monetary events upon real activity.
- *The problem:* chronic unemployment.
- *The cause*: monetary deflation had eroded business confidence and caused a retreat into money (high liquidity preference).
- *The effects:*
  (a) a reluctance to hold debt had raised interest rates and reduced investment expenditure below the level which sustains full employment.
  (b) involuntary unemployment,[2] the characteristics of which are such that (1) monetary expansion is non-inflationary and (2) unit production costs *per se* determine the general level of prices (cost-push inflation).
- *The assumption:* the demand to hold money is interest inelastic (the liquidity trap).
- *The implication*: interest rates could not be reduced by monetary expansion.
- *The assumption:* exogenous money.

- *The justification*: commercial bankers respond to business cycle fundamentals; they do not accommodate a flight into money; but even in the event of such accommodation
  (a) the interest rate would be held up by the liquidity trap; and/or
  (b) money would be displaced in the public mind as the premium liquid asset.
- *The solution:*
  (a) a 'policy of . . . a national investment programme directed to an optimal level of domestic development' (Keynes [1936] 1973: 349).
  (b) a 'policy of an autonomous rate of interest, unimpeded by international preoccupations' (Keynes [1936] 1973: 349).
- *The conclusion:*
  (a) monetary expansion (to finance public works) is a non-inflationary means to restore full employment.
  (b) beyond full employment the quantity theory becomes relevant and 'true inflation' (Keynes [1936] 1973: 119, 303) occurs.
  (c) it is 'one of the chief tasks ahead of our statesmanship to find a way to prevent . . . money wages forever soaring upwards' (Keynes [1944b] 1980a: 40).
- *Epilogue*: in deep recession, high liquidity preference holds interest rates above prospective investment yields so that monetary measures *per se* offer little prospect of recovery; but if new money were used to finance programmes of public works, some progress could be made. As full employment is approached, inflation becomes an issue. This is the core of Keynes's *General Theory*.

Of course, there is much more. The important peripheral details of Keynes's *General Theory* are sufficient to have exercised a great many economists. In particular, the supply of money and its demand (liquidity preference) became the focus of a vast literature. Can liquidity preference host a plausible interest rate theory? What is the relevance of bank credit money? How can money be treated as an exogenous variable?

Endogenous (inside) and exogenous (outside) money

A state currency is introduced into circulation exogenously. The right of seigniorage – held by the 'seignior' (that is, the head of state) – is the privilege of making that first expenditure by which every new unit of currency enters into circulation. This 'fiat' or token money has negligible intrinsic value and, although it is the liability of the seignior, there is no obligation to meet that liability except in terms of fiat money itself. It is a liability against which the seignior need hold no assets to ensure solvency. Such a liability is referred to as exogenous or outside money, because it can be introduced into circulation at the whim of the seignior. The only constraint is that a wise seignior would not issue so much as to render his

currency worthless. (*NB*: seigniorage *per se* is the implicit value of the interest payments avoided by the seignior when he issues currency instead of redeemable instruments of debt.)

Commodity money also enters into circulation exogenously through the discovery and influx of precious metals. (Some endogeneity would be present since varying commodity prices affect the relative profitability of extracting precious metals.) Although the effective volumes of fiat money and commodity money would also vary endogenously, as they are hoarded and dishoarded by individuals, this was regarded (prior to Keynes's introduction of an asset demand for money) as a relatively insignificant source of endogenous variation. In the classical *schema*, a more important endogenous source is bank credit money, which derives from the systematic accommodation by banks (that is, through varying the differential between the bank discount rate and the cost of acquiring liquid assets) of loans backed by commercial bills.

It is a defining characteristic of a bank that it has the ability to create 'bank credit money'. It puts that ability into effect whenever there is an increased usage of bank liabilities to settle debts between third parties. For example, when individual A uses a bank credit facility to settle a debt with individual B, the latter's bank account is credited (a bank liability) as A's bank account is overdrawn (a bank asset). The aggregate value of the bank liability (inside money) is exactly cancelled by the aggregate value of the corresponding bank assets. Unlike fiat money, an increase in the volume of inside money is not the sole prerogative of its issuer (the creditor). Rather, it is a created by mutually compatible requests to borrow and desires to lend.

Banks also have creditors: those who create reserve assets. With their finite reserve assets (of outside money), banks are potentially exposed to abnormally high levels of demand for bank deposit repayments. To avoid (in that event) the necessity to contract bank advances, banks have access to reserves borrowed from the seignior (in the guise of a central bank), but this is conditional upon adherence to prudent banking precepts. Historically, the importance of reserves derives from a need to ensure confidence in the banking system but, as that confidence increased, the operational importance of reserves declined. Since the 1930s, the evolution of banking has reduced the ratio of outside money to bank credit money in circulation, so that the role initially played by outside money now derives from general confidence in the regulatory role of the seignior (central bank). Confidence that the seignior will not debase his currency has given way to confidence that commercial bankers are adequately regulated (by the seignior). Of course, public confidence in the performance of the seignior can be – and often has been – misplaced. The ease with which that privilege can be abused calls for a set of principles to guide monetary policy. However, as discussed above, the precept of neutral money offers no detailed practical guidance.

Exogenous money: liquidity preference and inflation theory

Keynes's assumption of exogenous money – or else 'given money' (see below) – exposes inherent contradictions within *The General Theory* in regard to the determination of the rate of interest and the determination of inflation.

Interest rate theory

It is necessary for Keynes to reject the loanable funds theory in order (1) to establish that the division of production between consumption and capital goods cannot be varied without compromising a full employment level of production, and (2) to launch the multiplier process. So, in presenting the argument that, for every shift in demand (for funds to finance investment expenditures) there are corresponding shifts in levels of (national) income and saving, Keynes introduces the paradox of thrift, the multiplier process and the conclusion that Wicksell's natural rate 'had nothing very useful or significant to contribute to our analysis' (Keynes [1936] 1973: 243). In the terminology of the loanable funds theory, an expansion of investment (demand for loanable funds) raises production, so that both incomes and saving (supply of loanable funds) also rise; and if shifts in demand cause shifts in supply, there is no determinate theory of price (interest rate).

With the new liquidity preference theory it is clear that, if there is *endogenous* bank credit money (that varies to meet the demand for credit), Keynes cannot provide an interest rate theory to rival the loanable funds theory. Here Keynes shows some confusion. Although he subsequently seems to imply that the interest rate (rather than the money supply) is exogenous – '[t]he monetary authorities can have any rate they like. Up to the point when inflation begins . . . a lower rate of interest tends to increase employment' (Keynes 1980: 390) – his acknowledgement that inflation/deflation would follow constitutes an unguarded reversion to classical loanable funds theory.[3]

The unavoidable conclusion is that, without the assumption of exogenous (or 'given') money, Keynes can offer no alternative to the loanable funds theory of interest rate determination. Indeed, this is the primary explanation that Joan Robinson gives for the 'great importance' of money in *The General Theory*; that is, even though 'Keynes was dethroning "monetary theory"' he required something like the loanable funds interest rate theory as a full employment regulation mechanism in order to retain academic interest; the assumption of 'a constant rate of interest and a perfectly elastic supply of money' would have caused 'his whole case to have been dismissed' (Robinson 1971: 82).[4]

Sheila Dow (1997) suggests that, while Keynes is fully alert to the implications of bank credit creation, expositional convenience is the reason that the 'technical monetary detail falls into the background' (Keynes [1936] 1973: xxii). The conventional view that Keynes 'understood the money

supply to be exogenous' is thereby challenged: Keynes is better understood 'as taking the money supply to be given, not exogenous' (Dow 1997: 61–3). Bank credit meets the need for finance but, if credit-financed payments are held on deposit by their recipients, this indicates an abnormally high (liquidity) preference for short-term over long-term assets. In normal circumstances, those whose income is raised by credit-financed payments would purchase (say) long-term assets and so facilitate business activity generally; but, in the absence (in the 1930s) of any reasonable anticipation of an amelioration of depressed business confidence, it would be implausible that commercial banks might increase reserve borrowings in order to meet credit demands exacerbated by that abnormally high liquidity preference. Moreover, the latter would be associated with reduced expenditure upon consumption goods and (in consequence) an increased perception of risk would be attached to any further extension of credit-finance. Dow's contention is that the assumption of a *given* money supply is a reasonable representation of such circumstances.

Inflation theory

In principle, there are no *causal* relationships within a closed system. In an open system, the choice of exogenous variable(s) is the presumption of cause(s).[5] In *The General Theory*, government expenditure is set as an exogenous variable; if its level is raised (financed by an issue of exogenous money), the economy is lifted towards a full-employment level of production. Where there is involuntary unemployment, workers acquiesce in real wage reductions brought about by higher wage-good prices, which implies that the increase of exogenous money in circulation causes no inflation (that is, no prices-wages spiral). If, at some stage, rising unit costs of production are the manifestation of (apparently cost-push) inflation, it is nevertheless transparent that the driving force is the method of financing new state expenditure (that is, by the expansion of exogenous money). Thus, for normal circumstances (that is, where there is no involuntary unemployment), Keynes's assumption of exogenous money leaves the quantity theory intact: ultimately, it is money alone that drives the level of prices.

As a tangential point, Keynes once held the view that money ought not to be left to the discretion the state: 'it is natural . . . that prudent people should desiderate a standard of value which is independent of finance ministers and banks' (Keynes 1923: 135). However, that position fell victim to *The General Theory* and to the precept that a sound monetary strategy would emanate from those 'rightly orientated in their own minds and hearts to the moral issue' (Keynes [1944a] 1980b: 387). Hayek had no such faith: '[a]ll history contradicts the belief that governments have given us a safer money than we would have had without their claiming an exclusive right to issue it' (Hayek 1978a: 224).

Keynes's views of Say's Law and mercantilism

Keynes's criticisms of Say's Law are focused upon the proposition (which Keynes took to be Say's Law) that competition tends always to cause output to expand to the point of full resource utilisation: '[t]hus, Say's law, that the aggregate demand price of output as a whole is equal to its aggregate supply price for all volumes of output, is equivalent to the proposition that there is no obstacle to full employment' (Keynes [1936] 1973: 26). Keynes quotes Marshall:

> [t]he whole of a man's income is expended in the purchase of services and of commodities. . . . a man purchases labour and commodities with that portion of his income which he saves just as much as he does with that he is said to spend.
>
> (Marshall; cited from Keynes [1936] 1973: 19)

This is because saving is directed 'to the production of wealth from which he expects to derive the means of enjoyment in the future' (ibid.). Keynes is critical of this proposition, because it extends to the money economy a result that is derived for 'some kind of non-exchange Robinson Crusoe economy, in which the income which individuals consume or retain as a result of their productive activity is, actually and exclusively, the output *in specie* of that activity' (Keynes [1936] 1973: 20). Where income is received not as *specie* but as money, contemporary economists were 'fallaciously supposing that there is a nexus which unites decisions to abstain from present consumption with decisions to provide for future consumption' (Keynes [1936] 1973: 21). Even if there were no net excess demand within the nexus of (barter) commodities, an excess demand for money necessarily leaves an excess supply of commodities. However, Keynes is wrong to infer that this was overlooked by all classical writers and Leijonhufvud points to poor research: although Keynes quotes John Stuart Mill, he 'did not bother to finish reading the paragraph' and so missed the appraisal of a situation where 'there is an under-supply of money . . . so that there may really be . . . a glut of commodities' (Mill; cited from Leijonhufvud 1968: 101 n.). Clearly, there were, among the classical economists, some who recognised that problems were inherent in the use of money.

The purpose of Keynes's *General Theory* is to propagate the idea that market forces do not necessarily sustain a full employment level of output; that, in a money economy, a general over-supply is possible. Of course, once Keynes targets Say's Law, it is consistent that he should discover an 'element of scientific truth' in the mercantilist doctrine. That element of truth follows from the proposition (of *The General Theory*) that the interest rate and the level of investment do not self-adjust to levels compatible with full employment. (So arises the necessity to eliminate the interest rate as the mechanism which channels saving, *via* the market for loanable funds, to

meet a demand for investment goods.) With the liquidity preference interest rate theory, a high speculative demand to hold money ('liquidity preference') sets a high interest rate and a low level of investment expenditure. Aggregate demand is then categorised as deficient, in the sense that it would be opportune if some means could be established to increase investment expenditure.

In an international context, variations in the money supply (and, according to Keynes's analysis, variations in the interest rate) are largely dependent upon the balance of international payments, from which are derived the 'avowedly national advantages' of the mercantilist doctrine. A trade surplus boosts the domestic circulation of money. Yet, because mercantilism is unashamedly a beggar-my-neighbour approach, it also gives a tendency to drift into war, which is a serious flaw! Keynes argues that mercantilists had recognised the nature of these problems but had been unable 'to push their analysis to the point of solving it'. The solution which had been missed is that of applying 'the policy of an autonomous rate of interest, unimpeded by international preoccupations, and of a national investment programme directed to an optimal level of domestic development' (Keynes [1936] 1973: 349).

An economy with chronic unemployment faces two problems: it is short of remunerative investment opportunities at home and it requires the means to bring down the domestic rate of interest. The mercantilist objective – a trade surplus – gives a remedy in three parts: overseas markets bring enhanced returns on investment; foreign currency earnings offer the means to finance overseas investment; and, by adding to the domestic circulation, overseas earnings exert downward pressure upon domestic interest rates.

For all of these reasons, the mercantilist preoccupation with the trade balance is *not* (as classical economics insists) 'little better than nonsense'. Unlike the mercantilist zero-sum game of trade balances, the option of an autonomous domestic interest rate is open to all, so that all countries can contribute to the quite remarkable result of 'restoring economic health and strength internationally' (Keynes [1936] 1973: 349).

Neutral money and credit

In conjunction with the paradox of thrift, liquidity preference has a key role within Keynes's theory of aggregate output, but there is a secondary focus which derives from Keynes's assumption that there are no ready means to increase the stock of money. By that assumption, it is possible to argue that high liquidity preference leaves the own yield on money as the highest yield and other potential investments as 'also rans'. This second slant to Keynes's criticism of Say's Law may have been the basis for a general misconception that Say's Law holds only for a barter economy: that the supply (of goods) does not create its own demand (for goods) if the overwhelming desire is for more money. On the contrary, Say is emphatic that too little money cannot be responsible for a general glut of goods:

> merchants know well enough how to find substitutes for the product serving as a medium of exchange or money . . . and money soon pours in for this reason, that all produce naturally gravitates to that place where it is most in demand.
>
> (Say, 1880; cited from Glasner 1989: 62)

In 'taking the money supply as given', Keynes sets aside the relevance of possible money substitutes and becomes aligned with the quantity theory position that, if there were a general tendency of individuals to hold a greater amount of money, reduced spending would be their sole mode of adjustment. This finds expression in Keynes's green cheese thesis:

> [u]nemployment develops . . . because people want the moon; – men cannot be employed when the object of desire (i.e. money) is something which cannot be produced and the demand for which cannot readily choked off. There is no remedy but to persuade the public that green cheese is practically the same thing and to have a green cheese factory (i.e. a central bank) under public control.
>
> (Keynes [1936] 1973: 235)

However, if the potential for bank credit creation were permitted, there would be the important counter-argument that a competitive banking system would never permit an unsatisfied demand for liquidity to turn into a general oversupply of real goods.

The possibility that variations in the volume of bank credit might accommodate discrepancies between the demand for real goods and a speculative demand to hold money, is sometimes dismissed on the grounds that, if it were so, the price level would be indeterminate. This view rests upon a confusion of state money (an asset to its holder) and bank credit money (a liability to its holder) and a failure to recognise that an expansion of bank credit money does not, of itself, contain the seeds of inflation. This confusion – which has been variously commented upon (see, for example, Friedman 1969: 75; 1986: 28) – may be attributed to the ascendancy of Keynes's liquidity preference theory which, unlike its loanable funds rival, draws no such distinction. However, as an eminently practical issue, every increase in bank credit money is matched and constrained by an equal volume of indebtedness.

Strict control over the issue of notes and coins by the state (or its functionary, the central bank) does not establish rigid control over commercial bank credit; but, while commercial bank credit can influence prices as much as notes and coins, the latter provide the monetary base and the premium instrument for final payment. For that reason, bank credit expansion is constrained by the volume of (exogenous) money. This point has a history of being misunderstood. Thus, the Bank Charter Act of 1844 enshrined the currency principle: because gold was the ultimate source of the coinage and

because the volume of bank deposits depended on the supply of coinage, the principle was adopted that the volume of currency notes in circulation should be strictly tied to the supply of gold reserves. The (Banking School) arguments against the Act were that bank deposits, bills of exchange, and other substitutes for currency would defeat all attempts to exert statutory control (as advocated by the Currency School) over the note issue, but that such control would be unnecessary providing convertibility were maintained. It was argued that commercial bank credit could never be extended beyond the 'needs of trade'. If ever this were attempted, the Law of Reflux would operate: excess money balances would be used to repay bank loans. In ruling out the possibility of a general over-provision of credit, the Law of Reflux provided an exact complement to Say's Law (which denies the possibility of an unrequited demand for credit giving rise to a general deficiency in demand for commodities).

The distinction between state money and bank credit money is further emphasised by Hayek's argument that the Banking School case (that money in circulation responds to the needs of trade) relates more specifically to the varying provision of different forms of money. Although beyond official control, changes in the volume of money substitutes have the same impact as changes in the amount of money proper. While commercial bank credit is anchored upon the expectation of its convertibility (into superior forms of money), its flexible provision shows that monetary policy need not be directly concerned with meeting the needs of trade.

Hayek likens the system of credit control and regulation to an inverted pyramid. The lowest part corresponds to cash; the next tier to central bank credit, followed by commercial bank credit and trade credit. It is only in respect of the first two (or three) tiers that direct control would be exercised by the seignior. Since ratios between the different credit forms are continuously varying, the volume of total exchange media can rise and fall even when the credit base (outside money) remains constant.

To achieve a constant circulation of all media of exchange would require intricate counter-action (that is, regulation) with respect to the reserve base; but 'neutral money' would not only require changes in the volume of exchange media to be tailored to changes in velocity, it 'would also require adjustments precisely in those areas where original changes take place'. Even then, success would not be guaranteed:

> [i]t is quite conceivable that a distortion of relative prices and a misdirection of production could only be avoided if, firstly, the total money stream remained constant, and secondly, all prices were completely flexible, and, thirdly all long term contracts were based on a correct anticipation of future price movements.
>
> (Hayek 1935b: 131)

Clearly a high degree of omniscience is a prerequisite for neutral money: there are few practicalities in the precept. As a guide to policy, Hayek's

recommendation – that monetary authorities should seek to avoid obvious pitfalls – is not especially helpful. However, his eventual conclusion (Hayek 1978a; 1986) is that the denationalisation of money would approximate that ideal 'set of conditions, under which it would be conceivable that events in a monetary economy could take place . . . as if they were influenced only by the "real" factors which are taken into account in equilibrium economics' (Hayek 1935b: 130). If commercial banks were left to operate freely at any ratio of reserve assets, leverage could still be exercised by the authorities' ability to control the supply of reserve assets. The need to ensure solvency would limit bank credit creation. Disappointed prospective borrowers might seek credit elsewhere, and human inventiveness would ensure the availability of alternative sources, but at a price. Monetary control would be effected by the market mechanism: the inability of alternative credit sources to compete before a contraction of the supply of reserve assets marks them as higher cost alternatives. This is an old idea: that bank deregulation is consistent with monetary discipline is to be found in *The Wealth of Nation*s where 'Smith maintained that, even for the money supply, the operation of market forces could and should be relied upon as confidently as for the wine supply' (Hutchinson 1980: 4).

Although Milton Friedman endorses reform along these lines, he argues for a cautious approach. The first stage would be to freeze the growth of state token money (or, rather, its modern equivalent: high-powered money); this would be followed later by the elimination of reserve requirements and other regulations. From the earlier 'monetarist rule' of monetary expansion in line with productivity growth, Friedman now argues that zero growth is more appealing in that it would be harder to talk the rate up on political grounds: 'as a psychological matter' zero has a qualitative difference from, say, rates of 2 or 3 per cent (see Friedman 1987: 377). On past trends of rising velocity of circulation, such a target rate would be consistent with the liquidity needs of a growing economy. Moreover, the processes of de-regulation and innovation within financial markets suggest a further steady rise of the money multiplier and the compatibility of price stability with a zero growth rate of high-powered money. These are no more than rules of thumb that rest minimally upon rational design and largely upon consumer sovereignty in the market place; but, as such, they may gain a closer proximity with the elusive precept of neutral money.

In allowing money to retain the characteristic of having a well-defined *quantum*, Keynes does not forge his interest rate theory upon the notion of liquidity as a characteristic that is displayed in varying degree by a wide range of real and financial assets. In that detail, Keynes (and the quantity theorists) neglect the relevance of commercial banking (and the availability of credit) to money's short-term non-neutrality. Whatever justification for that omission might be drawn from the unique conditions of the 1930s (or from the long-term quantity theory perspective), it has no relevance to monetary policy generally.

Electronic barter

Neutral money exists when all the problems of the money economy have been resolved; or, alternatively, once money loses its essential property: a liquidity premium in excess of its carrying cost. How might this be achieved whilst retaining the benefits of a monetary system of exchange? If state currency were denied its statutory monopoly, and reduced in status to that of one among many competing (foreign state and private) currencies, money – with no special form and with many ready substitutes – would achieve its neutrality in the only practical sense. While such proposals have been mooted (see Hayek 1978a, 1986), technological change in financial services and electronic exchange may out-pace even this reform.

Registers of asset portfolios (incorporating financial and real assets) – with withdrawal and deposit facilities (in uniform or specific amounts across the liquidity spectrum) to be used to facilitate market transactions – remain futuristic, but increasingly easier to envisage. Those portfolios might, in turn, be interlinked with others that incorporate contracts to secure the goods and services that entrepreneurs anticipate to be most appropriate to meet requirements in future periods. (Although many of those enterprises would fail, the continuous adjustment of prices and quantities would secure the equilibrating tendency.) In this fashion, advances in communications, information processing and financial services might increase the advantages and reduce the hazards of a money economy, with the ultimate tendency, in effect, to sophisticated arrangements for bartering assets and commodities alike.

5 Macrodisequilibrium

> Economists spend most of their time describing and discussing what happens in a position of equilibrium, and they usually affirm that a position of disequilibrium is merely transitory, I want to study what happens during the process of disequilibrium – one which lasts long enough to observe it.
>
> (Keynes [1930] 1981: 72)

Wicksell and Keynes and Hayek

When Knut Wicksell died in 1926, Lionel Robbins remarked that 'he was probably less known than any other economist of commensurable rank' (Cochrane and Glahe 1999: 21). Yet Wicksell formulated a theory of the rate of interest and the price level that informed much of the subsequent development of monetary theory; and he was the first to become engaged with the dominant twentieth-century preoccupation: the relationship between saving and investment. Although Keynes and Hayek draw upon Wicksell in detailing their particular concerns with monetary adjustments, their paths diverge: whereas 'Wicksell plus Keynes said one thing, Wicksell plus Hayek said quite another' (Hicks 1967b: 204).

In extending the quantity theory to incorporate bank credit money, Wicksell had shown that the interest rate *per se* has no significance. Rather, the divergence of the actual *market* rate of interest in relation to an hypothetical *natural* rate of interest is analytically relevant. From the evidence of prices and interest rates in nineteenth-century Britain, Wicksell had concluded that inflation pressures originate from real shocks. When new demands are driven by wars, new technology and other innovations, investment can exceed saving by the amount of bank credit expansion. By implication, the market rate of interest is prevented from rising to the raised level of the natural rate (that is, the rate that equates the demand for loan capital with the supply of saving; see below).

In Wicksell's analysis, a divergence of the market rate from the natural rate affects prices; and he is credited as 'the first writer to make it clear that the influence of the rate of interest upon the price level operates by its effect on the rate of investment' (Keynes [1930] 1971: 177). However, in Wicksell's

analysis, the interest rate differential is soon closed, because the inflationary process is constrained by a rise in the transactions demand for currency. As the general public converts deposit holdings into currency holdings, this drain on reserves induces banks to raise the market (loan) rate. This not only curtails the rise in prices but, if banks are intent upon restoring reserve assets to the original ratio to deposits, the market (loan) rate is raised above the natural rate until such time as reserves (and prices) are restored to their original levels.

In Hayek's analysis, the primary relevance of the divergence of the market rate from the natural rate is in its effect on production methods (although a differential impact upon the prices of commodities and capital goods respectively is relevant to the analysis). That divergence provides the starting point for his business cycle theory (see chapter 8). In the analysis pursued by Keynes in *A Treatise on Money*, the relevance of the *natural* rate is (as it is for Wicksell) that it preserves the equality between investment and saving. However, in *The General Theory*, Keynes rejects the usefulness of the *natural* rate altogether (as is examined below) and argues, instead, that speculation in financial markets creates a divergence between the *market* rate and an hypothetical *neutral* or *optimal* rate that is 'consistent with *full* employment, given the other parameters of the system' (Keynes [1936] 1973: 243).

The setting for Keynes's *General Theory*

Although macroeconomics is the term now used to encompass economists' interest in broad issues (employment, inflation, international payments, *etc.*) that relate to the economy, that terminology has acquired the particular connotation of simultaneous equation national income and expenditure (SENIE) analysis. Such models are the substance of university courses in national income determination and of econometric models that are used by forecasters to anticipate economic trends. However, they are both a derivative and a distortion of Keynes's *General Theory*.

Before 1936, the broad issues of economic concern pertain largely to monetary matters and they centre upon the concept of neutral money. Indeed (as shown in the previous chapter) *non*-neutral money is an essential feature of *The General Theory* but, while '[i]t is undoubtedly true that Keynes regarded the problems he was dealing with as problems peculiar to the monetary economy' (Fender 1981: 132), this is patently not the case in respect of Keynesian macroeconomics. Even though he was spared later sophistications, Keynes voices his opinion that

> too large a proportion of recent 'mathematical' economics are mere concoctions, as imprecise as the initial assumptions they rest on, which allow the author to lose sight of the complexities and interdependencies of the real world in a maze of pretentious and unhelpful symbols.
>
> (Keynes 1936: 1973: 298)

As if oblivious to that perspicacious criticism, SENIE macromodels continue to deliver an endless variety of unlikely assumptions, counter-factual settings and presumptuous forecasts, from which basis the 'authorities' are encouraged to put their influence to work.

Keynes's first book – *Indian Currency and Finance* (1913) – 'was a lucid attempt to apply existing monetary theory' in order to elucidate the institutional practicalities for currency reform (Skidelsky 1997: 243). Keynes then worked within the frontiers of orthodox theory. However, with the upheaval of the Great War and the subsequent consequences of attempts to restore earlier financial arrangements, Keynes is moved to theoretical contributions that are uniquely his own. Prompted by his perception of the monetary mismanagement that caused the extraordinarily rapid rise in UK unemployment in 1920–1 and its sustained high level through to 1939, Keynes begins his protracted examination of the characteristics of a monetary regime that would have (at the very least) a benign impact upon real economic activity; there followed *A Tract on Monetary Reform* (1923), *A Treatise on Money* (1930) and *The General Theory of Employment, Interest and Money* (1936).

Keynes's *Tract*

Keynes's first significant contribution to monetary theory is described by Milton Friedman as 'the most explicitly monetarist work amongst the writings of the Cambridge School' (Presley 1985: 2).[1] Indeed, *A Tract* carefully elaborates the policy implications of the quantity theory, where the principal concerns are that saving, investment, production and employment are reliant upon a stable value of money, and that inflation corrupts the efficient working of the economy.

Keynes argues that business prosperity in nineteenth-century Britain drew upon the saving of the whole community and that this was made possible by a stable value of money. Whereas movements in *relative* prices are an important instrument to secure the correct proportions of goods in current production, this is patently untrue of movements in the *general* level of prices. When prices are *expected* to fall, production is inhibited. When prices are *expected* to rise, output expands. Yet different levels in the nominal value of money affect neither the productive capacity of the economy, nor the desired amounts of goods to be produced. Inflation is a disruptive force.

Inflation not only disturbs productive activity (with implications for investment), it makes business too easy. Profits are raised by stock appreciation and commodity speculation is encouraged; and, if the money rate of interest is slow to adjust to rising prices, there are gains to creditors from the reduced real cost of borrowing. The effect is that businessmen concentrate upon speculative gains to the detriment of their enterprise. In turning businessmen into profiteers, inflation discredits enterprise and poses a threat to the capitalist system. Inflated profits are mistakenly viewed as the cause of

inflation while the purported remedies – subsidies, price and rent fixing, and so on – undermine the efficient allocation of resources by the mechanism of adjustments to relative prices.

In tracing the sequence of a currency inflation, Keynes produces an argument that is distinctly Austrian in character. Indeed, the general features of that argument are described in Ludvig von Mises's *Theory of Money and Credit*, first published in German in 1912. Keynes's failure to acknowledge this source (he reviewed Mises's book in the *Economic Journal* of 1914) might be explained by his comment that 'in German I can only clearly understand what I already know!' (Keynes [1930] 1971: 199n.). The argument is as follows. As monetary expansion begins, the public regards the initial rise in prices as a temporary phenomenon and defers whichever purchases it can. Larger than usual holdings of money are retained but, as the true situation becomes understood, this is reversed. Expenditures are brought forward and there may be recourse to borrowing, even though interest rates are rising. Eventually, a soaring velocity of circulation has greater impact upon prices than monetary expansion itself. Either the currency collapses or inflation peaks. When the public can effect no further economies in the use of money, even the slightest moderation in its mistrust of the currency leads to larger money holdings. At this stage, the low gold value of the domestic currency is such that its exchange value can be held on the basis of minimal reserves: the value of the currency bottoms out.

In *A Tract,* Keynes questions the contemporaneous objective of restoring sterling to the gold standard, whether through deflation or devaluation: commitment to a fixed exchange rate is no panacea and could weaken monetary control. A fixed rate requires the stability of both internal and external prices; and the latter lie outside the control of the domestic authorities. His conclusion is that the right choice is not the same for all countries and depends upon the importance of foreign trade. Even so, Keynes's presumption is for stable prices.

Price stability requires the authorities to exercise control over money and over the commercial banking system's required ratio of liquid assets. This is necessary in order to counter changes both in the public's use of money and in the banks' own dealings. Exchange rate stability is a convenience which adds to the profitability of foreign trade; but price stability avoids the greater evils associated with inflation and deflation.

Notwithstanding the long-term proportional relationship between the quantity of money and the level of prices, *A Tract* warns that inflation changes habits by its impact upon expectations, money hoarding and the distribution of income and wealth. Although *A Tract* does not dwell upon the misleading incentives that are thereby created, Keynes subsequently becomes more engaged by the interrelationships between monetary policy and macrodisequilibrium processes. On this the quantity theory is mute; it gives only broad hints of the short-term consequences of monetary instability. With an excess demand for money, attempts to hold back money

from circulation cause prices to fall and equilibrium to be restored (eventually) through a diminished transactions demand to hold money. Faced by declining markets – and with no means to gauge where their products' prices should lie within the new set of market-clearing prices – traders inevitably make mistakes. It is implausible to suppose that price relativities would remain unchanged as the general price level adjusts. Moreover, every aberration in a price relativity has repercussions in product and factor markets; and those changes, too, have their own further impact.

Keynes eventually reaches the conclusion that, in order for such consequences to be properly addressed, it is necessary to integrate monetary theory and value theory. This – according to Axel Leijonhufvud – is Keynes's vision: his project was not 'to sweep the boards clean of traditional theory' but 'to *extend* . . . general value theory beyond the area represented by problems of general equilibrium and into the area of macrodisequilibrium'. This required a shift of focus, away from 'long-run tendencies towards the problems of macroeconomic adjustment processes in the short run' (Leijonhufvud 1968: 333). By this interpretation – and this is a crucial conclusion – 'not only the interest rate, but relative prices generally play a more important role in Keynes' thought than they have usually been accorded' (Leijonhufvud 1968: 15).

Adjustments and maladjustments

In a money economy adjustments comprise the monetary repercussions of real events and the real repercussions of monetary events. Prices and interest rates (or, for simpler exposition, the interest rate) link the real and monetary sectors. So, for example, if investment declines, an excess supply of saving causes the interest rate to fall and (given the reduced cost of holding idle balances) creates an excess demand for money. Prices are then affected by adjustments to expenditures. So, a real change has monetary repercussions that feed further real and monetary changes.

Consider a different illustrative case: an attempt to expand aggregate demand by increasing public expenditure. If that expenditure were financed by bank borrowing, the money supply would increase, prices would rise and the purchasing power of private incomes would fall. If financed by non-bank borrowing, the interest rate would rise, investment expenditure would fall and (by the inducement to saving) consumption would fall. If financed by taxation, consumption would fall (or saving would fall and cause interest rates to rise). If financed by borrowing from overseas, neither domestic prices, nor interest rates, nor current taxation need be affected, but the loan would require repayment; and this would require monetary expansion, higher interest rates or higher taxation at some future date. So, in every case, the increase in public expenditure is met by the reaction of agents; and the more recent and reliable the information that agents have of the system in which they operate (especially information relating to the implications of

policy decisions), the more likely is their reaction to temper the impact of an attempt to boost aggregate demand, whether by monetary or fiscal measures.

Although these and analogous considerations may be examined within SENIE macromodels in terms of respective IS and LM elasticities,[2] the true relationships are unlikely to show in stable econometric parameters. It is more plausible that *variable* magnitudes of the IS and LM coefficients would reflect informational inaccuracies (that are linked, *inter alia*, to unique historical sequential experiences) that cause many, if not most, agents to misjudge events. Mistakes are important in their consequences. The likely impact of monetary and fiscal policies is dependent upon the availability and the accuracy of information-forming agencies and the alacrity of their response to changing circumstances.

A typical SENIE macromodel is misleading, not only because it assumes that elasticities are unaffected by agents' familiarity with (and, therefore, reactions to) the details of policy, but also because it 'contains a number of built in assumptions about *the sequence in which things happen* even as its simultaneous equation form gives the impression that the temporal order of adjustments is irrelevant' (Leijonhufvud 1981: 147). From the implicit – though undefined – sequence of events that is triggered by exogenous expenditure 'blips', conclusions are drawn. Though hidden by the geometric representation of ISLM in the plane of interest and real income, the sequence of events is important. So, for example, an increased propensity to save has (implicitly) no direct implication for the choice of wealth portfolio assets; adjustments to the amounts of money/bonds held in that portfolio take place only as income multiplier iterations guide the economy to a lower level of real economic activity.

The natural rate of interest

The relevance of money to interest rate determination holds special importance for a money economy. Yet a SENIE macromodel affords no understanding of a key issue: interest rate maladjustment. The central concept which it lacks is Wicksell's (hypothetical) natural rate of interest, that is derived from the classical loanable funds theory:

> [t]he rate of interest at which *the demand for loan capital and the supply of savings* exactly agree, and which more or less corresponds to the expected yield on the newly created capital, will then be the normal or natural real rate.
>
> (Knut Wicksell; cited from Gilbert 1956: 69 n.)

In the absence of money, the interest rate could only be determined by transactions in commodities; so, if a loan of 1 kilo of flour were repaid after one year with 1.2 kilos of flour, the annual rate of interest would be 20 per cent. In more general circumstances, Wicksell's natural rate of interest is

determined by demand and supply in the market for loanable funds: the demand for resources (for investment to provide for the production of consumption goods in the future) and the supply of resources (provided out of saving from current production/income).

Interest rate movements provide the mechanism that ensures a balance (on the side of income) between consumption and saving and (on the side of employment) between the production of consumption goods and investment goods. For example, an increase in the proportion of income saved (decrease in expenditure on consumption goods) causes the interest rate to fall and so stimulates investment expenditure. This encourages the reallocation of workers from the production of consumption goods to the production of investment goods. By these adjustments, the price (interest rate) mechanism sets a tendency for the economy to produce a mix of consumption and investment goods that is consistent with full employment.

In a modern economy, loan arrangements are typically conducted in terms of money. The implication is that the quantity of loan finance that 'is available for capital purposes may be arbitrarily changed by the banks' (Hayek 1935b: 23). This has an important bearing upon the interest rate. Consider a demand for resources to invest in the extraction of newly discovered mineral deposits. Mining entrepreneurs bid against existing borrowers for resources (funds) made available through saving. The price (the rate of interest) rises, which may, or may not, encourage a greater volume of saving. Either way, there is an increase in the equilibrium (natural) rate of interest, as saving is channelled to the highest bidder. Now consider the involvement of banks, whose lending is increased to meet the new entrepreneurial demand for funds. The rate of interest is not forced up: the increase in bank credit holds the interest rate below the level that otherwise would have prevailed (the natural rate). It is this divergence, of the (observed) market rate from the (hypothetical) natural rate of interest, that has important repercussions for real economic activity.

Saving and investment; money and securities

The natural rate of interest is the equilibrium rate: there is equality between saving and investment and the volume of bank lending is constant. Consider an upward shift in the demand for resources for investment. As businessmen compete for current saving, the interest rate rises. This encourages commercial banks to expand credit, which holds the (observed) market rate of interest below the (hypothetical) natural rate. The repercussions are as follows. With the rate of interest unchanged, there is no additional saving and no reduction in the demand for consumption goods. If productive resources are already fully employed, the increased demand for capital goods and the unchanged demand for consumption goods implies that prices must rise. Only when bank credit expansion ceases (as the reserve assets hit some minimum level) is equilibrium restored, with the interest rate reverting to the natural rate.

With the reverse (deflationary) sequence, suppose that businessmen demand fewer resources for investment so that the interest rate falls. Since commercial banks provide credit less willingly at lower interest rates, bank credit contracts and the interest rate is held above the natural rate. So there is less of a reduction in saving, and less of an increase in the demand for consumption goods to offset the reduced demand for capital. Prices begin to fall. So long as bank credit contraction holds the market rate above the natural rate, deflation continues. Eventually, when the flow of bank deposits and loan repayments exceeds new lending, further credit contraction becomes unprofitable. With bank lending stabilised, the interest rate reverts to the natural rate.

Now consider a parallel scenario, in which trading in securities markets (reflecting changing preferences for money or bonds or some hedged combination of both) impinges upon the adjustment process. Against this background, suppose that normal business activity causes the interest rate to rise. A reduced price of bonds (with their fixed coupon value) lowers the risk of capital loss. As asset holders increasingly discount the possibility of a capital loss (that is, as the market turns bullish), an enhanced preference for bonds puts downward pressure upon the market rate of interest; and, as it drops below the natural rate, there is an excess demand for commodities. Prices rise generally.

