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Democracy and
the Value of Money

THE THEORY OF MONEY FROM LOCKE TO KEYNES

WILLIAM REES-MOGG

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WILLIAM REES-MOGG

1. The genesis of monetary theory is in the writings of Aristotle (4th century BC), who saw that money, by custom rather than by nature, was a medium of exchange, a measure of value and a store of value.
2. The earliest theory in terms of the supply of, though not of the demand for, money is John Locke's who developed a quantity theory of money. Hume went further in warning against expanding the supply (paper or credit) of money beyond the increase in the output and thereby raising prices, which would reduce exports and cause an outflow of currency. Later economists built on Locke and Hume.
3. Hume was the first to point to the time-lag between the increase in money supply and the rise in prices, which was later verified as normally between one and two years by W. S. Jevons and re-discovered in the recent theories and researches of Milton Friedman.
4. Henry Thornton (1802) also anticipated Friedman in arguing for a steady increase in the supply of money.
5. The Hume/Jevons time-lag was overlooked by Keynes (1923) who was thereby led to advocate policies that exacerbated the fluctuations between booms and slumps.
6. Milton Friedman restored monetary theory to a central position in economics. The conclusion for policy is that the rate of increase in the money supply should be low and regular: a sharp increase is followed by inflation, a sharp reduction by depression.
7. Such a monetary policy is likely to be pursued only by an independent central bank because government finds that inflation suits its short-term interests. This conclusion is supported by the experience of the USA, West Germany and Switzerland with independent central banks, and Britain, France and Italy with government-controlled banks.
8. This monetary policy must be pursued openly because the intensity of the depression that inevitably follows inflation will be determined in part by expectations, of which the most favourable is improved price stability.
9. Free exchange rates are the only workable system so long as major countries pursue different monetary policies and rates of inflation. An explosion of world inflation that destroyed confidence in currencies would probably have to be followed by the restoration of gold in the world currency system.
10. Stabilisation of expectations – 'sound money' – in France and Germany before and after World War II were, after the initial disturbances, followed by economic recovery.



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Published by

THE INSTITUTE OF ECONOMIC AFFAIRS

1977

First published July 1977

by

THE INSTITUTE OF ECONOMIC AFFAIRS

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ISSN 0073-909 x

ISBN 0-255 36100-9

Printed in Great Britain by

GORON PRO-PRINT CO LTD, LANCING, WEST SUSSEX

Set in Monotype Plantin

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Preface

AS PART of its educational purpose in explaining the light that economics can shed on industrial and government policy, the Institute is reprinting as *Occasional Papers* essays and addresses judged of interest to a wider audience than those to which they were originally addressed.

Occasional Paper 53 is a good companion for other *Papers* the Institute has published recently on monetary theory and policy and their relationship to inflation and unemployment, the role of government, the impact of trade unions with monopoly power, the nature of the labour market and the institutional and structural obstacles to mobility. It is based on a lecture delivered to the graduates of Bath University in January by Mr William Rees-Mogg who, although educated as an historian rather than an economist, has made contributions to economic thinking in the *Financial Times*, the *Sunday Times* and *The Times*.

In the last few years he has been especially interested in the theory of money; in a short book in 1974, *The Reigning Error*, he interpreted 'the crisis of world inflation' as the failure of democracies to devise a means of limiting the supply of money. The evidence of history – that government cannot resist the temptation to increase the supply of money in response to the importunities of interests, in recent times mostly organised labour – can no longer be denied and must sorely trouble politicians of all schools. Mr Peter Jay when Economics Editor of *The Times* proposed a Currency Commission to which government would assign the power of laying down rules to govern the supply of money. An even more radical remedy, though in the neo-classical tradition, has been proposed by Professor F. A. Hayek who believes no lasting solution is likely except by taking money out of the public/political domain and putting it into the market where competing private institutions would have a strong inducement to restrict its supply to maintain its value.

The historical background to these anxieties is here portrayed by Mr Rees-Mogg. He traces the genesis of monetary theory to

Aristotle but finds the earliest theory in terms of the supply of money, though not of the demand, in John Locke.

In his historical analysis Mr Rees-Mogg succinctly reviews the thought of David Hume, David Ricardo, Henry Thornton, W. S. Jevons, Alfred Marshall, Irving Fisher, Keynes and Milton Friedman. He finds that the Friedman prescription for a steady increase in the supply of money to keep pace with the underlying growth in real output was stated in a simple form by Henry Thornton in 1802 (uncannily like the more recent formulation by Professor Friedman). But his main finding is that Keynes overlooked the time-lag between the expansion of the supply of money and the increase in production and prices and so was led to recommend policy that would in post-war circumstances amplify economic fluctuations rather than reduce them.

Mr Rees-Mogg shows that Keynes was aware of the difficulty in his central recommendation in the 1936 *General Theory* that public expenditure should be expanded when private expenditure was seen to be flagging.

Yet this understanding of the labour market and its rigidities and immobilities seems to have played no central part in neo-Keynesian thinking or in government policy based on it. It has certainly not led Keynesian economists, or the governments they have influenced, to look to the institutions of the labour market in order to lessen or remove its rigidities or immobilities. The inflation that Keynesian policies (which Keynes might have resisted) have brought might have been, it seems, avoided if the institutions of the labour market had been reformed.

In the final section Mr Rees-Mogg briefly discusses implications of his historical analysis for public policy in the Britain of the 1970s. He concludes that the demonstration by Professor Milton Friedman of the central importance in economic theory of the supply of money indicates that it be increased at a low and regular rate to keep pace with the underlying growth in output: if it is increased sharply it is followed by inflation and if reduced sharply by depression. He argues that such a policy is more likely to be pursued if Central Banks are independent than if they are controlled by government. These policies, moreover, must be pursued openly, since economic events and trends are determined partly by expectations, of which the most favourable is of improved price stability. Mr Rees-Mogg is inclined to agree with Professor

Friedman's advocacy of free exchange rates when the major countries are inflating at different rates; but he believes that an expansion of world inflation that destroyed confidence in currencies would have to be followed by the restoration of gold at the centre of the world currency system because gold introduces disciplines that do not operate in a system of free exchanges. In support of his general argument Mr Rees-Mogg points to the pre-war Schacht and Poincaré stabilisations and the post-war Erhard and de Gaulle stabilisations in Germany and France.

