Chapter 6 Monetarism

by G. R. Steele

1. The Demand for Money

The universal use of money to pay workers is the reason why many people confuse money with income. This has not always been so. In many rural societies payments were made in kind (in cloth, grain, vegetables, and so on); but with the increasing diversity of production money has facilitated trade between specialist producers. Money allows expenditure to be allocated across a wide range.

The essential point in this context is that money is not desired for its own sake. A multi-millionaire is poor indeed if he is forced to retain his entire income in the form of money. 'Money is only important for what it will procure' (Keynes 1923: 1). It is a means to an end. It serves to bridge the period between the receipt and expenditure of income. The shorter that period, the smaller the quantity of money (as a proportion of income) which any individual will **demand to hold**.

The **demand for money** is the central issue of Monetarism, a creed identified with one man who, in the early 1950s was unknown outside narrow academic circles. By the end of the 1960s, the reputation and influence of Milton Friedman was established worldwide. According to Friedman, Monetarism is '. . . a theory of the demand for money. It is not a theory of output, or of money income, or of the price level' (Friedman 1956: 4). Thus, Friedman distinguished Monetarism from Keynesian macroeconomics which attempts to analyse the determinants of output and employment at the aggregate national level.

2. The Rise of Monetarism

The publication in 1936 of Keynes' *The General Theory of Employment, Interest and Money* is recognised as a turning point in the history of economic analysis. Similarly acknowledged is the publication, exactly twenty years later, of

Friedman's '*The Quantity Theory of Money: A Restatement*'. New life came to an idea which had been around for more than two centuries, but which had been neglected during the era of Keynesian economics.

The emphasis which *The General Theory* had given to fiscal policy, as the means whereby governments might manipulate the economy to maintain output at the full employment level, had become the conventional wisdom of modern macroeconomics. Yet, the inflationary impact of cheap money in the post-war period produced a general disenchantment with Keynesian economics. In particular, there was a reaction to the idea that, in the formulation of macro-economic policy, 'money does not matter'. The period was ready for a revivalist movement; and it came with the re-establishment of the Quantity Theory of Money in its guise of modern Monetarism.

3. Keynes' Contribution to Monetarism

Notwithstanding the emphasis given to fiscal policy, new ground in monetary economics had been broached by *The General Theory*. This came with the analysis of the role of money as a store of wealth (Keynes' 'speculative demand for money'). In this context, money could indeed be demanded for its own sake. Friedman was to develop this idea and to raise its status in the context of macro-economic policy formulation, while denying the policy conclusions which Keynes had drawn from his own analysis.

Keynes gave close attention to the motives which determine the demand for money. Money is held to facilitate transactions and, by and large, the amount is determined by the nominal value of an individual's income. To this point there was no conflict between Keynes' analysis and that of the much older Quantity Theory of Money which was based on the truism

$$MV = PQ = Y \tag{1}$$

where

M – the stock of money in circulation
V – the income velocity of circulation.
P – the general price level.
Q – the level of aggregate real income.
Y – the level of aggregate nominal income.

In simple terms, the amount of money in circulation (M) multiplied by the average number of times a unit of money is used per period (V) must **necessarily** be equal to the total physical output produced (Q) multiplied by the average price (P) per unit at which that output is sold. This latter value (PQ) is, by definition, aggregate nominal income. The tautology may be rearranged as

$$M = (1/V).Y \tag{2}$$

or

$$M = k.Y \tag{3}$$

where, of course, k is the reciprocal of the income velocity of circulation of money.

In equilibrium, where the demand for money (Md) is equal to the supply of

money (M), it follows that the demand for money is related to nominal money income in the same fashion, ie

$$Md = k.Y \quad (4)$$

In summary (arising from the effectiveness of money in facilitating day to day transactions), the Quantity Theory argued for a tight relationship between the demand for money and the level of aggregate nominal income.

In *The General Theory*, Keynes took the analysis further; beyond transactions needs, money is also held as an asset, a store of wealth. Here, Keynesian economics emphasises the limited range of close substitutes for money; ie readily convertible financial assets (such as gilt-edged securities). 'Bonds' was used as a generic term for such assets. Unlike 'idle' money, bonds earn interest, so that the rate of interest reflects the **opportunity cost** of holding idle money balances. Why then should anybody hold money rather than bonds? The explanation lies in the presence of uncertainty.

That uncertainty relates to the rate of interest in the future and to individuals' expectations in the face of that uncertainty. The crucial element is that bonds bear a **fixed** rate of return; so bond prices will vary **inversely** with the rate of interest. (If bond prices did not fall as the rate of interest increased, no one would buy bonds since, in that case, a higher yield could be obtained from lending to the market.) It follows from this that individuals who hold bonds make a **capital gain** each time there is a fall in the rate of interest and a **capital loss** whenever it rises. Thus, if the rate of interest were expected to rise, individuals would prefer not to hold bonds, fearing a capital loss. Instead, they would hold idle money balances; Keynes' speculative demand for money. Money is held because individuals are speculating on a **fall** in bond prices.