With the reverse (deflationary) sequence, suppose that normal business activity causes the interest rate to fall. An increased price of bonds (with their fixed coupon value) raises the risk of capital loss. As asset holders increasingly fear the possibility of a capital loss (that is, as the market turns bearish), an enhanced preference for money will hold the market rate of interest above the natural rate, which implies an excess supply of commodities. Prices fall generally.

These illustrative scenarios show how a divergence from the natural rate of interest might be traced either to commercial banking activity or to the activity of securities traders. The former is in the spirit of 'Wicksell plus Hayek'. The latter is in the spirit of 'Wicksell plus Keynes', but it is Keynes of *A Treatise on Money* (that retains the classical interest rate mechanism), not Keynes of *The General Theory* (where the income multiplier takes the star role).

In *The General Theory*, excess demand/supply has a direct impact upon production and employment, rather than upon commodity prices. First, consider the loanable funds theory in a deflationary scenario, but with the securities market on the periphery. As investors demand fewer resources and the interest rate falls, there are two possibilities. If the interest rate falls immediately to the new natural rate, the decline in investment moderates while the discouragement to saving and corresponding increase in expenditure upon consumption goods redeploys employment from the production of investment goods to the production of consumption goods. In this way, the interest rate mechanism achieves the inter-temporal coordination of production and expenditure.

Now consider a second possibility (where the loanable funds theory is absent) involving the income multiplier: as investment demand falls, the interest rate remains constant so that production, employment, income and saving also fall, until saving reaches a level commensurate with the original reduction in investment expenditure. With saving and investment now equalised, the interest rate is at its natural rate, but unemployment persists. Moreover, wage flexibility offers no means of addressing the problem, which is one of interest rate maladjustment. Although the natural rate of interest prevails, it is an inappropriate rate: it is higher than the level that would have prevailed had the income multiplier not been operative. Before *The General Theory*, this second possibility was neglected by the economics literature.

Under the classical dichotomy, the general level of prices is determined by the familiar tautology, $MV=PQ=Y$. Any change in money (M) and/or its circulation velocity (V) determines a change in nominal income (Y). Money is neutral: variations in MV are accommodated by variations in P (price level) rather than by variations in Q (output). With the more recent developments of the monetarist revival of the quantity theory, interdependent changes in P and Q are examined in greater detail in the context of the expectations-augmented Phillips curve. However, the *assumption* that interest rate maladjustments are relatively trivial delivers an automatic labour market convergence upon the natural rate of unemployment (a concept complementary to the natural rate of interest; see Friedman 1977: 15). A further inference is that any sectoral redeployment of labour must be addressed by wage flexibility. This is an anathema to Keynesian economists who, although they 'believe that flexible wages would not always ensure convergence on full employment. They seem to have forgotten why' (Leijonhufvud 1981: 169). The reason – as in the detail above – is to be found in (the assumption of) the enduring nature of any interest rate maladjustment.

Is the interest rate determined by arrangements governing the flow of credit (the classical loanable funds theory), or by the assets portfolio adjustments of traders in securities (Keynes's liquidity preference theory), or by both? By the choice that he makes, Keynes is ensnared by a most dubious interest rate theory:

> what Keynes should have taught is that loanable funds supply and demand govern the rate of interest . . . He could then have proceeded, with justice, to argue that this "Classical" doctrine did need to be amended to take securities market speculation into account.
>
> (Leijonhufvud 1981: 171 n.)

Instead, Keynes elevates speculation in securities markets to the status of a theory of interest rate determination. Although he incorporates the classical loanable funds theory in *A Treatise on Money*, Keynes realises that the role of the interest rate coordinating mechanism needs to be addressed before any

case can be made that an economy might stabilise at less than full employment. Nevertheless, his *General Theory* retains the classical proposition that an excess demand for money is equivalent to an excess supply of commodities; or rather, his equivalent proposition is that an excess of saving (over investment) is equivalent to an excess supply of commodities (see Keynes [1936] 1973: 84–5). The linkage between the rival theories of interest rate determination lies in the impact that saving has (1) upon the demand to hold money in preference to securities and (2) upon the rate of interest. In short, the IS and LM functions are *inter*dependent.

In refusing to acknowledge that interdependence, Keynes denies the classical loanable funds theory in order to draw attention to the importance of short-term concerns in the face of an uncertain tomorrow. His hostility is directed at the central concept of the loanable funds theory; that is, the natural rate of interest that is set by the supply of saving and the demand for loanable funds. However, Keynes allows himself to be misled by Wicksell. In the 'attempt to establish a rigid connection between the rate of interest and changes in the general price level' (Hayek 1935b: 23), Wicksell wrongly concludes that, with the rate of interest held at its natural rate, the general price level is stable. This would only be true if saving were zero. Hayek's correction of Wicksell's conclusion was either unknown or ignored by Keynes. With positive saving (and with interest at its natural rate) investment, too, is positive, so that productive capacity and output must be expanding and (with a constant circulation of money) prices falling. This gives the important conclusion that '[t]he banks could *either* keep the demand for real capital within the limits set by the supply of savings, *or* keep the price level stable; but they cannot perform *both* functions at once' (Hayek 1935b: 27). Its corollary is that monetary policy may be effective in the control of either the rate of interest or bank credit expansion, but not both.

Keynes follows Wicksell's error by his belief that the natural rate is that 'rate which would preserve the stability of some, not quite clearly specified, price level';[3] that it is 'merely the rate of interest which will preserve the *status quo*' (Keynes [1936] 1973: 242–3). From that erroneous basis, Keynes counters Wicksell with his own case for different natural rates of interest, each corresponding to one of many unemployment (so-called) equilibria. By the argument that, for every shift in demand (for funds to finance investment expenditures), there are corresponding shifts in levels of (national) income and savings, Keynes effectively paves the way for the paradox of thrift, the multiplier process and his conclusion that the natural rate 'had nothing very useful or significant to contribute to our analysis'. With different natural rates of interest, each one corresponding to a unique level of income, an expansion of investment (demand for loanable funds) raises production, incomes and savings (supply of loanable funds); but shifts in demand cause shifts in supply, so there is no determinate theory of price (interest rate). By Keynes's analysis, the loanable funds theory is thereby declared defunct!

The General Theory: chapter 17

The importance of twenty-three pages of *The General Theory* – 'The Essential Properties of Interest and Money' – is evidenced by the familiarity of 'chapter 17' as a reference. In that chapter, Keynes brings together the real force of capital accumulation and the monetary force that determines the interest rate. He begins with the composition of the yield from the ownership of an asset:

> [t]he total return expected from the ownership of an asset over a period is equal to its yield minus its carrying cost plus its liquidity premium, i.e. $q-c+l$. That is to say, $q-c+l$ is the own rate of interest of any commodity, where q, c and l are measured in terms of itself as the standard.
>
> (Keynes [1936] 1973: 226)

The notation below remains close to the original; but, where Keynes writes:

$$x_c=q_c-c_c+l_c$$

where

x_c – own rate of interest of the commodity
q_c – yield in terms of the commodity
c_c – carrying cost in terms of the commodity
l_c – liquidity premium of the commodity

it is logical to combine these proportionate yields and costs as products:

$$(1+x_c)=(1+q_c)\,(1-c_c)\,(1+l_c)$$

This pedantry facilitates clearer exposition. For his illustrative purpose, Keynes compares the own rates of interest on:

houses	$c_h = l_h$	= zero	so that the house rate of interest	$x_h=q_h$
wheat	$q_w = l_w$	= zero	so that the wheat rate of interest	$x_w=-c_w$
money	$q_m = l_m$	= zero	so that the money rate of interest	$x_m=l_m$

These 'own' rates may be converted into money values:

$(1+x^m{}_h)=(1+x_h)\;(1+a^m{}_h)$ where $x^m{}_h$ – house rate of money interest
$(1+x^m{}_w)=(1+x_w)\;(1+a^m{}_w)$ where $x^m{}_w$ – wheat rate of money interest
$(1+x^m{}_m)=(1+x_m)\;(1+a^m{}_m)$ where $x^m{}_m$ – money rate of money interest

where $a^m{}_h$ – rate of appreciation of house money value
where $a^m{}_w$ – rate of appreciation of wheat money value
where $a^m{}_m$ – rate of appreciation of money money value (=zero)

Naturally, the greatest demand is for the asset with the highest commodity rate of money interest (x^m_c). So, for example, if

$$x^m_h = x^m_w < x^m_m$$

investment in houses and wheat would be curtailed, thereby creating a tendency for x^m_h and x^m_w to rise until equilibrium is restored. It is the particular circumstance of the inequality illustrated above that Keynes identifies as the reason for chronic depression: that of too little investment generally. He traces this problem to the special role of the money rate of interest (x^m_m): 'the rate of interest on money plays a particular part in setting the level of employment, since it sets the standard to which the marginal efficiency of a capital asset must attain if it is to be newly produced' (Keynes [1936] 1973: 222). Special significance attaches to the money rate of interest because its decline (with respect to any increase in the supply of money in real terms) is at a slower rate than the corresponding relationship for the yield from houses or wheat or anything else. According to Keynes, there is a persistent tendency for the money rate to remain the highest rate and thereby the one which acts as the general standard 'which eventually knocks out the profitable production of the others' (Keynes [1936] 1973: 229). Keynes gives three reasons:

First: money is not readily produced, at least, 'so far as the power of private enterprise is concerned'. Its supply is more-or-less fixed, whatever the inducement from a high yield. This characteristic is common to all assets/commodities in fixed supply.

Second: the utility of non-money assets and commodities remains fixed as their relative prices fluctuate; so substitution takes place, of assets whose relative price has fallen for assets whose relative price has increased. This is not so for money, whose utility derives solely from its exchange value. Where an increase in the demand for money raises its relative price, it also raises its purchasing power; and so, as a first approximation at least, the utility of money increases pro rata its price. Substitution is less likely.

Third: a fall in nominal prices must increase the real value of the money stock and so has the potential to lower its yield. However, this eventuality is discounted for the following three reasons: (1) if the fall in nominal prices carries with it the expectation that prices will fall again, this must increase the own yield on money; (2) money wages are sticky downwards; and (3) a general fall in prices may generate so much uncertainty as to 'cause a movement into cash' (Keynes [1936] 1973: 172), a feature aided by the negligible carrying cost of money.

The sum total of all of the above considerations is the *modus operandi* of Keynes's theory of interest rate determination. Yet there is an ambiguity; for Keynes's repetition of the argument that the money 'rate of interest may be somewhat unresponsive to a change in the proportion which the quantity of money bears to other forms of wealth' sits within the same paragraph as

'[t]he only relief – apart from changes in the marginal efficiency of capital – can come . . . from an increase in the quantity of money' (Keynes [1936] 1973: 234). However, throughout chapter 17, there is a strong inference that if monetary expansion were to rob money of the 'liquidity' attribute, liquidity preference would show in the demand for some alternative commodity (such as land). So, *whichever* asset ranks foremost with respect to the liquidity attribute, the uncertainty associated with a business slump creates an extreme preference for that asset.

Liquidity preference

High liquidity preference, together with a constant stock of money, leaves the own yield on money as the highest yield and other potential investments as also rans. It is in this broadest sense that liquidity preference *is* the key to Keynes's theory of employment; and the conclusion must be that Keynes's advocacy of fiscal intervention was not so much motivated by the futility of monetary expansion, as by his concern with the depressed state of business confidence. General despondency, which operates on both the demand side (*via* the low yield on capital projects) and the supply side (by raising the liquidity premium), is the heart of the problem.

In *The General Theory*, and contrary to classical theory, a preference for liquidity – a high level of saving – does not deliver a low interest rate and an encouragement to new investment expenditure. Rather, it implies a deficiency in aggregate demand, a low level of output and high unemployment. Beyond that, 'Keynes did not so much *deny the influence* of productivity and thrift on the rate of interest but, rather, he *rejected the relevance* of the classical concepts of productivity and thrift to the determination of the interest rate' (Fletcher 1987: 129). By the presentation of *The General Theory*, the money rate of interest determines the equilibrium level for the marginal efficiency of capital (which usurps the role of productivity from the demand for loanable funds); and the role of thrift is shared by two players: the propensity to save and the level of saving.

In this presentation (and unlike the loanable funds theory), changes in investment and saving have no direct influence over the interest rate. The key role that Keynes assigns to the investment-income-saving multiplier sequence insists that income adjustments serve to maintain the investment-saving equality. So, the interest rate mechanism is robbed of its classical inter-temporal coordination function.

In *The General Theory*, liquidity preference and monetary policy govern the interest rate in a manner so bizarre that (for example) an enhanced preference to provide the means to augment the future production of consumption goods sets the economy tumbling towards a situation of chronic (if not permanent) unemployment. Here is an economy that – at a given stage of scientific and technological development – can produce only one mix of investment and consumption goods that is consistent with full employment;

or, in a dynamic perspective, where only one rate of economic growth is consistent with full employment. Many find this an inherently implausible context from which to examine the dynamics of a money economy.

According to the liquidity preference thesis, the interest rate is determined by the choice of assets held as a vehicle for savings. A highly liquid asset (money) bears zero (or low) yield and is held only on the speculative expectation that the prices of bonds (and other securities) are more likely to fall (so incurring a capital loss) than to rise. The balance of speculation in financial markets determines the optimum *quanta* of holdings of money and less liquid securities. The thesis is that the rate of interest is determined by transactions between those (selling bonds) who feel that bond prices are more likely to fall and those (buying bonds) who feel that bond prices are more likely to rise.

The speculation that bond prices might rise (fall) is identical with the speculation that the rate of interest might fall (rise) and provides the substance behind Keynes's musing that

> [i]t is interesting that the stability of the system and its sensitiveness to changes in the quantity of money should be so dependent on the existence of a variety of opinion about what is uncertain. Best of all that we should know the future. But if not, then, if we are to control the activity of the economic system by changing the quantity of money, it is important that opinions should differ.
>
> (Keynes [1936] 1973: 172)

By adjusting the relative volume of money and bonds in circulation, the authorities can change their relative scarcities and so influence the price (and yield) of bonds. Thereby, the rate of interest can be manipulated by action that alters the weight of opinion between those with different views as to the future price of bonds. The objection that the analysis is deficient in that it does not say how the interest rate is determined in the absence (or uniformity) of specific thoughts as to future bond prices is ignored. Further, Keynes's strange assertion that his liquidity preference theory does not apply in the United States – 'where everyone tends to hold the same opinion at the same time' (Keynes [1936] 1973: 172) – has been politely ignored.

Keynes's crucial idea, that monetary expansion dissipates its force in financial markets (on bond prices) rather than in markets generally – '[t]he primary effect of a change in the quantity of money . . . is through its influence on the rate of interest' (Keynes [1936] 1973: 298) – requires the quantity theory of money to be discarded. He does this with the assertion that

> an increase in the quantity of money will have no effect whatever on prices, so long as there is any unemployment . . . whilst as soon as full employment is reached, it will be the wage unit and prices which will

> increase in exact proportion to the increase in effective demand. . . . So long as there is unemployment, employment will change in the same proportion as the quantity of money; and when there is full employment, prices will change in the same proportion as the quantity of money.
>
> (Keynes [1936] 1973: 295–6)

With such lack of *finesse*, there is no surprise that Keynes overlooks the implication that his liquidity preference theory is thereby exposed to the same criticism as that levelled against the loanable funds theory: at full employment, it has 'nothing very useful or significant to contribute' since an expansion of money supply raises prices which raises the (transactions) demand for money; and, if a shift in supply causes a shift in demand, the theory is indeterminate!

To summarise: the consequence of Keynes's propositions is that, with unemployment, the loanable funds theory is indeterminate and, with full employment, the liquidity preference theory is indeterminate. Keynes is mute on the determination of the rate of interest at full employment, except in the notion that it is always capable of being manipulated by state action. It is little wonder that the liquidity preference theory of short-term interest rate determination remains the most unsatisfactory aspect of *The General Theory.* Yet it is crucially important – for the income multiplier process – that the classical loanable funds theory of interest rate determination should be displaced. In setting the equations of a 'typical classical theory' to parallel the ISLM representation of *The General Theory*, Hicks was early in showing that it is only 'the liquidity preference doctrine which is vital' in permitting Keynes to reach 'the startling conclusion, that an increase in the inducement to invest, or in the propensity to consume, will . . . increase employment' (see Hicks 1937: 132–4).

Contrary to Keynes, the market rate of interest has two functions: it secures resources (saving) for investment and it sets the terms for credit arrangements generally. The possible consequences of a failure to fulfil either or both of those functions are of great relevance to a money economy. However, whereas Hayek's protracted elucidations left a trail of confusion that has only recently been dispelled, 'Keynes so obfuscated the interest rate mechanism that the later Keynesian literature almost entirely lost track of Wicksell's theme' (Leijonhufvud 1981: 134).

In *A Treatise*, Keynes attempts a detailed examination 'of the excess demands for the assets and liabilities of the banking system' (Leijonhufvud 1968: 21); in *The General Theory*, he examines the associated repercussions in commodity markets. So, from *A Treatise* to *The General Theory*, Keynes switches attention from the excess demand/supply of money to the corresponding and equivalent excess supply/demand for goods. This is 'a natural evolution in a line of thought' (Leijonhufvud 1968: 21), with the multiplier mechanism of *The General Theory* encapsulating two important changes in

the analysis: quantity as well as price adjustments are examined and initial disturbances are augmented through expenditure-income interations. That natural progression encompasses a change of outlook. In *A Treatise*, there is no mention of fiscal measures and attention is optimistically focused on anti-depression monetary remedies, with the emphasis upon easing credit terms to promote investment.

Keynes's vision and the Keynesian tradition

Whereas the focus of classical general equilibrium analysis is upon the end state, that of macrodisequilibrium is upon short-run adjustment processes, within which the elements of monetary theory and value theory are interlinked by path-dependent relationships. If Keynes's vision is that value theory can be extended beyond general equilibrium analysis into the area of macrodisequilibrium, then its Keynesian derivative is a strange beast. Keynesian economics is the antithesis of classical monetary theory and it draws nothing from value theory.

The formal incorporation of the liquidity preference theory of interest rate determination within SENIE macromodels, leaves Keynesian economics unequipped to deliver a theoretical response to Friedman's hypothesis of a natural rate of unemployment and the explanation (built upon that concept) for the shifting Phillips curve. The exclusion of the natural rate of interest and its unemployment counterpart from SENIE macromodels leaves no route to an alternative conclusion; namely, that 'unemployment will not converge to its natural level unless the interest rate goes to its natural level – and that the latter condition will not always be fulfilled' (Leijonhufvud 1981: 135). Instead, Keynesians fall back upon a stubborn reluctance to abandon the notion of an enduring trade-off between unemployment and inflation.

SENIE macromodels draw from *The General Theory* the understanding that, in the face of monetary deflation, any one of three impediments might impede the adjustments necessary to secure full employment: either (1) money wages do not adjust ('there is no means of securing uniform wage reductions for every class of labour' (Keynes [1936] 1973: 267)), or (2) interest rates do not fall ('certain circumstances, such as will often occur, . . . will cause the rate of interest to be insensitive' (ibid.: 233)), or (3) investment does not increase ('the collapse in the marginal efficiency of capital may be so complete that no practicable reduction in the rate of interest will be enough' (ibid.: 316)). Nevertheless, Keynes's economics is represented as a theoretically trivial but practically important limiting case of classical economics: special conditions may deliver a short-term unemployment equilibrium.

Although SENIE macrotheory is ready to acknowledge 'frictions' that encompass a myriad of unmodelled determinants, any more fundamental debate over 'the roles of relative values and of money (and, between them, the role of the rate of interest)' is rendered into bite-sized morsels, served for easy digestion by students 'as a theory in which neither relative values nor

monetary phenomena are "important"' (Leijonhufvud 1968: 8). The irony is that, while Keynes believed that *The General Theory* had achieved a synthesis of monetary theory and 'our fundamental theory of value' (Keynes [1936] 1973: vi–vii), the comparative static framework of SENIE macrotheory has 'minimal value-theoretic content and shoves the operation of financial markets into the background' (Leijonhufvud 1968: 9).

To understand Keynes's vision is to understand his attempt to elaborate upon the linkages between the financial and real sectors of the economy. These are overlooked by SENIE macromodels that 'exclude not only relative values but money supply and money demand relationships, and therefore the price level, as well' (Leijonhufvud 1968: 28 n.).

Fiscal policy as monetary policy

The conclusion reached by Keynes in *A Treatise* is that conventional monetary policy measures provide a weak counter to the momentum of a rapidly deepening crisis. This means that late action would need to be radical action, with 'open market operations to the point of saturation' and central bank trading losses commensurate with 'the fiscal policy measures advocated in *The General Theory*' (Leijonhufvud 1968: 20). This was hardly likely to win support in contemporary banking circles. Indeed, as indicated in the previous chapter, the monetary equivalent to Keynes's public expenditure had been extensively examined:

> expenditure on public works, if accompanied by a creation of credit, will give employment. But . . . a creation of credit unaccompanied by any expenditure on public works would be equally effective in giving employment. . . . Government expenditure may be regarded as a means of increasing employment. But it is desirable to be clear as to its limitations. . . . We must assume that bank rate has been reduced to its lowest point, and that business still refuses to respond.
>
> (Hawtrey 1925: 44–5)

Hawtrey's clarifications of the 'limitations' of public works are focused upon the question of finance. Resources taken for public works necessarily diminish '[t]he resources of the investment market for other purposes' (Hawtrey 1925: 45). (A half-century later, this concern is reintroduced into policy discussion as 'crowding out'.) There is no way through; this resource constraint would apply even if investment finance were obtained entirely 'at the expense of the international investment market': the 'one fundamental fault in this method of mitigating unemployment . . . [is] . . . that one country can only gain at the expense of another' (Hawtrey 1925: 47). The only exception would be that allowed by a paper currency, when a nation might 'escape an intensification of unemployment by letting its exchange rate depreciate' but, in 'a gold using world, countries with paper currencies

do not count for much in the investment market', so this was 'an unimportant exception' (Hawtrey 1925: 47).

However, with *The General Theory*, this *does* become Keynes's solution. In an international context, variations in the money supply (and, according to Keynes's analysis, variations in the rate of interest) are largely dependent upon the necessity to accommodate surpluses and deficits on the balance of payments current account; so the obvious solution is 'the policy of an autonomous rate of interest, unimpeded by international preoccupations, and of a national investment programme directed to an optimal level of domestic development' (Keynes [1936] 1973: 349). Since this solution is open to all, it promises a truly remarkable result: that of 'restoring economic health and strength internationally' (ibid.).

So why not simply announce the panacea: a permanent abolition of the gold standard and the introduction of non-convertible paper currencies? This message is hardly likely to impress. There needs to be something more convincing. An inspiring argument is required to reach this same conclusion. If this interpretation is taken, the fiscal bent of *The General Theory* is to be regarded as an alternative mode of persuasion rather than 'some new found conviction that "money is unimportant"' (Leijonhufvud 1968: 22). Keynes knew what he was about:

> the political objectives and the political context of Keynes' writings must be remembered. . . . In trying to find policy solutions . . . he was led to a series of theoretical innovations. In presenting his results, however, his sole objective was not to communicate these innovations to the academic community; rather the more important objective was to press for the adoption of the policy proposals he had arrived at.
>
> (Leijonhufvud 1968: 19)

Monetary disequilibrium and the paradox of thrift

Keynes works with the barter definition of saving as 'non-consumption'. This creates a problem: it obscures an essential element (that saving involves a demand for either money or non-money assets) and it allows a dubious paradox to take centre stage. According to the (now standard) interpretation of the 'paradox of saving', any increase in the propensity to save (that is, non-consumption) sets in chain a multiplier process, whereby expenditure and income are successively reduced until (eventually) income is lowered to a level where saving reverts to its original level (equal, once more, to unchanged investment).

This same sequence of expenditure–income iterations might also be initiated by a business contraction (that is, by a decline in the marginal efficiency of capital). With each successive fall in consumption expenditure, there is created (through diminished transactions needs) an excess supply of money that (through consequential bond purchases) drives down the rate of interest.

This textbook analysis of Keynesian economics is depicted in SENIE macromodels by an inward shift of the IS line along a given LM curve. Income falls and the interest rate falls.

Leijonhufvud rejects this interpretation of Keynes, and he criticises its representation of liquidity preference as 'just a fanciful or flamboyant term for the demand for money . . . [that ignores] . . . the preference patterns underlying the choice between current consumption and the accumulation of wealth' (Leijonhufvud 1968: 175–6). From the latter perspective, any decision to increase saving should be regarded as an enhanced preference for the accumulation of wealth: that is, an excess demand to hold money. Thus, 'a fall in income does not create an excess supply of money; it is due to an excess demand for money, and will go on only until the excess demand for money becomes zero' (Leijonhufvud 1968: 182). In addition to the multiplier effect (the inward shift of the IS line) acting upon an increase in saving there is, by this interpretation, the possibility of a shift in the LM curve (reflecting the enhanced demand to hold money). There might be further consideration as subsequent choices are made between money and non-money assets as the vehicle for saving. The general point is that, with interdependent IS and LM functions, SENIE macromodels afford no useful guidelines to the actual outcome.

It is, indeed, unfortunate that 'Keynes' obscure discussion is to blame for the spread of the notion that the rate of interest will decline if and only if there has emerged an excess supply of money' (Leijonhufvud 1968: 30–1). In overlooking the linkage between saving and the demand for securities, the Keynesian tradition gives unwarranted prominence to the paradox of thrift and affords insufficient attention to the more significant impact of saving upon interest rates.

In the long run, interest rates reflect marginal rates of inter-temporal preferences, which value theory suggests would be matched with marginal transformation possibilities between current resources and future commodities. However, these long-term equilibrating tendencies can be swamped by more immediate concerns about an uncertain tomorrow, in which case short-term speculative pressures might divert interest rates from their long-term tendency. Here lies the rationale for Keynes's liquidity preference theory of interest rate determination.

Forced saving and the instantaneous multiplier

The natural rate of interest is an equilibrium price set by the demand and supply of loanable funds (that is, saving). With fractional reserve banking systems, a secondary source of loanable funds is bank credit money. With every upswing in business activity, there is a natural increase in the demand for bank credit. While every new demand for loanable funds pushes up the natural rate of interest, any *expansion* of bank credit money prevents the market rate of interest from rising to that level. While the (actual) market

rate of interest is being held below the (equilibrium) natural rate by an expansion of bank credit money, there is upward pressure on prices.

The initial impact of an increase in bank credit money for business finance is most likely to augment entrepreneurs' ability to invest. This forces up the price of capital goods and diverts resources away from the production of consumption goods. With the increased competition for labour and other inputs, wages and other factor prices begin to rise. The consequence is a general increase in the demand for commodities, so that eventually all prices rise. By this process, only those individuals whose incomes rise first (before the rise in the price of commodities) benefit, while those whose incomes rise later are harmed. A measure of the harm done to the latter is the amount of their forced saving; that is, the transfer of real resources (while the market rate of interest is kept below the natural rate) that enables entrepreneurs to increase their expenditure on capital goods. As resources are reallocated to the production of capital goods, fewer commodities are available to consumers, and so forced saving occurs.

Notwithstanding his close collaboration with Dennis Robertson's work on forced saving,[4] Keynes came to express great hostility to the concept such that he endeavours to show that quantity adjustments (that is, higher output) can be achieved without the price maladjustments that cause forced saving. This is not to say that prices may be unaffected. As the economy expands, higher unit costs are inevitably passed on as higher prices, but involuntarily unemployed labour then acquiesces in real wage reductions (constant money wages and rising 'wage goods' prices), with the result that price increases do not cause forced saving.

There is a problem: even in the presence of (involuntarily) unemployed resources, it is implausible to suppose that the increased production of capital goods would be accommodated by an instantaneous supply of consumer goods. Prices would be forced up by immediate shortages. Yet, Keynes boldly defends his new position. Even where new investment expenditure comes as a total surprise so that there are, in the first instance, no consumption goods available to meet the increase in demand: 'the efforts of those newly employed in the capital-goods industries to consume a proportion of their increased incomes will raise the prices of consumption-goods . . . causing a postponement of consumption' (Keynes [1936] 1973: 123). Here is a semantic challenge: to distinguish 'forced saving' from a 'postponement of consumption'! Nevertheless, Keynes sees this 'postponement' as temporary, lasting for however long it takes for consumer goods industries to respond. Consumption thereafter rises above its normal level – to compensate for the temporary postponement – before reverting back to that normal level. Keynes maintains that these adjustments do not 'in any way affect the significance of the theory of the multiplier . . . nor render it inapplicable as an indicator of the total benefit to employment to be expected from an expansion in the capital-goods industries' (Keynes [1936] 1973: 124); and, as if haunted by this problem, he states that '[p]rice-

instability arising in this way does not lead to the kind of profit stimulus which is liable to bring into existence excess capacity' (ibid.: 288). Why not? For reasons unexplained, abnormal profits are universally regarded as windfall gains accruing to those just fortunate enough to have products 'at a relatively advanced stage of production'.

Robertson raises a telling counter-point: any growth in demand would further stimulate investment expenditure and accelerate the pace of price rises and forced saving. Although Robertson was ready to compromise – he thought that liquidity preference might be incorporated within the classical loanable funds approach, as an explanation for any divergence of the market rate from the natural rate of interest – it must have been clear to Keynes that any concession on forced saving would emasculate his income multiplier.

Keynes's confusions

In a three-part appendix to chapter 14 of *The General Theory*, Keynes raises various objections to the classical *schema*. In the first, Keynes comments upon observations on the rate of interest that are to be found in Marshall's *Principles* and in Pigou's *Economics of Welfare* and *Industrial Fluctuations*. He is perplexed that Marshall can allow the 'incursion of the concept "interest" which belongs to a monetary economy, into a treatise which takes no account of money' (Keynes [1936] 1973: 189). However, in objecting to Marshall's identification of the interest rate with the price of capital –

> [i]t is equality between the demand and supply of loans of money, i.e. of debts, which is brought about by the rate of interest. . . . We can only properly speak of the rate of interest on money borrowed for the purpose of purchasing investments of capital new or old (or for any other purpose).
>
> (Keynes [1936] 1973: 186, n. 1; 187, n. 3)

– Keynes unwarily gives support to the loanable funds theory. In the above citation, the phrases 'of money' and 'on money' do not refer to any fundamentals of 'a preference for liquidity'. Rather, 'money' is simply the most favoured vehicle for the provision of credit. Indeed, a source of the confusion between money and credit rests with the paper documentation that usually accompanies creditor/debtor agreements. This documentation can achieve the status of a negotiable asset (for example, by being 'accepted' as a contingent liability of reputable banks) and so acquire the most important attribute of 'money'. However, as no seigniorage is involved, the transaction is one that temporarily transfers real resources (saving) in return for a document establishing a right to receive a repayment enhanced by a proportion of the principal. That enhancement is expressed as the interest rate for the period of the credit arrangement. In more recent terminology, that temporary credit instrument constitutes 'inside money', whose impact

upon the economy is quite different from that of 'outside money'. The latter is a credit instrument with no corresponding liability.

Keynes is further perplexed by Marshall's argument that, because adjustments to the supply of capital – 'the product of labour and waiting' – always require time, any 'extensive increase in the demand for capital will cause the interest rate to rise'. Keynes's question – how this interest rate rise gives the incentive to 'the extra work, and the extra waiting' – indicates some confusion over the sequence of events. That sequence would be as follows: an increased demand for capital implies an increased demand for labour services, that implies an increased demand for loanable funds to pay wages, that leads to a rise in the rate of interest and an increased willingness to save (extra 'waiting'). However, in seeking a solution to a non-existent problem, Keynes re-states Marshall's argument so that it makes the case for an instantaneous multiplier:

> if an extensive increase in the demand for capital in general, due to an increase in the schedule of the marginal efficiency of capital, is not offset by a rise in the rate of interest, the extra employment and the higher level of income, which will ensue as a result of the increased production of capital goods, will lead to an amount of extra waiting which in terms of money will be exactly equal to the value of the current increment of capital goods and will, therefore, precisely provide for it.
>
> (Keynes [1936] 1973: 187, n.)

In so doing, Keynes erroneously supposes that spare capacity or, more exactly, an elastic supply of loanable funds, is necessary to support the expectation that competitive processes backed by sound investment appraisal are the forces by which (the values of) past saving (at compound interest) and future earnings (discounted) tend to equality. By his reinterpretation of Marshall, Keynes reveals his wider objective, which is to infiltrate the income multiplier (and, thereby, the case for macroeconomic stabilisation policy) into the argument. Yet, by the loanable funds theory, the interest rate provides a mechanism by which there is an adjustment to 'an extensive increase in the demand for capital in general' under conditions of full capacity utilisation. There is no requirement for any 'higher level of income', because the higher interest rate draws forth some 'extra waiting' (that is, saving) and also redistributes resources from the production of consumption goods and less remunerative capital projects.

In part II of the appendix, Keynes comments upon the theory of the rate of interest that is elucidated in Ricardo's *Principles of Political Economy*. Although Ricardo is 'remote from experience', Keynes applauds 'the supreme intellectual achievement' of theoretical consistency. The remoteness relates to the assumption of full employment. What 'Ricardo and his successors overlook' (according to Keynes) is 'the fact that even in the long period the volume of employment is not necessarily full but is capable of

varying, and that to every banking policy there corresponds a different long-period level of employment' (Keynes [1936] 1973: 191). This citation brings the argument back to Keynes's criticism of the natural rate of interest: that 'for every rate of interest there is a level of employment for which that rate is the "natural rate"' and that it is 'merely the rate of interest which will preserve the *status quo*' (Keynes [1936] 1973: 242–3).

In the final part III of the appendix, Keynes confesses his inability to comprehend '[a] peculiar theory of the rate of interest' which he suggests Hayek and Robbins had adopted from Mises's *The Theory of Money and Credit*. Although there might be little surprise that Keynes, whose grasp of capital theory was weak, should find it difficult to understand how 'a fall in the ratio of the price of consumers' goods to the price of producers' goods is favourable to investment' (Keynes [1936] 1973: 243), it must be emphasised that Hayek's presentation of the theory was undoubtedly confusing. Where his *Monetary Theory and the Trade Cycle* (1929; first English edition 1933) emphasises 'the monetary causes which can *start* the cyclical fluctuations', *Prices and Production* (1931; revised and enlarged 1935) focuses upon 'successive changes in the real structure of production' (Hayek [1929] 1933a: 17). Later still, and taking account of recognised defects in the earlier analysis, came *Profits, Interest and Investment* (1939)[3] and *The Pure Theory of Capital* (1941). These details are discussed in chapter 8. However, in the chapters which precede that discussion, an exegesis of *The General Theory* is presented – quite different from that of popular SENIE macromodels – that involves analytical conceptualisations that set Keynes much closer to the analysis developed by Hayek.

6 Keynes and SENIE macromodels

> Is it not rather strange . . . that a model with wage-rigidity acknowledged to be its main distinguishing feature should become widely accepted as crystallizing the experience of the unprecedented wage-deflation of the Great Depression? And is the early Keynesian view that 'money is unimportant' the natural conclusion to draw from the worst banking debacle in U.S. history?
>
> (Leijonhufvud 1968: 49)

Keynes's theory of unemployment disequilibrium

Keynes's attack upon Say's Law may have been misleading. Contrary to popular interpretation, a case can be made that unemployment equilibrium is not the subject of *The General Theory*; that the true concern of *The General Theory* is with 'the nature of the macroeconomic process of adjustment to a disequilibriating disturbance' (Leijonhufvud 1968: 50); and that, while there is no rationale to suggest that unemployment is likely to persist indefinitely, 'the short run of pre-Keynesian theory is not so short after all' (ibid.: 59).

In the 1930s, theory was weak in the area of disequilibrium processes. Contemporary analysis had deduced the characteristics of an economically efficient equilibrium under the assumptions of perfect competition: a myriad of identical producers benefit from perfect knowledge and incur zero transactions costs. In that austere microeconomics context, the formal manipulation of tautologies delivers 'a series of propositions which are necessarily true because they are merely transformations of the assumptions from which we start' (Hayek 1949: 34). Whatever insights are gained, these can relate only to the intentions of a single mind. Formal solutions that beg the important issue of inter-agency coordination afford no understanding of the nature of competition. In the 1930s, the issues of knowledge acquisition and action coordination lay in uncharted waters.

Propositions about causal processes of readjustment from a disequilibrium position require the identification of empirical relationships whereby knowledge is acquired and disseminated. Although *The General Theory* explicitly addresses the issue of producers' expectations, Keynes's analysis of

the knowledge acquisition problem is rudimentary. Many blind alleys might have been avoided had Keynes 'laid greater emphasis on period-analysis and less on the nature of the unemployment "equilibrium" state' (Leijonhufvud 1968: 74). Additional components of the unhelpful legacy of *The General Theory* are the instantaneous multiplier (that obscures the issue of forced saving/postponed consumption) and the liquidity preference theory of interest rate determination (that obscures the problem of expectations reformulation). The preference for a liquid asset that is driven by the speculation that the bond price is more likely to fall is (by the analysis of *The General Theory*) unaffected by the bond price having held for just one day or one year or since the beginning of time.

Although Keynes's assault upon 'The Postulates of the Classical Economics' (chapter 2 of *The General Theory*) is 'obscurely expressed and doubtlessly not at all clear even in his own mind', Leijonhufvud suggests that a largely unrecognised and 'substantive point made by Clower . . . [is] . . . of great significance to the understanding of the economics of Keynes' (Leijonhufvud 1968: 83). The point that Robert Clower makes (see Clower 1965: 116) is that, because no individual decides to make a purchase without planning to finance that purchase, Say's Law is implicit in the notion of a budget constraint; that, when an individual assumes that he can sell a specific amount of his own production at a 'given' price, he sets his own budget constraint. If (unexpectedly) that amount of product remains unsold, the budget constraint tightens and expenditure is curtailed. This, in turn, must tighten the budget constraints upon other suppliers with whom he would otherwise have dealt, and so the impact is cumulative.

Even if the subset of current market prices that is relevant to an individual's prospective transactions were known accurately to him, that individual could not know how many commodities he would be able to buy or sell at those prices. So, although the sum of notional net demands and supplies of all commodities for any individual price-taker is necessarily zero (and, thereby, is necessarily zero across all price-takers), Clower's substantive point is that this does not imply that actual exchanges will match the pattern of those notional demands. Without *ex ante tâtonnement*, *ex post* excess supplies are likely to occur with the potential to trigger cumulative processes of readjustment, as expenditures across other markets are reduced:

> [u]nemployed resources emerge in these markets also and the search instituted by unemployed workers and producers with excess capacity will yield information on 'effective' demands, not on 'notional' demands. The 'multiplier' repercussions thus set in motion make the information acquired 'dated' even while it is being gathered.
>
> (Leijonhufvud 1968: 84–5)

Following Clower, theory must deal with 'the dynamic forces determining the disequilibrium motion of a money-using system' (Leijonhufvud 1968: 89).