We have to thank Professors Milton Friedman, F. A. Hayek, and E. Victor Morgan for reading the text and offering comments and suggestions. The constitution of the Institute prevents the Trustees, Directors and Advisers from sharing the analysis of its authors but it offers Mr Rees-Mogg's *Paper* to students of economics and non-economists as an incisive account of the discussions among economists over the centuries that illuminates recent and current controversies on the role of money and the lessons that may now, at last, be learned.

March 1977

ARTHUR SELDON

The Author

WILLIAM REES-MOGG has been Editor of *The Times* since 1967 and a Director since 1968. He was born in 1928 and educated at Charterhouse and Balliol College, Oxford; he was President of the Oxford Union in 1951. From 1952 to 1960 he worked on the *Financial Times* as Chief Leader Writer and Assistant Editor. From 1960 to 1967 he worked on the *Sunday Times* as City Editor, Political and Economic Editor and Deputy Editor.

He contested the parliamentary seat of Chester-le-Street, Co. Durham, as a Conservative in 1956 and 1959. He was Visiting Fellow, Nuffield College, Oxford, from 1968 to 1972. He is the author of *The Reigning Error: The Crisis of World Inflation*, Hamish Hamilton, 1974 (2nd Impression 1975).

Democracy and the Value of Money

The Theory of Money from Locke to Keynes

WILLIAM REES-MOGG

I

ARISTOTLE, LOCKE AND HUME

MONETARY THEORY is very ancient, as it is simply a term for the understanding that mankind has developed about the character and use of money, and its relationship to the economy. Classical monetary theory was developed by British economists, with some French influence, between the late 17th and early 20th century, that is, between Locke and Marshall. It may or may not have been overtaken by Keynes in the way that Newtonian physics was overtaken by Einstein. Even if it has been so overtaken, that would not mean it was falsified. In the world of Einstein apples do not fall upwards; in the world of Keynes if you print more money you do not get lower prices.

Aristotle and the functions of money

The earliest traces of monetary theory are to be found in Aristotle. He lived in a period, the 4th century BC, when men could still remember the introduction and development of money in parts of the Greek world, and merchants were still trading with pre-monetary economies. In his *Politics* he describes how the metallic monies, gold and silver, were originally exchanged simply by weight. In the *Ethics* he observes that money is a medium of exchange, that it is a measure of value,

'informing us, for example, how many shoes are equivalent to a house', that 'it exists not by nature but by custom', that it acts as 'a guarantee of exchange in the future', and that 'money is affected in the same way as other commodities, because its purchasing power varies.'¹

Thus already in Aristotle we find prefigured many of the themes of monetary theory. When we read in Aristotle that money

¹ *The Ethics of Aristotle (The Nicomachean Ethics)*, translated by J. A. K. Thomson, revised by Hugh Tredennick, Penguin Books, Revised Edn., 1976, pp. 184-5.

enables men to relate the value of shoes and of houses to each other, we may think of Ricardo's discussion of the factors which determine the relative value of hats and gloves. When Aristotle calls money 'a guarantee of exchange in the future' we may recollect Keynes's dictum that

'Money in its significant attributes is, above all, a subtle device for linking the present to the future'.¹

Aristotle had already formulated the first two of the classic definitions of the functions of money, which Jevons defines as a 'medium of exchange' and a 'common measure of value'.² Given our present concerns, we shall probably be most struck by the Friedmanite ring of Aristotle's connection between money's attribute of being a commodity like other commodities, and his attribution of its changes in value to that.

In short, all that Aristotle lacks for a comprehensive theory of the economics of money is a theory of supply and demand; he has a theory of demand, but does not seem to have formulated, though he must largely have understood, a supply side to the equation. I introduce him, however, not as the originator of monetary theory, but as the historical evidence of some of the elements in monetary theory which from Greek antiquity were already understood. Certainly one cannot find much evidence that the British economists took their theories directly from Aristotle; I find one reference to Aristotle in Jevons, none in Keynes, despite his interest in the history of thought, none in Locke or Hume, and none in Ricardo.

Ricardo on the demand for money

What is the central statement of classical monetary theory in Britain? It could be put in quotations from many different economists, taking somewhat different forms. I would choose to quote from David Ricardo's *Principles of Political Economy*, which was published in 1817, because it is, I believe, the ridge of the intellectual system of British economic theory, whose intellectual

¹ *The Collected Writings of John Maynard Keynes*, Vol. VII: *The General Theory of Employment, Interest and Money*, Macmillan for the Royal Economic Society, 1973, p. 294. [All subsequent references are to this edition, and will be referred to as *J.M.K.* - ED.]

² W. Stanley Jevons, *Money and the Mechanism of Exchange*, Henry S. King, London, 1875, p. 13.

history, however distinguished, can on either side be seen as pre- or post-Ricardian.

'The demand for money is regulated entirely by its value, and its value by its quantity.'¹ That is the central definition, and Ricardo goes on to amplify it:

'If gold were of double the value, half the quantity would perform the same functions in circulation, and if it were of half the value, double the quantity would be required.'²

It is this theory, which makes the general price level simply a reciprocal of the quantity of money, that is offered, substantially in its original form, by monetary economists as the explanation of inflation. It is a theory which, despite its venerable age, is still in our day a matter of immediate public controversy. That is nothing new. In Stanley Jevons's admirable little book on *Money and the Mechanism of Exchange*, first published in 1875, he observes that the question of the methods on which the issue of paper money may be conducted is 'perhaps the most vexed and debatable one in the whole sphere of political economy'.³ The question of money supply is not merely the most contentious economic issue of 1977, as well as of 1875; it was one of the most contentious issues of 1934, of 1925, of 1923, of 1839, of 1811, of 1797, and of 1691, and each of those dates refers to a specific monetary crisis or controversy. There are plenty of others to choose from. We are not dealing here with a dry matter of economic theory, but with a controversy that is imposed on economists by events – and by very critical events. Even Aristotle cannot have been thinking of money in a purely abstract way; during his life time Alexander the Great's conquests in the East released large quantities of hoarded gold, and there followed an inflation of prices caused by the inflation of the gold supply.

Keynes on Locke

It is in 1691 that we have what may be the first adequate statement in Britain, though certainly not the first appearance, of the quantity theory of money. Perhaps before I turn to Locke,

¹ Piero Sraffa (ed.), *The Works and Correspondence of David Ricardo*, Cambridge University Press for the Royal Economic Society, Vol. I, 1951, p. 193.

² *Ibid.*, p. 193.

³ Jevons, *op. cit.*, p. 217.