4. The Choice Between Money and Bonds

The monetary authorities decide upon the amount of money placed into circulation, and the public at large has no choice but to hold that amount. The total amount of money **actually** held by all individuals taken together must necessarily be equal to the stock of money supplied; but this amount is not necessarily equal to the quantity which individuals **desire** to hold. There may be a divergence between the **actual** magnitude and the **desired** magnitude (ie between supply and demand). Any such divergence will stimulate a reaction.

Now, according to Keynes' analysis, whenever an increase in the supply of money gives individuals possession of more money than they wish to hold, they will begin to switch out of money and into bonds. This increase in the demand for bonds will begin to push bond prices up (and interest rates down), making them increasingly less attractive to new buyers. (At the same time, money becomes increasingly more attractive to hold as a wealth asset for, with bond prices higher, individuals will begin to fear a capital loss from holding bonds, should their price subsequently fall.)

Eventually, a balance will be reached. More bonds will be held, and so too will more idle money be held (since higher bond prices will have increased the speculative demand for money). Moreover, the increased supply of money will have forced down the market rate of interest to a level consistent with that higher level of bond prices.

5. Monetarism and the Asset Demand for Money

Although Keynes broke new ground with the speculative (or asset demand for money), Friedman argues that he did not go far enough in discussing other means of storing wealth. Besides bonds there are a large number of possibilities. When individuals possess too much money, they will react by acquiring not only bonds, but all manner of other assets. Bond prices will rise, but so too will the price of many other things, including other financial assets, land, houses, paintings, consumer durables, and so on. All of these, and more, are regarded by Monetarism as constituent parts of an individual's portfolio of wealth assets.

Individuals 'manage' a portfolio containing a much greater variety of assets than just bonds and money. In adjusting assets within that portfolio, an individual must decide in which proportions they are to be held. Here, basic microeconomic analysis is applied. Each asset brings utility in the form of pecuniary and non-pecuniary returns, and the mix of assets will be structured to maximise utility by equating these returns across all assets at the margin. With changing returns the portfolio mix will be restructured to maintain that condition.

Any event which directly induces a change in the yield on any one asset will have implications for the whole portfolio. This is because total utility is maximised when each asset provides an equal amount of utility at the margin (per unit cost). A marginal adjustment of any one asset will require simultaneous adjustments to all other assets. For example, a decision to buy a larger house (prompted, say, by increased mortgage interest tax relief or the expectation of a surge in property values) will have implications for the amount held in company shares, building society deposits, and the date at which the family car will be traded for a new model.

The demand for any one asset (including money) is determined by the relative valuation of its yield considered against the yield of other assets. Thus, the demand to hold money is derived from the chosen structure of wealth. Monetarism attempts to identify the most important factors which determine that structure of wealth.

Moving beyond Keynes' two asset portfolio, Friedman identified the main substitutes for money as bonds, equities, and durable goods. More formally, he argued that the **ratio** of desired money balances to nominal income (Md/Y), is determined by the attributes of those other portfolio assets. It follows that important determinants of the demand for money are the yield to bonds (rb), equities (re), and durable goods (the latter represented by the expected proportionate rate of change in prices). Also included are the general level of prices (P) which reflects the purchasing power of money, and the total of all wealth assets held (W). This gives

$$Md/Y = f(rb, re, \dot{P}/P, P, W) \quad (5)$$

or

$$Md = f(rb, re, \dot{P}/P, P, W).Y \quad (6)$$

where

$\dot{P}/P$ – the expected proportionate rate of change of prices.

In comparing equation (6) with equation (4) the difference between the traditional Quantity Theory and modern Monetarism becomes explicit; with the latter, the desired ratio of money holdings to money income (ie k, the reciprocal of the income velocity of circulation) is governed by a number of specific determinants.

Unlike the earliest versions of the Quantity Theory of Money, Monetarism does not argue that a constant ratio (Md/Y) gives a strictly proportional relationship between the demand for money and nominal money income. In its place, reflecting a more extensive interplay of economic forces, Monetarism states that this ratio will be subject to systematic variation, as utility-conscious individuals adjust and readjust the composition of their asset portfolios. Whereas the traditional Quantity Theorists argued for the long-run constancy of the income velocity of circulation of money, their modern counterparts believe instead that those factors determining the income velocity work in a relationship which is complex, but where the parameters are inherently stable.