These forces arise because the 'notional demand for commodities is not communicated to producers . . . [because] . . . workers looking for jobs ask for money, not for commodities' (Leijonhufvud 1968: 90).

If, when the unemployed find jobs, their money earnings are spent on commodities, the excess supply of commodities that held previously – before those workers were hired – is properly regarded as the corollary, not of an excess demand for money, but of the existence of involuntary unemployment. This interpretation is consistent with the observation that *The General Theory* outlines a prognosis and a cure that are related to a category of unemployment that lies outside the context of a long-run competitive equilibrium; that is, to involuntary unemployment.

Keynes's involuntary unemployment

When the access to information and the means of communication are problems to be solved, rationality is itself a problem. Against a background of perfect knowledge, it is irrational that workers should resist cuts in their own money wages, instead of showing forbearance in receiving constant money wages as living costs rise. Against a background of informational uncertainties, a certain Stoicism in the face of rising living costs and widespread unemployment has the ring of 'common sense'. As the skies darken, there are obvious reasons why no one should rock a boat that has everyone on board.

In a competitive market, labour tends to be hired to the point where labour productivity is equal to the real wage; that is, the 'money-wage' adjusted to an index of 'the price of wage-goods'. Discounting all the other reasons – frictions, rigidities, seasonality, union wage setting, *etc.* – for labour to be unemployed (and on which *The General Theory* has little to say), involuntary unemployment is aptly named. It exists when there is no action that a worker might volunteer in order to effect a remedy:

> [t]here may exist no expedient by which labour as a whole can reduce its real wage to a given figure by making revised money bargains with the entrepreneurs. . . . Men are involuntarily unemployed if, in the event of a small rise in the price of wage-goods relatively to the money-wage, both the aggregate supply of labour willing to work for the current money-wage and the aggregate demand for it at that wage would be greater than the existing volume of employment.
>
> (Keynes [1936] 1973: 13, 15)

Although wordy, the latter definition lends itself to an elementary labour market demand and supply exposition. Thus, in respect of Figure 6.1, a 'rise in the price of wage-goods' from P_1 to P_2 'relatively to the money-wage' (W), gives a 'supply of labour' (c) and 'the demand for it' (b) which are both 'greater than the existing volume of employment' (a).

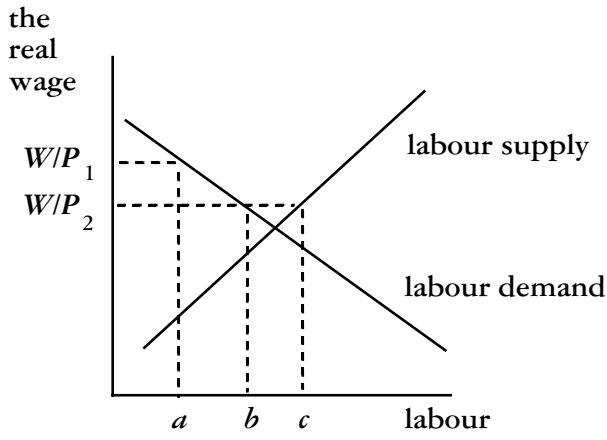


Figure 6.1 Involuntary unemployment.

Since a worker can take note of his own position, in relation to the prevailing money wage in his place of employment, much more readily than he can take note of what is happening elsewhere, it is reasonable that 'a movement by employers to revise money-wages in all industries will be much more strongly resisted than a gradual and automatic lowering of real wages as a result of rising prices' (Keynes [1936] 1973: 264). In this context, 'a pleasing unity of conception' is identified between Keynes's assumption that securities traders have 'inelastic expectations (of the future course of long-term interest rates)' and his assumption that unemployed workers have inelastic expectations of 'the future course of (obtainable) wages' (Leijonhufvud 1968: 96). Just as an unemployed worker withholds his services, rather than accepts work at any level of money wage, so a securities trader maintains his liquidity, rather than acquires assets at any level of money yield.

Involuntary unemployment results from a failure to generate and to disseminate the information (on prices, wages and quantities available) that is necessary to coordinate transactions in goods and labour (spot) markets. When trading at false prices leaves commodities unsold, each disappointed supplier reassesses the budget constraint upon his own expenditure; and his own curtailed demands deliver further deficiencies in the demand for other commodities.

Nevertheless, the elimination of involuntarily unemployment by a boost to the general level of demand relies implausibly upon an instantaneous supply of consumer goods to match the expenditures of the newly employed. So, even if labour acquiesces in real wage reductions – caused by higher 'wage good' prices corresponding to higher unit production costs (that is, reduced marginal labour productivity) – Keynes fails to demonstrate a sustainable outcome. Recognising that the real-time multiplier cannot deliver the initial saving that is necessary to resource public works, Keynes suggests

purely monetary means; but, without an instantaneous multiplier, there must be shortages (forced saving or a 'postponement of consumption') that give the incentive for unwarranted and unsustainable investments.

The neoclassical synthesis: textbook geometry

The textbook geometry that represents Keynesian macroeconomics as a SENIE closed-economy macromodel is truly remarkable for its accomplishment in drawing together disparate themes within a two-dimensional Euclidean display of aggregate demand and aggregate supply; and for its incorporation of the vital element of *involuntary* unemployment. The aggregate demand schedule is derived from ISLM equilibrium.

With IS, there is an equilibrium on the real side of the economy. Investment (I) is negatively related to the interest rate (r); saving (S) is positively related to real income (Y). The IS schedule is a locus of equilibria: it traces those values of the interest rate and real income for which $I=S$. With any autonomous change in either the saving function or the investment function, the IS locus shifts.

With LM, there is an equilibrium on the money side of the economy: liquidity preference (L) equals the nominal money stock (M). Liquidity preference (L) is positively related to real income (Y) and negatively related to the interest rate (r). The nominal money stock (M) is given. The LM schedule is a locus of equilibria: it traces those values of the interest rate and real income for which $L=M$. With any autonomous change in the nominal money stock, the LM locus shifts.

At the intersection of IS and LM (Figure 6.2a), the real side and the money side of the economy are simultaneously in equilibrium at interest rate r_1 and real income Y_1. An increase in the nominal money stock from M_1 to M_2, with the price level unchanged at P_1, is shown by the outward shift from $LM_1(P_1)$ to $LM_2(P_1)$; but, if the price level were to increase proportionately to P_2, the LM schedule would be unchanged: that is, $LM_1(P_1)=LM_2(P_2)$. Equi-proportional increases in the nominal money stock and the price level leave the real purchasing power of money unchanged and have no impact upon the interest rate or real income.

The information in Figure 6.2a is remapped into Figure 6.2b (A and B are corresponding points in the two figures). The locus in Figure 6.2b shows the derived relationship between the price level and real income. This is the Keynesian aggregate demand curve. Figures 6.2c and 6.2d show the impact of an autonomous shift in the investment function (say, fiscal expansion via new state investment expenditure). Both the IS schedule and the aggregate demand curve shift to the right; but, as Figure 6.2d indicates, the degree to which the fiscal expansion is effective in raising prices and/or real income is indeterminate without an aggregate supply curve.

The aggregate supply curve is implicit in Keynes's analysis of involuntary unemployment (see Figure 6.1): if labour is involuntarily unemployed, the

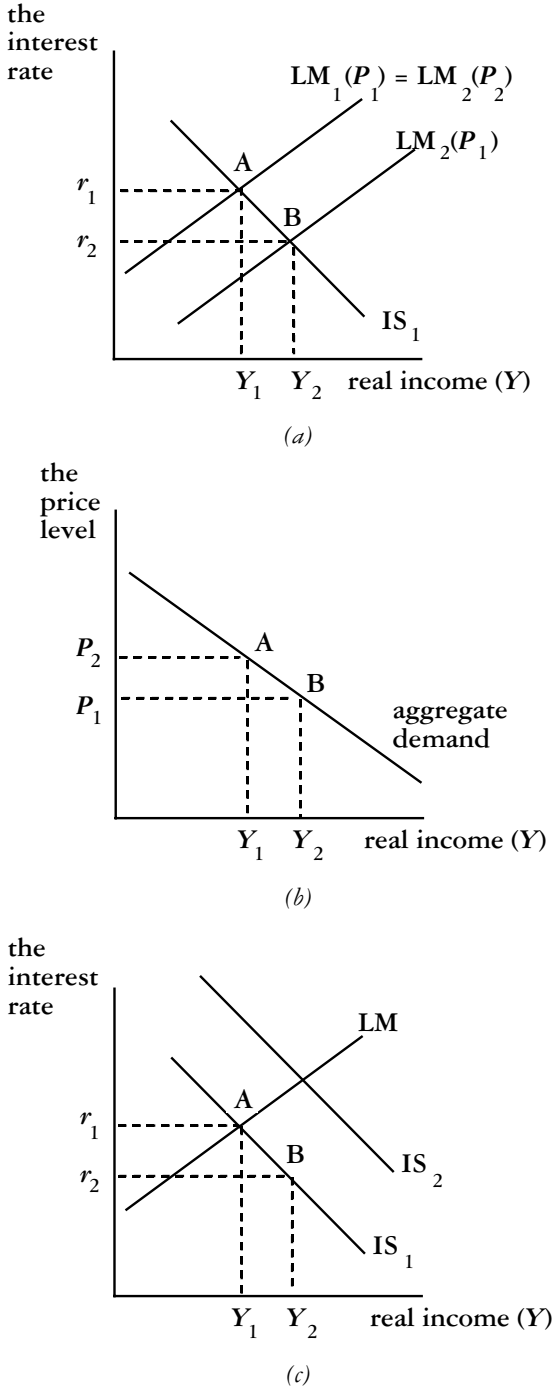
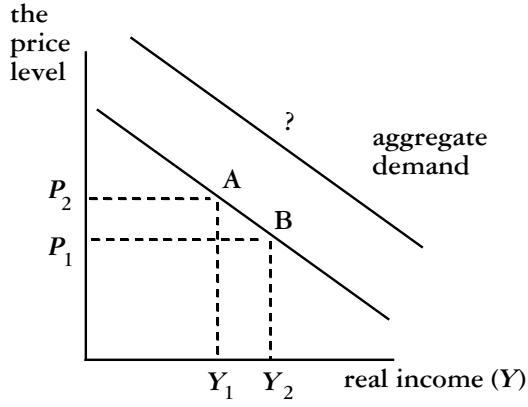
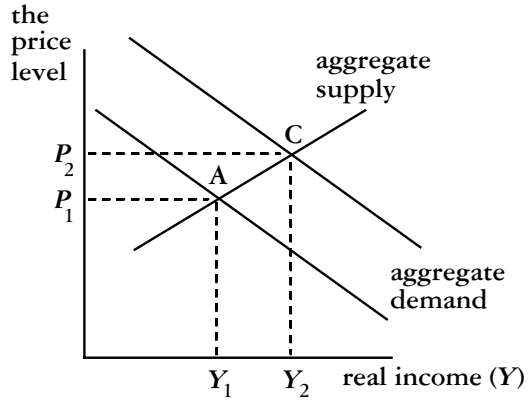


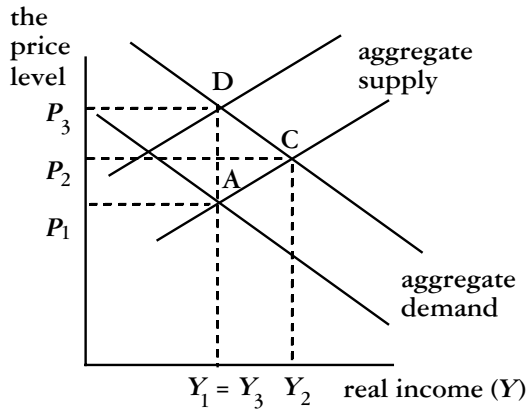
Figure 6.2a–f ISLM equilibrium, aggregate demand and aggregate supply.



(d)



(e)



(f)

Figure 6.2a–f (continued)

money wage (W) would remain unchanged even as diminishing returns to labour (rising unit costs as employment rises) cause a rise in the price level (P). Since the aggregate supply curve (Figure 6.2e) is drawn under the assumption of a constant money wage, any rise in the price level (say, from P_1 to P_2; from A to C in Figure 6.2e) must reduce the real wage. This would enable involuntarily unemployed labour to find work. However, if money wages were to rise pro rata the rise in the price level, the aggregate supply curve would shift to the left. In Figure 6.2f, this is represented by the movement from C to D. Unemployment is unaffected by pro rata increases in wages and prices.

The simple conclusion is that, under the assumptions of traditional Keynesian economics, aggregate demand management can be used to raise the level of employment and production, but only if involuntarily unemployed labour is seeking work.

The General Theory and SENIE macromodels

In his seminal study, *On Keynesian Economics and the Economics of Keynes*, Axel Leijonhufvud addresses the differences between the presentation of *The General Theory* and that of traditional Keynesian economics, as represented by SENIE closed-economy macromodels. He represents their respective essential features as follows. Each incorporates five aggregates (labour input, consumption goods, capital goods, bonds and money) but admits only three relative values. Two of the five aggregates are combined. Table 6.1 summarises the respective characteristics of *The General Theory* and SENIE macromodels that are the consequence of the different combinations that are made.

In *The General Theory*, 'non-money assets' are the combination of capital goods and bonds. This gives three relative values (to money): the wage rate, the price of consumption goods (that is, 'wage goods') and the interest rate (that is, a reciprocal index of the money price level of non-money assets). The relative value of non-money assets (the interest rate) reflects the liquidity attribute (that is, the distinction between 'shorts' and 'longs'). This has key importance for a exegesis that presents *The General Theory* as 'basically a theory of the term structure of interest rates . . . [although] . . . the simplified two-asset structure of the *General Theory* tends to obscure it' (Leijonhufvud 1968: 150).

SENIE macromodels present two features that are not present in *The General Theory*: an aggregate production function and an unambiguous price level. This is because 'output' is the combination of consumption goods and capital goods. This gives three relative values (to money): the wage rate, the price level, and the bond price (from which the interest rate is deduced). Leijonhufvud argues that this failure to distinguish between consumption goods and capital goods is crucial, in that 'Keynes' departure from the fold of the quantity theory tradition was based principally on the importance he assigned to variations in the relative price of these two aggregates'

Table 6.1 The General Theory and SENIE macromodels compared

Aggregate variables	*Labour input*	*Consumption goods*	*Capital goods*	*Bonds*	*Money*
Four aggregates, with respective prices, as used in *The General Theory*	Labour input	Consumption goods	Non-money assets		Money
	Wage rate	Price of wage goods	Interest rate (reciprocal index of the price of non-money assets)		
Four aggregates, with respective prices, as used in SENIE macromodels	Labour input	Output		Bonds	Money
	Wage rate	The price level		Bond price (the reciprocal of the interest rate)	

(Leijonhufvud 1968: 40). The analytical details, which derive from variations in the relative prices of consumption goods and capital goods, are examined in chapter 7 (in respect of Keynes) and chapter 8 (in respect of Hayek).

The General Theory and SENIE macromodels: investment and the rate of interest

The forces which direct the investment decision are encapsulated by Keynes's concept of the marginal efficiency of capital (*mec*);[1] these may be decomposed as four elasticities (see Leijonhufvud 1968: 162–70). With the current demand price for a non-money asset (V) defined as the capitalised value of a prospective long-term income stream using a conventional discount rate (r), the investment decision rests upon:

1 the elasticity of V with respect to the growing stock of investments (I):
   (a) zero in *The General Theory*: net additions are small in proportion to existing stock.
   (b) irrelevant in SENIE macromodels: existing stock provides excess capacity.
2 the elasticity of r with respect to i (the interest rate):
   (a) unity in *The General Theory*: 'risk-adjusted' equity and bonds are perfect substitutes.
   (b) low in SENIE macromodels: equity and bonds are imperfect substitutes.
3 the elasticity of V with respect to r:
   (a) high in *The General Theory*: investment is assumed to be a long-term commitment.

(b) low in SENIE macromodels: investment is assumed to be a short-term commitment.

4 the price-elasticity of supply of new investment goods:

(a/b) high in *The General Theory* and SENIE macromodels: there are 'very large surplus resources' (Keynes [1936] 1973: 252).

The difference between *The General Theory* and SENIE macromodels rests with the first three elasticities, which determine the gradient of the current demand price schedule for investment goods. In both *The General Theory* and in SENIE macromodels, the effect of elasticity (1) is that the existing stock of investment goods is an irrelevant consideration. So, it is the combination of elasticities (3) and (2) – V with respect to r with respect to i – that determines the gradient of the current demand price schedule for investment goods ($\delta V/\delta I$) and which marks a crucial difference.

In SENIE macromodels, the imperfect substitutability between equity and bonds gives a weak link (low elasticity) between investment yields (r) and the interest rate (i). So, whereas in SENIE macromodels, the gradient of the current demand price schedule ($\delta V/\delta I$) is steeply sloping from left to right, for '[m]ost of the time . . . Keynes ignored any downward slope of the demand-price schedule and treated it as horizontal' (Leijonhufvud 1968: 165). The implication is that, in *The General Theory*, a given rise in the interest rate (i) causes a greater downward vertical displacement of the current demand price schedule for new investment goods. In other words, because an interest rate rise causes a greater fall in V for all values of I, '[t]he interest rate is . . . far more important as a determinant of the current rate of investment in Keynes' framework than in the income-expenditure model' (Leijonhufvud 1968: 168).

Leijonhufvud points to a possible explanation for this divergence of SENIE macromodels from *The General Theory*, in respect of the investment decision. The rationale for a low interest-elasticity of investment in SENIE macromodels may derive from the influential Oxford business surveys:[2] '[s]emantics is never more important than when "introspection" is admitted as empirical evidence' (Leijonhufvud 1968: 168). Consider the following sequence: yields are lowered in consequence of heavy bond purchases by the authorities; equities are substituted for bonds and equity prices rise. Then, if business borrowing is tempered by consideration of the debt–equity ratio, there would be misleading questionnaire returns, if the interrogation emphasises the reduced cost of bank borrowing, rather than the increased value of equity holdings (even though the two propositions are theoretically equivalent).

Short-term borrowing to finance investment in long-term capital carries the risk of refinancing at a higher rate, which is the reason the elasticity of long-term investment with respect to short-term borrowing rates (i) is low. Set against the importance of long-term interest rates to business investment decisions, the preoccupation of the authorities with the short end of the

market renders monetary policy ineffective in dealing with business fluctuations. Thus,'[t]o Keynes, the problem with monetary policy lies not in the interest-inelasticity of investment but in the inflexibility of the long-term rate of interest' (Leijonhufvud 1968: 42).

The General Theory: investment and the rate of interest

Keynes defines the current supply price (*SP*) of a capital asset as 'the price that would induce a manufacturer to produce an additional unit of such assets' (Keynes [1936] 1973: 135); and he defines the *mec* of a capital asset as 'the rate of discount which would make the present value of the series of annuities given by the returns expected from the capital-asset during its life just equal to its supply price' (Keynes [1936] 1973: 135). Thus, where a capital asset has an infinite life and an *expected* constant annuity (A) and a *given* current supply price (*SP*), Keynes's *mec* is found from $SP=A/mec$.

Keynes defines the current demand price (V) of a capital asset as the present value of its prospective annuities ($V=A/i$)[3] and comments that 'neither the knowledge of an asset's prospective yield [A] nor knowledge of the marginal efficiency of the asset [*mec*] enables us to deduce . . . the present value of the asset [V]', since the latter requires the value of the interest rate [i] to be ascertained 'from some other source' (Keynes [1936] 1973: 137). This 'other source' is Keynes's liquidity preference theory of interest rate determination.

Leijonhufvud sets the scenario of *The General Theory*: after a fall in the *mec*, the current supply price of capital assets exceeds the current demand price –

$$SP=A/mec>A/i=V$$

– and unemployment emerges unless the interest rate (i) falls so as to raise the demand price of capital assets; but this cannot happen without creating an excess demand for money. Keynes's liquidity preference theory of interest rate determination now enters the scene, and Leijonhufvud includes himself among the many who see it as a 'disturbing' feature of *The General Theory* that 'the demand and supply of money' alone appear to determine the value 'which society puts on its resources' (Leijonhufvud 1968: 174). It is a difficulty that arises from Keynes's 'almost exclusive emphasis on the supply of "money" to the neglect of the supply of non-money assets':

> [w]ith a richer menu of assets – differentiated, as always, by term to maturity – the point becomes all but self-evident. . . . The supply of money and short streams relative to the supply of long streams can be altered just as well by a change in the supply of the latter as in the supply of money.
>
> (Leijonhufvud 1968: 175)

SENIE macromodels: investment and the rate of interest

By the straightforward SENIE macromodel postulate that investment is interest-inelastic, 'the possibility that . . . interest rate adjustments might keep the economy at full employment in the face of a decline in the marginal efficiency of capital, can be dismissed almost out of hand' (Leijonhufvud 1968: 173). Although Keynesians may point to the empirical soundness of interest-elastic investment, Leijonhufvud suggests that formidable identification problems must raise doubts about that evidence: any exogenous reduction in opinions about prospective yields would be followed by virtually simultaneous falls in the *mec*, in investment income, and in the rate of interest. Furthermore, the Keynesian insistence upon interest-inelastic investment demand on empirical grounds sits uneasily with the rejection of similar evidence from monetarists on interest-inelastic money demand functions. Even so, the interest-inelasticity of investment is a secondary consideration. In SENIE macromodels, the initial impact of monetary policy depends almost entirely upon the interest-elasticity of money demand. So, irrespective of whether investment or other expenditures are interest-elastic, monetary policy is held to be ineffective in restoring full employment because, whereas the effects of a fall in income are exacerbated by the accelerator mechanism, it is tempered only in the smallest degree by the fall in the interest rate. The full impact of any interest rate reduction relies upon 'the much slower process of a gradual revision of expectations about future long rates which will reduce the "speculative demand for money" and thus create an excess supply of money at the prevailing level of income' (Leijonhufvud 1968: 183). In short, the liquidity preference theory of interest rate determination holds centre stage.

The General Theory and SENIE macromodels: liquidity preference

Although *The General Theory* pre-dates John Hicks's *Value and Capital*, Leijonhufvud believes that it is legitimate to couch a valid interpretation of Keynes in terms of Hicks's analysis of independent price and wealth effects. These are relevant to the impact of an interest rate change upon consumption expenditure. A number of passages in *The General Theory* draw a distinction between a weak price effect and a strong wealth effect. These include:

> [t]he consumption of the wealth-owning class may be extremely susceptible to unforeseen changes in the money-value of its wealth. This should be classified amongst the major factors capable of causing short-period changes in the propensity to consume. . . . The usual type of short-period fluctuation of the rate of interest is not likely . . . to have much *direct* influence on spending either way. . . . Perhaps the most

> important influence, operating through changes in the rate of interest, on the readiness to spend out of a given income, depends on the effect of these changes on the appreciation or depreciation of the price of securities and other assets. For if a man is enjoying a windfall increment in the value of his capital, it is natural that his motives towards current spending should be strengthened even though in terms of income his capital is worth no more than before.
>
> (Keynes [1936] 1973: 92–4)

So, Keynes's position is that an interest rate movement has no direct price (substitution) effect and a positive indirect wealth (or 'windfall') effect upon the choice between present and future consumption.

From this perspective, the relevance of the long-term interest rate is as follows: *given* the state of long-term expectations, a reduction in the long-term rate stimulates expenditure upon investment and consumption goods; but the conventional instruments of monetary policy are ineffective in achieving that reduction. The problem rests with investors, whose views of the 'normal' long-term rate are sufficiently fixed that any attempt by the authorities 'to shift the rate significantly in the short run will normally set in motion such a mass migration from the bull to the bear camp, or vice versa, that conventional methods will prove to be of little avail' (Leijonhufvud 1968: 200).

It is surprising that there should be any doubt that Keynes attaches the utmost importance to low interest rates. The origin of Britain's economic malaise had originated in 'the obstinate maintenance of misguided monetary policies' that had held 'rates up for fifteen years to a level which would have seemed a generation ago quite beyond reasonable probability' (Keynes [1930] 1971, vol. VI: 384); and, with the widespread malaise of the 1930s, Keynes 'had become convinced that the time was ripe for a large and permanent reduction throughout the world' (Harrod 1951: 399).

Leijonhufvud argues for a significant development in Keynes's thinking between *A Treatise* and *The General Theory*, such that '[t]he attempt to devise effective short-run monetary policies is abandoned. Instead, Keynes preaches the case for various fiscal measures' (Leijonhufvud 1968: 200). Yet, though Keynes abandons the view that a swift and effective implementation of monetary measures might exert appropriate counter-cyclical forces, he retains the opinion that the authorities should be fully exercised in keeping the long-term market rate at levels that are commensurate with 'normal' historical patterns. The rationale for such an approach is explicitly incorporated in *The General Theory,* where the money demand function includes, as an additional determinant, a 'normal' interest rate that is considered safe against capital losses:

> what matters is not the *absolute* level of r but the degree of its divergence from what is considered a fairly *safe* level of r. . . . the rate of interest is a

> highly psychological phenomenon . . . The short-term rate of interest is easily controlled by the monetary authority . . . [b]ut the long-term rate may be more recalcitrant when once it has fallen to a level which, on the basis of past experience and present expectations of future monetary policy, is considered 'unsafe' by representative opinion.
>
> (Keynes [1936] 1973: 202–3)

By Leijonhufvud's interpretation, there is no fundamental dispute between Keynes and classical economics: Keynes does not deny that the real forces of productivity and thrift are the ultimate determinants of the long-term interest rate. The problem perceived by Keynes is that the automatic tendency to reach the market-clearing full-employment long-term rate is very weak; and so the market rate 'may fluctuate for decades about a level which is chronically too high for full employment; – particularly if . . . the level established by convention is thought to be rooted in objective grounds much stronger than convention' (Keynes [1936] 1973: 204). So the conclusion is that the authorities must work constantly to keep the market rate at levels commensurate with the historical evidence of 'the *optimum* rate'. Keynes also refers to this as 'the *neutral* rate of interest', although he warns against the neutral money connotation of classical economics (see Keynes [1936] 1973: 243, n. 1). The optimum interest rate is that 'which is consistent with *full* employment, given the other parameters of the system' (Keynes [1936] 1973: 243). In the particular circumstances of Britain in the 1930s, Keynes argued that the authorities should adopt the 'objective of greatly reducing the long-term rate of interest' whilst avoiding the appearance of that policy 'being experimental in character or easily liable to change' (Keynes [1936] 1973: 203).

The contrast between *The General Theory* and SENIE macromodels might again be stressed. While Keynes focuses upon the issue of why the interest rate is so slow to bring about the necessary adjustments, the conclusion drawn from SENIE macromodels is that the explanation for chronic recession is self-evident: it is that interest rate changes have minimal impact upon saving and investment decisions. The rationale in respect of investment may have been drawn from a dubious interpretation of the survey evidence. The rationale in respect of saving (when given) was 'offhand' and 'impressionistic' with the conclusion that, since the effect could be either way, it might be discounted entirely (which is counter to Keynes's belief that a weak substitution effect and a strong income effect would both have the effect of raising current consumption).

Keynes does intimate the possibility of countering the problem of a conjunction of 'a conventional and fairly stable long-term rate of interest with a fickle and highly unstable marginal efficiency of capital' (Keynes [1936] 1973: 204). He suggests that the monetary authorities should attempt to manipulate the conventional wisdom of investors through a slow process of attrition. If that policy stance were sustained, the liquidity

preference schedule would slowly drift to the left and cause the interest rate to fall. Even so, this would offer no panacea. There are no easy solutions. Rather, by a consistent pursuit of the optimum rate, the authorities might achieve a new era in which cyclical recessions are more modest in their duration and severity. As for the technical detail, a number of factors determine the power of monetary policy 'to establish any given complex of rates of interest for debts of different terms and risks' (Keynes [1936] 1973: 207); these include (1) the type of debts in which the authorities are willing to deal; (2) the onset of absolute liquidity preference, in which case 'effective control over the rate of interest' would have been lost;[4] (3) a flight from/to currency; (4) minimum levels to transactions costs and risk premia set a floor to the interest rate.

Given those constraints, Keynes suggests that

> a complex offer by the central bank to buy and sell at stated prices gilt-edged bonds of all maturities, in place of the single bank rate for short-term bills, is the most important practical improvement which can be made in the technique of monetary management.
>
> (Keynes [1936] 1973: 206)

This supports the view cited earlier, that *The General Theory* is 'basically a theory of the term structure of interest rates' (Leijonhufvud 1968: 150).

The General Theory: the wealth effect

By Clower's interpretation of Say's Law, an individual's income constraint (that is, his plans to finance his intended purchases) is established in advance of his expenditures upon those purchases. In Leijonhufvud's terminology, the individual first assesses the demand price of his resources (that is, consideration is given to the current viability of all of his income-generating assets, including human capital):

> the rate of investment and of consumption, and consequently income and employment, depend upon the demand price of sources established in the current period. The higher this price, the higher the rate of output of capital goods and . . . the higher the demand for consumables.
>
> (Leijonhufvud 1968: 205)

So Keynes's discussion of the employment problem turns upon the determination of a price (or, rather, prices) that SENIE macromodels treat as constant. Asset prices fall when 'opinions about prospective yields' are lowered, which means that the income constraint upon expenditure tightens unless there is a commensurate reduction in the long-term interest rate. The citation withstands repeating: windfall changes in capital values 'should be classified amongst the major factors capable of causing short-period changes in the

propensity to consume' (Keynes [1936] 1973: 93). However, in price-theoretic terms, the impact upon consumption expenditure of an interest rate reduction is problematic: under what circumstances would a reduction, via a positive wealth effect, cause *aggregate* consumption to rise? Do the circumstances which apply to one individual, necessarily apply to *all* individuals? For one individual, the interest rate is an exogenous variable; for all individuals it must be treated as endogenous. For all individuals, this is '*the* problem of capital and interest' which constitutes 'the major lacuna' of neoclassical economics: that is, 'the determination of the prices of the stocks of productive services from which flow the factor services of the static general equilibrium model' (Leijonhufvud 1968: 214). The co-determination of asset prices and interest rates is a crucial unresolved issue.

By the evidence of two extended capital theory controversies in the 1930s and 1960s, capital and interest theory is fraught with conceptual and operational difficulties. It is unfortunate, if understandable, that issues that might have been clarified in the 1930s – 'a state of widespread exasperation with a debate at the same time so technically difficult and so inconclusive [was] a major reason for the fact that Keynes' work was made the excuse for dismissing the problem' (Leijonhufvud 1968: 212) – left the 1960s debate uninformed. That so many issues remained unresolved was partly in consequence of the successful launch of SENIE macromodels and the popularity of the ISLM schema.

In SENIE macromodels, the exogenous variables of productivity and thrift are replaced by endogenous investment and saving, that have only indirect relevance to the rate of interest via their impact upon income and money demand. In SENIE macromodels, the interest rate is determined primarily by (aggregate) wealth portfolio preferences in respect of a balance between money and bonds, *given* the respective stocks of money and bonds issued by the authorities. With the ISLM schema, wealth and capital *per se* are redundant concepts, as is the notion of choice in respect of alternative time-paths of saving and accumulation. This makes it clear that SENIE macromodels are structurally incapable of representing Keynes's vision: of an integrated value and monetary theory that might permit the interrelationships between monetary policy and disequilibrium processes to be sensibly addressed. It is important that the relevance of capital assets is addressed.

7 Value theory and monetary theory

> Crucial questions about the role of money and time cannot be effectively addressed in simple quantity equation type models or in general equilibrium growth models with a single homogeneous capital good.
>
> (Cochran and Glahe 1999: 195)

Capital

With the integration of value theory and monetary theory, the relevance of monetary policy to disequilibrium processes might be addressed. Towards that end, Keynes attaches great significance to the concepts of 'time-to-maturity' or 'durability' in differentiating between economic goods. Leijonhufvud notes the similarity between those concepts and the period of production of Austrian capital theory. However, as others skirted around the issues, Austrian theorists became ensnared by conceptual problems and by the intricacies of measurement. Setting aside the relevance of the choice-theoretic principle within the context of fundamental uncertainty, pure capital theory faces an insoluble difficulty: there are no satisfactory means to combine heterogeneous elements of capital. This can be briefly explained.

The essential feature of capital is that it enhances productivity by allowing the use of indirect production methods; so, for example, instead of catching fish directly, nets are first produced and this allows many more fish to be caught. This prior production of capital (the nets) extends the period of production, but that extra waiting time is offset by the (time discounted) productivity gain. Although a period of production can be rigorously defined (either in terms of the gestation time and the volume of resources devoted to investment, or the duration and the magnitude of its subsequent yields, or both), that definition becomes empirically non-operational when there is a need to aggregate diverse capital investment projects (capital). The only option is to measure the overall *quantum* of capital by the aggregation of their respective market values; that is, by summing their respective time-discounted future money earnings. By this calculation, the interest (discount) rate becomes an inverse index of the value of capital. The insoluble problem

is the requirement to define the aggregate *quantum* of capital in a manner that excludes the interest rate. This exclusion is crucial, because (as in any market) the *quantum* of capital is itself relevant to the determination of its price (interest rate). The reasoning becomes circular.

A choice-theoretic model of capital and interest – one that incorporates capital productivity and time preference and that gives a solution for an optimal level of saving – is possible within the idealised conditions of an intertemporal Walrasian general equilibrium model. This *micro*-economic approach avoids the problems of capital aggregation. However, with diverse capital there are diverse prices, which means that such models deliver 'a price vector with a very large number of relative, intertemporal prices, none of which has any special claim to being identified as "the" interest rate' (Leijonhufvud 1968: 226). Moreover, in this context capital stocks have no relevance to behavioural choices that are driven, instead, by a desire to reach an optimal set of 'time-profiles of input, output and consumption streams' (ibid.).

Keynes's *General Theory* reflects an ignorance of the formidable difficulties in capital theory that are now known to preclude the emergence of a *macro*-economic choice-theoretic model of capital and interest:

> there is no such thing as 'the' theory of capital and interest. There exists instead, a large, heterogeneous, and difficult literature filled with unresolved controversies pertaining to the central postulates which should be made the basis for "the" pure theory of capital.
>
> (Leijonhufvud 1968: 231)

Although, by that conclusion, there is some mitigation of Keynes's piecemeal approach to capital and interest, the Walrasian *micro*-economic approach remains the more coherent vantage point. From that position, Leijonhufvud considers each of three familiar theoretical postulates: (1) the ultimate purpose of all economic activity is consumption; (2) the preference function extends to an infinite time horizon; (3) knowledge is certain. The first postulate might be a tautology: consumption is everything that delivers utility. Alternatively, a sub-set of goods (and services) might be defined comprising only those that deliver utility; the assertion would be made that such goods can be enjoyed irrespective of who owns the assets from which they are derived. If this approach is taken, economic theory must deny those who argue that saving can be driven by: the Protestant ethic (Max Weber); compulsion and instinct (Vilfredo Pareto); instinctive behaviour and social motives (Frank Knight); social prestige and power (Thorstein Veblen); the 'amenity' of wealth (A.C. Pigou); or (most simply) that people save instead of consuming, just as others smoke pipes instead of cigarettes (Henry Simon). Such denial is necessary if theoretical rigour is to be retained. An intertemporal general equilibrium model would be especially challenged by the inclusion of either social elements (that bring interpersonal dependencies into consideration) or the amenity of wealth (that compromises the critical dis-

tinction between tastes and opportunities). However, it *is* allowable (as will become apparent) for wealth to be economically relevant as a hedge against future uncertainty.

Although Keynes asserts that an interest rate reduction has a positive wealth (or windfall) effect – that is, consumption expenditure increases as a result of a rise in the values of securities and other assets that is caused by an interest rate reduction – he makes no 'attempt systematically to derive this proposition from explicitly stated capital-theoretic premises' (Leijonhufvud 1968: 250). The *ad hoc* manner of *The General Theory* is such that it lists *eight* motives to save: 'Precaution, Foresight, Calculation, Improvement, Independence, Enterprise, Pride and Avarice' (Keynes [1936] 1973: 108). In attempting a more rigorous approach upon the basis of capital theory that post-dates Keynes, Leijonhufvud assumes that saving is motivated only by a desire to raise future consumption. He adopts a hierarchy of means and ends within a closed economic system in which more of one, and less of another, consumption good is obtained only through a transfer of the productive services of assets. The ascending order of that hierarchy is: (3) economic resources (assets), whose respective values are the time-discounted flow of their (2) productive services, whose respective values are determined by their marginal contributions to the efficient production of (1) consumption goods, that are valued for their own sake. Leijonhufvud applies this traditional 'value-theoretical paradigm' to investigate the question of 'whether Keynes' wealth effect and his theory of Liquidity Preference has an interpretation consistent with "Classical" price theory' (Leijonhufvud 1968: 236).

The meaning of wealth

Leijonhufvud applies analytical tools developed by John Hicks to probe the impact of an interest rate change. Hicks's income effect is treated as synonymous with Keynes's wealth effect; this is the adjustment of an individual's actual consumption to an event that raises his capacity to spend. The analysis is simplified by assuming strict inter-temporal complementarity; that is, goods are consumed in the same proportions in every period.

Leijonhufvud proceeds as follows. An individual's assets – his net worth – are the valuation of his endowment of prospective receipt streams. For any given endowment, a fall in the interest rate raises that valuation; but the question is whether this would leave people generally better off or not. In both *A Treatise* and *The General Theory*, the presumption is that it would, but this is precisely what needs to be established.

Leijonhufvud introduces the concept of a 'unit standard stream' of income (*uss*). An arithmetic illustration may be constructed upon the assumption that all other income streams are also uniform, though not necessarily of the same duration. Any one of these income streams might be expressed in terms of an equivalent number of *uss*. For example, suppose the *uss* is £100 p.a. over 5 years. With the interest rate at five per cent, the discounted value (or

cost) of the *uss* is £432.95. This gives the bench-mark for any other stream. If the stream from type-A asset is £170.60 p.a. over six years (value £865.91) and the stream from type-B asset is £366.30 p.a. over four years (value £1298.88), stream A is equal to 2.00 *uss* and stream B is equal to 3.00 *uss*. If the interest rate falls to 4 per cent, these values become 2.01 and 2.99 respectively.

An interest rate change leaves an individual better off (by its impact upon the value of his assets in relation to that of the bench-mark *uss*) if it allows him to purchase more *uss* than before. If the magnitude of a discounted stream is raised (lowered) in units of *uss*, the interest rate has a positive (negative) wealth effect. So, in the illustrative case of asset A (B), an interest rate reduction has a positive (negative) wealth effect. Clearly, the longer the income stream (or, dropping the simplification of uniform income streams, the longer the 'average period of production'[1]) in relation to that of *uss*, the greater is the interest-elasticity. However, at the centre of the capital theory controversies is the immutable fact that the *quantum* of capital – the average period of production – cannot be defined independently of the interest rate. Hence the necessity for *uss* as a unit of measurement. It allows the issue of the effect of an interest rate reduction upon individuals generally to be coherently addressed.