I may quote Keynes. In *The General Theory of Employment, Interest and Money* Keynes observes that

‘The great Locke was, perhaps, the first to express in abstract terms the relationship between the rate of interest and the quantity of money in his controversy with Petty. He was opposing Petty’s proposal of a maximum rate of interest on the ground that it was as impracticable as to fix a maximum rent for land, since “the natural Value of Money, as it is apt to yield such an yearly Income by Interest, depends on the whole quantity of the then passing Money of the Kingdom, in proportion to the whole Trade of the Kingdom. . . .” Locke explains that money has two values: (1) its value in use which is given by the rate of interest . . . and (2) its value in exchange “and in this it has the Nature of a Commodity”, its value in exchange “depending only on the Plenty or Scarcity of Money in proportion to the Plenty or Scarcity of those things and not on what Interest shall be”. Thus Locke was the parent of twin quantity theories. In the first place he held that the rate of interest depended on the proportion of the quantity of money . . . to the total value of trade. In the second place he held that the value of money in exchange depended on the proportion of money to the total volume of goods in the market . . . But he never, I think, proceeds to a genuine synthesis.’¹

That is what Keynes says about Locke, and you will notice the sympathy with which he treats Locke’s ideas. The final criticism is just – but of what economist can it be said that his theory of interest and his theory of prices have reached ‘a genuine synthesis’? Keynes might have hoped it could be said of his own work but, if he did achieve such a genuine synthesis, it has at best remained very obscure.

Locke’s quantity theory

There is, however, no doubt that Locke developed a genuine quantity theory of money in relation to prices. In 1691 he published *Some Considerations of the Consequences of the Lowering of Interest and Raising the Value of Money*, a long title for a short pamphlet.

‘Money, whilst the same quantity of it is passing up and down the Kingdom in trade, is really a standing measure of the falling and rising value of other things, in reference to one another: and the alteration of price is truly in them only. But if you increase, or

¹ *J.M.K.*, Vol. VII, pp. 342-4.

lessen, the quantity of money, current in traffic, in any place, then alteration of value is in the money . . .¹

Locke considers that money is in one respect a unique commodity. The relative values of other commodities are set by supply and demand, and not by supply or demand only. There are some commodities, air and water are usually cited, which are in general demand, are extremely useful, indeed are necessities of life, but are so common that they have little or no value. Other commodities are far from common, but are not in demand because it is hard to find a use for them. That might be true, say, of uncommon types of seaweed, which would be of interest only to scientists. These commodities, though rare, are cheap.

Locke argues that the value of money is determined solely by the quantity, because he holds that the demand for money is invariably present.

‘ . . . the vent of money is always sufficient, or more than enough. This being so, its quantity alone is enough to regulate and determine its value, without considering any proportion between its quantity and vent, as in other commodities.’²

Although Locke believes that prices are determined by the quantity of money, he believes also that real wealth is the result of other non-monetary factors.

‘ Nature has bestowed mines on several parts of the world: but their riches are only for the industrious and frugal. Whomever else they visit, ’tis with the diligent and sober only they stay ’Tis with a Kingdom as with a family. Spending less than our own commodities will pay for, is the sure and only way for the nation to grow rich.’³

A serious reader of Locke would, at the end of the 17th century, have understood that changes in the quantity of money determine prices, and that the condition of maintaining the level of prices is to maintain a balance of trade, because a deficit would be financed by an outflow of money. That would reduce prices, lower wages and rents, lower the cost and therefore tend to increase the volume of exports, though Locke seems to have been concerned that the change in prices would lead to a deterioration in the terms of trade.

¹ *The Works of John Locke Esq.*, S. Birt etc., London, 1751, 5th Edn., Vol. II, p. 23.

² *Ibid.*, p. 23.

³ *Ibid.*, p. 36.

We are therefore, as early as around 1700, moving towards a theory which links changes in the quantity of money to the external balance, but in this, as in Locke's treatment of interest, the theory is not yet fully matured.

David Hume and bank credit

In monetary economics Hume stands on Locke's shoulders. His essay 'Of Money' was one of the *Essays, Moral, Political and Literary*, Part II, first published in Edinburgh in 1752. Hume starts by assuming, what Locke felt he had to argue, that

'the prices of commodities are always proportioned to the plenty of money, and a crown in Harry VII's time served the same purpose as a pound does at present'.¹

(A pound in 1752 served the same purpose as perhaps £15 does now.) But Hume then immediately strikes out in a new direction:

'... the greater plenty of money is very limited in its use, and may even sometimes be a loss to a nation in its commerce with foreigners . . . in general we may observe, that the dearness of every thing, from plenty of money, is a disadvantage which attends an established commerce, and sets bounds to it in every country, by enabling the poorer states to undersell the richer in all foreign markets.'²

Hume goes on:

'This has made me entertain a doubt concerning the benefit of *banks* and *paper credit*, which are so generally esteemed advantageous to every nation. That provisions and labour should become dear by the increase of trade and money, is, in many respects, an inconvenience; but an inconvenience that is unavoidable, and the effect of that public wealth and prosperity which are the end of all our wishes. . . . But there appears no reason for increasing that inconvenience by a counterfeit money, which foreigners will not accept of in any payment, and which any great disorder in the state will reduce to nothing. . . . to endeavour artificially to increase such a credit, can never be the interest of any trading nation; but must lay them under disadvantages, by increasing money beyond its natural proportion to labour and commodities, and thereby heightening their price to the merchant and manufacturer.'³

¹ David Hume, 'Of Money', first published in *Political Discourses*, Edinburgh, 1752, republished in *Essays, Moral, Political and Literary*, Part II, in *Essays and Treatises on Several Subjects*, 2 vols., 1758, and subsequently in *The Philosophical Works of David Hume*, Adam Black and William Tate, Edinburgh, Vol. III, 1826, p. 317.

² *Ibid.*, pp. 318-19.

³ *Ibid.*, pp. 319-20.

Locke had seen that natural forces, the underlying cause of a nation's failure to compete, would lead to an outflow of money and to lower domestic prices; Hume saw that an increase in domestic credit would lead to rising prices of exports and therefore to a loss of competitive power. But Hume took the argument further. In his essay 'Of the Balance of Trade' he seeks to show that money will find its own level, that is to say, that an international currency of more or less constant value will be distributed according to the real economic differences of nations in raw materials, industry, people and so on.