6. Money: Equilibrium in Supply and Demand

While Monetarism argues that the demand to hold money is independently determined by a variety of factors, the supply of money can be varied at the discretion of monetary authorities. As noted earlier, the amount of money placed into circulation is the amount which the general public has no choice but to hold. If that amount is (say) greater than the aggregate demand to hold money, then there is disequilibrium in the money market. Every individual holding money in excess of requirements would then take action to reduce those holdings. For each individual taken separately, it is true that:

> '... he can control the amount of cash that he holds. He can increase his cash balances by selling some assets for cash or spending less than he receives from other sources. He can reduce his cash balances by spending ... more than he receives' (Friedman 1959: p.609).

but for all individuals taken together,

> '...they would simply be playing a game of musical chairs' (Friedman 1959: p.309).

When everyone is attempting to reduce the amount of money in his asset portfolio, the flow of expenditure is raised so that there is a general tendency for prices to be driven up. With the general level of prices appearing as one of the determinants of the demand to hold money, the latter also begins to rise as everyone requires more money to finance any given volume of transactions. Eventually a new equilibrium is reached when the increase in prices has been sufficient to take up the original discrepancy between the demand and supply of money. From this the Monetarist message is clear; an expansion of the money supply will cause the general level of prices to rise.

7. Money and the Rate of Interest

Without monetary expansion (or an increase in the velocity of circulation), new

expenditure in one section of the economy must be financed by real savings made elsewhere. Monetary expansion is an alternative to the provision of real resources from savings or taxation, which is why it is so attractive to governments; but to sustain additional public expenditure in each successive period of time would require the **continuous** creation of new money. Even if prices were not to rise, a **constant rate** of monetary expansion would be required to sustain a permanently **higher level** of expenditure and income. (And if prices did rise, then an accelerating rate of monetary expansion would be required.)

If, on the other hand, the increase in the money supply were for one period only, expenditure and income would rise and then return to their former level. So the transactions demand for money would first rise and then fall, leaving more of the increased supply of money in speculative balances. This might then be used to purchase bonds, in which case the increased demand for bonds would reduce their yield and cause the rate of interest to fall and to remain at a lower level.

This was the exposition given by Keynes in *The General Theory*, in which he argued that a once-and-for-all increase in the supply of money would have its primary impact upon financial markets, **pushing up the price of bonds** and causing a permanent reduction in the rate of interest. The latter would have a stimulating effect upon real output and employment if, for example, investment expenditure were thereby encouraged.

Monetarism disputes this, arguing that an extensive readjustment would affect not only near money (eg bonds) and other financial assets, but non-financial assets as well. Monetary expansion would stimulate a **general** rise in prices as people attempt to switch out of money and into other assets (land, houses, consumer durables, and so on). With this general rise in prices (a factor largely ignored in *The General Theory*[1]), there would be a **pro rata** increase in the transactions demand for money and, therefore, no surplus to fuel speculative balances and to force down the rate of interest. According to Friedman, the rate of interest would thereby be unaffected by an increase in the money supply: and so, paradoxically, **the price of bonds would be the only price to remain unaffected** by that increase!

The difference between Keynesian and Monetarist analysis may be viewed as a difference in the supposed transmission mechanism whereby a change in monetary policy affects the economy. When expansion of the money supply leaves individuals holding excess money balances, Keynesian analysis presumes that substitution will first take place between money and near-money assets (eg bonds). There will be a first all-important direct impact upon the price of bonds (rising) and the rate of interest (falling). Only slowly will the process continue between, say, bonds and equities, equities and real estate, real estate and consumer durables, and so on. The result is a slow, indirect impact upon prices and output (between which the balance will depend upon supply elasticities). By contrast, Monetarist analysis assumes immediate and rapid substitution between money and the widest spectrum of both financial and real goods, such that the impact upon prices generally will be rapid.

The difference in the supposed transmission mechanisms underpins contrasting views of interest rate determination. While Keynes' analysis showed the rate of interest to be a purely **monetary** phenomenon (taking its value from the balance between the supply of money and the demand to hold money), Friedman argues that the rate of interest is determined by the relative strengths of productivity and thrift, which are the **real** factors behind (respectively) the demand for and supply of loanable funds. (The term 'loanable funds' refers to real resources allocated by investment demand, from entrepreneurs requiring new capital equipment, and

savings supply, from those who consume less than the whole of their income.) Although monetary expansion may temporarily disturb that relationship, it will always be found that levels of output and employment are unchanged once equilibrium is fully restored. Money is **neutral** in its long-term effect upon real economic activity although, in the short term interim, the costs (primarily in terms of disruption to output and employment) arising from periods of inflation (or deflation) may be very high.

8. The Monetary Consequences of Fiscal Expansion

In bringing together the topics of money, prices, wages and employment, Monetarism called into question the relevance of fiscal expansion as the means to reduce unemployment. Keynesianism, as it was developed after Keynes, gave too little attention to the monetary consequences of fiscal expansion. This is given great emphasis by Monetarism, and so requires close examination.