The interest rate: income (wealth) and substitution effects

Is the typical holding that of type-A assets (positive wealth effect) or that of type-B assets (negative wealth effect)? Of course, there is no basis for a presumption either way! Also, if the sum of the A and B steams (measured in units of *uss*) were unchanged by an interest change (as in the above illustration) and if holdings of type-A and type-B assets were equal, then the net effect upon the current *consumption* plan would be neutral. However, there are further considerations. The assumption has been that the time profile is 'frozen' in that, when a new interest rate is established, an individual cannot rearrange his income stream so as to raise its present value. A 'thaw' introduces the possibility of a change in current *production* plans: an interest rate reduction gives the incentive to switch investments into schemes with longer production periods. Since net advantages are gained over the position of the initial 'frozen' A and B stream profiles, the conclusion (for this part of the analysis) is that an interest rate reduction affords opportunities to achieve net welfare gains. These would raise the aggregate current demand for consumption goods. Leijonhufvud notes that, whereas the wealth effect (neutral) outcome under the assumption of 'frozen' income streams is purely arithmetic, the (positive) outcome in the 'thawed' state is choice-theoretically determined.

In developing his analysis, Leijonhufvud explains the age-relatedness of the bench-mark *uss*. Since younger investors would not have had sufficient time 'to transform their inevitably wasting human assets into non-human

capital on which to live after retirement' (Leijonhufvud 1968: 242), their preference is for an income stream (*uss*) that is longer than their actual prospective earnings. So assets that are typically held by younger (older) investors are more likely to have an average production period that is shorter (longer) than their preferred income stream (*uss*). The rationale – for Keynes's 'assumption that *reductions* in the interest rate from an "historically customary" level will not have much of an effect on consumption "within a normal range"' (Leijonhufvud 1968: 248) – would then derive from the tendency for wealth effects to be offsetting between the young and old. Beyond that 'normal range', the positive wealth effect posited by Keynes would then derive from a 'staggering generalization': that the representative investor has assets with an entitlement to income streams that are generally longer than his preferred income stream (*uss*). Leijonhufvud probes the rationale for that position.

The theory of finance: *The General Theory*

In the capital-theoretic literature, the widespread use of net income to indicate an individual's command over resources complies with the conventional notion of a budget constraint. A perpetual net income stream implies that capital assets remain intact. Yet, rational behaviour sets no imperative for the proportion of capital assets that is bequeathed to the next generation and, while consideration for the immediately succeeding generation is commonly observed so, too, is an individual's declining interest in his children's children's children, *etc*. The truncated utility function thereby implied suggests a *uss* of some finite length and (as a corollary) that *net* income is an inappropriate measure of an individual's command over goods *over time*; that is, of his wealth.

Leijonhufvud considers three categories of capital assets: human, long-term and short-term. In regard to human capital, the (remaining) lifetime stream of labour earnings is typically shorter than the preferred stream (the *uss*) which includes retirement years. So, in respect of all age groups, the wealth effect of an interest change is negative for human capital. However, Keynes places greatest emphasis upon the second category; that is, long-term assets whose production period extends beyond the human life-span. So, for long-term capital, an interest rate reduction not only raises the valuation (in units of *uss*), it brings even longer-term assets into profitability and delivers further incentives for investors to switch into longer production period schemes. In the third and final category, wealth comprises such short-duration assets as consumer durables, equipment and inventories. Those held within the commercial sector are complementary and essential to the operation of fixed capital; and they are largely financed by equity that is regarded as perpetual. From all of these considerations, only the first category – human capital – tells against the 'staggering generalization' that is inferred from Keynes: that asset holdings with an average period of production longer than *uss* are predominant.

When the element of uncertainty is introduced, the new concern of the investor is to retain an element of 'liquidity'; that is, 'the potentiality of consuming an unspecified article at an unspecified time' (Keynes [1936] 1973: 211). The new requirement to 'stay liquid' is met by holding short-term assets. The implications are that funds typically require reinvesting a number of times before final encashment at a late stage in the life cycle; and that wealth cannot be measured in units of *uss*. Although capital is maintained from generation to generation, claims are not held to maturity and the welfare of current asset holders 'depends upon the consumption value at which these assets can be resold' (Leijonhufvud 1968: 259). Although one individual might feel more affluent in consequence of an interest rate reduction that raises the value of his assets, across all individuals the value of asset holdings is necessarily matched by the value of liabilities. Money illusion or economic irrationality might be invoked; but, if consumption were raised in consequence of an *illusion* of greater affluence, it would follow that the real costs of such irrationality are borne by succeeding generations.

The wealth effect presents problems of such complexity that prudent theorists might set it to one side. However, *The General Theory* marks an important exception, and

> the aggregative effects of changes in relative values . . . must be thoroughly investigated if we are to arrive at a clear understanding of the relationship between general price theory and 'Keynesian' macro-economics. . . . [and] . . . an eventual synthesis of value theory and short-run monetary theory.
>
> (Leijonhufvud 1968: 261)

So, given that '[a]ll prices, including interest rates, are endogenous when the entire system is considered' (Leijonhufvud 1968: 262), what might trigger the wealth effect? The options in regard to exogenous sources include: an increase in high-powered money; a moderation of bear expectations with the consequential dishoarding of liquid assets; and an increase in labour supply with the effect of reducing wages and prices (so raising real balances).

A related issue is that, 'if technology and the system's resource stocks are assumed given, aggregate "wealth" has thereby been fixed by definition' (Leijonhufvud 1968: 262). With the full certainty of such 'givens', there could be no wealth effect other than from a situation of disequilibrium. However, '[i]n a depression . . . the system is inside the production possibilities frontier so that any event that improves the coordination of current activities and moves it towards the frontier will have a positive "income effect"' (Leijonhufvud 1968: 272). In considering the possible configurations under disequilibrium, it is important to distinguish between the technical frontier of production possibilities (productive efficiency) and the highest level of consumer utility (allocative efficiency). Since a location

on the production possibilities frontier need not imply the highest attainable level of utility, welfare might be improved by tracking around that frontier until the highest level of consumer utility is attained, even as 'resource stocks' remain constant.

Once positions of disequilibrium are introduced into the analysis, the way is opened for consideration of the consequences for investors who '"feel richer" (or poorer) than is consistent with the system's over-all production possibilities' (Leijonhufvud 1968: 267). If asset values are based upon incomplete information, the possibility exists of 'systematic tendencies among the majority of transactors to alternatively undervalue or overvalue their "real wealth"' (Leijonhufvud 1968: 276). Thus, in an inflationary boom, traders might act as if they have a greater command over resources than is feasible; and, in a slump, traders might reduce their expenditures below levels that are affordable on the basis of their full employment income.

In *The General Theory*, such 'mistakes' are associated with two aspects of ignorance. In respect of involuntary unemployment, there is an inadequate generation and dissemination of the information that is necessary to coordinate transactions in (spot) markets for labour and commodities. In respect of the provision of new capital investment and in the absence of forward markets in goods and services, there are no means to indicate inconsistencies between production plans and consumption plans. Even though financial markets may be cleared at prevailing interest rates (that is, equilibrium in the demand for and supply of loanable funds), it is left to entrepreneurial hunch or good fortune to deliver the heterogeneous productive capacity that is appropriate to meet future demands for diverse goods and services:

> it was . . . Keynes' position that it is the failure of the incomplete market mechanism to reconcile the implied values of forward demands and supplies . . . that is the source of the trouble. Unemployment of labor and other resources is a derivative phenomenon . . . of the wealth effects of a disequilibrium vector of perceived intertemporal values.
>
> (Leijonhufvud 1968: 276)

So, if an interest rate reduction is insufficient to offset a decline in the marginal efficiency of capital (initiated by changes in 'perceived intertemporal values'), a negative wealth effect sets in train a series of expenditure reductions that drag the economy away from its production possibilities frontier. Then, the speculation that interest rates are more likely to rise than to fall (that is, asset holders perceive themselves to be less affluent than current asset valuations suggest) keeps long-term interest rates at levels that are incompatible with full employment. So, 'it is . . . the wealth effects that do not take place (due to the inflexibility of long rates in speculative markets) which loom over the analysis of the income-constrained process' (Leijonhufvud 1968: 277). The situation would be remedied only by markets

in future-dated commodities to inform entrepreneurs of the types of investment that are required in the present and near future in order to satisfy demands for diverse commodities in the distant future. The problems of a money economy would then dissipate: an economy in which there is perfect foresight of needs and in which supplies are meticulously accurate to meet those needs, is an economy in which money is inessential:

> a minimum requirement of a representation of a monetary economy is that there should be transactions at various dates . . . If transactions dates are inessential then the description of an economy is not altered by concentrating all transactions at the first date.
>
> (Hahn 1973: 230)

There is nothing *in principle* that precludes the development of forward markets. It requires only that savers should have a desire to commit themselves to specific future purchases of commodities. Practically, this is not in evidence, so there is little indication of inconsistencies between future plans for production and consumption.

Given the preference of consumers to hold liquid assets, the rationale for the positive wealth effect of an interest rate reduction rests upon the fact that investors are enticed by higher yields into holding entitlements to income streams that are considerably longer than their planned consumption streams. However, the absence of forward markets in goods and services is not the only issue. Even with forward markets, risk would always attach to future asset values; so, the value of forward orders for the period of the life-cycle when dissaving occurs might well exceed the value of portfolio income plus the anticipated value of asset sales: '[t]his, perhaps, is the ultimate source of the problem' (Leijonhufvud 1968: 300).

By implication of his criticism of modern financial arrangements (the steady rise in the proportion of equity holdings by persons who are ignorant of the details of the business), Keynes believes that the 'precariousness' of contemporary financial markets needs to be moderated. The problem that he identifies is that 'the professional investor is forced to concern himself with the anticipation of impeding changes . . . of the kind by which . . . the mass psychology of the market is most influenced'. If, instead, trading skills were informed by 'the element of real knowledge in the valuation of investments', this would work towards '[t]he social objective' which is 'to defeat the dark forces of time and ignorance which envelop our future' (Keynes [1936] 1973: 155).

Keynes's general presumption is that risk-averse lenders dislike capital uncertainty more than they dislike income uncertainty. Upon that basis, he attributes the tendency for long-term rates to lie above short-term interest rates to an asymmetry in the preferences of lenders and borrowers: excess supply at the short end and excess demand at the long end delivers a long-term interest rate premium. Of course, Keynes's primary concern is with

macro economics: the need to effect a reduction in the long-term interest rate to accommodate a (general) fall in the marginal efficiency of capital. Here, he is pessimistic of the outcome: 'it seems unlikely that the influence of banking policy on the rate of interest will be sufficient by itself to determine an optimum rate of investment long-term' (Keynes [1936] 1973: 378). Furthermore, he fears that a policy (say) to temper a boom in securities markets would have deleterious effects on industry and commerce generally. Thus, if monetary policy were implemented through open-market operations, short-term rates would be driven above long-term rates. Eventually, the latter would follow the rise in the former which, by the negative wealth effect, would drag the economy inside its production possibilities frontier. By this scenario, Keynes views the yield curve as a useful diagnostic device; and he 'particularly stressed the "crossing of rates" as a highly significant indicator of the way the economy was going' (Leijonhufvud 1968: 285).

Yet problems would remain even if the direction of monetary policy were correct. Suppose, for example, that a reduction in long-term rates – necessary to maintain investment – were instigated by a reduction in the short-term rate. The practical problem is that the process is slow, with a widening differential between short-term and long-term loan rates only gradually offsetting lenders' liquidity preference. A positive wealth effect with an upward revaluation of equities must wait upon the reduction of the long-term rate. This may be too long.

Overall, Keynes's position in regard to the impact that the holding of wealth assets has upon expenditure derives from a number of relationships that can be summarised as follows: (1) roundabout production processes offer marginal physical returns in excess of those from shorter processes that allow investors to hedge consumption in order to avoid the risk of insufficient funds (from a lower than expected valuation of assets when sold to supplement net income); (2) the investor is analogous to a bank: the maturity profile of his asset portfolio is longer than the required encashment schedule; (3) the investor is risk averse and requires compensation for a speculative (unhedged) position; (4) '*the* function of securities markets and of financial intermediaries' is to enable investors to hold short assets (or long assets for short periods) while enabling the system 'to secure the benefits of roundabout processes'; this 'is the key to Keynes' entire theory of finance' (Leijonhufvud 1968: 299).

By Leijonhufvud's exegesis, the above represent the salient features of Keynes's vision – 'the unifying conception' – that draws together the 'wealth-saving relation, the scattered rudiments of a capital theory . . . his diagnosis of the fundamental informational problems in modern private enterprise economies, and his Liquidity Preference theory' (Leijonhufvud 1968: 312). The validity of that vision might be judged by the evidence of the performance of financial markets and intermediaries, in which context Leijonhufvud notes that the greater amplitude of fluctuations in short-term interest rates (over long-term rates) is consistent with Keynes's view that

expectations regarding long rates are interest-inelastic with respect to changes in short rates; and that the positive slope of the yield curve is consistent with the notion that risk aversion is primarily focused upon capital values rather than upon lost income.

Deflation and the restoration of full employment

Keynes's theoretical constructions are intended to reveal the likely implications of a monetary deflation during an acute business recession. A more particular issue is whether the forces of self-adjustment are likely to bring about the restoration of 'normality' (that is, full employment). Special importance and attention are directed to the issue of whether – without some policy initiative – unemployment equilibrium is a theoretical possibility.

In the context of SENIE macromodels, Leijonhufvud points to a division. By their respective views on 'various elasticities and adjustment velocities', two categories of SENIE macrotheory are identified: the 'Revolutionary Orthodoxy' and the 'Neoclassical Resurgence'. The Revolutionary Orthodoxy assumes 'rigid wages, liquidity trap, and constant capital-output ratio'; it is pessimistic 'with regard to the interest-elasticities of "real" variables' (Leijonhufvud 1968: 7–8); and it favours fiscal rather than monetary intervention. On each of these issues, the Neoclassical Resurgence takes the opposite view.

Unlike the Neoclassical Resurgence, the Revolutionary Orthodoxy views unemployment equilibrium as a plausible outcome. In particular, wage rigidities, the liquidity trap and low business initiative are cited in justification of fiscal intervention. The further implications of this conclusion are that, since automatic adjustments fail to return the economic system to a place on the production possibilities curve, *dirigiste* measures are required.

By contrast, the Neoclassical Resurgence holds that a sustained period of deflation must eventually restore expenditure to a level that returns the economic system to full employment. It presents two mechanisms: the real-balance (or Pigou) effect and the Keynes effect (see Table 7.1). The real-balance effect relates to the increased purchasing power of money that is concomitant with deflation and a fall in money prices. This growth in purchasing power ultimately delivers a volume of real balances that is excessive; that force is then dissipated, with an increased demand for goods and services and a restoration of full employment.

The General Theory addresses the real-balance effect: while falling prices *per se* set the tendency for an excess supply of real balances, any expectation that prices might continue to fall would raise the demand for real balances. With such offsetting tendencies, the process of adjustment is protracted; and there are additional considerations: (1) although the redistributional effect of deflation favours lenders at the expense of creditors, the impact upon expenditure could be either way; (2) the real-balance effect is non-existent in respect of bank credit money, because of proportionate increases in the value

Table 7.1 Wealth effects: real consumption expenditure

Mechanism	*Effect*
Real-balance (Pigou) effect:	Real consumption expenditure rises when falling prices (excluding bond prices) increase real balances
Keynes effect:	Real consumption expenditure and investment expenditure rise when falling prices (excluding bond prices) increase real balances and causes the interest rate to fall
Real financial effect:	Real consumption expenditure rises when falling prices (excluding bond prices) increase the real value of 'outside' non-money (bonds) held by the private-sector
Keynes windfall effect:	Real consumption expenditure rises when either (a) improved expectations regarding future earnings from capital assets or (b) an interest rate reduction raises private-sector net worth valued in terms of current consumption goods;

Note: All are pure wealth effects since none raises the real value of any income-stream.

of bank assets and liabilities; and (3) with the exclusion of bank credit money, the real-balance effect must rest upon high-powered money only: '[a] slender reed to lean on!' When all of these issues are taken into account, the real-balance effect is little more than a piece of pedantry that upholds 'the "logical consistency" of Classical theory' (Leijonhufvud 1968: 318–9).

Although there are similarities between the cumulative processes discussed by Keynes and those discussed by Wicksell, the principal differences are: (1) that Wicksell discusses inflation from the position of full employment, whereas Keynes is focused upon monetary deflation and falling employment, output and prices; and (2) that, in Wicksell's analysis, inflation is terminated by the finite reserves of high-powered money held by commercial banks. That anchor is conspicuously absent from *The General Theory* and there are passages to suggest a tendency to ignore high-powered money altogether. So, for example, Keynes argues that, if money wages were linked to the prices of wage-goods, every small perturbation of expenditure would cause prices to 'rush violently between zero and infinity' (Keynes [1936] 1973: 239). Although a certain carelessness in the presentation of the arguments leaves the issue open to interpretation, Leijonhufvud doubts that *The General Theory* is intended to represent a system in which bank credit money can be varied without constraint. With high-powered money, the real-balance effect remains a theoretical possibility.

As was indicated in chapter 5, *The General Theory* affords greater attention to (as henceforth referenced) the Keynes effect, whereby falling money wages

and prices raise real balances, lower the interest rate and stimulate aggregate demand. (In close parallel is the 'real financial effect' where falling prices raise bond values; see Table 7.1.) Although Keynes concedes that '[i]t is not possible to dispute on purely theoretical grounds that this reaction might be capable of allowing an adequate decline in the money-rate of interest' (Keynes [1936] 1973: 232), 'compelling' reasons are set against that outcome: falling prices, if expected to continue, 'may offset the decline in the rate of interest'; money wages are sticky downwards; and 'money's yield from liquidity does not fall in response to an increase in its quantity to anything approaching the extent to which the yield from other assets falls when their quantity is comparably increased' (Keynes [1936] 1973: 233). The key reason – the ultimate rationale for liquidity preference – is that, unlike non-money assets and commodities, whose utility remains fixed as their relative prices fluctuate, the purchasing power of money rises pro rata with its relative price. This makes substitution less unlikely. For all of these reasons, Keynes has no confidence in the practical effectiveness of money wage cuts: 'the same reasons . . . which limit the efficacy of increases in the quantity of money, as a means of increasing investment to the optimum figure, apply *mutatis mutandis*, to wage reductions' (Keynes [1936] 1973: 266).

There is one further consideration – of the impact of a revaluation of 'outside' assets (induced by an interest rate change) upon consumption expenditure – that cannot be investigated by one-commodity SENIE macromodels. This is the Keynes windfall effect (see Table 7.1). With the distinction made in *The General Theory* between capital goods and consumption goods, an interest rate reduction produces a wealth effect in *two* markets:

> [t]he demand price of augmentable capital goods rises relative to their cost of production at the output rate of the moment. Investment will increase with further 'multiplier effects' on aggregate demand. . . . But the propensity to consume will also be directly affected – it will increase through the wealth effect of the rise in "real net worth".
>
> (Leijonhufvud 1968: 328)

So, even though a proportionate fall in money wages and prices has no practically significant Pigou effect or Keynes effect, there *is* a boost to aggregate demand, if falling wages and consumption goods prices outstrip the falling money value of assets. With long-term expectations (as reflected in the stream of earnings) unchanged, the impact of an interest rate reduction is to raise the money value of assets, which means that 'immediately as the rate of interest declines' there is excess demand for both consumer goods and capital goods. Of course, when the interest rate reduction is caused by bank credit expansion (the market rate is driven below the natural rate), this delivers the same result as Wicksell's analysis. It is this result that features in Hayek's theory of business cycles: bank credit expansion facilitates a simultaneous increase in the demand for consumption goods and investment goods.

The crucial price relativity

Leijonhufvud views Keynes as having attempted to extend value theory to incorporate the disequilibrium processes of macroeconomic re-adjustment. Disequilibrium exists when (anticipated) market prices cause traders/consumers to act upon plans that are inconsistent with those of other traders/consumers. Consequential reassessments and responses set in train adjustments to prices and quantities that continue so long as events are different from those that are anticipated. Within a general (dis)equilibrium system, it is simplistic (and most likely wrong) to assume that the price set in any particular market is the singular explanation for the amount (excess or deficient) supplied in that same market. In short, the application of partial equilibrium analysis is misleading. In particular regard to the position taken by Keynes, '*although the most eye-catching symptom of maladjustment is that of great excess supply in labour markets, money wage rates may well be "correct"*' (Leijonhufvud 1968: 336).

Whereas SENIE macromodels 'prove that wage-deflation' is irrelevant by the assumption of interest-inelastic expenditures – that is, monetary policy is ineffective because expenditures are not stimulated by a reduction in the long-term rate of interest concomitant with an increase in real balances – in *The General Theory* it is the absence of a means to reduce the long-term rate of interest that is critically important. Thus, the gap between 'Keynesian economics' and *The General Theory* is simply stated; whereas the former depicts Keynes as 'intending to prove that wage-deflation provides no possible way out of an unemployment situation', Keynes's true position is that 'a reduction in money wages (the marginal efficiency of capital constant) will not help *if* it does not serve to reduce the rate of interest' (Leijonhufvud 1968: 330).

So the essential conclusions reached by Keynes are: that there is a need to adjust the price relativity between money wages and the price of augmentable assets; and that a reduction in the former does not achieve that adjustment. Unemployment is not attributable to real wages that are too high. Rather, the prices of long-dated assets are too low, with the effect that production levels (relevant to the creation of those assets) are reduced, leaving a general excess supply in the labour market. Keynes's policy conclusion is that '*the burden of adjustment should not be thrown on this market.* Asset prices are "wrong" and it is to asset markets that the cure should, if possible, be applied' (Leijonhufvud 1968: 336).

The importance that Keynes attaches to the relativity between money wages and asset prices links the comparison between original and produced means of production to an issue that is central to monetary theory generally, namely the dissipation of monetary forces between prices (including interest rates) and real economic activity.

Leijonhufvud also points to a parallel between Keynes's treatment of money wages and his treatment of interest rates. With both there is the

legacy of 'memories': money wage levels and interest rates are sticky at magnitudes established by history. Although *The General Theory* says very little about how those levels and rates are determined, the criticism that no rationale is provided for inelastic expectations or reservation wages overlooks the historical context of the Great Depression, to which the analysis is specifically addressed. Keynes focuses upon events, and he is engaged particularly by the recent history of levels of output and productive capacity usage and the state of entrepreneurial expectations. Financial markets had been in turmoil, price signals had become corrupted and a legacy of apprehension had been created. Of all the price relativities that might warrant reconfiguration, Keynes attaches the utmost importance to asset prices in terms of money wages.

In further consideration of the importance attached to that price relativity, it is relevant to note Keynes's conclusions on a certain kind of regime (international currencies under the gold standard) and the maladjustments that might be encountered. His conclusions are (in *A Tract*) that economic efficiency derives more from price stability than from exchange rate stability; and (in *A Treatise*) that, if domestic interest rates are too high, export sales might be insufficient to accommodate residual saving:

> if the monetary authority was prevented from lowering the long-term interest rate to a level consonant with investors' expectations, and if domestic costs of production prevented the achievement of an export surplus equal to what people wished to lend abroad, the result would be an 'excess' of saving over investment, a sagging price level, and a 'jammed' economy.
>
> (Skidelsky 1997: 254)

Although *A Treatise* identifies the possibility of 'a sclerotic economy with an overvalued exchange rate', Keynes was driven to think more generally by the widespread malaise across western economies. Was some common factor present? In *The General Theory*, Keynes attempts to show how the under-valuation of augmentable assets – from a long-term interest rate that is persistently too high – 'could make "involuntary" unemployment endemic in rich Western societies at large' (Skidelsky 1997: 302). So, even though it draws from particular historical circumstances, *The General Theory* addresses the possibility of a persistent tendency for saving to exceed investment opportunities.

In order to reach a general equilibrium within a dynamic inter-temporal system, it is necessary to achieve a consistent set of prices across *all* spot and forward markets. Leijonhufvud considers an extreme possibility: that of a unique time path for equilibrium spot and forward prices; that of no other set of prices being capable – even temporarily – of securing market clearances in the present period; that of 'a situation in which some of the endogenous variables have "got stuck" at values incompatible with the

"global" solution'. Among all the variables which might 'have "got stuck"', Keynes points to asset prices; and, if these remain too low (because the long-term interest rate is set too high), there might be 'no possible adjustments of current money output prices and money wages which could wipe out excess supplies in spot markets.' The suggestion is that, while this is 'a first approximation to Keynes' argument . . . Keynes did not argue this extreme case' (Leijonhufvud 1968: 339). Indeed, a certain implausibility (or fatalism) attaches to the notion of a single dynamic full-employment equilibrium time path that is defined by a unique set of spot and forward prices. While many practicalities suggest an incomplete set of forward prices, the associated absence of struck deals might (paradoxically) afford scope for compensatory adjustments across diverse markets.

Although a correspondingly low interest rate might offset investment yields driven down by business pessimism, with prices falling as prospective yields are marked down, it is also possible that the income-constrained process might be too far underway for a restoration of the 'right' interest rate to reverse that process. Nevertheless, at the start of the 1930s, the 'right' long-term interest rate had become Keynes's primary focus. Quite simply, Keynes 'had become convinced that the time was ripe for a large and permanent reduction [in long-term interest rates] throughout the world. This was to be the basis of all his future thinking on economic policy' (Harrod 1951: 399). The 1930s was examined from the presumption that money prices of non-money assets were too low in relation to money wages and that the onus of adjustment rested with the former.

Keynes's diagnosis

Among the contemporaries of Keynes, whose investigations of the nature of business maladjustments are undertaken more carefully and with closer attention to detail, Leijonhufvud cites Eric Lindahl, Gunner Myrdal, Dennis Robertson and Friedrich Hayek. However, none produces a set of conclusions that is likely to impress itself upon policy makers; none presents palliatives for the pressing issue of chronic unemployment; and none provides a theory that might serve as a basis for the implementation of economic policy. Yet these omissions are possibly their best recommendation. As the run of history demonstrates, there is no set of easily judged precepts for aggregate demand management. To be fair, Keynes does not suggest that this is the case:

> [t]his that I offer is . . . a theory of why output and employment are so liable to fluctuation. It does not offer a ready-made remedy as to how to avoid these fluctuations and to maintain output at a steady optimum level. . . . I consider that my suggestions for a cure . . . are not meant to be definitive; they are subject to all sorts of special assumptions and are necessarily related to the particular conditions of the time.
>
> (Keynes [1937a] 1973b: 121–2)

In the outcome, many theoretical issues pursued by Keynes's contemporaries – the precept and the criteria for a policy of neutral money, the meaning and consequences of forced saving, the relevance of the natural rate of interest and the concept of capital intensity – presented such theoretical difficulties that many were unresolved at the moment when academic economics became distracted and thereafter largely preoccupied by the analysis of aggregates: *The General Theory* itself, the development of SENIE macromodels and the monetarist revival of the quantity theory of money.

Whether through haste or design, Keynes's *General Theory* does not confront the difficult issues raised by contemporaneous debates in monetary theory. In consequence, his arguments are left open to various misinterpretations. To be candid, Keynes's presentation lacks theoretical coherence:

> [p]olicy judgements enter in from the very start. In particular, Keynes tends to take for granted the universal appropriateness of his own criterion for the conduct of monetary policy . . . that the monetary authority . . . 'ought to' maintain the general level of asset prices (in terms of money) which has been reached in the preceding period, *if* that period was one of full employment.
>
> (Leijonhufvud 1968: 344)

His simplistic policy recommendation is to boost asset prices so as to encourage levels of investment that would raise production to the full employment level. In a dynamic context, in which the structure of production exhibits a wide variety of roundaboutness (diverse production periods), the precise criteria for the conduct of monetary policy are not so readily ascertained. For example, to justify a policy initiative to 'maintain the general level of asset prices', the existence of full employment in the previous period would not be sufficient. It would also require a distribution of employment that is concomitant with dynamic equilibrium. In all practical circumstances, the bases for such policy initiatives are unlikely to be found. In a dynamic setting, in which employment is reliant upon the production of the means of production as well as the production of consumption goods, the multiple conditions for a full-employment dynamic equilibrium remain elusive to any articulation.

The more straightforward policy recommendation of *A Treatise* – though still with the practical difficulty of identifying a hypothetical magnitude – is for the interest rate to be set as appropriate to maintain the demand price held by some representative asset in an immediately preceding period of full employment. If the previous period is not one of full employment then, even more simply, the interest rate needs to be lowered. Paradoxically, Keynes subsequently articulates the awesome nature of the full requirements: 'production should be so organised as to produce in the most efficient manner compatible with delivery at the dates at which consumers' demand is expected to be effective' (Keynes [1936] 1973: 215). However, even were

the authorities to be acutely accurate and correctly sensitive in the application of monetary policy, Keynes further warns of the intractable nature of liquidity preference: that 'if a tolerable level of employment requires a rate of interest much below the average rates which ruled in the nineteenth century, it is most doubtful whether it can be achieved merely by manipulating the quantity of money' (Keynes [1936] 1973: 309).

Liquidity preference

Although liquidity preference is one of the conceptual novelties of *The General Theory*, the two assets (money or bonds) simplification that is adopted for much of the exposition gives the impression that 'liquidity preference' is synonymous with the 'demand for money'. However, the more elaborate terminology of 'liquidity preference' harks back to *A Treatise*, where the analysis of financial linkages is at a more sophisticated level than in *The General Theory*.

In *A Treatise*, Keynes examines how reverberations from variations in yields to physical capital are transmitted from the long to the short end of credit markets; and how reverberations from variations in monetary policy are transmitted in the opposite direction. These details are a backdrop to *The General Theory*, where the crucial message is that the long-term interest rate is pivotal and that monetary policy (at the short end) is irrelevant if its effects do not extend to the furthest end of the term structure. However, in overlooking the full relevance of those particular aspects of *A Treatise*, attention is too closely focused upon the (partial equilibrium analysis of the) interest-elasticity of the substitution between money and near-money assets (bonds), so that extensive (general equilibrium) linkages are overlooked. In consequence, SENIE macromodels present a narrow view of the interest rate as a *quid pro quo* for lost liquidity.

A further characteristic of SENIE macromodels is that the relationship between the demand for money and the interest rate is portrayed as inherently stable. The irony is that 'Keynes very definitely predicts that this relationship will be *unstable* in the longer run' (Leijonhufvud 1968: 360), because its value is 'largely governed by the prevailing view of what its value is expected to be' (Keynes [1936] 1973: 203). This is the crucial problem that is identified by *The General Theory*: that the long-term rate adjusts only slowly from a level determined by expectations built up in some earlier period. Given time, subsequent experience will temper the conventional view of the long-term rate and, under conditions of sustained unemployment, that rate eventually will fall. In the meantime, however, events may take a more serious turn.

The analysis that Keynes presents of liquidity preference is set in the context of interrelated decisions: how much of current income to save; how to allocate that saving between liquid hoards (money) and illiquid investments (non-money assets); and which types of capital goods to produce. In

all their different forms, money assets have a non-variable present value (even though they may offer a variable yield). This is the crucial characteristic that distinguishes liquid (money) assets. *The General Theory* is predicated upon the assumption that – by their long life – illiquid (non-money) assets are characterised by their variable aggregate net worth; and the speculative positions adopted in regard to current and anticipated values are central to the analysis. In contrast, the SENIE macromodel representation of liquidity preference – as a simple choice between money and bonds – obscures the relevance of the suspicion and the speculation that is aroused by variations in the value of non-money assets.

Long-term business investment is undertaken on the basis of precarious estimates of prospective yields. In former times, such enterprise relied upon 'a sufficient supply of individuals of sanguine temperament and constructive impulses who embarked on business as a way of life'; and this meant that investments 'in private business of the old-fashioned type were largely irrevocable' (Keynes [1936] 1973: 150). In the twentieth century, as ownership and management became separated, the activities of saving and investing became separated. Increasingly, these functions were thereafter co-ordinated by transactions in credit and financial markets. However, while serving the genuine needs of businessmen, these markets are subject to purely speculative activity. Speculation over short-term movements in capital values became a major feature of those markets. Keynes sees this as a key issue: without that speculation, variations in hoarding in consequence of interest rate movements were unlikely to result in any serious repercussions for the economy at large.

The inelastic expectations that underpin the speculative hoarding of liquid assets that is facilitated by modern credit and financial markets are considered the root of the problem. They have the potential to exert forces that have the same effects as those that emanate from the purposeful application of monetary policy. In terms of the classical structure of the quantity theory of money, the driving force of Keynes's analysis of business fluctuations resides in changes in the velocity of circulation as well as in changes to the money supply; but this raises important theoretical issues. What is the rationale for the speculation that drives those changes? Are interest rates the only price to which inelastic expectations are attached? Leijonhufvud suggests that the phenomenon is general; 'that inelastic expectations *do* attach to other prices as well; that producers and wage-earners *do* regard pre-depression price levels as "normal" to begin with – that is exactly what triggers the income-constrained process' (Leijonhufvud 1968: 378). It *is* the general case that reservation prices are maintained for too long, because of the unwarranted expectation that their pre-recession values are likely to be restored. The argument *is* that a prolonged depression rests upon a widespread, sustained and erroneous belief that prices ought to be at levels that were appropriate to the conditions that pertained in some earlier period.

In many circumstances, it is entirely reasonable (from a sound empirical basis) to suppose that the future is likely to mirror the past, although (again from a sound empirical basis) there is no guarantee that this will be so. To be wrong is to be human. To be obstinately wrong is to be irrational. *The General Theory* does rest upon the assumption of irrational behaviour: 'one must insist, *in macrodisequilibrium the public is "wrong"* – and if the disequilibrium is persistent, this is because the public is, indeed, "obstinately wrong," refusing to adopt a price vector consistent with over-all equilibrium' (Leijonhufvud 1968: 379). The corollary is that, if all prices were to adjust continuously to the pressures of excess supply or demand, markets would always be cleared.

From the circumstances of the era, the particular conclusion arrived at by Keynes is that actual money wages were at more or less appropriate levels, but that other prices needed to adjust. Even for this scenario – where resistance to money wage cuts is justified, but resistance to a cut in the long-term interest rate is not – workers (and producers) are likely to prove less obstinate than investors. Whereas the accumulation of lost earnings and the weight of fixed costs of production bear heavily upon money wage rates and commodity prices respectively, the situation is rather different in financial markets. What are the costs of high liquidity preference? The (relatively small) lost return on illiquid assets is likely to be more than offset by the fall in capital values that is avoided. Economically damaging speculation is not penalised. So not only are the least appropriate market adjustments likely to be made (so that a cumulative income-constrained process is set underway), but obstinate and destabilising financial speculation leaves speculators unscathed.

The particular circumstances of the era derive from a policy of monetary deflation to restore gold convertibility to sterling at the pre-1914 rate. This is the primary cause of unemployment in Britain in the 1920s. It is possible to view the ensuing situation either as one where money wages are above the levels that allow labour markets to clear, or as one of an overvalued currency. Given that a reversion to exchange rate flexibility is excluded from the political agenda, Keynes places the weight of his argument behind public works, state investment initiatives and a protectionist trade policy.

Even though a unique set of historical circumstances could be identified as the cause of widespread and chronic unemployment, there are other more general features. In assessing the patterns of modern capitalistic production, Keynes identifies a tendency for capital accumulation periodically to outpace growth in demand, with the effect of steadily eroding investment opportunities. From time to time, as this pattern re-presents itself, entrepreneurs reflect upon business trends and cut back upon their investment plans. In such circumstances, banking policy is unlikely to effect a sufficient stimulus from a reduction in interest rates. So Keynes was led to consider a more radical possibility: 'that a somewhat comprehensive socialisation of investment will prove the only means of securing an approximation to full employment' (Keynes [1936] 1973: 378).

Keynes's revolution: the right track?

Leijonhufvud's thesis is that – following upon Keynes's attempt to research the requirements for a new theoretical order – 'the Keynesian Revolution got off on the wrong track and continued on it' (Leijonhufvud 1968: 388); and that the right track should accommodate the dynamic interactive feedback of price and quantity adjustments across a multi-market system. The right track must incorporate income-constrained processes, of which Keynes's multiplier is but a rudimentary version: 'when the multiplier takes hold there is already "something wrong" with the system' (Leijonhufvud 1968: 391). It should be one in which individual agents remain as utility maximisers and profit maximisers; they should be rational; they should respond to inter-temporal price incentives, but should expect no guarantee that the short-term price signals to which they respond will point them necessarily in the right direction.

On the basis of this listing, SENIE macroeconomics has deviated far from the right track. It is atemporal. It has no markets, no price system and no entrepreneurship. There is no capital accumulation. Above these and other deficiencies, Leijonhufvud argues that 'one elemental and vital distinction has not been made clear'. It is that, within a large decentralised economic system, 'the duel role of the price mechanism' is to '*disseminate information* necessary to coordinate the economic activities . . . [and to] . . . *provide the incentives*' (Leijonhufvud 1968: 393) that are necessary to drive active entrepreneurship.

Although Keynes recognises the value of classical economics in explaining the tendency of competitive markets to achieve an economically efficient outcome in the long term, he is adamant that short-term difficulties must be addressed:

> this long run is a misleading guide to current affairs. *In the long run* we are all dead. Economists set themselves too easy, too useless a task if in tempestuous seasons they can only tell us that when the storm is past the ocean is flat again.
>
> (Keynes [1923] 1974: 65)

So it is perverse that *The General Theory* is regarded as a special case of classical economics, where optimality is inhibited by such as sticky wages, liquidity preference, interest-inelastic investment, and so on. It is the classical assumption of perfect knowledge that is special and sorely in need of justification as an approximation to the practicality of market trading. It is the latter that constitutes the general case, and prices and entrepreneurship are among the many institutional devices that serve as practical surrogates for the theoretical state of perfect knowledge.

From the recognition that prices do not deliver perfect information, *The General Theory* attempts to show how present actions are influenced by views

of the future. Of the many linkages between the present and the future, one of the more important is the current value of durable capital equipment; the longer the duration, the more volatile is the valuation of capital in respect to changes (or anticipated changes) in both interest rate and earnings. Valuations are variable because information is continuously updated. It is this area that needed to be opened up to analysis. Had those who took up the reins continued along the right track, they would have sought to make progress in the areas of dynamic systems control and communications.