'Again, suppose, that all the money of Great Britain were multiplied fivefold in a night, must not . . . all labour and commodities rise to such an exorbitant height, that no neighbouring nations could afford to buy from us; while their commodities, on the other hand, became comparatively so cheap, that, in spite of all the laws which could be formed, they would be run in upon us, and our money flow out; till we fall to a level with foreigners, and lose that great superiority of riches, which had laid us under such disadvantages? . . . All water, wherever it communicates, remains always at a level.'¹

Yet, while this is true of an international currency, it is by no means true of a money supply which consists partly of gold, and partly of paper. Hume goes on to argue:

'I scarcely know of any method of sinking money below its level, but those institutions of banks, funds, and paper credit, which are so much practised in this kingdom. These render paper equivalent to money, circulate it throughout the whole state, make it supply the place of gold and silver, raise proportionately the price of labour and commodities, and by that means either banish a great part of those precious metals, or prevent their farther increase.'²

Hume therefore links the theory of the quantity of money determining prices to a theory which suggests that an artificial increase in the money supply, by the creation of paper credit, both raises prices to the disadvantage of the balance of trade, and finances the export of bullion, or in modern circumstances, hard currency reserves. The quantum of money which an economy is capable of retaining can be met either by domestic paper or by convertible currency; if it is met by expanding domestic paper it will inevitably lead to an outflow of convertible currency until

¹ Hume, 'Of the Balance of Trade', in *ibid.*, pp. 351-2.

² *Ibid.*, pp. 356-7.

the natural level of money is restored. This, if I understand him correctly, is exactly the effect which Mr Gordon Pepper of Greenwells has identified in the recent outflow of funds from the United Kingdom.

The recognition of the reality of underlying economic processes, of the 'natural' level of money or the 'natural' rate of interest, marks all the chief theorists of the monetary school. They do not regard money management as eliminating the problems of the real world; they do, however, assert the significance of the quantity of money itself, and that it can cause changes in real economic conditions.

Hume's prediction of 1752

If one takes Hume's analysis, even at the stage to which I have brought the description of it, one would predict from it that a nation which allowed an excessive domestic money supply expansion would suffer certain specific consequences:

- (1) a rise in the price of goods and labour,
- (2) a rise in import prices,
- (3) competitive weakness in exports,
- (4) an outflow of gold or reserve currencies.

This prediction dates from 1752. I know of no increase in the domestic supply of money from which these consequences have not followed, though there are instances of an increase leading rather to additional liquidity (which Hume discusses under hoarding). And there is also Japan, in which large increases in the money supply have been taken up in an exceptional period of 'natural' economic growth. The increases were therefore not excessive. Yet I do not feel that anyone who studies the economic experience of the period since 1752 could possibly deny that Hume's theory has been justified as a prediction of events.

II

HUME, FRIEDMAN AND KEYNES

The recent monetary expansion, 1971-73

WE IN modern Britain are least of all able to deny its validity. We certainly had an excessive increase in the money supply

Democracy and the Value of Money

WILLIAM REES-MOGG

60p

1. The genesis of monetary theory is in the writings of Aristotle (4th century BC), who saw that money, by custom rather than by nature, was a medium of exchange, a measure of value and a store of value.
2. The earliest theory in terms of the supply of, though not of the demand for, money is John Locke's who developed a quantity theory of money. Hume went further in warning against expanding the supply (paper or credit) of money beyond the increase in the output and thereby raising prices, which would reduce exports and cause an outflow of currency. Later economists built on Locke and Hume.
3. Hume was the first to point to the time-lag between the increase in money supply and the rise in prices, which was later verified as normally between one and two years by W. S. Jevons and re-discovered in the recent theories and researches of Milton Friedman.
4. Henry Thornton (1802) also anticipated Friedman in arguing for a steady increase in the supply of money.
5. The Hume/Jevons time-lag was overlooked by Keynes (1923) who was thereby led to advocate policies that exacerbated the fluctuations between booms and slumps.
6. Milton Friedman restored monetary theory to a central position in economics. The conclusion for policy is that the rate of increase in the money supply should be low and regular: a sharp increase is followed by inflation, a sharp reduction by depression.
7. Such a monetary policy is likely to be pursued only by an independent central bank because government finds that inflation suits its short-term interests. This conclusion is supported by the experience of the USA, West Germany and Switzerland with independent central banks, and Britain, France and Italy with government-controlled banks.
8. This monetary policy must be pursued openly because the intensity of the depression that inevitably follows inflation will be determined in part by expectations, of which the most favourable is improved price stability.
9. Free exchange rates are the only workable system so long as major countries pursue different monetary policies and rates of inflation. An explosion of world inflation that destroyed confidence in currencies would probably have to be followed by the restoration of gold in the world currency system.
10. Stabilisation of expectations – 'sound money' – in France and Germany before and after World War II were, after the initial disturbances, followed by economic recovery.



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in the early 1970s, and have not yet returned to any very strictly controlled quantity. We have suffered all four of the specific consequences that Hume's theory would predict, and have suffered them in approximate proportion to the degree of the increase in the quantity of our paper money.

It would, however, be wrong to regard Hume as an austere monetarist, let alone as an economist opposed to economic expansion. His basic doctrine was that an expansion of *paper* was dangerous, for the reasons given, but an expansion of *gold* was desirable, even though it would have a tendency to cause prices to rise. We shall not be mistaken if we see some parallels to Keynesianism in this side of Hume's monetary theory.

The one|two-year time-lag

Hume was also the first to draw attention to the time-lag between an increase in money supply and an increase in prices. This time-lag, which was first verified statistically, and shown to be normally between one and two years, by Jevons in 1863, plays a leading part in the theory of Professor Milton Friedman. Hume explains it like this:

' . . . it is certain that, since the discovery of the mines in America, industry has increased in all the nations of Europe, except in the possessors of those mines; and this may justly be ascribed, amongst other reasons, to the increase of gold and silver. Accordingly we find, that, in every kingdom, into which money begins to flow in greater abundance than formerly, everything takes a new face: labour and industry gain life; the merchant becomes more enterprising, the manufacturer more diligent and skilful, and even the farmer follows his plough with greater alacrity and attention. This is not easily to be accounted for, if we consider only the influence which a greater abundance of coin has in the kingdom itself, by heightening the price of commodities, and obliging everyone to pay a greater number of these little yellow or white pieces for everything he purchases. And as to foreign trade, it appears, that great plenty of money is rather disadvantageous, by raising the price of every kind of labour.