The 'Keynesian Revolution which did not come off' (Leijonhufvud 1968: 397) would have ventured beyond the platitudes of institutional wage and price rigidities. Key features that were displaced from the centre-ground chosen by Keynes are: that goods are traded for money; that labour is hired for money; that money is not readily producible; that transactions costs are low in financial markets; that lost interest is the only cost of holding money; that different agents undertake saving and investing; that savers do not commit themselves by contracting in forward commodity markets; that capital is durable; and that agents are short on foresight and long on memories.

Where *The General Theory* is dynamic and historical, SENIE macroeconomics is static and ahistorical, which is an insecure basis for policy formulation. SENIE macroeconomic policy recommendations are founded upon the implausible assumption of robust empirical rigidities. Although Keynesian economists readily incorporated the Phillips curve – the missing piece in their schema – this new feature proved to be a Trojan horse. The expectations-augmented Phillips curve readmitted the policy ineffectiveness argument (the 'Treasury View', that private expenditures are crowded out by the financing of public expenditure) and encouraged the challenge from the New Classical School that restored the presumption of rational economic behaviour.

New classical economics

Effective macroeconomic demand management relies upon an inability of individual agents to acquire *any* insight into how the economy works. Under such conditions, individuals are unable to react (or, at least, are very slow to react) to the effects of fiscal policy. So increases in prices, interest rates or taxation do not cause private expenditure to vary inversely with public expenditure; and only under those circumstances is crowding-out eliminated. In refusing to acknowledge that the government holds superior information, the New Classical School takes the opposite extreme. If price distortions are fully anticipated – if individuals never make mistakes of interpretation – the full implications of new policy are anticipated, so that private counter-action is precisely attuned to offset its impact. This is John Muth's 'rational expectations' hypothesis (see Muth 1961).

Keynesians are obtuse in failing to grasp the lessons of rational expectations and full informational macroeconomics, so that their criticism of New

Classical Economics tends to be couched in terms of the unrealistically awesome nature of the calculations that rational agents are required to undertake. However, this is to misunderstand its theoretical purpose, which

> is merely to define the adjustments that must take place if the system is to adapt fully following some disturbance. Use of such constructions does not commit us to the belief that the system will always or normally adapt smoothly and rapidly no matter what the disturbance.
>
> (Leijonhufvud 1981: 137)

Leijonhufvud's reminder of the purpose of theory resonates with Hayek's criticism of *The General Theory*:

> [a]n analysis on the assumption of full employment, even if the assumption is only partially valid, at least helps us to understand the functioning of the price mechanism, the significance of the relations between different prices and of the factors which lead to changes in these relations. But the assumption that all goods and factors are available in excess makes the whole price system redundant, undermined and unintelligible.
>
> (Hayek 1972: 103)

Subsequent to Muth's pioneering work, the New Classical School redefined rational expectations in terms of utility maximisation. Although individuals are assumed to apply reason to their knowledge of circumstances, the implausible presumption that those circumstances are perfectly known is avoided. The new requirement is that systematic behaviour should involve the more frequent repetition of successful strategies and the shifting away from unsuccessful ones. This gives the conclusion that the distribution of individuals' expectations is centred upon the rational outcome. Somewhat ironically, a similar view is expressed in *A Treatise*: 'action based on inaccurate anticipations will not long survive experiences of a contrary character, so that facts will soon override anticipation except where they agree' (Keynes [1930] 1971: 160).

Keynes's *Treatise* portrays business recession as a consequence of unwarranted expectations that produce a 'wrong' long-term interest rate; and the recommendation is that monetary policy should be applied to secure a more appropriate long-term rate. Yet, is it plausible that an obstinately misguided bullishness in financial markets should be responsible for an enduring economic malaise? The argument invokes irrationality and runs close to tautology: the most appropriate long-term interest rate is the rate that secures full employment.

While *A Treatise* suggests that monetary policy can secure full employment, *The General Theory* reflects a pessimism born of Keynes's inability to persuade the practical bankers in London. So, with *The General Theory*, there

is a new ploy: as an alternative to the requirement to lower the long-term interest rate, asset values might be raised by the enhancement of earnings profiles through the introduction of additional state expenditure. Direct fiscal measures might fill the gaps created by business pessimism. However, Keynes's analysis fails by its omission to deal adequately with the Treasury view. At best, monetary or fiscal intervention is a short-term palliative – a prescription for the times – necessitated by a stubborn refusal in financial markets to abandon bear speculation and to give due regard to economic fundamentals.

Leijonhufvud suggests that it is implausible that monetary policy *per se* would be sufficient to offset the bleakest of entrepreneurial expectations. Such policy would require the authorities to persist in bearing the loss of buying long-dated stock when their prices are high and selling at the opposite end of the cycle. Unless the lesson of such perverse banking entrepreneurship is lost on dealers, this feat would become more costly to engineer on each successive occasion. Moreover, Keynes does not deal with the important distinction between reducing the market rate of interest to its true equilibrium level (or the natural rate of classical analysis) and that of forcing it below that theoretically critical yet unobservable level.

The inflationary potential of Keynes's recommendations – for monetary policy to be directed towards reducing the long-term interest rate, and for bond-financed public expenditure programmes – is also clear. These became the focus of Hayek's critique of Keynes's analysis. In particular, Hayek argues that Keynes misunderstands the actual causes of economic malaise that show in the evidence that the excesses of a preceding boom are correlated with the severity and duration of the slump. He attributes that misunderstanding to the 'widely recognised' fact that Keynes's understanding of capital theory is 'inadequate' (Hayek 1978b: 230): that '[i]n the Cambridge tradition that governed Keynes's brief study of economics, the Mill-Jevons theory of capital, later developed by Böhm-Bawerk and Wicksell, was not seriously considered' (Hayek 1983: 46). Hayek's contributions to that paradigm, and the further appraisal of Keynes's *General Theory* in the light of those contributions, are addressed in the next chapter.

8 Capital, money and cycles

> If Keynes focused on the short-run picture, and the classicists focused on the long-run picture, Hayek focused on the 'real coupling' between the two pictures. The Hayekian coupling took the form of capital theory – the theory of a time-consuming, multi-stage capital structure.
>
> (Garrison 1999: iv)

Capital theory

One of the objectives of Hayek's *Pure Theory of Capital* (1941) is to meet the criticisms of his earlier exposition of a monetary theory of business cycles (Hayek [1929] 1933a, 1935b, 1939c). These are perceived to have arisen largely from 'the inadequacy of its presentation of the theory of capital which it presupposed' (Shackle 1981: 242). Not only would a more rigorous exposition of capital theory further the analysis of business cycles, it would also secure a basis for a repudiation of Keynes's *General Theory*. Indeed, a case is made (see Caldwell 1998) that – of many possible explanations for Hayek's failure to review *The General Theory* – one of the more plausible is Hayek's realisation that the capital-theoretic foundations of his own analysis were shallow. In support of that case is Hayek's comment that 'an elaboration of the still inadequately developed theory of capital was a prerequisite for a thorough disposal of Keynes's argument'; that is, the argument that there is a 'direct dependence of investment on final demand' (Hayek 1983: 48).

Austrian capital theory began as a refutation of the labour theory of value, according to which relative product prices are held to be determined by the different amounts of labour required to produce each product. In the early eighteenth century, Ricardo had shown that the labour theory could not hold where capital is used (see Moss and Vaughn 1986: 548). His explanation is that a machine that is capable of the same output as that produced by 100 man-years must itself embody fewer than 100 man-years of work. Otherwise, no rationale exists for the use of the machine.

In building upon Ricardo's insights and upon the work of Böhm-Bawerk, Hayek explains how productivity is raised by the manner in which investments *create* economic resources out of non-economic resources (see Hayek

1941: 60–4). To illustrate: in order to release the latent potential of water power, it is necessary to build a water-wheel and mill house. Even as resources are put to the construction of the first mill, sites alongside the stream only achieve the status of a scarce resource after all such sites have been occupied. In their earliest stages, 'investments' constitute 'only the services of those resources which might also have given an immediate return' (Hayek 1941: 63), but the productivity that derives from the use of capital is further enhanced as latent resources are drawn into the production process in a cumulative fashion.[1] Thus, ever-novel opportunities present themselves for exploitation; and so, 'as investment proceeds more and more of those natural resources which were only potential resources are utilised and gradually drawn into the circle of scarce goods, and have in their turn to be counted as investments' (Hayek 1941: 64). The ultimate yield of any particular investment is reliant upon a great many factors; and many independently taken decisions contribute to that outcome. The situation is complex.

According to Hayek, an inadequate knowledge of capital theory causes Keynes (as part of his *General Theory*) to make investment depend primarily upon the demand for consumption goods. Hayek considers this to be a crucial error. The argument, that new investment is only profitable when there is an increase in consumers' demand, is 'part of the same widespread fallacy to which the businessman is especially prone' (Hayek 1978: 213). The failure to understand the true complexity of the relationships is a consequence of the mistake of applying that which is true for a single industry to industry as a whole:

> [w]hile, of course, the relative magnitude of the demand for equipment of a particular industry will depend upon the demand for the product of that industry, it is certainly not true to say that the demand for capital goods in general is directly determined by the magnitude of the demand for consumers' goods.
>
> (Hayek 1935b: 143)

Hayek argues that a dependency of investment upon consumption can only apply to investments that replicate *existing* techniques; it cannot be relevant to 'investment which can increase productivity per head of worker by equipping a given labour force with *more* capital equipment' (Hayek 1978: 213). To illustrate: in the first case a new shop (with an assistant) is opened to meet increased demand for sweets; in the second case, there is an investment in automatic dispensers. The latter kind of investment is 'encouraged by *low* product (consumer good) prices (which makes it necessary to save on labour costs) and discouraged by high ones' (Hayek 1978: 213).

Although there is substance to these points, Hayek's case is overstated. While the replication of a proven technique is clearly appropriate to meet an increase in consumers' demand, it does not rule out the possibility that it provides an opportunity to raise productivity per worker (from the use of a

more capitalistic production method). It would have been more pertinent for Hayek to have pointed to that part of his analysis that shows that a reduction in consumer goods prices increases the relative profitability of more capitalistic production methods; and vice versa. This is elucidated below.

Capitalistic methods of production

The lengthening of capitalistic processes of production delivers a *greater* quantity of final goods from a given volume of inputs; but these goods become available at a *later* date than if shorter processes are used. This is the economic decision: it is less jam today in order to have more jam tomorrow. Whether it is more profitable to maintain or to alter the structure of production depends upon the balance between the prices received for the final product (today and tomorrow) and the prices that must be paid for inputs, including intermediate goods.

At each stage of production, a margin (the excess of the value of the intermediate good over the factor and material costs of producing it) must exist to provide the inducement to invest. Entrepreneurs allocate resources across the many different stages of production in order to maximise total returns. Where there are differences in time-discounted margins (or yields), investments are switched between stages until yields are equalised (as a consequence of diminishing returns). So, what might cause differentials between yields to open up? Alternative possibilities are (1) a change in the level of saving, and (2) monetary expansion. Both give rise to the 'interest rate effect'.

The interest rate effect

For simplicity, output is assumed to show the same diminishing returns (with respect to the application of additional units of a factor) at each stage of production; but, while this leaves the marginal physical product curve for the factor identical at every stage, the value of that product (at any point on the curve) is more heavily time-discounted at earlier than at later stages of production.

Where entrepreneurs have allocated resources to achieve maximum returns, a fall in the interest rate must increase yields across all stages of production. However, it has the greatest impact at the stage that is most heavily time-discounted. The differential impact of a change in the rate of interest may be illustrated by a wholesale merchant who seeks the optimal structure for an investment in wine. He faces the choice of selling wine as soon as it is produced or of allowing it to mature for (say) either one or two years. At a discount rate (r) of 7 per cent, consider his decision at time t, for wine whose value is £100 (per dozen bottles) as it is first produced. If he were to distribute his supply so that the price obtained for wine (per dozen bottles) produced at

time t is	£100 $(1+r)^0$	=	a_t	=	£100.00
time $t-1$ is	£100 $(1+r)^1$	=	a_{t-1}	=	£107.00
time $t-2$ is	£100 $(1+r)^2$	=	a_{t-2}	=	£114.49

the present values (PV) of the three investment options would all be equal to £100:

£100	=	£114.49 $(1.07)^{-2}$	=	£107.00 $(1.07)^{-1}$	=	£100.00 $(1.07)^0$
PV	=	$a_{t-2}\,(1+r)^{-2}$	=	$a_{t-1}\,(1+r)^{-1}$	=	$a_t\,(1+r)^0$
PV	=	y_{t-2}	=	y_{t-1}	=	y_t

This would imply that the merchant has distributed his supply of wine optimally, because the same yield is obtained from each option. In general terms, if initial conditions are such that yields are equalised

$$y_{t-2} = y_{t-1} = y_t \quad \text{at discount rate} \quad r_1$$

it follows that

$$y_{t-2} > y_{t-1} > y_t \quad \text{at discount rate} \quad r_2 < r_1$$

and that

$$y_{t-2} < y_{t-1} < y_t \quad \text{at discount rate} \quad r_0 > r_1$$

The implication is that, if the interest rate falls, yields are raised generally, but with a bias that favours 'capital deepening' (that is, 'more roundabout' production methods – with relatively longer periods of production – offer greater increases in yields); and if the interest rate rises, yields are lowered generally, but with a bias that favours 'capital shallowing' (that is, 'less roundabout' production methods – with relatively shorter periods of production – offer smaller reductions in yields).

Less urbanely, perhaps, it is confirmed that an interest rate reduction gives an advantage to processes using proportionately more capital. Not only is this so for new enterprises, but existing operations also have an incentive to switch resources away from direct production methods, and to increase expenditure upon intermediate goods. With a fall in the rate of interest

> the old distribution of factors between stages would evidently not represent an equilibrium position but one at which the discounted value of the marginal product would be different at every stage. And if the total quantity of the factor which is available remains the same the new equilibrium distribution will apparently be one at which not only the price of the factor will be higher but at which also a considerable quantity of it is used in the earlier stages and correspondingly less in the later stages.
>
> (Hayek 1935b: 82)

Assuming a fully employed supply of productive resources, entrepreneurs can acquire additional resources only by out-bidding those who currently employ those resources. The extent to which prices are affected by the interest rate incentive to reallocate resources to reach 'the new equilibrium distribution' depends upon the degree to which substitution is possible. Some intermediate goods are less readily reallocated, being 'more specific' (less versatile) than others. However, the essential conclusion is that it is wrong to suppose that the rate of interest is relevant only as 'a direct cost factor'. More important is 'its effect on prices through its effect on demand for the intermediate products and for the factors from which they are produced' (Hayek 1935b: 83). The stimulus to investment, created by an interest rate reduction, depends upon entrepreneurs' expectations of new profits from the reallocation of existing investments and from the application of new funds. If all entrepreneurs were precisely correct in anticipating enhanced future yields, investments would be directed only to those stages offering the highest returns, and other potential (less profitable) ventures would not be financed.

Here, the role of the price mechanism is to work towards achieving an efficient allocation of resources. So, for example, a voluntary switch away from consumption expenditure in favour of higher saving would cause the rate of interest to fall and appropriate adjustments (to the balance between the production of intermediate goods and final goods) to take place. As a result, new saving would be taken up by new investment across the full range of capitalistic stages of production (but with a bias favouring the earliest stages). However, if monetary expansion is the cause of a fall in the rate of interest, the situation is less happily resolved.

Bank credit money and the investment boom

The interest rate is lowered when new money is made available 'by way of credits to producers'. To a degree, the impact of new money is similar to that generated by new saving but, unlike the latter, investment financed by new money takes place without a prior reduction in expenditure upon final goods. So, although the increased demand begins to push up the prices of intermediate goods, the output of final goods may remain unaffected. Even after the switch to more roundabout methods of production is underway, goods may have advanced so far in gestation (and be so specific as to preclude reallocation) that final goods are forthcoming at an unchanged rate for some time; but, sooner or later, this must end as a consequence of the diversion of resources to the production of intermediate goods (see Hayek 1935b: 88).

As factors are switched into longer-term projects, a hiatus in the flow of final goods onto the market is inevitable. There is then an increased scarcity of the latter (there having been no increase in voluntary saving) that must cause the prices of final goods to rise. This forces an unplanned reduction in consumption ('forced saving'). Factors are now in greater

demand for the production of *both* intermediate goods *and* final goods. This causes money incomes to rise which adds to the pressure upon the prices of consumption goods, so that the original profitability gap (between the production of intermediate goods and the production of final goods) begins to close.

Entrepreneurial expectations of profits are enhanced by rising prices of final goods and, so long as banks are willing to extend loans, the whole process is cumulative. Yet, the creation of new bank credit cannot continue forever. With its eventual cessation, there begins a difficult period of readjustment, as incentives become set for a return to shorter (less roundabout) processes. (See 'the relative prices effect' below.) This readjustment may even involve a degree of 'over-reaction', if the shortfalls in final goods have created attractive scarcity price premia.

Asymmetries

Monetary expansion lowers the interest rate and raises the profitability of *all* investments, but the profitability of more roundabout processes is raised by greater amounts. Nevertheless, it is entirely rational for entrepreneurs to continue to use capital that is specific to existing short processes (where yields, though not the highest to be obtained, remain above the rate of interest), while switching new investment to more roundabout processes.

In reverse, the argument is rather different; for, when the interest rate is raised, it lies above yields on *all* processes. The gap is greater the more roundabout is the process, so that long processes are more promptly abandoned. (Although the 'sunk cost' argument applies, the calculation must account for the provision of additional funding over the period to completion of final goods.) Some time may pass before the factors released from longer processes are recruited into nascent shorter processes that, starting from scratch, only gradually absorb resources. Moreover, their period of unemployment may be protracted, if entrepreneurs hesitate to commit themselves 'once the temporary scarcity of consumers' goods has disappeared' (Hayek 1935b: 93).

The whole process, consisting of new money, a lowered interest rate, the switch to longer processes, the increased scarcity of final goods and the switch back to shorter processes, is described by a fable:

> [t]he situation would be similar to that of a people of an isolated island, if, after having partially constructed an enormous machine which was to provide them with all the necessities, they found out that they had exhausted all their savings and available free capital before the new machine could turn out its product. They would then have no choice but to abandon temporarily the work on the new process and to devote all their labour to producing their daily food without any capital.
>
> (Hayek 1935b: 94)

Indeed, even these difficulties may be understated, because the accumulation of capital may have allowed a growth of population (or, perhaps, an influx of immigration) far beyond the level that might be gainfully employed without capital.

Hayek draws from these arguments 'the fundamental truth' that it is impossible to sustain an increased level of consumption without *prior* new saving. Even where existing equipment has the (temporary) capacity to produce a higher level of final goods, in order for that level to be maintained continuously, there is a requirement for commensurate increases in intermediate goods at every auxiliary stage. This cannot be achieved without prior saving.

In Hayek's view, many economists were misled by the vast stocks of underused durable capital during the depression of the 1930s. The requirement for a prior commitment to many *other* lengthy processes is generally overlooked. Rather than constituting proof of 'an excess of capital and that consumption is insufficient', unused capacity demonstrates that the level of demand for final goods is 'too urgent' to permit investments in long processes to take place, even if much of the necessary durable capital is already available. This unused plant and machinery is the consequence of former 'misdirections of capital' (Hayek 1935b: 96).

Policy in a business depression

From Hayek's analysis of 'the interest rate effect' comes the conclusion that cheap credit policy should not be used to stimulate consumer demand in order to lift an economy from depression. Such measures only exacerbate the problem of the unemployment that arises from structural misalignments across production processes.

Hayek argues that, with precise control, bank credit expansion *could* achieve remedial action; for it is theoretically possible for the precise timing, amount and direction of new advances to compensate for the first excessive price rise of final goods, and then for its subsequent withdrawal precisely to compensate for the flow of additional final goods (as the supply pattern of final and intermediate goods adapts itself to the pattern of demand). However, in an uncertain world, this is asking for the moon!

No good can come of credit expansion. What *is* required is 'the most speedy and complete adaptation possible of the structure of production between the demand for consumers' goods and the demand for producers' goods as determined by voluntary saving and spending' (Hayek 1935b: 98). Any creation of 'artificial demand' distorts the allocation of resources and causes a postponement of a lasting adjustment. Although unemployed resources might be quickly absorbed by such artificial stimulus, 'new disturbances and new crises' are the inevitable result.

Whatever causes set them in train, it is the intricate distortions to the structure of production that are 'the decisive factors in determining cyclical

fluctuations'. These, rather than 'the superficial phenomenon of changes in the value of money' (Hayek [1929] 1933a: 41 n.) – by which these distortions can be set in motion – are worthy of the closest attention. In part, distortions are created by the 'interest rate effect'. In part, they are created by the 'relative prices effect'. While the first faltering steps towards a description of the latter are to be found in Hayek's earlier works, the analysis is undermined by confusing exposition, such that defenders of the Keynesian faith were able to play upon alleged contradictions between the 'two versions' of Hayek's theory.

If equilibrium is disturbed by a rise in the rate of saving, the interest rate falls (setting the incentive to invest in more roundabout methods) at the same time as the fall in consumption leaves an excess supply of final goods. Now,

> [i]n the stage of production immediately preceding that in which the final touches are given to final goods, the effect of the fall in the price of final goods will be felt more strongly than the effect of the increase of the funds available for the purchase of intermediate goods of all kinds. The price of the product of this stage will, therefore, fall, but it will fall less than the prices of consumers' goods. This means a narrowing of the price margin between the last two stages. But this narrowing . . . will make the employment of funds in the last stage less profitable relatively to the earlier stages and therefore some of the funds which had been used there will tend to be shifted to the earlier stages. This shift of funds will tend to narrow the price margins in the preceding stages, and the tendency thus set up towards a cumulative rise in prices of the products of the earlier stages will soon overcome the tendency towards a fall.
>
> (Hayek 1935b: 75–6)

Whereas Hayek's exposition is founded upon a coherent analytical structure, greater clarity is achieved from a numerical illustration that employs the terminology of modern investment appraisal. This shows the nature of the differential impact that changes in the rate of interest and changes in final goods prices have upon investment incentives.

The two effects illustrated

When the interest rate is lowered by monetary expansion, there is no simultaneous reduction in the demand for final goods. The immediate impact of this 'interest rate effect' is to lengthen production processes; but, whereas the subsequent higher relative prices of final goods raises yields across all capital investments, the greatest impact is upon the least roundabout processes.

For an investment period of given length, new investment continues to be undertaken if the net present value (of net revenue from the sale of the final goods produced) exceeds the cost of the investment. New investment ceases

when the present value of net revenue from the future sale of final goods is equal to the value of the capital:

$$x_0 = \int_0^n b\, e^{-rt}\, dt = b\,(1 - e^{-rn}) / r \qquad (8.1)$$

where x_0 is the cost of investment at time $t=0$, b is the value of continuous annual net revenue from final goods, n is the time when net revenue expires and r is the rate of interest.

Levels of investment are assumed to be optimal, so that each marginal (£100) unit gives an internal rate of return equal to the market rate of interest of (say) 7 per cent. Values of b may be found for any production method, and the following are obtained from equation (8.1) for selected values of n:

n:	5	10	15	20	25	30
b:	£23.7	£13.9	£10.8	£9.3	£8.5	£8.0

These values reflect a capital structure in full equilibrium.

The interest rate effect

Suppose (for simplicity) that a firm is restricted to two types of project: five-year duration and twenty-year duration. From the information derived from equation (8.1), these give annual net revenues of £23.7 and £9.3 respectively and yield 7 per cent. Initial equilibrium is established (at a discount rate of 7 per cent) by an optimal combination of five-year and twenty-year duration capital, each with earnings whose present value is £100. Subsequently, monetary expansion is assumed to reduce the interest rate to 6 per cent. This raises present values – from £100 (in both cases) to £102.8 and £106.8 respectively – and encourages the flow of new investment into *both* projects. However, if no additional resources are available, funds are *switched* away from five-year duration and into twenty-year duration capital ('capital deepening'). The consequence is (diminishing marginal efficiency of capital is assumed) that rising/falling yields from the former/latter eventually eliminate inferior/superior returns. A new optimal combination is reached where the present values of the two projects are equalised (somewhere in the range between £102.8 and £106.8).

The relative prices effect

To illustrate the impact of an increase in the price of final goods, all b values are raised by 5 per cent and set into equation (8.1) to give the following solutions for the unknown r:

n:	5	10	15	20	25	30
r:	0.089	0.081	0.078	0.076	0.076	0.075

All yields are raised above the original 7 per cent and give the incentive to invest in *all* methods of production ('capital widening'); but the incentive is greatest for the least roundabout method of production, which gives the bias for 'capital shallowing'.

New saving and new credit

Monetary expansion stimulates investment expenditure by forcing down the market rate of interest and by forcing up the *relative* price of final goods; but,

> so long as investment continues to increase, the discrepancy between prices and costs of consumers' goods must become progressively larger till the rise in the rate of profit becomes strong enough to make the tendency to change to less durable and expensive types of machinery dominant over the tendency to provide capacity for a larger output.
>
> (Hayek 1939c: 33)

It is this proposition that created so much controversy. Hayek emphasises the supply constraints that arise in the course of adjustment. Rising commodity prices and unchanged costs of production raise profits across the widest range of the firm's activities; but the greatest increases lie with short-term investments.

New investment, previously intended for fixed machinery, buildings and other items of long gestation, is diverted into working capital. While the *average* period of turnover is little affected, the marginal impact upon new investment expenditures is certain to be great (see Hayek 1942: 231). Rapid changes may be introduced into current outlays, and funds earmarked for amortisation may be diverted into working capital. In this way, a firm can increase its output while, simultaneously, reducing its fixed capital. The numerical illustration given above can be drawn upon to show how this can happen.

Suppose again that production is restricted to the use of five-year duration and twenty-year duration capital, and that each is operated with 60 units (×£100) of capital. Given a uniform investment history, this means that 12 units and 3 units respectively expire at the end of each successive year. As above, for each to yield 7 per cent, the respective annual output figures are £23.7 and £9.3. The annual value of final goods produced with the 120 units of capital is £1980 (60×£23.7 plus 60×£9.3).

If this situation is disturbed by a rise in final goods prices, the rate of return on investment in each method rises, but the rise is greater for the less roundabout method. Unless additional funds are available, investment is switched into five-year duration stock, but this is possible only at a rate of 3 units per year. The impact upon total capital stock and upon the level of output through time is summarised in Table 8.1.

After five years, the amount of five-year duration stock has been raised to 75 units and that of twenty-year duration stock has been lowered to 45

Table 8.1 Amortisation funds switched from twenty-year to five-year duration capital

	Units of capital		*Annual output*
Year	*5-year*	*20-year*	£
0	60	60	1980.0
1	63	60	2023.2
2	66	54	2066.4
3	69	51	2109.6
4	72	48	2152.8
5	75	45	2196.0
6	75	42	2168.1
16	75	12	1889.1
17	75	9	1861.2
18	75	6	1833.3
19	75	3	1805.4
20	75	0	1777.5

units; and final output (valued at original prices) has risen to £2196 (75×£23.7 plus 45×£9.3). Capital stock is still at 120 units but, thereafter, declines. The reason is the requirement (from year six onwards) for 15 (rather than 12) units of replacement investment to maintain the five-year duration stock at 75 units. The twenty-year duration stock continues to diminish until year twenty, when none is left. Thereafter, the annual output of commodities is constant at £1777.5 (75×£23.7).

If capital could be instantaneously acquired, the obvious choice (given the constraint of 15 units of annual investment) would be 300 units of twenty-year duration capital; but capital investment takes time, and it is in the context of time that a choice has to be made. If demand and price patterns were unaffected by the time scale/output levels chosen, there would be no basis for preferring any one capitalistic structure to another. The level of annual output would be affected by the choice, but the assumption to this point is that investment yields would be uniform across the range of feasible options. In relaxing this assumption, two new considerations are important: (1) how the unit cost of final output is likely to be affected by the choice of capital intensity; and (2) how demand for the final output is likely to shift over time.

The illustration has shown how the rise in final goods prices initially stimulates output (even though the level of investment is unchanged), but that capital shallowing (or a 'concertina effect') occurs when less roundabout methods make prior claim upon investment funds. Ultimately, there is a reduction in the aggregate stock of fixed capital. It is this proposition that Keynesian economists were unable (or unwilling) to understand (see Moss and Vaughn 1986: 545 and n. 1).

The illustration assumes full employment. If there were unemployed resources, monetary expansion might reduce Keynes's 'involuntary unemployment' by raising final goods prices. A low interest rate and abundant resources might permit an increase in investment expenditure across the full range of roundabout methods. Nevertheless, while abundant resources might mean that 'the decline of investment may be postponed for a long time .... it is bound to come' (Hayek 1939c: 31). New investment places income in the hands of those formerly unemployed, and raises the demand for final goods; but only by the unlikely device of Keynes's *instantaneous* multiplier might price rises be avoided. Without this device, final goods prices would rise and so create a bias to favour short duration investments.

The inevitable slump

In a boom triggered by new opportunities arising from invention or discovery, expansion is held in check by a rise in the interest rate that limits the transfer of resources from other uses. In a boom triggered by monetary expansion, this mechanism is absent. The interest rate is held down and investors take advantage of cheap loans. New demand for investment is financed by forced saving, as a diminished supply drives up prices of final goods. This then feeds upon itself. The illustration shows how output can rise for a period before falling away to a new *lower* level. It also shows how the amount of investment expenditure can remain at a constant level while capital stock is falling. In the static Keynesian framework, an outward shift of the investment demand schedule leads to a higher level of investment at a higher interest rate, and so a Keynesian could not possibly accept that this higher interest rate could be responsible for a reduction in capital stock:

> [t]o argue this way, involves the same fallacy as saying that a rise in demand for a commodity will cause a rise in its price, and the rise in price causes a restriction in demand (because less is bought at a higher price than a lower price), the increase in demand will lead to a reduction in the amount bought.
>
> (Kaldor 1960: 169–70)

Monetary expansion and a lowered interest rate encourages capital investment generally, but it particularly favours indirect capitalistic methods of production; but the subsequent effect of rising final goods prices is to offset this bias. There is no logical contradiction involved in the integration of these two forces. In bringing them together, Hayek shows an original and perceptive understanding of the central role that integrated production methods have within the theory of business fluctuations. It is central to the Hayekian paradigm that any change takes time and incurs adjustment costs. Some change is warranted in that it is directed by market forces to follow an economically efficient dynamic path. Even so, cyclical patterns may be

inevitable, given the differential impact upon prices and the lagged response to those signals.

In an investment boom, changes to the structure of production are inevitable; but unwarranted changes are manifest when monetary expansion is responsible. Once the boom is underway, the interest rate *must* eventually rise, either because of limits to saving, or because of an end to monetary expansion. A higher interest rate tells against more roundabout methods. The impact of a higher interest rate is reinforced by that of rising final goods prices. While there is no mathematically precise calculation to indicate the end of the investment boom, the process is not one that can be sustained:

> [t]he apparent exhaustion of investment opportunities at the end of the boom will then be due not to the fact that the investment opportunities which have existed before have all been used up, but to the fact that because of the rise in the rate of profits in certain stages . . . many kinds of investment which were profitable before have ceased to be so.
>
> (Hayek 1939c: 34)

With many types of labour specifically attached to particular types of employment, unemployment must arise from any *switch* of investments; but an investment boom initiated by monetary expansion creates severe distortions to the structure of production. Even prior to the rise in the interest rate, rising rates of return cause formerly profitable investment projects to be abandoned. The rise in the interest rate accelerates this process. Increasingly, the effect on incomes in these newly unprofitable sectors leads to a reduced demand for final goods and to further unemployment, as does the reduced demand for intermediate goods required in the production of final goods. The boom is bust; but, sooner or later, the recession bottoms out. Again there is no mathematical calculation to show precisely when but, with the easing of resource constraints and the reduced yield from the production of final goods, investment in more roundabout methods begins once again.

Hayek's river analogy

Although Hayek endeavours to construct a more complete theory of cyclical activity, his project is never completed:

> I doubt whether further effort on my part would be repaid by results. Perhaps there is even something to be said . . . in favour of an exposition which confines itself to the central problems without pursuing into all its ramifications and detail the consequences of the solution offered.
>
> (Hayek 1941, viii)

He returns to the issue only to give a descriptive flavour – his river analogy – of the essential contrast with the simplistic popular view that is endorsed by Keynes's *General Theory.*

The river analogy indicates the complexity of time-lapse relationships that can exist between investments, the volume of sales of final goods and the level of employment. The river represents the continuous flow of capitalistic production, that can vary quite independently of the level of the tide (demand for final goods) at its mouth. In its upper reaches the volume of water is affected by the immediate flows from tributaries to the main stream (variations in new and replacement investment) that are determined by relative factor prices, technological change and the interest rate. Both theoretically and empirically, there is no single correspondence between changes in the upper reaches and sales of final goods. However, Hayek believes it to be more generally the case that a revival of final demand in a slump is 'an effect rather than a cause of a revival in the upper reaches of the stream of production' (Hayek 1983: 46).

Hayek's most important claim is that there is no direct causal relationship between sales of consumer goods and changes in the upper reaches of the stream of capitalistic production; nor between sales of consumer goods and the level of employment. It is upon the basis of this claim that Hayek rejects Keynes's argument that the path to full employment might begin with general measures to boost expenditure; that a modest boost to consumer goods prices would encourage output and investment.

Within the Austrian framework, the use of more time-consuming (roundabout) processes can enhance productivity by exploiting techniques, resources and raw materials that otherwise would have remained uneconomic; and it is in this context that a general reduction in consumer goods prices can enhance the *relative* profitability of more capitalistic processes against more direct production methods. (For example, in many markets, capital intensive methods have brought the demise of traditional brewing that can no longer compete on price. Even if labour services were free, empirical work indicates that traditional labour-intensive methods can remain the more expensive; see Ojegibile, 1983.) The superior cost advantages that derive from the use of capital is a function of its superior productivity that derives from the consequences of taking more time to bring consumer goods to the market.

The opportunity to vary the allocation of a constant flow of investment funds (across projects of different life duration) is analogous to a constant rainfall (but changing dispersion) within the catchment area of the river and its tributaries. The river represents the flow of capitalistic production, that (given the dispersion of rainfall) presents a varying amount of water (potential sales of final goods) into the estuary, and which is independent of the level of the tide (demand for consumer goods) at its mouth. A constant flow of investment is consistent with different (sustainable) levels of capital stock and varying (both fleeting and sustainable) levels of final output. Although Hayek recalls that, on one occasion, Keynes had become 'momen-

tarily interested in the possibility that a fall in product prices might lead to investment in order to reduce unit costs, he soon dismissed this brusquely as nonsense!' (Hayek 1983: 46). No doubt, this confirmed Hayek in the view that Keynes had a poor grasp of capital theory.

Capital theory and *The General Theory*

The General Theory is brief in its treatment of capital. There are two short chapters: 'The Marginal Efficiency of Capital' and 'Observations on the Nature of Capital'. In these, Keynes declares himself to be in sympathy with 'the pre-classical doctrine that everything is produced by labour' (Keynes [1936] 1973: 213). Since the inception of Austrian capital theory was as a refutation of the labour theory of value, the clash with Hayek should bring no surprise. This is reinforced by the emphasis of *The General Theory*, which had the effect of redirecting research effort away from business cycle theory and to the question of income determination at a point of time. Whatever claim is made for the static methodology of *The General Theory*, there can be no doubt that Keynes over-stretches with the following: '[s]ince we claim to have shown in the preceding chapters what determines the volume of employment at any time, it follows, if we are right, that our theory must be capable of explaining the phenomena of the trade cycle' (Keynes [1936] 1973: 313). If it were only that simple! Of course, the comparison of theoretical points of macroeconomic equilibra can give no insight as to the feasibility of a traverse between those points.

Keynes's empathy with the labour theory of value causes him to have further difficulty with the idea that capital is productive: he prefers not to regard capital 'as being *productive*' since the only reason it offers an aggregate yield in excess of 'its initial supply price is because it is *scarce* . . . If capital becomes less scarce, the excess yield will diminish, without its having become less productive – at least in the physical sense' (Keynes [1936] 1973: 213). Since this argument applies equally to labour services, the issue is entirely one of semantics. For labour, the minimum level of state welfare benefits (the modern alternative to the subsistence wage) determines the degree of labour scarcity and, for capital, the interest rate performs a similar function. So (as Keynes is so clearly aware) the question of interest rate determination needs to be addressed before any distinction can be drawn between the relative productivity/scarcity of labour and capital. Accepting that interest is at a determinate rate, what are the implications for capital? According to Keynes,

> [i]f the rate of interest were zero, there would be an optimum interval for any given article between the average date of input and the date of consumption for which labour cost would be a minimum; – a shorter process of production would be less efficient technically, while a longer process would also be less efficient by reason of storage costs and deterioration.
>
> (Keynes [1936] 1973: 216)

This statement may be criticised for a number of reasons: (1) the focus upon a zero interest rate is too restricted; if it were sound, the argument would apply equally to the impact (upon the length chosen for any production process) of all possible levels of the interest rate; (2) the concept of 'average date of input' is misleading: a given 'average date of input' is commensurate with an infinite variety of frequency distributions of actual dates, not all of which are likely to be optimal; (3) there is no principle that says that a short process is technically less efficient than a long one; (4) there is no principle that says that a long process is likely to incur greater storage costs or greater wastage through deterioration than a short one; a longer process might reduce storage costs (for example, food dehydration) and wastage (for example, vacuum packing).

Keynes comments further that an increase in the interest rate introduces a new element of cost that 'increases with the length of the process, so that the optimum interval will be shortened'. While the first part of this statement is correct, the second part does not follow necessarily. The switch of investment expenditure from long to short methods must raise the yield (marginal efficiency of capital) on the former and lower the yield on the latter. The investment switch will cease when yields are equalised across investments of different life duration. So, although the 'average date of input' is reduced, it is meaningless to say that the 'optimum interval will be shortened'. There is no single optimum interval. Rather, differential yields cause investment expenditure to be reallocated until a distribution of capital investments is obtained where all such intervals are optimal.

Keynes also observes that, with an interest rate rise, the overall level of inputs 'to provide for the eventual delivery of the article will have to be curtailed until the prospective price has increased sufficiently to cover the increased cost'. However, with the assumption of competition in the input market, the possibility exists of competitive reductions in input prices to offset the interest rate increase. In part, this solution is blocked by the notion of involuntary unemployment. However, Keynes attributes the 'increased cost' of inputs both to higher interest charges and to 'the diminished efficiency of the shorter method of production', but (as noted above) there is no presumption that shorter production methods are technically inferior.