'To account, then, for this phenomenon, we must consider, that though the high price of commodities be a necessary consequence of the increase of gold and silver, yet it follows not immediately upon that increase; but some time is required before the money circulates through the whole state, and makes its effect be felt on

all ranks of people. At first, no alteration is perceived; by degrees the price rises, first of one commodity, then of another; till the whole at last reaches a just proportion with the new quantity of specie which is in the kingdom. In my opinion, it is only in this interval or intermediate situation, between the acquisition of money and the rise of prices, that the increasing quantity of gold and silver is favourable to industry.¹

This of course is not Keynesian. Hume believed that an increase in the quantity of money caused prices to rise, but with a delay, and that during the interval it caused an increase in industrial activity; Keynes believed – with some reservations – that an increase in the quantity of money caused some increase in prices and a substantial increase in industrial activity until full employment was reached, and then caused a fully proportionate increase in prices. Yet Hume was led to another conclusion that Keynes would have found sympathetic, though as it refers to a gradual increase in money of real value it is perfectly compatible with Professor Friedman's views.

'From the whole of this reasoning we may conclude, that it is of no manner of consequence with regard to the domestic happiness of a state, whether money be in a greater or less quantity. The good policy of the magistrate consists only in keeping it, if possible, still increasing; because by that means he keeps alive a spirit of industry in the nation, and increases the stock of labour in which consists all real power and riches. A nation, whose money decreases, is actually at that time weaker and more miserable than another nation which possesses no more money, but is on the increasing hand.'²

We must remember that Hume's sympathy is for increasing the gold stock; his anxiety is about inflating the supply of *paper credit*.

The perennial pressure for inflation

The general pressure in all ages and places has been towards an inflation of the currency, both because it tends in its early stages to promote industry, and because it liquidates debt and facilitates government expenditure.³ We even have the example of the Great

¹ Hume, 'Of Money', *ibid.*, pp. 321-2.

² *Ibid.*, pp. 324-5.

³ [The political convenience of inflation in facilitating government expenditure is analysed in some detail by Dr David R. Morgan in *Over-taxation by Inflation*, Hobart Paper 72, IEA, 1977, written before Dr Morgan joined the IMF. – ED.]

Chan as reported by Sir John Mandeville who travelled in Tartary in the 14th century.

‘The Emperor may spend as much as he will, without estimation. For he spends not, nor makes any money, but of leather printed, or of paper. And of that money is some of greater price, and some of less price, after the diversity of his statutes . . . And therefore he may spend enough, and outrageously.’¹

Inflation is the natural consequence of governments having a licence to print money, and what the Great Chan did in the 14th century many governments still practise today.

Monetary economists have therefore had to spend most of their time warning against inflation, not because it is a greater evil than deflation, but because it is the commoner. Yet they have always been aware that a reduction or deflation of the money supply, which pushes down prices, is also damaging to industry. In general, economists who have lived in periods of severe deflations, like Keynes, have responded by being more sympathetic to the argument for inflation, which is what one would expect. In the extreme, inflation is more damaging than deflation, since it destroys all money and virtually destroys economic activity and political society. A moderate degree of deflation impoverishes more than a moderate degree of inflation.

III

THORNTON, HUME, KEYNES AND RICARDO

Suspension of convertibility of paper money, 1797

THE CRITICAL event which led to the next burst of monetary theorising was the suspension of convertibility by the Bank of England in 1797. This suspension of convertibility of bank paper into gold had a number of causes, including the pressure of war finance, over-issue of notes, Pitt’s pressure on the Bank for loans and an invasion scare. There was also a drain of gold to France, caused by the collapse of the French paper money. Suspension was followed, after the time-lag which Hume had

¹ A. W. Pollard (ed.), *The Travels of Sir John Mandeville* (The version of the Cotton Manuscript in modern spelling), Macmillan, London, 1923, pp. 156-7.

correctly predicted, by a sharp rise in prices. If we take 1797 as 100, the retail price index would have stood at 100 again in 1798, have risen to 107 in 1799, to 143 in 1800 and to 154 in 1801; after that period prices fell back, only to rise again and even further later in the Napoleonic War.

These events led to an immediate reaction, and subsequently to a controversy over the causes of the Bank of England's suspension of convertibility, and whether convertibility ought to be resumed, as it eventually was, after the Napoleonic War was over.

Thornton's warning, 1802

The most interesting and valuable of the immediate responses to the suspension of convertibility was Henry Thornton's *Enquiry into the Nature and Effects of the Paper Credit of Great Britain* (1802). Henry Thornton was an extremely interesting man, a banker, a philanthropist, an anti-slavery campaigner, an evangelical of the Clapham sect, a Director of the Bank of England. He was familiar with Hume's work and refers to it. He offers us the first satisfactory description of the working of inconvertible paper; and he offers a warning of the consequences of over-issuing paper which follows Hume, but also points forward to our own problems.

'I have, then, insisted, that since the fresh industry which is excited cannot be supposed to be commensurate with the new paper, it is necessary to assume . . . that a great rise in the price of commodities will take place. This rise in the cost of articles in Great Britain must produce, as has also been shewn, a diminution of the demand for them abroad, unless a compensation for their high price is given to the foreigner in the rate of exchange; so that the too great emission of paper will be the cause of a disadvantageous balance of trade, and also of an unfavourable exchange; or, in other words, of a low valuation of the circulating medium of Great Britain when compared with that of other countries.'¹

So, by 1802, it had come to be established,
firstly, by Locke, that an increase in the money supply would lead to an increase in the general price level,
secondly, by Hume, that this process would take place over some period of time, in which intervening period industry would be stimulated,

¹ Henry Thornton, *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain*, J. Hatchard, London, 1802, p. 281.

thirdly, by Hume, followed by Thornton, that an increase in the issue of paper would result in an unfavourable balance of trade, and

fourthly, by Thornton, that, in conditions of inconvertible paper currency, this would necessarily lead to a fall in the exchange rate.

I shall return to consider Keynes's position, but those who imagine that there is a total contradiction between Keynes's own doctrines and monetarism should appreciate that Keynes accepts all these four propositions, though he makes certain reservations as to their application, and never fully appreciated the significance of the time-lag.