The unavoidable conclusion is that Keynes's treatment of capital is hopelessly inadequate. Beyond its contribution to the overall level of expenditure, capital is an unwelcome intruder into the analysis portrayed as a *General Theory*. This analysis throws no light upon the optimum deployment of resources within capitalistic processes of production, and its sole purpose is to persuade that income adjusts so that saving is brought to the level set by autonomous investment expenditure: '"To dig holes in the ground," paid for out of savings, will increase, not only employment, but the real national dividend of useful goods and services' (Keynes [1936] 1973: 220). In other words, all is reduced to the multiplier, with all its attendant problems. Moreover, this leaves Keynes in the curious position of arguing that the

process of wealth accumulation is the means to sustain a high living standard; but that the achievement of wealth accumulation threatens that living standard:

> of two equal communities, having the same technique but different stocks of capital, the community with the smaller stock of capital may be able for the time being to enjoy a higher standard of living than the community with the larger stock.
>
> (Keynes [1936] 1973: 219)

Keynes stops short of the proposition that holes in the ground are preferable to wealth accumulation. Nevertheless, he asserts – from something akin to a Luddite perspective – that holes, mansions, pyramids, cathedrals, monasteries and foreign missions might postpone 'the day when abundance of capital will interfere with the abundance of output' (Keynes [1936] 1973: 220). In the event, Keynes's presumption of an imminent exhaustion of investment opportunities has not been confirmed. In terms of the analysis from which his conclusions are derived, the simplicity of 'pseudo-scientific' macroeconomic relationships is achieved by ignoring the complex incentives by which diverse capitalistic methods of production are constrained within a dynamic interrelationship.

Keynes and Hayek: reconciliation?

In a publication that predates *The General Theory* and the later refinements to Hayek's business cycle theory, Evan Durban's *Purchasing Power and Trade Depression: A Critique of Under-Consumption Theories* (1933) attempts to marry characteristics that emanate from the work of Keynes and Hayek. Durbin makes two basic points. He explains that his theory

> differs from that of Mr. Keynes in tracing the cause of the Trade Cycle to an attempt to stabilize prices when costs are falling and also in denying that inflation will do anything to cure the Trade Cycle; while it differs from that of Dr. Hayek in assuming that a rise in the price of consumption goods will stimulate the demand for capital, and in insisting that the relation between the real output of capital and the demand for consumption goods is controlled by the volume of unemployed resources attached to the industries capable of producing capital goods.
>
> (Durbin 1933: 165–6)

Durbin's first point draws upon the experience of the US economy in the late 1920s and supports Hayek in the view that, when there is a need to liquidate maladjustments created by excessive business growth, further credit expansion will sustain inappropriate structures and encourage further unwarranted developments. In the period to 1927, prices had not risen in

the booming US economy, and there was every reason to anticipate only a mild recession. However, the US authorities had 'succeeded, by means of an easy-money policy . . . in prolonging the boom for two years beyond what would otherwise have been its natural end' (Hayek 1935b: 162). Hayek takes this as evidence for how delicate is the balance between production, investment and the composition of heterogeneous capital stock. That balance is so easily disrupted by monetary measures. Once disturbed, processes are set in motion, such that men and machinery are deployed across sectors of the economy in patterns that cannot be sustained.

Keynes displays no appreciation of such forces. Furthermore, he ignores the inflation that is set in train when payments are made to non-productive labour – '[i]f the Treasury were to fill old bottles with bank-notes, bury them . . . and leave it to private enterprise . . . to dig the notes up again . . . there need be no more unemployment' (Keynes [1936] 1973: 129) – and he assumes that labour and capital resources are readily available through all phases of the cycle so that prices play no part 'except at rare intervals when full employment is approached' (Hayek 1941: 374).

In developing his case against Keynes, Durbin follows Hayek in many details of the analysis of the business cycle. He agrees with the over-investment origin of the boom; he finds merit in the attempt 'to fuse the Austrian theory of capital with a realistic picture of monetary circulation' (Durbin 1933: 147); and he accepts the formal validity of conclusions reached under the full employment assumption. Nevertheless, he argues that the assumption of full employment allows important features to be missed: 'the relationship between the relative and absolute movements of demand and production turn wholly upon the assumptions which are made about the condition of unemployment' (Durbin 1933: 144). In developing his case against Hayek, Durbin argues that 'during depression and the first period of recovery . . . [there is] . . . a relatively large surplus capacity in the production of capital goods and a relatively small surplus capacity in the production of consumption goods' (Durbin 1933: 45). His point is that

> in any system which has undergone many waves of over-investment the industries concerned with the production of capital instruments will have attracted to themselves a supply of factors of production in excess of those which can be profitably employed by voluntary saving and which will be permanently attached to those industries in a specialized and immobile form.
>
> (Durbin 1933: 150)

As a corollary to these successive repetitions of cyclical *over*-investment, Durbin contends that there is 'a permanent surplus capacity in the capital goods industries . . . which strongly predisposes the whole system to fluctuation' (Durbin 1933: 150). Durbin refers to this 'permanent surplus capacity' as a 'bulge'. The essential point is that the availability of spare

productive capacity must ease the early stages of a recovery, and Durbin's further elaborations – in respect of the existence of 'unemployed resources attached to the capital goods industries' – are a challenge to the time-scale rather than to the outcome of Hayek's analysis.

Durbin's fundamental difference with Hayek is that he insists (as does Keynes) that the demand for capital goods increases as the demand for consumption goods increases:

> the output of capital will be stimulated by a rise in the price level of consumption goods so long as there are unemployed resources attached to the capital goods industries and that the output of capital will be sharply contracted if the price level of consumption goods falls off whether or not any unemployment existed before the price level fall.
>
> (Durbin 1933: 149)

In Hayek's analysis this is an outrage: he stands upon the essential economic truth of having either jam tomorrow (via capital) or jam today (consumption goods). From that vantage point, Durbin's 'bulge'- and his dubious (and wavering) assumption that it is permanent – is revealed as a device by which the impossible is made to appear possible.

Durbin describes a complete cycle, beginning with a recommencement of investment after a severe depression. In the presence of unemployed labour and of surplus capacity – and given 'that the activity of invention continually adds to the number of ways in which the existing level of costs can be still further reduced' (Durbin 1933: 75) – an initial rise in production is associated with a fall in unit costs. Prices would also fall, but for the assumption that commercial banks 'pursue their usual 'reserve-position-cum-price-stabilization policy'; that is, policy 'will seek to stabilize prices despite falling costs' (Durbin 1933: 152).

By that banking intervention, the initial expansion receives a monetary fillip as the market rate of interest drops below the natural rate, so that the demand for bank credit money increases and investment exceeds voluntary saving. The 'bulge' begins to fill out – 'reinforced by any tendency on the part of the prices of consumption goods to rise' (Durbin 1933: 153) – a process that is ended either by finite bank reserves or by the upper limits of the 'bulge'. Thereafter, more capital goods can be produced only if the production of consumption goods is reduced. The effect of the attempt to bid resources away from consumption goods is to raise their prices; but this, Durbin argues 'will mean that the derived demand for capital in monetary terms is still increasing'. This process, he concludes, has 'no real limit' and so the situation leads inevitably to 'high inflation' (Durbin 1933: 154).

Beyond the initial expansion, Durbin is describing that part of the cycle where Hayek's 'relative prices effect' dominates the 'interest rate effect'; that is, where a rise in consumption goods prices incites a switch from deep to shallow investments. Durbin concludes: the crisis breaks when banks refuse

further credit. Investment is curtailed and 'the whole existing structure of production is rendered unstable' (Durbin 1933: 155) by the depressing effect which this has on the prices of consumption goods. A cyclical contraction ensues in which capital goods industries are hit by 'bankruptcies and retrenchments . . . enforced by credit restrictions'; as this happens, the production of consumption goods remains profitable 'as long as the producers' credits that flowed out from the banks in the later stages of recovery are still passing down through the structure of production into the hands of final consumers' (Durbin 1933: 158). Of course, this cannot last and the lowest point of the cycle is reached.

Durbin puzzles over the severity of such depression and suggests that Hayek fails to explain why the economic system is sensitive to an interest rate rise at the time of crisis, but insensitive to a cut when the crisis is over. While Durbin is unconvinced by Keynes's 'policy of forced investment' (Durbin 1933: 160), he finds the suggestion plausible that cumulating losses generate a flight into money. The essence of the problem of the cycle is that 'too much was invested', but – against Keynes – public works and mild inflationary policies directed towards stabilising the price of consumption goods are next to useless because of the 'very great increase in profits in the production of consumption goods . . . [that is needed to] . . . provide a great stimulus to investment' (Durbin 1933: 162). According to Durbin, recovery emanates from the search for cost-reducing improvements to capital stock, when entrepreneurs become convinced that prices can fall no further: untapped inventions, a low rate of interest, and stable prices set the conditions for investment to begin once more.

While Durbin endorses the fundamentals of Hayek's analysis, he wishes to add emphasis to the re-locational impracticality of specific investments (hence, Durbin's 'bulge') and also to incorporate the direct dependence of investment on final demand. Where the former is an empirical matter, Hayek rejects the latter on principle (hence, Hayek's 'river analogy').

Durbin's attempt to reconcile Keynes and Hayek is obviously premature. At that time, neither Keynes nor (especially) Hayek had then produced their most prestigious work(s). In seeking a more comprehensive reconciliation, there are more important – and still unresolved – considerations. As is implicit Leijonhufvud's work, these lie in two distinct research areas. The first involves the interrelationships between dealings in financial markets, real capital investments and cyclical activity; and the second relates to the success of market arrangements more generally and the evolution of institutional structures that are most likely to be effective in informing the present and in easing movement towards an uncertain future. Such research programmes are most likely to emerge from that sub-set of activity that occupies the intersection between Austrian economics and post-Keynesian economics. Unfortunately, that potentially fertile ground incorporates the flash-points of an ideological mine-field.

9 Austrians and post-Keynesians

> 'Marginalism' is only a calculating technique borrowed from mathematics and applicable in various sciences, whereas subjectivism forms the core of a specific science of human action. As far as Austrian economists are concerned, the proper name of the revolution that occurred in the 1870s should be the 'subjectivist' revolution.
>
> (Tieben and Keizer 1997: 1)

> Post-Keynesianism economics . . . contains the work of a heterogeneous group of economists who nevertheless are united by their dislike of mainstream neoclassical theory (mainstream microeconomics) and the IS/LM general equilibrium versions of Keynesian theory but also by their attempts to provide a coherent alternative approaches to economic analysis.
>
> (Hamouda and Harcourt 1989: 2)

Origins and contrasts

The origin of Austrian economics is Vienna in the 1870s: with Carl Menger, his students Friedrich von Wieser and Eugen von Böhm-Bawerk, and their successors Ludwig von Mises and Friedrich Hayek. Its inception was as a reaction to 'historicism'; that is, as a rejection of the notion that generalisations might be drawn directly from the events of history. Austrian economics recognises social science data as subjective phenomena: individuals' beliefs and perceptions drive human activity. It emphasises individual choice under uncertainty as a costly experiment (an error-learning process) in which subjective valuations are identifiable only at the moment of choice.

The origin of post-Keynesian economics is Cambridge, England in the 1950s: with Joan Robinson, Richard Kahn, Nicholas Kaldor and Piero Sraffa. Its inception was as a reaction to neoclassical microeconomics and SENIE macroeconomics. Its general position is that, although 'Keynes inaugurated a radical break in the way we ought to think about the workings of market, capitalist economy, . . . this radicalism has been sold short in the post-war development of mainstream "Keynesian economics"

(Cottrell 1994: 558). Unlike the latter, post-Keynesian economics emphasises the relevance of institutions, complex human agency and uncertainty to the analysis of a modern capitalist, industrial, monetary economy. It insists that a such an economy is understood by the significance of the social class system, institutions and rules that govern production and distribution, accumulation and growth. Post-Keynesian economics views the economy as an organic whole whose functional form is shrouded in uncertainty.

The paradigm of the Austrian School contrasts with that of classical economics and its labour theory of value. The latter holds the worth of any item to be determined by its objective embodiment of productive labour. In the Austrian approach, value is determined only by the subjective preferences of an individual mind. Austrian economics also contrasts with mainstream 'positive economics' and the stress that is placed upon theory that leads to testable propositions for statistically quantifiable variables: '[t]o an economist today . . . only that is true which can be proved *statistically*, and everything that cannot be demonstrated by statistics can be neglected' (Hayek 1975a: 6). In this aspect, positive economics is a continuation of the nineteenth-century attempt to raise social science to the status achieved by the natural and physical sciences. Neither Austrians nor post-Keynesians have much regard for the 'slavish imitation of method' that Hayek scornfully describes as 'scientism' (Hayek 1952a: 21). Two objections are raised. First, the 'data' of social science are subjective phenomena that are not susceptible to quantification; they are constituted by beliefs and perceptions which, though widely held, can only be held with a considerable degree of uncertainty. Second, social systems are too complex to permit the comprehensive appraisal of all the relevant circumstances.

Many of the concerns and presumptions of Austrian economists overlap with those of the post-Keynesians, who themselves constitute a broad doctrinal group. To the uninitiated, both schools must have the appearance of a curious motley of shared, compatible and opposing beliefs. Indeed, Robert Solow is not alone in noting that post-Keynesians are united more by their distastes than by their affinities:

> I don't see an intellectual connection . . . except that they are all against the same thing, namely against the mainstream, whatever that is. . . . It seems to be mostly a community which knows what it is against but doesn't offer anything very systematic that could be described as a positive theory.
>
> (Robert Solow; quoted in Klamer 1984: 183)

Post-Keynesians have many aversions. In their general view of the modern capitalist monetary economy, they tend to dislike much of what they see; and they are generally uncomfortable with their proximity to aspects of Austrian economics. Many find Austrians irksome for their persistent obstruction of a line of fire that is directed at the market economy.

Of course, different factions exist among Austrian economists, not least in respect of methodology and the value placed upon empirical testing; and Karl Popper did persuade Hayek of the need to temper his own position. However, although Hayek accepted that 'scientists did not really do what most of them . . . told us that they did', he largely held to his criticism of popular methodology 'because so many social scientists are still trying to imitate what they wrongly believe to be the methods of the natural sciences' (Hayek 1967: viii).

While Hayek draws from post-Keynesians a certain (perhaps grudging) admiration for aspects of his work, there is a disingenuous tendency to conflate the paradigmatic basis of the Austrian School with the purely axiomatic deductive approach of neoclassical economics. A soft target is thereby created that allows purported deficiencies of the market system to be more readily demonstrated.

Knowledge: assumed perfect or otherwise

The neoclassical assumptions are those of opportunity costs reflected in definitive prices, of well-defined preference functions precisely tangential to budget constraints, of known technologies, of a given set of mutually consistent factor prices, and of universal awareness of all the feasible options. These provide a pedagogic format to convey the notion of economic efficiency; but it is misleading to suggest that any of those factors might ever be objectively knowable. For its disregard of time dependency, fundamental uncertainty and the relevance of institutional determinants, post-Keynesians reject the paradigm of neoclassical general equilibrium, regarding it as 'a system in which there is no room for time, change, uncertainty and money' (Brothwell 1992: 193). In this Hayek and all others of the Austrian School readily concur: '[t]he fundamental Austrian complaint against neoclassical economics is that its concept of equilibrium already assumes the solution of the economic problem, which is the problem of discovering – or inventing – possibilities and making good use of them' (Loasby 1989: 156). Since all human action is directed towards changing some future state, uncertainty must pervade the outcome of every action that resides within the context of other people's actions. While neoclassical determinism might clarify the purely logical features of an economic problem (of constrained optimisation), it offers no practical solutions for problems that are dependent upon the very limited knowledge of consumption and production possibilities that is available for any given unique set of historical circumstances. Such information that might be obtained is generated in large degree by competition: the process of free exchange against rival offers provides a mechanism by which the subjective perceptions of participants become pitched against one another and, thereby, forced into ever more harmonious interrelationships.

While empirical evidence supports the presumption that free-acting individuals adjust their behaviour in a manner that allows a greater rather

than a lesser degree of coordination of their actions, Austrians are accused of making the 'theoretical leap . . . of *assuming* that individuals' actions are co-ordinated harmoniously' (Dow 1985: 85). That accusation is undermined by the sheer breadth of recent applications of the principle of spontaneous adaptation ('universal Darwinism'). Of special relevance to social adaptation is the theory of agent-based computational economics (ACE). Upon the basis of a set of computer instructions (a program), ACE is applied to generate abstract models of events and processes. ACE thereby constructs social theory; that is, explanations: '[a] central concern of ACE researchers is to understand the apparently spontaneous formation of global regularities in economic processes, such as the unplanned co-ordination of trade in decentralized market economies that economists associate with Adam Smith's invisible hand' (Tesfatsion 1998; cited from Vriend 1999: 2). With the investigation of *unintended* consequences of human action – that is, the phenomena of the *spontaneous* social order – social science is extended beyond psychology. This is the crux of ACE. In place of the hypothetical central auction of classical general equilibrium models, dispersed and autonomous agents engage in a continuous process of inductive learning and re-adaptation to their local environment. Choices in pursuit of self-interest are made on the basis of an agent's particular knowledge.

Through the application of computational rules and structures, ACE models show how regularities emerge from the bottom up; that is, as the unintentional consequence of the repeated local interaction of autonomous agents. For example, Vriend (1999) uses an ACE model to illustrate a

> situation in which a number of persons are attempting to work out their separate plans . . . [where] . . . the causal factor enters . . . in the form of the acquisition of new knowledge by the different individuals or of changes in their data brought about by the contacts between them.
>
> (Hayek 1946: 93–4)

Vriend sets up an ACE choice problem in which there is a two-stage iterative process of reinforced learning within a population of 250 agents. In each successive period, every agent must choose between two items, with the order of the agents in exercising their choice being determined at random in each period. Each item is characterised by the expected value (unknown to the agent) of the utility it generates. So, in each period, every agent is presented with – and must choose between – (the same) two random values sampled from the uniform distribution ($Eu \pm 0.25$), whose mean (Eu) is a random value from the uniform distribution ($0.25 < Eu < 0.75$). So, for example, an item characterised by the expected value $Eu = 0.4$ must deliver a utility level in the range 0.15 to 0.65; but a utility value of, say, 0.6 might come from a uniform distribution with mean $Eu = 0.35$ (at worst) or $Eu = 0.85$ (at best).

Although *Eu* is unknown to each agent, his choice is informed by the choices made earlier by a random sample of *n* other agents. The agent observes those earlier choices and the respective utility values that were delivered. His own decision rule is then decided by a classifier system (CS) on the basis of 'bids' (based on the decision rules previously applied by, and the utility values previously obtained for, the sample of *n* agent choices).

Thus, at stage (1) a classifier system (CS) selects a rule (from an arbitrary set of rules) for the agent's current choice between two utility values ($0 < u < 1$); and that selection is based upon 'bids' assigned to each of the rules within the CS. At stage (2) the CS adjusts the strength assigned to the current rule: the strength is increased/reduced if the rule delivers a utility value that is greater/less than the strength previously assigned to the rule: '[a]s a result, the strength of each rule converges to the weighted average of the rewards from the environment generated by that rule' (Vriend 1999: 10). However, it is not simply that

> agents learn to use better rules . . . that lead to higher utility levels . . . [but] . . . there is also an externality, as the choice of the given agent is added to the information pool on which the choices of future agents will be based.
>
> (Vriend 1999: 23)

In an extended series of iterations of the ACE model described above, the characteristics of a spontaneous system are revealed 'in which the emerging order unravels time and time again' (Vriend 1999: 28). Thus, ACE theory is capable of explaining how 'individuals' actions are co-ordinated harmoniously', not by assumption, but through limited interaction and reinforced learning, such that practices prevail through 'a process not primarily of reasoning' but, more simply, 'because they were successful' (Hayek 1973: 18).

Improvements upon outcomes that are based entirely upon reinforced learning are achieved through the exercise of the entrepreneurial abilities of anticipation and of speedy reaction in taking advantage of every new circumstance. In the neoclassical world, these vital elements of entrepreneurship – whether exercised by consumers or producers – are made redundant by the assumption of 'given data' and perfect knowledge. Indeed, Hayek's seminal paper 'Economics and knowledge' was inspired partly by the unwary use of this tautology – *given data* – by neoclassical theorists who, although they 'assumed that facts were given, they never said to whom they were given' (McCormick 1992: 85). In the time-dependent circumstances of history, such data as exist are typically incomplete, dispersed and inaccurate. This the premise from which the analysis of the Austrian School begins.

With its concentration upon the network of linkages in production and upon the role of human action and market transactions in achieving a coherent structure within that network, the Austrian School emphasises

uncertainty, the costs of acquiring information and the implications of human action, both in creating and in responding to changing circumstances. In this context, choice is a disequilibrium phenomenon; and the combination of individuals' choices produces highly complex structures, any knowledge of which can be neither complete nor certain. Yet, by the processes of emulation and learning that are reinforced by the consequences that follow upon success and failure, the tendency is to a more, rather than to a less, well-adapted outcome.

The neoclassical assumption of perfect knowledge is fundamentally inconsistent with a theory of events that occur in the passage of time. In 'The Meaning of Competition', Hayek refers to a paper by Oskar Morgenstern that deals with 'the paralyzing effect really perfect knowledge and foresight would have on all action' (Hayek 1946: 95). Hayek reports Morgenstern's development of Sir Arthur Conan-Doyle's account of the pursuit of Sherlock Holmes by Professor Moriarty. After taking the train from London to Dover, Holmes decides to alight at an intermediate station when he realises that Moriarty can take a special faster train that arrives earlier. Yet, suppose Moriarty has anticipated Holmes's thoughts and actions? Moriarty would then have travelled to the intermediate station and, in that case, Holmes should go directly to Dover; but then, Holmes recognises that Moriarty would himself have considered that action and so would already have reacted accordingly. Such interdependent thinking must reduce Holmes and Moriarty to rational inaction.

Paradoxically, uncertainty can produce an analogous situation. This time Piero Mini provides the illustration. A male in contemplation of marriage ponders the details he ought to know. How might the disposition of his prospective partner reveal itself during the years of marriage; '[w]hat will be her attitude to children, towards sports, towards common friends, towards her work?' The weight of the many arguments that might be considered 'is partly a function of a person's imagination. . . . And the *more imaginative, sensitive and intelligent . . . the man is, the more paralysed he will be*' (Mini 1994: 40–1). When no definitive evaluation is possible of the characteristics of a prospective partner, a vivid imagination would be as devastating to decision-making as full information. One is left either to take a chance, or to weigh the hard evidence, or to surmise endlessly.

The neoclassical scenario of perfect knowledge is 'workable' only because there is no action; every economic actor (or rather statue) is locked into an equilibrium position. Alternatively, in a dynamic game-theoretic system, a set of optimal rules may be discovered by the strategic interaction of the players in repeated game-playing. In that hypothetical context, some further insights into optimal game-playing may be achieved and these may have some limited application to a historical socio-economic context. However, the true context for the exercise of an individual's imagination comprises his (and his rival's) genetic disposition and his (and his rival's) received social conventions and unique personal experiences. These latter considerations are

relevant to the scenario of Mini's illustration. For every individual the context is unique, complex, uncertain and demanding of a decision.

Economics and catallactics

When many post-Keynesians target neoclassical economics they presume to target the market system. This is curious: neoclassical economics is not concerned with markets. The neoclassical method of marginal analysis identifies the characteristics of an economically efficient outcome; it says nothing about how that outcome might be achieved. Although different sets of assumptions are categorised as competitive, monopolistic, and oligopolistic, close inspection reveals that no one is competing. The entrepreneurial function is either about to commence (disequilibrium) or completed (equilibrium). Entrepreneurial battle-plans for logistics, reconnaissance, communication and deployment are strangely absent.

So, where post-Keynesians might point to the application of mathematical calculus within general equilibrium analysis, in order to indicate the outcome that they would expect actual markets to approximate, those hypothetical conditions can have only the weakest (if any) affinity to path-dependent historical processes. There should be no surprise, therefore, when events on the field of battle appear radically different. Rarely, if ever, is there any counterpart to the 'givens' of neoclassical analysis.

In any case, the relevance of neoclassical analysis is limited to a literal *economy*; that is, to an organisation that has a well-defined set of objectives and where action is constrained by well-defined conditions. Here circumstances might bear some approximation to those that characterise the neoclassical analysis of (say) the household or the firm, where resources are (for the moment) fixed and objectives are defined in terms of (say) utility or profitability. The market is different. It is not a place for minds that are agreed upon a common objective. The single commonality is that of a desire to exchange ownership entitlements. This happens only if an exchange is to the mutual benefit of the contracting parties. The analysis of this market process and its consequences is properly termed *catallactics*, not economics. This distinction – between an *economy* (a constructive order) and a *catallaxy* (a spontaneous order) – is maintained by the Austrian School and by some post-Keynesians, but it is generally lost to the economics (*nota bene*) profession.

There are many illustrations that testify to the efficiency of an organisation (an economy) as a framework for reaching efficient arrangements for the utilisation of scarce resources. One example is provided by the ubiquitous firm. The firm is an organisation that exists to gather together and to harness various skills and expertise, rather than for those services to be obtained from the market as and when they are required. However, crucial questions relate to the constraints upon the growth of the organisation and to the limits beyond which its advantages (from the elimination of the costs of market

transactions) become outweighed by the advantages that derive from the discipline of market competition (that releases the potential gains of entrepreneurship). The managers of an over-extended firm may find it impossible to evaluate the worth of the factors and resources that lie within their control; so the firm may lose ground to competition that is more market-oriented in the acquisition and deployment of necessary skills.

The boundary between market arrangements and organisations is ill defined and may itself be the subject of entrepreneurial initiative: the merger and de-merger of activities are familiar events in the business world. While the rationale for the effectiveness of the organisation is acknowledged by Austrians, their analysis has tended to focus upon the relevance of institutions to arrangements contracted within the market system. The principal Austrian suppositions are: that the economic efficiency of the organisation becomes inferior to that of the market process at a relatively small scale of operation; and that the market process is hugely effective in the twin roles of information coordination and the provision of entrepreneurial incentives.

Rival ontologies: hermeneutics and realism

All science is founded upon non-science. A scientific understanding of a proposition is founded upon some earlier proposition; but this regression cannot continue *ad infinitum*. So all science is founded upon the presumption of some self-evident truths. Ontology sets the assumptions about the nature of those truths: '[a] comprehensive theory . . . is supposed to contain an ontology that determines what exists and thus delimits the domain of possible facts and possible questions' (Feyerabend 1993: 155).

Science is concerned not only with relationships between phenomena (concepts and objects), but also with the basis (the noumena) of their existence. Direct confirmation (by experience) of noumena is impossible: for example, 'free choice' is essential to the concept of mutual gains from trade, but its presence is confirmed only indirectly by (the interpretation of) the phenomena of the market place. Choice within the market place – bounded by relevant constraints – generates the data for analysis. It is for social science to analyse the perceived consequences of human action against a hypothetical set of counter-factual events (of what otherwise might have occurred); and the latter can be derived only from a presumed knowledge of underlying *causes* (noumema).

The ontology of the Austrian School comprises the structure of individuals' beliefs, opinions and attitudes. Hermeneutics is the interpretation of human behaviour, speech and institutions as intentional, with explanations rooted in the conceptual understanding of the individuals involved. The necessity to understand how individual minds direct – and manifest themselves in – literature, language and history is basic to hermeneutics. The Austrian School contends that an understanding of another's knowledge and behaviour is obtainable only through introspection; and that an understanding is

dependent upon a high degree of commonality – between the observer and the observed – of genome, social institutions, customs and traditions.

Austrians regard all socio-economic data as subjective phenomena; for example, money and capital are abstractions that take material forms only through the beliefs that are held by individuals in the functional worth of those particular items. This applies equally to individuals' perceptions of law, liberty and justice. At the furthest extreme is the solipsist, who argues for the existence only of himself in his own perceptions. However, there can be no private socio-economic forms, and socio-economic data are meaningful only in the context of a shared culture, tradition and social interrelationships: '[n]ot only man's action towards external objects but also all the relations between men and all the social institutions can be understood only by what men think about them' (Hayek 1952a: 57). Therefore, it is essential in Austrian economics to know the opinions of the individuals who are involved in any particular action.

From the post-Keynesian perspective, Austrian economics is criticised for having replaced (by its challenge of historicism) the analysis of the empirical 'facts' of human history with the analysis of subjective opinions and attitudes. Where hermeneutics looks to the beliefs, motivations and institutions (and their interrelationships) that give structure to human choice and behaviour, the post-Keynesian ontology of critical (or transcendental) realism sets the significance of individual choice as secondary to more fundamental historical and natural causal forces.

The ontological divide between Austrians and post-Keynesians underpins an age-old controversy over man's place in nature and the rival notions of human free will and determinism (see Watkins 1999 for a neo-Darwinist retrospect). Where Austrians emphasise the capacity of individuals to change the course of events, post-Keynesians emphasise the organic structure of an economic system whose parameters constrain individual action. Since post-Keynesians argue that those societal parameters can be changed through the exercise of a *political* will, the debate turns on the manner in which an individual may affect the destiny of himself and others.

The ontology of critical realism holds that human choice is conditional upon deep causal mechanisms, and that it is for social science 'to move from the manifest phenomena of social life, as conceptualised in the experience of the social agents concerned to the essential relations that necessitate them' (Bhaskar 1979: 32). To give an illustration: in a presentation, contra Hayek, that subjective abstractions are not generally separable from real physical attributes, two examples – 'world-wide poverty . . . and human-aided ecological disaster' – are purported to demonstrate that the social realm 'is inescapably embedded in, and internally related to, the material/physical basis of reality' (Lawson 1994: 141–2). An Austrian counter to this would be that (in general) 'reality' is open to many subjective interpretations and that (in particular) 'world-wide poverty' and 'human-aided ecological disaster' *are* subjective constructions. A radically different interpretation is possible:

> [t]he fear of 'Apocalypse Now' has been an enduring superstition of mankind. When there are more immediate dangers (recession, war, natural disasters) these fears are suppressed, to arise again when times are better. It is therefore no accident that the two waves of ecodoom in the last two decades have both followed two of the longest expansions in the history of the world.
>
> (Lal 1989: 43)

Of course, any resolution of such differences is unlikely: it is in the nature of a self-evident truth that it is self-evident, or not! An ontological issue is only resolved – subjectively – by an individual. However, the conception of the ultimate human aspiration for truth that Hayek presents – '[p]rogress is movement for movement's sake, for it is in the process of learning, and in the effects of having learned something new, that man enjoys the gift of his intelligence' (Hayek 1960: 41) – carries the implication that a personally constructed way forward lies within the grasp of (at least) some individuals.

Where an ontology defines the facts and the questions that are of legitimate concern, the categorisation of science into separate disciplines has set boundaries and impediments where none need exist. Philosophy, politics, economics, psychology, sociology, biology, ecology, chemistry, physics, . . . are interrelated to the n^{th} degree. Even that most fundamental distinction – between ideology and science – ultimately falls. Scientific research methods are diverse; scientific successes cannot be explained in any simple way; and objective criteria by which to judge science are not given (see Feyerabend 1993). This is illustrated by the tendency of those who adhere to an established view to 'dig in' when threatened, so that any new approach becomes established mostly after a long process of attrition. In mounting a stubborn defence against the pressure of accumulating argument/evidence is to sound increasingly unconvincing. Yet that accumulating pressure itself affords no test of truth.

In social science, the notion that good science is impartial and set apart from ideology carries no conviction. It would be presumptuous for economists to aspire to do more than to tell 'plausible stories with the help of a few simple principles'; economic theory is simply a means 'to train our intuition, to give us a handle on the facts' (Solow 1984: 15). In particular, economists would do well to recognise that their personal convictions – their political ideologies – show in the structure of the paradigms that they choose.

Even with their strong affinities – for example, Austrians and post-Keynesians are focused upon linkages between the natural world, the social structure (the cultural and legal institutional framework) and human agency – there are different emphases upon individual as against collectivist values. Within post-Keynesianism, the tendency is to find reasons for showing preference to the collective (communitarian) rather than to the individual. So, in terms of practical politics, communitarian action tends to be sanctioned

as consensual, or else 'in the public interest'. Where Austrian economics is grounded in the philosophy of classical liberalism, the orientation of post-Keynesianism is constructive rationalism. Where Austrians emphasise the capacity of individuals' actions to change the course of events, post-Keynesians emphasise the structural parameters that constrain and direct individuals' actions.

Rival methodologies: (atomistic) individualism and (organic) holism

The rival methodologies that derive from hermeneutics and critical realism respectively are methodological individualism (Austrian) and methodological holism (post-Keynesian). Methodological individualism originates 'in Scotland with Mandeville, Ferguson and Smith', and holds that man's 'basic disposition, his self-interest, operates independently of specific institutions'. Methodological holism originates in France with the Enlightenment and 'became in the hands of Marx and Durkheim the sociological model of this century, which probably influences most of the intelligentsia and also a number of economists' thinking about social problems' (Brunner 1992: 95). The implication of methodological individualism is that discretionary intervention – to redirect that spontaneous development which derives from individuals' enterprise and initiative – should be exceptional and require explicit justification, whereas holism carries the implication that it is both possible and desirable to reshape human nature to meet precepts of beneficent social engineering. Very broadly, these are the respective conclusions reached by Austrian and post-Keynesian analysis.

Methodological individualism is represented as reductionist, in the sense that 'all results should be derivable from axioms about the behaviour of the smallest economic unit' (Dow 1985: 89); but, with methodological holism, 'the binding factor of theories is a general perception of how the system as a whole works' (Dow 1985: 16). Yet the notion of reductionism *per se* is as vacuous as much of the methodological debate. Reductionism has a bland sense: 'the assembled Justices of the Supreme Court are as bound by the law of gravity as any avalanche'; and it has a preposterous sense: '[a] reductionist dream might be to write "A Comparison of Keats and Shelley from the Molecular Point of View"' (Dennett 1995: 81). So, unless participants in the debate show a willingness to avoid both the bland and the preposterous, no resolution of the issues should be expected.

Notwithstanding their use as informative pedagogic categorisations, the archetypes of individualism and holism are absurd for their respective and extreme assertion(s) that the properties of the parts (whole) are determined exclusively by the properties of the whole (parts). In setting aside those straw men, serious methodological and empirical issues present themselves for discussion. What are the characteristics of social causation? To what extent might an individual exert control over his destiny? Is an individual's fate

inextricably bound by his social conditioning? What opportunities exist for an individual to shape the course of events through initiative and creativity? Where these questions are taken in context, a potential exists to reach some valuable conclusions.

From an Austrian viewpoint, a class of patterns that is identified by economic analysis may allow for predictions, depending upon specific circumstances; that is, upon the extent of the empirical data. Where the empirical content is meagre, 'hypothetical predictions' may be possible; that is, 'predictions dependent on yet unknown events' (Hayek 1967: 29). If economic analysis is to serve as a basis for explanations of socio-economic behaviour, empirical propositions are essential. An empirical proposition is one that relates to a number of agents and says that 'if we find such and such conditions, such and such consequences will follow' (Hayek 1949: 94).

From a post-Keynesian viewpoint, the broad-stroke holistic approach legitimises the investigation of such broad conceptualisations as 'capitalism' or 'the economy', or 'international currency flows', by direct observance backed by intuitive judgement. The counter-argument of methodological individualism is that such phenomena are only superficially the same; that each example is of a unique order of events that can be defined only in terms of relationships between agencies that reflect intelligible human attitudes.

To Austrian economists, the broad (*macro*economic) conceptualisations of post-Keynesian economics are absolutely wrong: 'the wholes about which we speak exist only, and to the extent to which, the theory is correct which we have formed about the connection of the parts which they imply' (Hayek 1952a: 98). For example, post-Keynesians have rejected the legitimacy of applying *micro*economic demand and supply analysis to labour markets (or, rather, to *the* labour market). Instead, their holistic approach points to effective demand as the determinant of equilibrium employment, at which level the real wage adjusts to reflect the marginal product of labour (with a scalar adjustment to represent the degree of monopoly).

In respect of their antecedents, post-Keynesians are particularly unhappy with one detail of *The General Theory*. This is Keynes's suggestion that involuntary unemployment might be alleviated if the real wage were reduced by the method of raising the price of wage goods, rather than by cutting the money wage. Post-Keynesians reject this route to full employment. In the presence of free capital capacity, their twin assertion is that there is no need for the real wage to fall and that employment would rise, if the level of effective demand were raised. Any inflationary tendency that might thereby be set in train would need to be separately addressed.

The priority of post-Keynesians is employment creation. This is afforded such weight that wealth creation and want satisfaction are of peripheral and even dubious merit: wants are too easily manipulated by marketing media that are in the hands of those in privileged positions of power. Moreover, post-Keynesians find no accord with the nineteenth-century paradigm shift from substantive accounts of welfare (classical economics) to that of mere

preference satisfaction (neoclassical economics). Indeed, neoclassical economics is a ready whipping-boy for those – Austrians and post-Keynesians alike – who would construct a truly social (rather than an applied mathematical) science; but the ease and frequency with which post-Keynesians conflate the (neoclassical) calculus of pleasure and pain and the (Austrian) remit of finding, in liberalism and free exchange, the best prospect for individuals to achieve their personal goals, is disingenuous.

Although only children, felons and imbeciles are excluded from the western democratic process, post-Keynesians barely resist the temptation to add to those categories. All men are not equal, at least not in their capacity to exercise sound judgement. The elitism that is exemplified by Keynes's own faith in statesmanship, sound intuition and right-minded men is rife amongst post-Keynesians. It exists in the distinction that is made between informed judgement and reformed (or good) judgement; that is, in the value placed upon decisions (good judgement) that 'emerge from reasonable dialogue, informed by the well-constituted practical and cognitive practices, in conditions of social equality' (O'Neill 1998: 48); and it exists in the merging of post-Keynesianism with an attempt to revive socialism in its most recent communitarian guise (see Gray 1993 1997 1998; Giddens 1998).

Among those who seek to provide an intellectual basis for post- Reagan/Thatcher/Berlin Wall politics, the main propagator in the UK of Clinton/Blair/Prodi 'third way' politics is Anthony Giddens, whose recruitment of former Oxford philosopher John Gray and whose desire (as Director) to raise the status of the London School of Economics is reminiscent of Lionel Robbins's desire to counter the influence of Keynes and Cambridge in the 1930s. Gray's own conversion has been one of Pauline proportions. Though once firm in the view that Hayek had shown social democracy and socialist planning to be epistemological impossibilities (Gray 1993: vi), Gray now laments the loss of Keynesian controls and (curiously for a lapsed Hayekian) believes that macroeconomic management would succeed but for global bond markets and the international mobility of labour and capital; and though Gray once applauded Hayek as deserving 'the critical interest of philosophers and social theorists as well as political economists' (Gray 1984: x), Hayek is now the ideologue 'who generalized wildly from a single case' (Gray 1998: 8).