This led Thornton to his policy recommendation, a policy recommendation which is almost identical with that of Professor Friedman:

'To limit the total amount of paper issued, and to resort for that purpose, whenever the temptation to borrow is strong, to some effectual principle of restriction; in no case, however, materially to diminish the sum in circulation, but to let it vibrate only within certain limits; to afford a slow and cautious extension of it, as the general trade of the kingdom enlarges itself; to allow of some special, though temporary, increase in the event of any extraordinary alarm or difficulty, as the best means of preventing a great demand at home for guineas; and to lean to the side of diminution, in the case of gold going abroad, and of the general exchanges continuing long unfavourable; this seems to be the true policy of the directors of an institution circumstanced like that of the Bank of England. To suffer either the solicitations of merchants, or the wishes of government, to determine the measure of the bank issues, is unquestionably to adopt a very false principle of conduct.'¹

¹ *Ibid.*, p. 295. A parallel passage from Professor Friedman might be:

'Some monetarists conclude that deliberate changes in the rate of monetary growth by the authorities can be useful to offset other forces making for instability, provided they are gradual and take into account the lags involved. They favour fine tuning, using changes in the quantity of money as the instrument of policy. Other monetarists, including myself, conclude that our present understanding of the relation between money, prices and output is so meagre, that there is so much leeway in these relations, that such discretionary changes do more harm than good. We believe that an automatic policy under which the quantity of money would grow at a steady rate – month-in, month-out, year-in, year-out – would provide a stable monetary framework for economic growth without itself being a source of instability and disturbance.

(*Contd. on p. 22*)

It is fair to say that these principles have since the war guided the central banking authorities of Germany, Switzerland, and the United States, have been intermittently followed in France, and have been neglected in Italy and the United Kingdom. With what results we all know.

Henry Thornton's search for an 'effectual principle of restriction' on the issue of paper money becomes one of the main themes of 19th-century economic debate. By the 1870s, Jevons's chapter on the 'Methods of regulating a paper currency', in his book on *Money*, offers 14 different methods for regulation, and then comments:

'Although I have, in the above statement, enumerated no less than fourteen distinct methods of managing the issue of paper currency, it is by no means certain that other methods have not been employed from time to time. There may be, in fact, an almost unlimited number of devices for securing the performance of promises, or for rendering the performance unnecessary.'¹

Ricardo's stipulation on convertibility, 1817

If Thornton posed the question, it was David Ricardo who answered it. The principle he asserted was that of convertibility; there is no such thing as a sound but non-convertible paper

(Contd. from p. 21)

One of the most widespread misunderstandings of the monetarist position is the belief that this prescription of a stable rate of growth in the quantity of money derives from our confidence in a rigid connection between monetary change and economic change. The situation is quite the opposite. If I really believed in a precise, rigid, mechanical connection between money and income, if also I thought that I knew what it was and if I thought that the central bank shared that knowledge with me, which is an even larger "if", I would then say that we should use the knowledge to offset other forces making for instability. However, I do not believe any of these "ifs" to be true. On the average, there is a close relation between changes in the quantity of money and the subsequent course of national income. But economic policy must deal with the individual case, not the average. In any one case, there is much slippage. It is precisely this leeway, this looseness in the relation, this lack of a mechanical one-to-one correspondence between changes in money and in income that is the primary reason why I have long favoured for the USA a quasi-automatic monetary policy under which the quantity of money would grow at a steady rate of 4 or 5 per cent per year, month-in, month-out. (The desirable rate of growth will differ from country to country depending on the trends in output and money-holding propensities.) (*The Counter-Revolution in Monetary Theory*, First Wincott Memorial Lecture, Occasional Paper 33, IEA, 1970, 3rd impression 1974, pp. 26-27.)

¹ Jevons, *op. cit.*, p. 220.

currency. The classic statement of this view, on which the successful Victorian gold standard was based, is to be found in Chapter XXVII, 'On Currency and Banks', in Ricardo's *Principles of Political Economy* (1817).

'Experience . . . shews that neither a State nor a Bank ever had the unrestricted power of issuing paper money, without abusing that power: in all States, therefore, the issue of paper money ought to be under some check and controul; and none seems so proper for that purpose, as that of subjecting the issuers of paper money to the obligation of paying their notes, either in gold coin or in bullion.'¹

One should add to that quotation the footnote which appears on a previous page:

'Whatever I say of gold coin, is equally applicable to silver coin; but it is not necessary to mention both on every occasion.'²

It is at this point that the 20th century diverges; there are many economists who would accept the main outlines of monetary theory as it was developed in the 18th century from Locke to Hume to Thornton; indeed both Keynes and Friedman, so often regarded as opposites, would do so. It is the great Ricardian doctrine that convertibility at a fixed rate is the only valid control on issue, and moreover convertibility not into other paper currencies but into some form of metallic commodity money, which few modern economists accept. Here again Keynes and Friedman are on the same side: they are both opposed to it.

It is perhaps worth noting that the Ricardian doctrine did prevent over-issue leading to inflation of prices, and that the modern doctrine of non-convertibility and floating rates has not. Bank of England convertibility into gold was restored in 1821, and lasted until 1914. Between 1821 and 1914 prices fell by 13 per cent. The last links with the fixed rate convertibility system were broken in 1972. Between 1972 and 1976 prices rose by 100 per cent. Since 1931, when Britain finally went off the Ricardian gold standard, prices have risen by 1,100 per cent.

Ricardo established the 19th-century doctrine. Indeed the 19th-century economists were worried that gold was too volatile a standard, as new discoveries led to relatively rapid increases in gold production. Marshall and Jevons both gave much consideration to that danger.

¹ Ricardo, *op. cit.*, p. 356.

² *Ibid.*, p. 353.

British and American economists in the late 19th and 20th century developed differing views of another aspect of the quantity theory of money. The quantity theory concentrates on the supply side of the money equation; we find economists writing as though an increase in the quantity of money automatically leads to certain results. We have seen that Locke, right at the beginning of the argument, deals with this problem by saying that money is the only commodity for which there is a constant demand, because it can be used for any purpose. Some monetarists still take that view, and regard money supply as the one significant variable.

Hume, in a considerable passage which deals, amongst other things, with Henry VII's hoarding of treasure, argues in effect that money does not form part of the operative money supply if it is hoarded, if it is simply left as cash and not used.

'The concept of *hoarding* may be regarded as a first approximation to the concept of *liquidity-preference*,¹

as Keynes observes in the *General Theory*. Hoarding, in the hands of Marshall and Keynes, was indeed developed into the modern liquidity preference concept, which has considerable importance in the theory of deflation. The essence of this theory is that a widespread preference for holding cash, caused by unfavourable expectations about the future, results in a sharp contraction in the effective money supply, though the total quantity of money may remain unchanged.

IV

IRVING FISHER, KEYNES AND FRIEDMAN

Irving Fisher and the velocity of circulation

THERE IS a third way of looking at this, which is particularly associated with the American economist, Irving Fisher. That is the concept of velocity. Professor Fisher discovered² the equation that the money supply times the velocity equalled the volume of transactions times the level of prices, or $MV = TP$. One pound travelling through the market five times a day will finance the purchase of 50 chrysanthemums at 10 pence each; and changes

¹ *J.M.K.*, Vol. VII, p. 174.

² Professor Friedman tells me that the equation was discovered by Simon Newcourt, and referred to by Fisher himself as the Newcourt-Fisher equation.

in the number of pounds, the number of times each pound goes through the market, or the number of chrysanthemums can all change the level of prices.

Keynes's liquidity preference

The liquidity preference concept and the velocity concept are, of course, different ways of looking at the same relationship. As Keynes writes in *A Tract on Monetary Reform* (1923):

'My exposition follows the general lines of Professor Pigou (*Quarterly Journal of Economics*, November 1917) and of Dr Marshall (*Money, Credit and Commerce*, I, iv), rather than the perhaps more familiar analysis of Professor Irving Fisher. Instead of starting with the amount of cash held by the public, Professor Fisher begins with the volume of business transacted by means of money and the frequency with which each unit of money changes hands. It comes to the same thing in the end and it is easy to pass from the above formula to Professor Fisher's; but the above method of approach seems less artificial than Professor Fisher's and nearer to the observed facts.'¹

American monetary researches, 1963, confirm Hume/Jevons time-lag

In recent years in the United States the monetarist school has strengthened the evidence for monetary theory by detailed statistical work. It is obviously impossible to review the whole of this impressive body of research, but it would be wrong not to refer to the work of Professor Friedman. His most influential contribution to proving the validity of this long-established theory was a work he wrote in collaboration with Professor Anna Jacobson Schwartz, *A Monetary History of the United States, 1867-1960*. He states the conclusions he comes to as follows:

'Throughout the near-century examined in detail we have found that:

- (1) Changes in the behaviour of the money stock have been closely associated with changes in economic activity, money income, and prices.
- (2) The interrelation between monetary and economic change has been highly stable.
- (3) Monetary changes have often had an independent origin; they have not been simply a reflection of changes in economic activity.'²

¹ *J.M.K.*, Vol. IV, *A Tract on Monetary Reform* (1923), 1971, p. 63, footnote 1.

² Friedman and Schwartz, *A Monetary History of the United States, 1867-1960*, Princeton University Press, Princeton, New Jersey, 1963, p. 676.

Professor Friedman's work has been particularly important in confirming Hume's theory of the time-lag, already supported by Jevons's observations on the relationship between issue of money and price movements in mid-19th-century England. The time-lag, though it has an average period of about two years, is shown to vary in duration.

I have wanted, however, to direct this lecture mainly to the development of monetary theory in Britain, though at present the leading monetary economists are American rather than British. The leading British monetary economist of the 20th century is unquestionably Maynard Keynes, though unfortunately the development and the ambivalence of his thought make him self-contradictory.

V

KEYNES, 1923 AND 1936

Keynes's Tract, 1923, and General Theory, 1936

THE THREE works in which Keynes most fully develops his monetary views are *A Tract on Monetary Reform* (1923), *A Treatise on Money* (1930), and *The General Theory of Employment, Interest and Money* (1936). The first and last of these works reflect the extremely different economic conditions in which they were written. *Monetary Reform* is primarily concerned with the problems of the post-war inflations of Europe. He refers to

'the progressive and catastrophic inflations practised' (and note the significance of the word "practised") 'in Central and Eastern Europe, as distinguished from the limited and oscillatory inflations, experienced for example in Great Britain and the United States.'¹

The General Theory was written during the slump and is primarily influenced by Keynes's very proper concern with the causes and possible cure of the great depression. *Monetary Reform* is therefore closer to the British classical tradition, because that tradition had been primarily concerned with systematic economic regulation of the supply of money, and not with systematic economic stimulation. The middle work, *A Treatise on Money*, concentrates its new thinking on the relationship between saving and investment, and is perhaps the least relevant of the three to the question of the quantity of money and prices.

¹ *J.M.K.*, Vol. IV, p. 37.

In *Monetary Reform* Keynes's attitude to classical monetary theory is explicit if not unequivocal. Chapter III, 'The Theory of Money and of the Foreign Exchanges', has as its first section 'The quantity theory of money'. Keynes opens with the words: 'This theory is fundamental. Its correspondence with fact is not open to question.'¹ There are, however, a number of crucial departures in Keynes's thought. He emphasises the importance of changes in the amount of cash that the public wishes to hold. In particular he emphasises the importance of this liquidity preference to the development of the credit cycle and through that to the trade cycle.

Keynes's picture of the world at that stage is indeed monetarist, but with a difference. In *the long run*, he agrees, the proportion of money that is held as cash balances will tend to return to an average level; in that sense therefore the quantity theory in its classical form will work in the end. (It is at this point that Keynes makes his celebrated observation that '*In the long run we are all dead.*')² In the shorter run, variations in the tendency to hold cash will cause deflation or inflation by immobilising or activating a significant part of the money supply. This is exactly the same as the theory that deflation or inflation can be caused not by changes in the quantity of money, but by changes in the velocity of circulation.

Keynes therefore proposes that changes in liquidity preference, that is, the desire for cash, should be offset by the authorities creating or reducing credit, with a view to keeping the total of active money approximately constant. This moreover should be done, as Irving Fisher also advocated, not with a view to stabilising the exchange rate, as Ricardian orthodoxy would have required, but with a view to stabilising domestic prices. If we use the Irving Fisher equation, Keynes wants to keep the quantity of money times the velocity of money as a constant figure, by increasing or decreasing the quantity in order to offset changes in the velocity.

This sounds theoretically very attractive; it does, however, fail to take into account the crucial discovery of Hume, verified statistically by Jevons, that there is a time-lag between changes in the money supply and the effect on the price level. The Keynesianism of *Monetary Reform* would be very well if the

¹ *J.M.K.*, *ibid.*, p. 61.

² *J.M.K.*, *ibid.*, p. 65 (Keynes's italics).

Fisher equation operated *instantaneously*. In practice, recent studies suggest that this sort of Keynesianism, which has in any event become quite divorced from considerations either of liquidity preference or of domestic price stability, is normally *destabilising*, or has now become so. Given the post-war four-year cycle, with approximately a two-year interval between peak and trough, it will be seen that action with a two-year time-lag, if it is designed to correct the condition existing at the time the action is taken, will neatly coincide in its actual effect with the occurrence of the opposite end of the cycle. We deflate in a boom, and that deflation reaches its full effect at the bottom of the recession, at which point we take measures which will exaggerate the inflation at the top of the next boom. It is only fair to add that in 1923 Keynes assumed a longer, 10-year, cycle.