Together with the hordes of 'industrious and skilled workers' that have been released from communism, the globalisation of real and financial capital markets is the primary force that has destroyed the 'sensible and pragmatical middle ground' (Gray 1997: 12) of social democracy: 'the class culture of deference and respectability which had been indispensable to the free market have been [*sic*] largely swept way' (Gray 1998: 35). People are no longer willing to 'accept the hierarchies and forms of subordination . . . which sustained traditional institutions and social forms' (Gray 1997: 81–2). The demise of auxiliary agents of social control – park-keepers, bus

conductors and school attendance officers – has left the police over-exposed and under-resourced to deal with an upsurge in crime. Something needs to be placed in their stead. Here Gray follows a famous precedent: Keynes was troubled by similar developments. The late Victorian order – where the 'labouring classes accepted from ignorance or powerlessness, or were compelled, persuaded or cajoled by custom, convention, authority, and the well-established order of society into accepting, a situation in which they could own very little of the cake' (Keynes 1971: 11–12) – was rent asunder by the Great War. Something had to be done and in 1936 *The General Theory* explained what and how. By the conclusions fashioned by Keynes, it is for government to accept responsibility for the economy.

It is this kind of constructivist rationalism – which pervades post-Keynesian economics in particular and socialism more generally – that is emphatically denounced by Austrian economists. It is a 'fatal conceit' of intellectuals that they presume to determine structures for a beneficent social order. This is found in a conclusion that is familiar across diverse post-Keynesian analysis: that, although the world is fraught with difficulties that arise from decisions that must be undertaken in the face of uncertainty, a solution is at hand. With a heart-stopping leap – made without fear, hesitation or embarrassment – the void is crossed. The future is uncertain, but it can be shaped by the guidance of theorists who have understood Keynes correctly. Thus, from a prominent post-Keynesian:

> [e]conomists . . . must develop institutions that encourage most of society to voluntarily obey policy rules that can deliver full employment without inflation. . . . [and if] . . . a political consensus for a sagacious incomes policy cannot be found, then economists should inform policy makers that the macroeconomic objectives of full employment without inflation are not achievable for political rather than economic reasons.
>
> (Davidson 1996: 505, n.)

This is breath-taking, not only for the awesome responsibility that it assumes appropriate to hand to economists, nor even for the absence of any appreciation that social institutions require sure cultural foundations, but primarily for the implied legitimacy – a feature more familiar in neo-classical than in post-Keynesian economics – of separating the economic from the political. Indeed, in an analogous fashion, neoclassical economists might claim that, if perfect knowledge is nowhere to be found, then economists should inform policy makers that the microeconomic objective of optimisation is not achievable for epistemological rather than economic reasons!

The familiar post-Keynesian conclusion is that, if policy were directed by those who remain true to the fundamentals of *The General Theory* (and begging the question of the political regimen that is most likely to achieve that end[1]), those saviours would be equipped to deliver full employment[2]

(first), an equitable distribution of wealth (second) and the consequences thereof (only distantly):

> [a]re we not told that 'since in the long run we are all dead', policy should be guided entirely by short-run considerations? I fear that these believers in the principle of *après nous le déluge* may get what they have bargained for sooner than they wish.
>
> (Hayek 1941: 410)

From the Austrian perspective, it is rich indeed for holists to castigate methodological individualism for its refusal to give direct consideration to complex 'organic' macroeconomic issues of power structures that are reflected in the social stratification of 'society'. It is because that complexity is fully understood that Austrians make no pretence of being able to deliver macroeconomic panaceas for the perceived ailments of the socio-economic order. Indeed, Austrians insist that popular and simplistic notions about social structures are not the data to be studied: that the appropriate data are the beliefs, opinions and attitudes that guide individuals' behaviour.

A truly social science must probe situations where the decisions that determine human action are taken in the context of fundamental uncertainty and where the economy is

> a system characterised by 'complexity', possessing attributes such as organic interdependence among variables, non-homogeneity through time and space, non-numerical measurability, physical heterogeneity, openness, incompleteness, indivisibility, secondary qualities, contingency and change.
>
> (Carabelli 1992: 3–4)

Such a complex system does not lend itself to an easy manipulation, whether (as Davidson) by 'a sagacious incomes policy' or by the 'sagacious' use of any other button on the macroeconomics control console. The Austrian School has never placed any value upon the bizarre instrumentation of monetary and fiscal aggregate demand management.

That alternative Austrian approach is clearly demonstrated in Hayek's work: the thesis is of man as a social animal, whose behaviour is necessarily governed by his natural dispositions and by the nurture of custom and tradition. This means that (in post-Keynesian terminology) the organic interdependence of the economy is characterised by social interrelationships (legitimised by a morality that is conducive to the cohesion of civilisation) that go far beyond any particular configuration of directly observable traits: '[t]he inarticulated character of much of our knowledge is of special significance for Hayek, who regards the capacity to act in accordance with abstract rules as older and more important, than the capacity to articulate rules through language' (Kukathas 1989: 53). Hayek's elucidation is that

between instinct and reason, lies the guidance provided by rules 'handed on by tradition, teaching and imitation' (Hayek 1988: 12).

Within an evolving complex social order, every rational decision is taken for a current unique and ephemeral set of circumstances, and it is necessarily retrospectively based upon a structure of established practice. It is inevitable, that most of the consequences of such decisions are unintended; and so the (post-Keynesian) observation that 'the greater weight in the science of complex systems should be on explanation rather than prediction' (Hodgson 1993: 33) is fully endorsed by Austrians as necessarily so. It is because a high degree of predictability in outcomes is a prerequisite for successful constructivist intervention, that any futuristic perspective upon the path of economic development must be discounted. Set against the clarity of a long-term perspective that is implicit in the ill-based confidence of constructivist rationalism, the Austrian insistence upon groping, uncertain, evolving behavioural patterns – of agents making decisions (with both success and failure) within a liberal social order – is an unappealing political prospectus.

Between the archetypes of holism and individualism lies a less clearly defined methodological category, whose key concept is that of an 'emergent' system in which 'the understanding of the component parts of a composite system is impossible without an understanding of the behaviour of the system as a whole' (Dyson 1995: 7). While not literal organisms, many systems are crucially like organisms in that their parts can be fully understood only in relation to their functions (dynamic interaction) within the whole. An emergent system is one whose characteristics cannot be inferred from a knowledge only of its parts; one in which (some of) the parts are non-viable when separated from the whole. Thus, 'while the whole may not be the simple sum of the separate parts, its behaviour can, at least in principle, be *understood* from the nature and behaviour of its parts plus the knowledge of how all these parts interact' (Crick 1994: 11). However, in respect of *any* system, full knowledge of the components is never enough: knowledge of the laws by which components are connected is also required. Thus the familiar interpretation – that the whole is greater than the sum of its parts – must apply to *any* system about which understanding is incomplete:

> emergence of a characteristic is not an ontological trait inherent in some phenomena; rather it is indicative of the scope of our knowledge at a given time; thus it has no absolute, but a relative character; and what is emergent with respect to the theories available today may lose its emergent status tomorrow.
>
> (Hempel and Oppenheim [1948] 1953: 336)

In summary, emergence is a consequence of the evolving scope (dynamic interaction) of knowledge. In a social context, it indicates an incomplete understanding of the interrelationships between individuals' beliefs or motivations, and organisational and institutional structures (family, neighbourhood,

workplace, *etc.*) that not only provide the basis for human choice and behaviour, but are themselves affected by those decisions.

Order in society

Post-Keynesians accept the maxim that the state should deliver 'a guiding influence on the propensity to consume' in combination with 'a somewhat comprehensive socialisation of investment' (Keynes [1936] 1973: 378). Theirs is a vision of a greater social (distributional) justice. Although such aspirations for the common good may be laudable, the precepts of socialism from which they are derived are flawed. The social engineering of constructivist rationalism (that is, socialism) is analogous to the brief of a mechanical design engineer to emulate the performance of a bird's wing (see Dawkins 1982: 46). Although the best design meets the specifications at the lowest cost, the pre-determined minimum performance criteria are no more than arbitrary considerations: materials, maximum loading, safety margins, *etc*. In taking their social equivalents as somehow *given*, the social engineer might achieve an analogous optimal solution. (Post-Keynesians might ponder the parallel with neoclassical economics.) By contrast, spontaneous adaptations that occur in real time are directed, not arbitrarily, but by problems; and so, '[w]hat seems to physicists to be a hopelessly complicated process may have been what nature found simplest, because nature could only build on what was already there' (Crick, 1989: 139).

It is because adaptive outcomes are always path-dependent that it is inappropriate to talk of optimal solutions. Although natural wings are sub-optimal in an engineering sense, they incorporate all of the multi-dimensional requirements of a bird from its conception to full maturity and on to death. The minutiae of those practical requirements (and their counterparts within evolved social systems) do not lend themselves to any easy retrospective constructivist appraisal as a prelude to instigating some unambiguously beneficial modification.

From an Austrian perspective, the spontaneous social order delivers the highest attainable degree of organic cohesion; but, from a post-Keynesian perspective, the manifest deficiencies of that order cry out for a rational approach: 'economics is not concerned merely with explanation and understanding but also with the possibility of changing the world in a rational fashion in accordance with accepted goals' (Lawson 1993: 9). For post-Keynesians, the task of social science is, not only to identify the bases for rational decisions and to expose the consequences of human action, but also to identify the conditions that determine that action, in order to make it possible to engineer social, political and economic reforms 'with the aim of facilitating an alternative range of human opportunities and possibilities' (Lawson 1993: 10).

The post-Keynesian agenda – for constructivist rational societal change – is founded upon a conception of a social structure that is much more than a

set of abstract and impartial rules. To post-Keynesians, the impartiality of such rules is suspect: they are tied to a particular power structure and set of interests. That structure offers a set of organisational positions into which every individual must be fitted according to his assigned rights, obligations, tasks, practices, *etc*. Post-Keynesianism is, therefore, more than a desire to 'return to the authentic Keynes'; it is a 'wish to develop the radical elements in Keynes and to discard the conservative' (Cottrell 1994: 588). So, whereas Austrians view social power structures as the current manifestation of a series of successful adaptations within an evolving cultural tradition, it is the mark of post-Keynesianism that a positive view is taken of the desirable characteristics of a societal order. There is deemed to be a public interest, a communitarianism, a consensus upon socio-economic objectives such that intervention by the state – with the purpose of driving towards those positive ends – is a safe strategy providing, of course, that it is undertaken by those who are 'rightly orientated in their own minds and hearts to the moral issue' (Keynes 1980a: 387).

By the tenets of post-Keynesian economics – with its 'emancipatory' objectives of social justice – the spontaneous order of a competitive market economy must be tempered (at least) by state coercion of the right kind. Although Austrians accept that some degree of state coercion is unavoidable, they insist that it should be 'reduced to a minimum and made as innocuous as possible . . . [b]eing made impersonal and dependent upon general, abstract rules' (Hayek 1960: 21). Yet, state coercion is insidious; and so there must be safeguards and vigilance. Hayek cites the illustration provided by progressive taxation. Once the principle of progressive taxation was conceded, there were no guidelines

> by which such progression can be made to correspond to a rule which may be said to be the same for all, or which would limit the degree of extra burden on the more wealthy, . . . a generally progressive taxation is in conflict with the principle of equality before the law and it was in general so regarded by liberals in the nineteenth century.
>
> (Hayek 1978b: 142)

The view that a just redistribution of incomes can be achieved through progressive taxation is condemned as 'the chief source of irresponsibility of democratic action' and 'the crucial issue on which the whole character of future society will depend' (Hayek 1960: 306). The drive for social justice is both flawed (because it has no definitive meaning) and dangerous to the ideal of individual freedom. That drive is simply incompatible with the notion of general impartial rules – blind justice – that are integrated within the structure of a liberal market economy.

The Austrian ideals of a liberal ethos and a competitive market economy set no social objectives; the value of the market economy is not founded upon welfare considerations. Rather, it is founded upon the belief that a

liberal economic order permits an individual to discover most effectively how he might best serve his own ends. Every individual is permitted to apply his own limited (but unique) knowledge in ways that he sees fit. This is the nature of Adam Smith's 'invisible hand': '[i]t is the essence of a free society that we should be materially rewarded not for doing what others want us to do, but for giving some others what they want' (Hayek 1967: 234). Smith and Hayek give different but complementary assessments. Where Smith indicates the mutual benefits to be had from the division of labour, Hayek indicates the mutual benefits that may be obtained from making best use of the division of knowledge. To those ends, the onus is placed upon every individual to act entrepreneurially (in respect of his unique skills and knowledge) and to accept that only he is responsible for his actions.

As compared with the utopian constructivism of socialist imaginations, many must lose out in the throes of competitive entrepreneurship. Even so, many of the ills which post-Keynesians attribute to 'free market extremism' are rooted (by an Austrian interpretation) in a failure to secure an institutional structure that is appropriate to the operation of a competitive market economy. In other words, the market economy does not 'just happen'. So it is disingenuous to suggest that the philosophy of Austrian economics mirrors that of Doctor Pangloss: '*Dans ce meilleur des mondes possibles . . . tout est au mieux*' ('In this best of possible worlds . . . all is for the best').[3] Hayek is no modern Pangloss: '[o]ne of the most questionable components of Hayek's evolutionary theory is his belief that those rule systems which do not produce a coherent or stable order are de-selected in the process of evolution' (Peacock 1993: 258). This is wrong. Human action is integral to the evolutionary process, and this includes the exercise of intentional acts that are based upon intelligent learning. Furthermore,

> because the division of labor produces a division of knowledge and different kinds of knowledge are organized in different ways, the coordination of knowledge requires more than a set of prices to be effective in solving human problems. The implication is that the institutional structure will play a critical role in the degree to which diverse knowledge will be integrated and available to solve problems as economies become more complex.
>
> (North 1999)

Given that institutional arrangements are conducive to the process of natural selection, that process will produce improved adaptations, so long as there is sufficient diversity among those presenting themselves for selection. Within the evolved socio-economic order of twenty-first-century capitalism, entrepreneurial competition has a proven capacity to present diverse opportunities for individuals to reach a wide range of personal ends. So – from this perspective – it is important to recognise the function of those institutionalised

rights and duties that promote competition; to recognise the value of those mechanisms that permit knowledge to be discovered and individuals' actions to be coordinated. So, in a liberal society, the remit of politicians is to protect the rights and duties that promote competitive markets; but the state must resist the temptation to correct so-called market failures, for the market is itself a corrective process. The ills that critics attribute to the market are generally rooted in a failure to provide and protect institutions that are essential for its operation. The extended social order of the modern market economy is so complex that it can be preserved 'only indirectly by enforcing and improving the rules conducive to the formation of a spontaneous order' (Hayek 1973: 51). It is in this context that institutional reform – cautiously applied – becomes necessary.

Market institutions

Although the existence of most economic institutions can be explained by the need to support socio-economic transactions, the analysis of transactions costs is much neglected within economics. It is the presence of positive transactions costs that creates a role for the middlemen – entrepreneurs – who simultaneously take advantage of and reduce those costs. In so doing, the advantages of free market competition are spread as entrepreneurs – literally 'takers between' different markets – buy cheap and sell dear. Thereby entrepreneurship delivers a tendency to the 'law of one price', as additional purchases raise prices where they are low and additional sales lower prices where they are high.

Instead of emphasising the importance of the entrepreneurial function, modern microeconomics has founded a general criticism of the enterprise system upon the concept of 'market failure' and a consequential divergence between private benefits/costs and social benefits/costs. Yet, many of the phenomena that are so categorised are merely instances where transactions costs are too high to allow any further reallocation of benefits and costs. Simply, transactions costs are just another cost of production and exchange. They are not 'special'. Where trade does not occur because of high transactions costs, this is only another case of costs exceeding benefits. High costs do not necessarily imply inefficiency. If raw materials costs were to suddenly increase, we would be poorer, but we would not be less efficient. The same applies to transactions costs and, thereby, to many purported examples of market failure. Markets allocate resources most efficiently in that market prices reflect all the costs – including transactions costs – that are involved in producing and trading the outputs that derive from those resources.

As a truism, every institution whose function is to facilitate exchange would be superfluous if exchange were costless. Among those institutions that owe their existence to transactions costs are: money, banks, the law, accountancy, insurance, firms, distributors, stores, salesmen, *etc*. In each case,

the institution exists to reduce transactions costs. A bank acts as an intermediary between borrowers and lenders; if there were no transactions costs to arranging loans, lenders and borrowers would make their own arrangements. Financial reporting standards, accounting principles, insurance and the law generally are an integral part of the contracting process and exist to minimise transactions costs. As another example, firms become monopolies when their potential competitors face impediments to trade; that is, when entry barriers create insurmountable transactions costs.

The state can also be viewed in these terms, since it provides a framework for the enforcement of contractual terms (including the provisions of the criminal law). These avoid the transactions costs that otherwise would be incurred in arranging private enforcement. More generally, the involvement of the state is justified to safeguard an agreed basis of exchange between two or more parties at minimum cost. The legal enforcement of individual property rights is essential both to encourage self-responsibility and to maintain the economic incentives for producers to meet consumers' needs. Moreover, there is a symmetry between property rights and the laws of liability, where contracts between an injured and an injuring party are too costly to negotiate or to enforce privately. The role of the government is to lower those costs through its enforcement of law.

Yet, even within a flourishing market system, outcomes remain inherently unpredictable; and state intervention can neither prevent nor lessen the costs arising from that unpredictability. It is inevitable that many should lose out, for competition serves prosperity by rewarding those lucky enough to be able to satisfy particular demands arising from rapidly changing circumstances, but only competition leaves the outcome dependent upon the individual rather than upon the favours of the mighty:

> [t]here will always exist inequalities which will appear unjust to those who suffer them, disappointments which will appear unmerited, and strokes of misfortune which those hit have not deserved. But when these things occur in a society which is consciously directed, the way in which people will react will be very different from what it is when they are nobody's conscious choice.
>
> (Hayek 1944: 79)

This is the nature of the so-called 'free market extremism' that is so essential to maintain the extended socio-economic order of a free society. The unwillingness of post-Keynesians, to concede that attempts to mitigate individual disappointments are almost certain to raise or to exacerbate many other problems may simply reflect their socialist aspirations; or it may derive from Keynes's innovation in drawing a distinction between voluntary and involuntary unemployment:

> it is not difficult to find instances where there is nothing the individual could do to prevent the loss of a job; we then say it was the fault of the

> economic and social system. . . . if the loss of the job lies outside his own control, then only social action can provide any remedy. Was this what Keynes was after with his distinction?
>
> (Worswick 1976: 14)

> [t]o say that someone is involuntarily unemployed is to relieve him of the responsibility for his condition; it is to suggest that he is unemployed 'through no fault of his own', and further, that if the individual is not responsible for his condition, then the state (rather than the Salvation Army) must be.
>
> (Coddington 1983: 27)

With their different nuance, each of these comments misses the essential point that, to assign an individual with responsibility for the consequences of an event carries no implication that the event was either foreseeable or preventable. Further, to allow the idea of mitigating circumstances – over which an individual has had no control – would be hazardous in that it would destroy 'the chief device which society has developed to assure decent conduct – the pressure of opinion making people observe the rules of the game'. The concept of 'some metaphysical self which stands outside the chain of cause and effect' (Hayek 1967: 232) cannot be admitted since it would leave nothing for which an individual could be held personally responsible. Since 'everybody's responsibility is nobody's responsibility' (Hayek 1960: 83), effective responsibility can only mean individual responsibility. Yet, to hold that an individual 'is responsible for the consequences of an action' is neither an assertion of causation nor of fact, but 'is rather of the nature of a convention introduced to make people observe certain rules' (Hayek 1960: 74–5).

Even though post-Keynesians might hold the state responsible for the mayhem and distress that are caused by, for example, the deep causal physical, physiological and neurological mechanisms of earthquakes, cancer and Down's syndrome, there is no obvious potential for state policies to be effective in restructuring those mechanisms. Even the more limited notion that 'Keynes-based' macroeconometric models might permit 'conditional predictions for a year or two ahead' (Brothwell 1992: 209) to facilitate the administration of full-employment policy is both contrary to Keynes's *General Theory* and to experience. The relevance of organic rather than (neoclassical) atomistic economic analysis does not validate the economics of aggregates and averages that is the basis for macroeconomic forecasting. It is a bold and unrealistic post-Keynesian assertion that 'the triumph of the anti-Keynesian counter-revolution . . . has served to provide a rationalisation for dismantling the in-built stabilisers which created the basis for a more 'certain' economic environment in the post-war period' (Hillard 1993: 16). Evidence for the efficacy of automatic stabilisation policy is exceedingly thin; the practicality of full-employment aggregate demand management lacks

credibility; and an explanation for the desirability of 'a more "certain" economic environment' is absent. Although Austrians would acknowledge that close cooperation within traditional societies achieves 'a more "certain" economic environment' through the greater coordination of actions, the argument is that such arrangements are viable only for rudimentary economic systems. Though harmony within such primitive systems might be everywhere apparent, in the absence of an institutional framework to encourage wider entrepreneurship, there would be no development nor coordination of widely dispersed knowledge. Primitive societies are stable – and stagnant – because of that omission; action is highly coordinated, but economic advance inhibited for the reason that isolated islands of knowledge are rarely bridged. That some entrepreneurs must fail and that instability is a concomitant of the market process is the *quid pro quo* for a socio-economic order that allows scope for an individual to commit his own errors.

10 Economic guidance

> [t]o avoid misfortunes is about all we can hope for in this world.
>
> (Keynes [1946a] 1979a: 625)

> If man is not to do more harm than good in his efforts to improve the social order, he will have to ...use what knowledge he can achieve, not to shape the results as a craftsman shapes his handiwork, but rather to cultivate growth by providing the appropriate environment, as a gardener does for his plants.
>
> (Hayek 1975b: 42)

Business depression

Hayek changed his mind regarding monetary policy in a business recession: 'I took a different attitude forty years ago'. At that earlier time, he believed that a short period of deflation during the first stages of the Great Depression would have had the beneficial effect of breaking 'the rigidity of wages which I thought was incompatible with a functioning economy'. That view changed to the position that 'there is no justification for supporting or permitting a process of deflation'. Moreover, Hayek acknowledges that, once extensive unemployment exists, there is 'a tendency to induce a cumulative process of secondary deflation'. For those circumstances, his new recommendation is that 'monetary counteractions, deliberate attempts to maintain the money stream, are appropriate' (Hayek 1975a: 5; see also Hayek 1978b: 210).

Hayek's change of mind should not be exaggerated. Both views are necessarily pragmatic, because no monetary policy guidelines had emerged from Hayek's theoretical analysis of the link between monetary policy and business fluctuations. In the 1930s, he had argued that bankers must weight the advantages and disadvantages of meeting rising demands for bank credit:

> the only practical maxim . . . is probably the negative one that the simple fact of an increase of production and trade forms no justification for an expansion of credit, and that – *save in an acute crisis* – bankers need not be afraid to harm production by over-caution.
>
> (Hayek 1935b: 125; italics added)

Even though Hayek came to a different view on deflation, he was constant in the opinion that it is never appropriate to counter depression by monetary reflation;

> [f]or forty years I have preached that the time to prevent a depression is during the preceding boom; and that, once a depression has started, there is little one can do about it. My advice was completely disregarded as long as the boom lasted. Now suddenly, when my prediction has come true and we have reached the stage where . . . little can be done about the inevitable reaction which has set in, people suddenly turn to me and ask for my opinion.
>
> (Hayek 1975a: 8)

Whether initiated by fiscal or monetary measures, Hayek's business cycle theory shows how a monetary stimulus to boost demand is inevitably self-defeating. If prices and wages rise pro rata, there is no net stimulus; but if prices rise faster than wages (as from the situation of Keynes's involuntary unemployment), the Ricardo effect tells cumulatively against capital-intensive processes. As yields on the latter are driven downwards, investment eventually proves unprofitable. A Keynesian investment boom inevitably fails.

Hayek's business cycle analysis has additional relevance to risk control and risk externalisation (see Garrison 1994). Together with a time discount and an inflation premium, the risk premium is one of the three elements to the market rate of interest. In creating discrepancies between risks willingly and actually borne, policy interventions can disrupt the market allocation of risks. When risk is concealed from lenders (or shifted to others) risk-taking becomes excessive: initially manifest as a boom, the ultimate macroeconomic manifestations are losses and slump.

The limited nature of the guidance that is afforded by theoretical analysis is unsurprising. Hayek is consistent in emphasising the complex time-lapse relationships that exist between the provision of bank credit, interdependent capital investments, the production of final goods and the level of employment. As a general feature, 'all money at all times . . . [is] . . . a kind of loose joint in the otherwise self-steering mechanism of the market' (Hayek 1960: 325). In particular regard to Keynes, Hayek insists that *The General Theory* misled the authorities onto the path of monetary debasement and chronic inflation. From his own analysis, Hayek insists that there are no direct causal relationships between consumers' expenditure and capital investment; nor between consumers' expenditure and employment. Yet these features remain widely believed so that, even though aspirations for Keynesian demand management have been undermined by events, Keynes's notions relating to expenditure upon capital investment, aggregate demand and employment remain in vogue.

The agenda of Keynes's *General Theory* can be placed into three categories. The first category comprises the remedial action that Keynes considers appropriate for the period: 'my suggestions for a cure . . . are subject to all sorts of conditions of the time' (Keynes [1937a] 1973b: 112). Given the extent and severity of economic malaise in the 1930s, it was imperative to boost aggregate demand and no sophistication was necessary in regard to the means: to build cathedrals, mansions or pyramids, to endow monasteries, or '"[t]o dig holes in the ground", paid out of savings, will increase, not only employment, but the real national dividend of goods and services' (Keynes [1936] 1973: 220). Such means to raise employment are acceptable 'if the education of our statesmen on the principles of the classical economics stands in the way of anything better' (Keynes [1936] 1973: 129). Keynes's primary concern is not humanitarian. It is the fear of Bolshevism that rests behind the defence of his recommendations as 'the only practicable means of avoiding the destruction of existing economic forms in their entirety and as the condition of the successful functioning of individual initiative' (Keynes [1936] 1973: 380).

The second category comprises the attention Keynes gives to more general social developments. Allied to his belief in the long-term decline of yields on capital investment, Keynes is concerned that second and third generation industrialists lack the 'sanguine temperament and constructive impulses' (Keynes [1936] 1973: 150) that are fired by 'the spontaneous urge to action rather than inaction' (ibid.: 161); and that, when 'animal spirits are dimmed and the spontaneous optimism falters, leaving us to depend on nothing but a mathematical expectation, enterprise will fade and die' (ibid.: 162). Out of those concerns, Keynes considers it to be of 'vital importance' to establish 'certain central controls' over consumption and investment activity which he accepts would 'involve a large extension of the traditional functions of government' (ibid.: 378–9).

The third category contains the theoretical aspirations of *The General Theory*. It is here that Keynes's work may be compared with that of Hayek. In this regard it is recognised that Keynes's preoccupation with pressing matters of state allowed others to direct his academic project; but the conclusion is supported that the Keynesian revolution took off upon and continued along the wrong track. Leijonhufvud criticises the macroeconomic theory developed after Keynes for its failure (1) to accommodate the interactive feedback of price and quantity adjustments across a multi-market system and (2) to acknowledge the twin function of prices in providing incentives and in disseminating information. By its chosen methodology, Keynesian macroeconomics dispenses with individual agents who are utility maximisers and profit maximisers, and who respond rationally to intertemporal price incentives.

Yet the emphasis of Keynes's *General Theory* is upon individuals' anticipation and assessment of future events and the impact of those assessments upon their present behaviour. By Leijonhufvud's exegesis, it is possible to see

how Keynes's analysis is concerned with short-term price signals that can disrupt the economic system through their impact upon income-constrained expenditures; and how the current value of durable capital equipment is an important link between the present and the future. The more durable the capital, the more volatile (with respect to interest rate changes) the relative valuation of capital to earnings.

These are the aspects of *The General Theory* – those that feature in Hayek's own research programme – that needed to be analysed more closely. Here, Leijonhufvud favours Hayek's Gestalt-conceptualisation of business cycle phenomena over Keynes's unclear mix of static and dynamic analysis. Leijonhufvud points to the key aspect: the financial arrangements that accompany long-term commitments to capital investments in a money economy. When Hayek abandoned his work on pure capital theory, he left those aspects – the financial counterparts to the use of capital in production – undeveloped; and so they remain. Thus, the unfulfilled requirement is for a capital-based macroeconomics in which individuals' expectations have a central role.

The Keynesian era

Against the inter-war background of prolonged recession and deeply depressed business confidence, Keynes argues that it is appropriate for government expenditure to exceed tax revenue, and for monetary expansion to meet the shortfall of funds. Thereby, jobs are created. In other circumstances, where price inflation is the more likely consequence of monetary expansion, borrowed funds might be raised from the market. Keynes's belief that government expenditure could become a permanent feature – a necessary means to sustain aggregate output at a level that would ensure full employment – is consistent with that borrowing alternative.

Leaving aside the concern that resources taken for public expenditure necessarily diminish (crowd out) those available for other purposes, there is a related issue. If government expenditure fails to generate a rate of return that is sufficient to cover the interest on borrowing, and eventually to repay the principal itself, the state is left with few options. It can default on its creditors or it can tax the people, but neither option is consistent with the promise of sustained high levels of demand. Such difficulties were passed over. The implicit assumption is that government investment projects can achieve – if not net pecuniary returns – at least a net 'social' rate of return.

The particular concerns of the 1930s were overtaken by events and the mobilisation for war that brought a forced remedy to the idleness of millions. Subsequently, the ethos of technocracy and rational planning, and the promised reward for war-time sacrifices, induced many post-war democratic governments to bind themselves to the goal of full employment. In financing government expenditure during the initial post-war boom, the Keynesian principle was adopted of 'closing the inflationary gap', whereby

the pent-up demands of consumers and investors are constrained by the discretionary application of taxation of various kinds. It was expected that government budget surpluses would, by and large, be sufficient to finance budget deficits as and when these become necessary to offset business recession. Initially there were few problems; but it was fortuitous that buoyant demand in the UK required no supplement from government expenditure programmes in the 1940s and 1950s, so that demand management appeared to be a successful strategy to maintain full employment. Although the net impact of budgetary policy during this period was actually deflationary, the mood of Keynesianism was in the air and successive UK governments were inexorably caught up with the vagaries of macroeconomic demand management.

Agreeably surprised by the persistence of low unemployment, economists gave increasing attention to Keynes's own prescriptions for an era of mild business cycles: the use of budgetary policy to restrain too rapid expansion and to offset a mild recession. Keynes had intimated the possibility of such demand management in three articles written for *The Times* in January 1937, where he argues that aggregate demand can be dampened by increased taxation, postponement of public sector capital expenditure and the encouragement of imports. With the onset of recession, those policies can be reversed. Notwithstanding the inconsistency between these recommendations and *The General Theory*, with its emphasis upon uncertainty, unexpected change and shifting expectations, this strategy came to epitomise Keynesian economics.

With the bulk of tax revenue provided from earned income, the volume of resources accruing to the government varies as income changes. Revenue falls during a recession, whereas government expenditure on social and welfare benefits increases. Taken together, these adjustments provide automatically for the budget surplus to vary inversely with the business cycle. Such 'automatic stabilisers' – helped, perhaps, by discretionary adjustments – might smooth cyclical peaks and troughs. The 1950s and the 1960s held high aspirations for the policy of aggregate demand management structured upon SENIE macroeconomic analysis. The future looked bright. Techniques of econometric macroeconomic forecasting could only improve to deliver greater *finesse* to the management of aggregate demand.

The record of Keynesian forecasting models fell short of those expectations and have proved a disappointment to UK Chancellors. For example, Nigel Lawson contends that his advisers failed to anticipate the 'change in behaviour by both borrowers and lenders' after the abolition of exchange control in 1979 and again after the collapse of the building society cartel in 1983. (In the fierce competition that followed financial deregulation, personal debt rose unexpectedly from around 50 per cent to over 100 per cent of annual income.) Again, Denis Healy complains that, with even moderately accurate public sector borrowing requirement and international payments forecasts, he would not have had to seek funds from the

International Monetary Fund in 1976; and he concludes 'that most of the theories on which economics is based are bunkum' (*The Sunday Times*, 15 March 1992). Since Treasury growth forecasts were first published in 1968, they have been in error by an average of one percentage point against an average growth figure of 2.5 per cent. To understand why economic forecasts are generally so poor, it is helpful to ponder their scientific basis.

In principle, there is little to distinguish between past and future events, so that 'prediction and explanation are merely two aspects of the same process' (Hayek 1967: 9). Although different verbs are used – we attempt to *explain* the past and to *forecast* the future – there is little else to separate the two activities: (1) from the past, we may be certain in our belief that an event has happened, but we are uncertain about the cause (of *that particular* event); that latter uncertainty allows rival *explanations* most of which, if not all, will be wrong; (2) for the future, we may be uncertain in our belief that an event may happen, but we are certain about the cause (of *any particular* event); that former uncertainty allows rival *forecasts* most of which, if not all, will be wrong. Now, for theory to provide a basis for explanations or forecasts, *causal* relationships must be specified: to say that event A causes event B, it must be conceivable for a state of affairs to exist *in which A was not present* (while other events contemporaneous with A were present) and to be such that, under those hypothetical circumstances, *B could not happen*. This implies the use of a model in which A can be treated as an independent variable and the consequence of its presence or absence within that model can be explained/predicted:

> [t]he object of a model is to segregate the semi-permanent or relatively constant factors from those which are transitory or fluctuating so as to develop a logical way of thinking about the latter, and of understanding the time sequences to which they give rise in particular cases.
>
> (Keynes 1973b: 297)

Yet, 'a logical way of thinking' is not the same as the ability to provide detailed forecasts. Furthermore, the use of statistical methods is generally inappropriate to the empirical investigation of causal processes in economics: the relationships between *men and men* and between *men and things* are generally too numerous, too diverse and too transient to lend themselves to quantification. In the physical sciences – where reliable causal relationships exist between *things and things* – statistical methods may be relevant to the analysis of categories of data obtained under exactly similar circumstances; but such circumstances rarely apply in economics. Yet, when it comes to the functioning of economic systems, enormous weight is given to statistical correlations between large aggregations of data, even though every component within those aggregations may be uniquely relevant to the course of events.

This approach is spurious in that it deals with the problems of large numbers by ignoring the relevance of their complexity. For example, the

entrepreneurial function involves a deliberate intent to alter the course of future events. Success is the outcome of competition and the demise of agencies that make inappropriate decisions. It follows that no scientific understanding of the role of competition in the economy can be had from analysing statistical aggregates, because competitiveness cannot exist without many diverse elements, each with its own distinctive characteristics. For analogous reasons, there is no operational worth in econometric parameter estimates of demand and supply elasticities, saving and import propensities, or of multiplier and accelerator relationships. The aggregations are too great and the relationships too fleeting:

> [n]obody would probably seriously contend that statistics can elucidate even the comparatively not very complex structures of organic molecules, and few would argue that it can help us to explain the functioning of organisms. Yet, when it comes to accounting for the functioning of social structures, that belief is widely held.
>
> (Hayek 1967: 31)

There is a further consideration. In economics, an actual historical process can only be explained by comparing it with the 'counter-factual' model of a relevant hypothetical process in some optimal state of adjustment (that is, in 'dynamic equilibrium'). Since life continuously generates surprises, actual experiences can never be equilibrium experiences. So, in order to compare actual events with those from the theoretical model, the economist must cheat: that is, he must doctor the record of actual events in order to suppress the surprises, even though they are always historically relevant. (A common practice is for an econometric model to be repeatedly 're-specified' until all the surprises appear to be caught by an array of so-called independent variables and an apparently stochastic 'error term'.) Many important details are thereby neglected when statistical relationships are used as a basis for explanations or forecasts.

It is a plausible conjecture that Keynes would have been as disparaging of econometric forecasting models as he was of the 'pseudo-mathematical method' (Keynes [1936] 1973: 275):

> [t]oo large a proportion of recent 'mathematical' economics are [*sic*] mere concoctions, as imprecise as the initial assumptions they rest on, which allow the author to lose sight of the complexities and interdependencies of the real world in a maze of pretentious and unhelpful symbols.
>
> (Keynes [1936] 1973: 298)

It is therefore ironic that, long after premature death had denied him the opportunity to counter what 'his disciples were making of his theories' (Hayek [1952b] 1969: 348), Keynes was revered for 'achievements' that were attributable to the application of macroeconomic models. Here is *hubris*:

> [b]y overcoming inhibitions and prejudices he [that is, Keynes] provided governments with the tools needed to make them active and intelligent partners in the maintenance of acceptable levels of employment.
>
> (Winch 1969: 172)

> [t]he fact that most Western countries have enjoyed virtually full employment throughout the whole of the post-war period is an indication of the extent to which Keynes's ideas have been accepted and applied.
>
> (Stewart 1972: 296)

These were to prove only fanciful dreams. Though Nemesis was biding her time, there had been a warning: the theoretical elucidation of expectations-augmented Phillips curves had explained how the perceived promise of Keynesian demand management is insubstantially based upon a presumed long-term trade-off between unemployment and inflation ('stagflation'). Those purely theoretical conjectures (Friedman 1968; Phelps 1968) were soon to be confirmed by the new phenomenon of the 1970s: a co-existence of high unemployment and high inflation. That problem persisted and, by the 1980s, the governments of most Western democracies had reached the conclusion that the evidence is against demand management; that attempts to sustain full employment by fiscal measures are costly in terms of the damage to productive efficiency; and that unemployment is a necessary concomitant of ever-changing market conditions and a succession of newly redundant skills. Furthermore, the increasingly familiar spiral of rising prices and wages was inconsistent with Keynes's key conceptualisation: involuntary unemployment.

Even prior to that experience of stagflation, there had been doubts over the efficacy of the Keynesian approach to UK policy initiatives. These had centred upon difficulties in the exact timing of discretionary intervention. The changing amplitude of cyclical fluctuations and the time taken for information to be analysed and assessed before decisions can be taken, caused measures to be adopted belatedly, with perverse effects. It was thought that a remedy might lie with a more rapid response to changing circumstances and, in the early 1960s, the Treasury acquired the power to vary all the main UK indirect taxes without the involvement of Parliament. There was little success.