Another objection is that liquidity preference, as Keynes recognised, is itself influenced by changes in the quantity of money and by the *expectations* about such changes in the future. If we want to avoid the danger of violent fluctuations in liquidity preference we should probably follow Thornton's and Friedman's prescription for bank policy on issue, if not Ricardo's. Stable expectation depends on stable policy.

In the *General Theory* Keynes is still relying on a monetary theory of employment and prices.

'As soon as we pass to the problem of what determines output and employment as a whole, we require the complete theory of a monetary economy.'¹

The monetary world on which we enter is perhaps rather more obscure; indeed, Keynes emphasises its obscurity. He starts by stating what we would now regard as Keynesian monetary theory.

'... if there is perfectly elastic supply so long as there is unemployment, and perfectly inelastic supply so soon as full employment is reached, and if effective demand changes in the same proportion as the quantity of money, the quantity theory of money can be enunciated as follows: "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".'²

¹ *J.M.K.*, Vol. VII, p. 293.

² *J.M.K.*, *ibid.*, pp. 295-6.

This is highly important. It is the doctrine which, together with the contra-cyclical adjustment of the money supply advocated in *Monetary Reform*, has become the heart of Keynesianism as a method of forming economic policy. Yet when one reads on, in the *General Theory* itself, one discovers that Keynes himself had serious reservations.

Keynes's doubts about Keynesianism

'Having, however, satisfied tradition by introducing a sufficient number of simplifying assumptions to enable us to enunciate a quantity theory of money, let us now consider the possible complications which will in fact influence events:

- (1) Effective demand will not change in exact proportion to the quantity of money.
- (2) Since resources are not homogeneous, there will be diminishing, and not constant, returns as employment gradually increases.
- (3) Since resources are not interchangeable, some commodities will reach a condition of inelastic supply whilst there are still unemployed resources available for the production of other commodities.
- (4) The wage-unit will tend to rise, before full employment has been reached.
- (5) The remunerations of the factors entering into marginal cost will not all change in the same proportion.¹

In practice, reservations (3) and (4) have proved of the utmost practical significance. Full employment itself is a concept which implies the free interchangeability of resources, including labour. Because such free interchangeability does *not* exist, full employment is reached in some parts of a modern economy when there may still be serious unemployment in other parts. The monopoly position of trade unions as providers of labour has meant that they have indeed been able to obtain wage rises before full employment has been reached, and the unequal distribution of full employment in a partially employed economy has meant that wage-rates would rise very fast in some areas which were fully employed, while rising more slowly in areas of unemployment. Keynes recognised, though he did not fully foresee, these limits to the theory he advanced, and commented that

¹ *J.M.K., ibid.*, p. 296.

'instead of constant prices in conditions of unemployment, and of prices rising in proportion to the quantity of money in conditions of full employment, we have in fact a condition of prices rising gradually as employment increases.'¹

'Gradually' has unfortunately proved to be an understatement.

What is the real difference between Keynes and the classical British monetarists? The difference between his position and the pre-1797 position – when convertibility was still taken for granted – looks to be relatively slight. He qualifies but does not destroy the quantity theory of Hume. In his failure to appreciate the time-lag he is weak where Hume, Jevons and Friedman are strong. The shortening of the apparent trade cycle from 10 to 4 years has made much of the contra-cyclical element in Keynes's thought unsound – *by the time you know what you ought to be doing, it's too late to do it.*

Keynes's perpetual boom destroyed by inflation

The crucial difference seems to me also to refer to time. Keynes believed that the money supply should be increased in order to maintain effective demand at the full employment level – the idea of the perpetual boom. He failed to recognise that the inflation that would follow would eventually destroy the boom, and full employment and perhaps much else with it. Ricardo believed that a constant or gradually rising money supply would result in constant prices, that constant prices would encourage the formation of capital and the expansion of industry, and that the expansion of industry would raise employment towards its maximum level. Keynes wanted to maximise short-run employment at the expense of prices; Ricardo wanted to stabilise prices with a view to the long-run welfare of the economy. If I side with Ricardo rather than Keynes it is because I believe that in the long run the nation is still alive. It is also because we are, in the 1970s, living with the long-run consequences of Keynesian policies.

¹ J.M.K., *ibid.*, p. 296.

VI

200 YEARS OF ECONOMIC THEORY: THE IMPLICATIONS FOR POLICY IN THE 1970S

It is Professor Friedman who has restored monetary theory to a central position in economic theory and it is to his work that one should look for the policy implications. His central recommendation is that the rate of increase of the money supply should be low and regular. If money supply is increased sharply then an inflation of prices must follow. If there is a sharp reduction in money supply then a depression will follow.

Money supply discipline through central bank independence

In practice such a policy is likely to be pursued only by an independent central bank. As Thornton noted, governments tend to be inflationary because it suits their short-term needs. If one compares the experience of countries such as the United States, the Federal Republic of Germany or Switzerland, which have independent central banks, with the post-war experience of Britain, France and Italy, whose central banks are under government control, it is clear that independent central banks handle the money supply more responsibly and are in fact more successful in limiting inflation.

It is important that these policies should be pursued openly. The end of inflation is always followed by a period of economic distress. It is a characteristic of inflation that it borrows from the future in order to create boom in the present, and the boom is always followed by a trough. The length and depth of the depression in a post-inflationary period is determined partly by expectation about the future. The most favourable expectation is one of improved price stability.

Professor Friedman is in favour of free exchange rates which permit the currencies of more or less inflationary countries to adjust themselves to one another. So long as major countries are pursuing very different monetary policies, this is the best that can be done. If there is an explosion of world inflation which destroys confidence in currencies as such, gold will probably have to be restored to the centre of the world currency system. A world system of free convertibility into gold, with the disciplines that imposes, is the most stable system that has so far been devised,

but it requires an acceptance of discipline which does not exist in the world of the 1970s.

Commitment to stable money essential

The essential measures for Britain are therefore to follow the Thornton/Friedman prescription of a gradual increase in money supply, to give the Bank of England at least the degree of independence that is enjoyed by the Federal Reserve Bank in the United States, and to enter into a commitment to stability of the money supply strong enough to change expectations about the future course of prices. If the stabilisation is entered into at a period of crisis it would have to be done suddenly and swiftly.

The stabilisations associated with Schacht and Poincaré in Germany and France in the 1920s, the post-war German stabilisations under Dr Erhard and the 1958-59 under de Gaulle were all based on sound money. They all succeeded, though they occurred in different circumstances; they were all followed, once the initial impact was absorbed, by economic recovery and rising employment. Stable control of money supply and an independent central bank are the essentials of what we need.