A further inhibition to such fine-tuning arises from the absence of reliable information. In 1966, for example, the UK government was provoked into deflationary measures by the anticipated deficit on the current account of the balance of international payments. In the following year, the official estimate of that deficit was £61 million. Fifteen years later, the final published revised estimate for that same year was a surplus of £113 million. Another complication derives from the timing of parliamentary elections which adds a purely political dimension to government calculations of the most appropriate moment to stimulate economic activity. The repeated failure of attempts to

fine-tune economic activity gained notoriety and the description 'stop-go', as (pre-election) expansionary measures produced trade deficits that required (post-election) deflationary measures that, in turn, raised unemployment and the requirement for reflationary measures.

A succession of trade crises occurred (1961 1966, and 1973) at the same time as the trend of inflation and unemployment continued ever upwards. In each successive boom/slump, the peak of inflation/unemployment was ever higher. The last of these cyclical episodes resulted in quite spectacular excesses. In making its 'dash for growth' in 1972, the Edward Heath Conservative government announced that the exchange rate would be allowed to float. By that device, it was hoped to remove the impediment of recurring international payments crises. A depreciating pound would automatically offset the tendency (with fiscal expansion) to international trade deficits. Although lacking any theoretical base, this strategy had a certain appeal. Less popular was the infamous U-turn of November 1972, when an incomes policy was seized upon as the only measure left to combat rising inflation and (despite the plummeting value of sterling) persistent trade deficits.

The 'Heath–Barber boom' had caused economic growth in the UK to accelerate from 1.3 per cent (1971–2) to 7.7 per cent (1972–3) and unemployment to fall from 3.7 per cent (1972) to 2.6 per cent (1973). These remarkable results were produced by unprecedented budgetary profligacy: from surpluses in 1969 and 1970, the deficits in the following four years were respectively £1.4 billion, £2.1 billion, £4.2 billion, and £6.4 billion. All were financed largely by bank borrowing which caused a rapid growth in the supply of money. In the three years to 1974, domestic prices rose by 35.8 per cent while the effective exchange rate index for sterling fell by 15.2 per cent. These events were to prove a watershed for Keynesian macroeconomic demand management.

Before this episode, certain key variables – government expenditure, taxation, interest rates and the exchange rate – had come to be regarded as legitimate instruments of policy. Indeed the expansion of economics teaching in school sixth-forms and universities was driven by this push-button view of economic management. Academic and government economists were encouraged to construct Keynesian models of the economy with many dubious assumptions relating to marginal propensities to consume, save and import, if not quite to eat, drink and sleep; and they duly produced pseudo-scientific statistical coefficients, indices percentages and rates of return that were accepted with only marginally less seriousness than the datum for the speed of light.

The idea that such aggregates might be manipulated to bring a prosperity that is denied to an economy driven by market processes has no empirical and little theoretical support. Furthermore, the commitment to maintain full employment undermines the disciplines of the market, with the effect of slowing the pace of technological change and economic advance. This was inevitable, given the framework of Keynesian analysis, which takes full

employment and not efficient production as its goal. Socialist republics have demonstrated that full employment is very easy to achieve, providing there is no requirement to provide the goods and services (or jobs) that would be available under a market system. The attempt to maintain production and employment regardless of performance removes incentives and the stimulus to adapt to new requirements.

During election campaigns from the 1950s through to the 1970s, it was a common complaint that it mattered little which party was elected. This was true. Successive UK governments were drawn inexorably deeper into the mire of expenditures to support welfare and 'full employment measures'. It became the norm for expenditure plans to be expressed against over-optimistic projected growth rates for the economy, which meant that the state took an ever higher percentage of GDP: from 35 per cent in 1960 to a peak of 48 per cent in 1975. This transfer of economic activity from private to public control retarded efficiency and growth; but it certainly created jobs. In just five years to 1978/79, employment in the National Health Service rose by 22 per cent, in the civil service by 6 per cent, and in local government by 15 per cent. The numbers lost to the private sector were literally incalculable, which largely explains how such transfers do not incite the wrath of the electorate.

The damaging impact of public expenditure upon the market process derives from the interdependence of fiscal and monetary policy, which means that fiscal deficits necessitate government borrowing, monetary growth and inflation. The market operates by price signals that feed information to producers and consumers, and without which the balance between supplies and demands is unattainable. By distorting those price signals, inflation disrupts the market process with the consequence of unwanted surpluses of some commodities and shortages of others. Far from achieving positive results, macroeconomic demand management introduces inefficiencies and distortions that leave the economy materially worse off.

There was no easy retreat from the consequences of the Heath–Barber excesses. Following a change of government, Prime Minister James Callaghan informed the 1976 Labour Party Conference that government expenditure and reductions in taxation to boost employment was an option that no longer existed; and that, if it ever did exist, it created inflation and higher unemployment. Even so, the pace of erudition is ever slow. The first signs of stagflation had been in evidence a decade earlier; and voices for the implementation of fiscal expansion continue to be heard. It is not so much that macroeconomics misled many within the economics profession, but that Keynesian economics is attractive to those with an ideological inclination to state intervention.

Keynesian macroeconomics came close to providing the intellectual justification for a corporate tyranny. Whether arrived at from capitalism, through the intermediate stage of a mixed economy, or more directly through national socialism, the state's involvement in consumption, savings

and investment decisions destroys individual liberty in its pursuit of an asserted 'public interest'. When governments assume a responsibility to maintain full employment, it is inevitable that business, organised labour and the public at large come to rely upon the guarantee of no failure, which is a sure path to mediocrity.

The physical sciences have long abandoned the idea of perpetual motion. For fifty years the science of economics was mesmerised by the promise of a similar impossibility. This is that planned intervention by government could maintain national output at a level that cannot be reached by market forces. It was suggested that government intervention can make use of land, labour and capital where private entrepreneurial activity is able to devise no useful schemes. What was on offer was not a compassionate framework for social policy, but the suggestion that a greater economic benefit could somehow be achieved.

There is one other important consideration. How plausible is it that benevolence is the guiding principle of politicians and government? What is the nature of the dichotomy between the pursuit of self-interest by market participants and the altruistic motivation of state politicians? The alternative view is that self-interest (of elected politicians, civil servants and appointees) is as likely to be the prime mover of government departments and agencies as it is of the rest of the animal kingdom. (This much is implicit in the 'stop-go' election cycle.) From that basis, the direction of policy would be expected to favour producer-interest groups rather than consumers. This is because most voters earn their living from a single activity while their expenditure is spread across a wide range of activities. Therefore, a consumer has a greater interest vested in his place of work than in where he spends his income. Furthermore, producer-interest is more likely to influence government than consumer-interest, because consumers have a weak organisational base as compared with that of trade unions and employers' groupings. Finally, there are occasions where government departments and agencies may combine with producer groups to exert concerted pressure upon government policy. For example, a large defence budget confers benefit upon ministry officials and arms suppliers alike.

So, at the very least, there must be doubt over the trust that Keynes suggests might be placed in statesmen who are 'rightly orientated in their minds' (Keynes 1980b: 387) and in his expectation that such men might deliver a solution to the problem of sustaining full employment by monetary means: '[o]f course, I do not want to see money wages forever soaring upwards to a level to which real wages cannot follow. It is one of the chief tasks ahead of our statesmanship to find a way to prevent this' (Keynes [1944b] 1980a: 40). In principle, there is a fundamental difficulty in relying upon the great and the good. Even if one accepts that there are 'thinkers like Newton, Marshall, Jevons, Ramsey and Malthus' – and indeed, Keynes – who have 'great powers of intuition' (Mini 1994: 164), how might lesser mortals sense the true value of their wisdom? How might those thinkers be

protected from Cassandra's fate? How is it possible to discriminate between the savant and the charlatan? The principle of relying upon sound intuition invokes the infinite regress of wise intuition to identify wise intuition: 'sed quis custodiet ipsos, custodes' (Juvenal, *c.* AD 55–127, *Satires*, VI: 'but who is to guard the guards themselves?').

Socialism

State socialism – even in guise of an economic role for wise statesmanship – is a failed creed. The division of Europe in 1945 into market and centrally planned economies was the zenith of the Bolshevik revolution. Its last vestige was covered in 1989 by the debris of the Berlin Wall. In between times, the comparative economic performance of East and West quietened the intellectual socialists, whose aspirations had been sharpened by the Marxist phalanx in the calculation debate of the 1930s. Although socialism was shown to have failed, credit was slow to accrue to the opposing Austrian phalanx. The intellectual case that the Austrian School makes against socialism had been forgotten during the era of a 'mixed economy', 'social democracy' and the Keynesian–Beveridge–Butskellite middle-of-the-road welfare state. Thereafter, monetarism and the ascendancy of the New Right followed in the wake of a general dissatisfaction with macroeconomic performance. Weighed down by the burdens of high taxes and bureaucracy, and weary of trade union lawlessness and oxymoronic state 'enterprise' initiatives, the electorate was ready for change. In the West, aspirations for the free market and trade liberalisation gained an ascendancy.

The final collapse of central planning in the 1990s presented new food for thought. Many were surprised when *laissez-faire* did not follow *laissez-aller*: the emergence of free market entrepreneurial capitalism was not automatic. With hindsight, it was always likely that those who had been taught to equate private property with theft would be troubled by the notion of property rights. Although thriving black markets in the former eastern bloc had replicated some aspects of the market economy, they drew no support from the rule of law, nor could they provide any basis for taxation. So, apart from the currency printing-presses, newly independent Eastern states had few public revenue sources to draw upon after the sell-off of state-owned firms.

Although the need for positive action is now apparent, little thought has been given to the kind of institutional infrastructure that is necessary to support a market economy. Stated differently, the long-neglected arguments of the Austrian School are increasingly seen to be relevant. Until recently, the most common retrospect of the calculation debate of the 1930s was that the thesis of central planning had been matched by the antithesis of complete *laissez-faire* to give a synthesis of market socialism. This is wrong.

Karl Marx had envisaged the self-destruction of capitalism: specialisation would force individuals into an ever greater division of labour and mutual

interdependence, the intricacies of which no single individual would be able to grasp; nor would there be any control over its effects; but this was not expected to last. Rather, a growing concentration of industrial might would lead ultimately to central direction that would replace the market system and restore the bond between workers and their product. This was Marx's prediction.

The counter from Ludwig von Mises had been that *local* planning is vital. This takes place under the impartial direction of the market process, which no level of sophistication in the instrumentation of a central plan could possibly emulate. Mises emphasises the necessity for market-determined exchange values in respect of capitalistic production, because '[t]he human mind cannot orientate itself properly among the bewildering mass of intermediate products and potentialities of production without such aid' (Mises 1920: 103). Since every entrepreneurial decision affects the whole configuration of prices, such coordination is achieved only through a constant feed-back of new prices and the consequential readjustments to individuals' plans. With the further point that a centrally directed construction of an economic plan cannot draw upon knowledge of the particular circumstances of time and place, Hayek had shown that intellectual aspirations for socialist planning are an epistemological impossibility. Indeed, the socialist calculation debate drew from Hayek three important arguments against socialism: 'in the real world goods are not easily specified . . . costs were not objectively given . . . [and] .... knowledge is uncentralizable' (Streissler 1992: 65–6).

Yet socio-economic coordination is a problem that has received scant attention. In ignoring the issue of knowledge acquisition and coordination, Walrasian general equilibrium economic theory misrepresents the ease with which optimal resources allocation might be achieved. This allows scope for a case to be made for socialism: given the same information set as is assumed to exist under *theoretical* general equilibrium, Oscar Lange demonstrates that an *actual* central planning board can replicate the competitive outcome (see Lange 1936). With that sleight of hand, it is made to appear that the mechanism of competitive market prices adjustment can be replaced by the precise *mathematical* calculation of a planning board. Yet, until the exchanges are made, the data do not exist; and after the exchanges are made, many of the data are no longer relevant. (So spare a tear for the econometrician!)

By the failure to acknowledge the methodological gulf that exists between Austrian (disequilibrium) economics and neoclassical (equilibrium) economics, much of the socialist calculation debate was conducted at cross-purposes. Whereas the Austrian School perceives the economy as a *mêlée* of competing and contradictory plans, and conducts its analysis against the (dynamic) criterion of multi-plan coordination, neoclassical economic analysis centres upon the (static) criterion of Pareto efficiency (whereby no-one can be made better off without at least someone becoming worse off). To Austrians, incentives – that are implicit in the margins that exist when

trade is undertaken at disequilibrium prices – are an integral part of the equilibrating process by which markets become mutually readjusted. Here, the entrepreneurial function (that is assumed by neoclassical economics to have already taken place) is vital since, by that activity 'the price in one particular market is brought closer to equilibrium, and other people are better-informed about the opportunities available' (Loasby 1989: 160).

The fundamental lesson to be drawn from the socialist calculation debate – the lesson that is lost to advocates of the socialist or even the mixed economy – is that economically efficient methods of production and distribution become evident only as some producers succeed while others fail. Bankruptcies are an important aspect of discovery in which efficiency and ingenuity are tested in open competition. To eliminate the possibility of failure is to eliminate initiative. Equally important is Hayek's message that economics is an integral part of an evolving social order in which cultural history and *mores* are vital to the processes of knowledge acquisition and dispersion.

The importance of the cultural infrastructure to free market processes is central to comments made by the Chairman of the US Federal Reserve Bank:

> [t]he dismantling of the central planning function in an economy does not, as some had supposed, automatically establish a free market entrepreneurial system. There is a vast amount of capitalist culture and infrastructure underpinning market economies that has evolved over generations: laws, conventions, behaviors, and a wide variety of business professions and practices that has no important functions in a centrally planned economy.
>
> (Greenspan 1997)

Among other requirements identified by Alan Greenspan are a free press, an impartial judiciary and a bill of rights to preclude arbitrary action by government.

The cultural infrastructure provides the cohesion to support the requirement for continuous readjustments that are necessary to accommodate changing patterns of demand. It is in the nature of diverse and dynamic economies that some industrial sectors (or regions) will prosper as others decline. New technologies and new consumer tastes insist that this is so. It is a classical economic proposition that factors of production (the supply side) should adjust continuously to accommodate changes in demand. The objective is the efficient conversion of effort (employment) into benefits (final goods and services). However, that fundamental truth – that supply patterns are adjusted to meet changing patterns of demand – was overridden by Keynes's notion of deficient aggregate demand. In an era of macroeconomic demand management, the requirement is reversed: it is demand that must be adjusted in order to accommodate the need to supply.

The free market economy

Market competition allows knowledge to be discovered and it provides the mechanisms by which individuals' actions are coordinated; but the market is unpredictable, and state intervention – whether monetary, fiscal or otherwise – cannot prevent, nor can it lessen, the costs arising from that unpredictability. Indeed, the very attempt is undesirable, for it retards necessary adjustments. Furthermore, the market cannot be expected simply to reward merit. However distasteful, it is important that '[w]e allow the individual share to be determined partly by luck in order to make the total to be shared as large as possible' (Hayek 1978: 91). The free market serves prosperity and progress because it rewards those who apply their initiative successfully and those who are simply lucky enough to be in a position to satisfy the particular demands that arise from new and rapidly changing circumstances.

The free market economy is a complex phenomenon. It is not encompassed by the mechanistic process of market exchange. Rather, it is a system of local voluntary planning that is embodied in the nexus of private property, consent and contract. These comprise the institutional structure: a coherent set of practices whereby individuals are empowered to interact socially and through which they gain mutual advantages. Thus, business transactions – a sub-set of this social interaction – allow costs to be minimised within evolving institutional structures that support an extensive division of labour and the realisation of mutual gains from trade.

Social cohesion does not just happen. Without regulation there is anarchy and conflict; but the most appropriate regulatory structures tend to emerge spontaneously through the force of mutual advantage and the test of social competence. (Although this is the general conclusion, the most obvious exception is the revolutionary change that creates an institutional void. Unless it is expected to achieve the restoration of an earlier socio-economic order, or to emulate evolved structures that have proven successful elsewhere, a revolution is best avoided!)

The conception of law as the safeguard of freedom arose contemporaneously with the theory of the market mechanism, where the two principles of several property (that is, unshared tenure of ownership) and contract enforcement are most important. Without law enforcement there is no protection of private property; without private property there is no exchange; without exchange there are no prices; and without prices there is no coordination of activity nor tendency towards an economically efficient allocation of resources between alternative uses.

Together with the general observance of abstract rules of conduct, the principles of several property and contract enforcement create opportunities for individuals to act effectively within a coherent framework. The intensive interdependence of an extended complex socio-economic order relies upon a shared moral consciousness that understands the value of impartial rules of conduct. Such rules fall into different categories: there are those that every-

body follows because of the like manner in which the environment is perceived by individual minds; those that are followed spontaneously because they form part of a common cultural tradition; and those that must be enforced because, though any individual would gain through non-observance, his action would damage the wider social order. The latter – enforcement through the legitimate exercise of coercive power – underpins the majority of voluntary private arrangements.

So what is legitimate in the exercise of coercive power by the state? Although, in a democracy, a majority can rid itself of a government, Hayek argues the need for further institutional restraint. Even in a democracy, the rule of law faces the threat of encroachment by government. The modern tendency to merge the legislative and executive functions undermines the impartiality of the law and creates (potentially) an instrument of political repression. It is because a democratically elected government can find itself bound, not by moral convictions, but by the obligation to satisfy a number of vested interests, that government must have no exemption from operating according to the liberal principles of impartiality and universality.

It is for this reason that Hayek looks to a 'separation of powers' to provide the means to bind government by the rule of law. By this arrangement, the legitimate function of government would be to administer resources placed at its disposal by the wishes of a majority; but government would be denied the further task of legislation. Instead, this might be invested in a constitutionally bound legislative assembly, whose sole function would be to make (and to make adjustments to) general laws of contract, tort and property. An independent constitutional court would define the properties of valid law and resolve any conflict of competence between the legislative assembly and the government. These are distinctly different tasks that ought to be kept separate to protect liberalism and, thereby, to further social and cultural evolution.

The spontaneous social order

In a social context, evolution is 'a process in which practices which had first been adopted for other reasons, or even purely accidentally, were preserved because they enabled the group in which they had arisen to prevail over others' (Hayek 1973: 9). Institutional practices become established as venerated (though not immutable) traditions in consequence of the advantages that accrue to groups that adhere to those traditions. Practices that survived brought man from 'the small horde to the organised tribe, the still larger clans and the other successive steps towards the "Great Society" . . . [where] . . . millions of men interact and where civilisation as we know it has developed' (Hayek 1973: 14). This evolved social order is illustrated by institutions – religion, language, money, law, markets, *etc.* – that prevail because they enhance the reproductive fitness of those whose reason is directed by them. Such institutions are the result of a multitude of individual adaptations.

The social harmony that exists within small 'tribal' groups is based upon common objectives. Inevitably, that consensus is undermined as the number of participants grows. Hayek's thesis is that spontaneous developments brought man from those primitive arrangements to a modern world network of extensive interrelationships; that a morality that binds individuals by *personal* relationships could never have supported that vast socio-economic order. Moreover, any attempt to impose an alternative order, created through rational design (that is, 'constructivist rationalism'), would be undermined by a complexity of detail that could not be understood by any single individual or group of individuals. The rules that support the extended social order are qualitatively different from those that serve the consensual objectives of primitive groupings. The latter have their counterpart in the narrow but clearly defined goals of modern organisations:

> the general rules of law that a spontaneous order rests on aim at an abstract order, the particular or concrete content of which is not known or foreseen by anyone; while the commands as well as the rules which govern an organisation serve particular results aimed at by those who are in command of the organisation.
>
> (Hayek 1973: 50)

However, organisations and the spontaneous order are not mutually exclusive structures: the same group of people (employees of a firm) may act together as an organisation (on an assembly line) while a spontaneous order is also maintained by adherence to conventional norms of behaviour. Within every organisation, individuals are expected to operate according to a wider social framework of general rules.

There are limits to the growth of the organisation, beyond which its advantages (from the avoidance of transactions costs) are outweighed by those that are derived from market exchange. Although Keynes has the reputation for practical economics and Hayek the reputation as a pure theorist, it is Hayek who points to the practical ineffectiveness of large-scale organisational planning. Hayek's supposition, that the efficiency of the organisation is inferior to that of the market process, at a relatively small scale of operation, is consistent with his belief in the efficacy of an evolved spontaneous order and in the impracticality of centralised socio-economic planning.

The minutiae of interactive changes are beyond the compass of a single mind; and the advantage of decentralised individual decision-making is in selecting from this awesome complexity. This is the rationale for Hayek's opposition to socialism and for his rejection of constructivist rationalism. From this perspective, a present concern must be with the visionaries who are working towards a more powerful European Union with designs for centralised parliamentary and political institutions, a monopoly currency,[1] a monolithic central bank, tax harmonisation, a comprehensive social charter, regional resource transfers and standardised products.

Such aggrandisement is an anathema to Hayek. His view is that, with the exception of external relations, devolved (local) government is more effective in dealing with most issues – and potentially less threatening to individual liberty – than a centralised regime. With a general devolution of powers, local administrations would be in competition 'with each other for citizens who could vote with their feet for that corporation which offered the highest benefits compared with the price charged' (Hayek 1978b: 162). Although the volume of resources administered at the local level would vary between districts, the extent of local taxation would be regulated by universal and impartial laws.

The type and the extent of the distribution of economic and political powers mark the sharpest contrast between Keynes and Hayek. With their shared focus upon the inherent instability of a money economy, the primary economic issue is whether that instability is more likely to be ameliorated (Keynes), or exacerbated (Hayek), by the exercise of discretionary monetary and fiscal policy. However, the more general point in regard to that difference lies with the interaction of ideology and analytical endeavour.

Keynes's social philosophy idealises 'the possibility of nations learn[ing] to provide themselves with full employment by their domestic policy' (Keynes [1936] 1973: 382); and it is supported by an analytical assessment of how wise statesmanship might substitute for the beneficent business patriarch. Hayek's social philosophy idealises '[t]he possibility of men living together in peace and to their mutual advantage without having to agree on common aims, and bound only by abstract rules of conduct' (Hayek 1976a: 136); and it is supported by an analytical assessment of the practical requirements that allow individuals to pursue diverse ends in harmony and free from coercion.

The interest rate option

The high optimism of the immediate post-war Keynesian era is now widely acknowledged to have been misplaced, with the effect that more recent economic commentary is directed as much to anticipating the impact and sustainability of retirement pension entitlements and social welfare provisions as to the performance of the economy *per se*. While expectations for purposeful demand management are not extinct, the interest rate is now the primary and often solitary instrument of control. This development might be explained by the difficulties encountered in the targeting of money aggregates (monetarism), and by the interest rate presenting itself as an alternative monetary instrument and/or indicator. Whatever the merit of that conjecture, the focus of contemporary macroeconomic debate has become the interest rate option; or rather, the consequences of surrendering an option to deflate (or to stimulate) demand through interest rate policy. Within the European Union this issue is to the fore in terms of the policy objective to achieve a single currency. Of course, no region within a single currency area

has the interest rate option. Hence, the 'one size fits all' criticism of the single currency proposal and a renewed interest in the concept of an optimum currency area and monetary autonomy.

Keynes was a staunch advocate of independent monetary systems and, in the circumstances of the 1930s, he believed that a 'policy of an autonomous rate of interest, unimpeded by international preoccupations, would restore economic health and strength internationally' (Keynes [1936] 1973: 349). In a thinly disguised response to Keynes, Hayek delivered (in five lectures given in Geneva in 1937) a thorough examination of the theoretical issues by which monetary nationalism should be judged (see Hayek 1939b). He argues that international transfers of money facilitate both the trade in goods and services and changes in the ownership of real and financial assets; and that the precise mechanisms by which the distributional pattern of money in circulation is altered by such transactions depend upon the type of national monetary system that is in operation. In a close scrutiny of the options, Hayek discusses three possibilities for currency regimes: fixed exchange rates, flexible exchange rates and a single currency.

With fixed exchange rates, domestic deflation is necessary whenever devaluation (because of, say, poor international competitiveness) threatens. The exchange rate must be defended. Adjustment costs (that is, the contraction of economic activity) are borne by every industrial sector, because all sectors of the economy are affected, rather than only those that are directly in trouble. So a fixed exchange rate regime necessitates an economy-wide deflation when only a selective adjustment of prices would otherwise be required. The necessary *relative* price adjustments are achieved only as prices in uncompetitive sectors fall more than prices in relatively prosperous industries.

Under flexible exchange rates, a decline in international competitiveness weakens the currency and causes a general rise in prices (inflation). Instead of wages and prices falling in the particular sectors that are uncompetitive, adjustment costs under flexible exchange rates are again borne by every sector. The necessary *relative* price adjustments are achieved only as prices in uncompetitive sectors rise by less than prices in relatively prosperous industries.

Within a single currency system, poor economic performance of (say) bobbin manufacturers in the north-west of England and (say) a rising demand for haggis produced in central Scotland are accommodated by differential changes in prices, wages and profits in those two sectors (with secondary effects upon their suppliers), all of which give incentives to appropriate structural 'supply-side' changes. Sectors which, for whatever reason, are unable to stem a decline in their competitiveness, must either accept lower prices and reduced rates of remuneration, or else go out of business.

So the three options are clear. Relative wage and price adjustments (within a single currency area), an economy-wide deflation (under fixed exchange rates) and a currency depreciation (under flexible exchange rates) are means to effect the structural adjustments to accommodate changes in

demand patterns that leave some sectors uncompetitive. Only within a single currency area can adjustments take place without general deflation/inflation.

Although an exchange rate readjustment of a sovereign currency is often presented as a panacea to boost international competitiveness, it requires no great intellect to understand that the option of an independent monetary policy affords no means to re-equip the unemployed with saleable skills; nor can it bring cheap credit to industries that are unable to compete for funds; nor can it bring affluence to poor regions; and from those conclusions it follows that a scenario of 'variously sized to fit all' interest rates offers no useful macroeconomic options.

The 'interest rate option' is central to the debate on the supra-national currency of the European Monetary Union (EMU): the euro. The interest rate is a non-issue where the economies of member states are in similar shape. If they are not – if, say, they are at different phases of the business cycle – the relevant questions are: How this might have happened? And why should it matter? Is it not possible for economies in recession to sell into those enjoying boom conditions? If structural differences and natural disasters are ruled out – which would imply a need for supply-side adjustments – differences in the general state of business prosperity are most plausibly explained by different histories of attempts at demand management. Undoubtedly, this is part of the explanation for business cycle differences across the member nations of the European Union.

Hayek's particular criticisms of monetary nationalism (and of Keynes) are based upon the assumption that the 'system would be run as intelligently as is humanly possible' (Hayek 1939b: 73). Wider issues – the dangers arising from competitive depreciations and the political tensions that are inherent in the pursuit of mercantilist policies – are left to one side. Instead, he condemns monetary nationalism simply for its baseless promise to give protection against external financial shocks. Since these are rarely, if ever, all-embracing in their effects, they call for particular (microeconomic), rather than economy-wide (macroeconomic), readjustments. Hayek insists that monetary nationalism offers only the potential for international instability, the discouragement of long-term investments, and a threat to the benefits arising from an international division of labour.

Of course, appropriate supply-side adjustments may be inhibited by the need for politicians to appeal to their respective electorates. So there may be a clamour for an interest rate cut/rise (depending upon who is clamouring), when the blame for inaction will fall upon the monetary authority. Such circumstances provide the rationale for a politically independent central bank or, alternatively, for competition between privately issued currencies (see Hayek 1986): that is, there is a need to bolster resistance to persistent demands for monetary panaceas that are born of an ignorance of sound economics. The tendency to achieve mutual compatibility across the decisions of countless economic agencies is a function not of a 'policy of an autonomous interest rate, unimpeded by international preoccupations', but of an

institutional environment that is founded upon a monetary conservatism (or, alternatively, upon competitive currencies) and the principles of classical liberalism.

Competitive currencies

In his 1937 Geneva lectures, Hayek laments the loss of the discipline of the international gold standard, but he fears for the consequences of an untimely restoration: that is, 'before people had become willing to work it' (Hayek 1939b: xiii). So there remained the practical problem of discovering the most benign form of monetary authority, an issue to which Hayek would return (Hayek 1943, 1960, 1976b, 1978a, 1978b, 1986, 1987). The position that he finally reaches is that that governments should surrender their monopoly of the note issue: '[a]ll history contradicts the belief that governments have given us a safer money than we would have had without their claiming an exclusive right to issue it' (Hayek 1978b: 224). However, given an inherent political conservatism and the reluctance of the state to relinquish monetary control, he suggests that a feasible first step towards competition between currencies would be for the monetary authorities of other nations to be allowed to compete against the domestic provision of currency. To this end, he proposes that nations should 'mutually bind themselves by formal treaty not to place any obstacles in the way of free dealing throughout their territories in one another's currencies, or of similar free exercise of banking business' (Hayek 1978a: 19).

Without competition, a monopoly supplier of currency has no incentive to defend its value. On the contrary, in making first use of every new currency unit, a monopolist enjoys enhanced profits from a continuous currency depreciation. When nation states were constrained by gold convertibility and by the requirement to bridge international net transfers with gold, an orderly money regime was sustained. However, Hayek discounts the possibility of a return to the gold, arguing that its viability had rested upon 'the general opinion that to be driven off the gold standard was a major calamity and a national disgrace' (Hayek 1960: 335). That constraint cannot be re-imposed. So Hayek reaches the conclusion that an alternative discipline needs to be instigated: that is, the discipline that is imposed by the presence of rivals.

Hayek describes the manner whereby competitive state currencies might be augmented by the entry of new private currencies. Joint-stock banks could issue non-interest-bearing certificates denominated in new units (registered as trade names) and announce a readiness to open cheque accounts in terms of those units. The publicly stated policy of each bank would be to maintain the purchasing power of its unit in terms of a basket of commodities, whose composition would be altered periodically 'as experience and the revealed preferences of the public suggested' (Hayek 1991a: 145). New currencies – issued through lending and sale against other currencies –

would be distinct, and each competitor would regulate supply so as to maintain the competitiveness of its own brand. Hayek anticipates that the currencies to command the greatest confidence would be those that give the most secure expectation of purchasing power. Others would be driven into disuse. With each competitor exercising control over the unique characteristics of its own currency, individual choice, free competition and flexible rates of exchange between currencies would provide a natural check to depreciation. Consumer sovereignty would determine the characteristics of private currencies just as it determines the quality and composition of other goods supplied under competition. However, private currencies would displace state currencies entirely only if the latter were perceived to be inferior.

It is reasonable to expect that innovations in electronic communications and exchange will continue to shape the provision of financial services. In keeping with Hayek's theme of currency competition, those future developments might embrace registers of individuals' asset portfolios (comprising not only financial assets of every kind, but also real assets) with opportunities to make virtually instantaneous withdrawals and deposits. These would facilitate market transactions and transfers across the complete liquidity spectrum. Such asset portfolios might be interlinked with others that incorporate contracts to secure goods and services to meet future demands. It is likely that advances in communications, information technology and financial services will raise the advantages and reduce the hazards of a money economy to the point where – in effect – arrangements would exist to allow the *barter* of assets and commodities alike. This poses an interesting question: would this constitute the practical achievement of a neutral money, shorn of a liquidity premium in excess of carrying cost? If so, the problems of a money economy would have dissipated.

Notes

1 Introduction

1 The term 'neoclassical synthesis' was coined in the third edition of Paul Samuelson's *Economics* 1955 (see Pearce and Hoover 1995: 202).
2 See Hicks 1980 for his own retrospective assessment of ISLM.
3 On acquiring British nationality in 1938, Friedrich Hayek chose to dispense with the minor title of nobility ('von') that had been bestowed upon his great-great-grandfather in 1789. Thereafter, in the UK and in the US he was simply 'F.A. Hayek' but, after his move to Freiburg in 1962, the 'von' was again used.
4 Only nine days before share prices tumbled in October 1929, Irving Fisher made the bold forecast that he expected 'to see the stock market a good deal higher than it is to-day within a few months' (Galbraith 1961: 116).
5 'I am a great admirer of Professor Hayek. Some of his books . . . would well be read by some honourable members' (Margaret Thatcher, 5 February 1981, cited from McCormick 1992: 235). There was a mutual esteem: Hayek's best wish for the British economy in 1985 was another twenty years of Mrs Thatcher's Conservative government (see *The Times,* Thursday 9 May 1985: 11).
6 See O'Driscoll 1977: 130, n. 56 for an analogous point.

2 Vision in economics

1 The Society continues as a self-selecting body whose function is the exchange of ideas through debate. It takes no action and issues no statements.
2 With his first attempt at involvement in employment policy formation – 'Does Unemployment need a Drastic Remedy?' published in May 1924 – Keynes supports a large-scale programme of public investment. In December 1929, he submits proposals to counter the depression: the early retirement of industry leaders to allow more active successors to initiate necessary rationalisations; the Bank of England to assure businessmen of a ready supply of credit; commercial banks to announce a willingness to meet any credit demand; trade unions to forego wage increases and strikes; loan priority to be given to domestic rather than foreign purposes; building societies to announce easier terms for construction loans; rail companies to announce programmes for expansion; municipalities to accelerate public works; electricity boards, road boards and other public bodies to accelerate work in progress. (See Keynes [1929] 1981b: 18–22.)

3 Philosophy and political economy

1 O'Neill (1998) argues for two (not one) debates in the 1920s and 1930s: between von Mises and Neurath (on the necessity for commensurability through market valuations) and between Hayek and Lange (on epistemological realities).
2 This is the title of the opening chapter of Hayek (1988).

4 Money issues

1 Through wear, or the presence of impurities, the quality of commodity money (such as gold) varies; and the value of token money varies as confidence in its supplier varies.
2 A fuller definition and account of involuntary unemployment is given in chapter 6.
3 At least one Keynesian has recognised this difficulty: 'real forces of productivity and thrift determine the somewhat flexible upper and lower limits of a substantial range over which interest rates can be varied exogenously by central banks' (Moore 1988: 254). While this description avoids conceding to the loanable funds theory, it is surely the *central tendency* of the 'substantial range over which interest rates can be varied exogenously' that is determined by the 'real forces of productivity and thrift'. The flexibility around that tendency (deviations of market rates from that natural rate) would be attributable to variations in bank credit money. This 'correction' derives from Franco Modigliani's criticism of Keynes's interest rate theory (see Modigliani 1944: 237). Furthermore, the negative statistical correlations between real interest rates and inflation (see Moore 1988: 281) are entirely consistent with classical theory.
4 Two further explanations are that Keynes's previous work had been within the quantity theory tradition; and that he was influenced by his experience of a sharp rise in the bond market in 1934 which 'confirmed Keynes' conviction that the rate of interest is a monetary phenomenon, not bound by "real forces"' (Robinson 1971: 81).
5 It is disingenuous to use this general principle – '[f]rom the point of view of theory, an exogenous element cannot be an effect. It can only be a cause' (Hicks 1979: 22) – as a criticism of any particular theory: '[b]y choosing to specify the monetary base as exogenous, monetarists are really begging the question of its causal role' (Moore 1988: 144).

5 Macrodisequilibrium

1 Reported from a private letter.
2 The conventional presentation of SENIE macromodels in terms of IS and LM schedules is presented in the next chapter, in the section, 'The neoclassical synthesis: textbook geometry'.
3 The dynamic implications of new capital investment, increased output and the requirement for monetary expansion to maintain stable prices cannot be investigated by the methodology of SENIE macromodels.
4 Most notable are *Money* (1922) and *Banking Policy and the Price Level* (1926).

6 Keynes and SENIE macromodels

1 Keynes's *mec* is troublesome because of 'the ruthlessness with which a shortcut is taken through all the complexities of stock-flow analysis' (Leijonhufvud 1968: 162). Greater clarity is afforded by Abba Lerner's distinction between the 'marginal productivity of capital' and 'the marginal efficiency of investment': the former is 'the marginal efficiency of investment when the rate of net investment is zero' and '[t]he difference between the marginal productivity of capital and the rate of interest is the force which makes the stock of capital grow or decline' (Lerner 1944: 335). (N.B.: to preclude confusion with the theory of the firm, textbooks refer to the 'marginal efficiency of capital' in preference to Lerner's 'marginal productivity of capital'. Of course, this risks confusion with Keynes's *mec*!)
2 See Leijonhufvud 1968: 159, n. 2 for the relevant references.
3 Recall that in combining capital goods and bonds, *The General Theory* sets $r=i$.
4 Keynes's comment on the possibility of absolute liquidity preference – that he knew of 'no example of it hitherto' (Keynes [1936] 1973: 207) – indicates another divergence from *The General Theory*: SENIE macromodels invoke the liquidity trap.

7 Value theory and monetary theory

1 The average period of production is the mean time period that payments are deferred from the present, when time periods are weighted by the discounted value of the payments. For non-uniform income streams, interest rate changes can 'switch' the ranking of assets by value. 'Capital 'switching' featured prominently in the capital theory controversy of the 1960s.

8 Capital, money and cycles

1 The latent potential of non-economically viable productive factors has been represented as being at odds with the 'heavy emphasis on time preferences as opposed to capital productivity. .... if these latent factors . . . are truly non-scarce, then we may ask why the prices of the market-valued resources are not bid up to reflect the full value of the output. Again, time discount rather than capital productivity of latent (or actuated) resources seems to be the answer' (Garrison 1995: 1235). Certainly, if the value of economic (scarce) resources were to increase (in consequence, say, of rising output prices), the non-viability of all (non-scarce) latent resources would diminish and some (at the extensive margin) would become economically viable (scarce); but this creates no problem for Hayek's exposition. All is compatible. The vital need for continuing sustenance determines: (1) the lowest value which can be set for inter-temporal preferences, that is, the discount rate; (2) the maximum rate of input into a wages fund; and (3) the maximum rate of capital accumulation. All are inextricably tied. If 'choice' sets inter-temporal preferences above the minimum vital level, capital accumulates at below the maximum attainable rate. So, choice influences capital's productivity. Yet capital's inherent benefits can influence that choice: if jam promised for tomorrow is sweet enough, more of today's consumption will be postponed.

9 Austrians and post-Keynesians

1 By the opinion expressed in the preface written by Keynes for the German translation of *The General Theory,* aggregate demand management 'is more easily adapted to the conditions of a totalitarian state' (Keynes [1936] 1973: xxvi).
2 'Therefore there is a function for government, as long as people want to work, . . . to get total aggregate demand just equal to what people want to work. If you leave it to the market, . . . you can't be assured of ever getting it . . . If you leave it to the government . . . you won't be far away from it' (Paul Davidson; King 1995: 31).
3 From Voltaire's *Candide*, 1759, chapter 1. For extensive allusions, see Hodgson 1993: 197ff.; and for an extensive defence of Hayek's position see Whitman 1998.

10 Economic Guidance

1 ' . . . a new European currency . . . would ultimately only have the effect of more deeply entrenching the source and root of all monetary evil, the government monopoly on the issue and control of money' (Hayek 1976b: 126).

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