The government has four sources of funds; taxation, borrowing money from the market (ie from the 'non-banks'), borrowing money from the banking sector, and printing new notes. The (public sector) budgetary stance is represented by the difference between government expenditure (G) and tax revenue (T), which gives the public sector borrowing requirement (PSBR). Fiscal expansion causes the PSBR to rise; but why should the government choose to borrow at all when it has the authority to raise taxes?

The strongest argument is that taxation entails compulsion and is also unpopular. By contrast, loans raised against competition in financial markets represent contracts freely entered into. (Note, however, that there is no free volition with respect to the obligation of future generations of taxpayers to repay those loans!) In borrowing openly from the market, the government must accept interest rates set by the forces of supply and demand. The more it borrows, the higher interest rates will be driven. This is undesirable for two reasons. It raises the cost of government borrowing, and high interest rates are unpopular with the electorate. So, the government may look for an alternative source: ie the banking sector.

When it borrows from the banking sector, the government competes with no other borrower. Unlike a loan to the government raised from the market, a loan from a bank represents no transfer of real resources. It is a simple book-keeping transaction whereby the bank acquires government debt (a bank asset) in return for which it creates a deposit in the name of the government (a bank liability). By this means the government acquires new spending power without causing interest rates to rise. However, the compelling attractiveness of this source of funds is deceptive.

In making a loan to the government the central bank obtains the government's receipt (in the usual form of interest-bearing stock) as part of its portfolio of assets, and is ready to honour cheques drawn against the government. This is pure book-keeping.

Now suppose that the government uses bank cheques to pay its employees. When these are deposited with commercial banks, by definition, these amounts become part of the money supply (ie notes in circulation, plus current account

bank deposits). This is the crux; it is inevitable that public expenditure financed by bank borrowing will cause the money supply to increase. Why, then, should not the government make literal use of the printing press to produce new money to finance expenditure? Surely this would be less costly than raising loans from either the public or from the banks?

To continue with the illustration; cheques drawn against the government, which commercial banks receive as new deposits, constitute highly liquid non-interest-bearing assets, which change the composition of the banks' portfolio of assets. Readjustment is to be expected. For example, these funds might be used to acquire interest-bearing government stock; ie that same stock which was acquired initially by the governments' own bank to secure the original loan to the government.

In readjusting their asset portfolios, banks would react to having either an excessive proportion of interest-bearing stock (in the case of new government borrowing), or an excessive proportion of notes (in the case of new note printing). In the latter case, excess balances of notes and coins would be used to buy government stock. This would cause stock prices to rise and interest rates to fall. In the former case, banks would sell stock, which would cause stock prices to fall and interest rates to rise.

The government cannot be indifferent to repercussions of this kind, not least because it is mindful of the implications for the burden of interest payments upon outstanding debt, and of the effect upon future sales of government stock. So the choice between raising money by way of the printing press, or by selling new stock to the banking sector, is by no means free of constraints.

Nevertheless, either means would cause the money supply to increase by the exact same amount. Subsequently, even this increase would be magnified by the bank credit multiplier as banks are able to extend credit upon the basis of the new reserve assets received; for, not only notes and coin, but short-dated government stock would be regarded as secure reserve assets against which **bank credit creation** could be extended.

From this discussion it should be clear that, according to Monetarism, government has a key role in determining the rate of monetary expansion; and that its responsibility is exercised by setting the level of the PSBR and choosing the manner by which it is financed. If the PSBR is financed by loans raised from the banking sector, the money supply will increase; if it is financed by loans raised from the market (ie the non-bank private sector) then interest rates will rise. By its choice, the government can exercise control over the money supply, or interest rates, but not both simultaneously.

9. A Summary: the Central Propositions of Monetarism

Friedman (1970: p.22) has listed eleven central propositions of Monetarism, which are summarised below:

1. There is a consistent though not precise relation between the rate of growth of the quantity of money and the rate of growth of nominal income.

2. It takes (a variable amount of) time for changes in monetary growth to affect income.
3. A change in the rate of monetary growth produces a change in the rate of growth of nominal income about six to nine months later.
4. A change in the rate of growth of nominal income typically shows up first in output and hardly at all in prices.
5. The effect on prices comes about six months after the effect on income and output, so the total delay between a change in monetary growth and a change in the rate of inflation averages around twelve to eighteen months.
6. Even after allowance for the delay in the rate of monetary growth, the relation is far from perfect.
7. In the short run, which may be as much as five or ten years, monetary changes mainly affect output. Over decades, monetary changes affect only prices; while output remains unaffected since, in the long run, output depends only upon such real factors as enterprise, ingenuity and thrift.
8. Inflation is always and everywhere a monetary phenomenon.
9. Government spending may or may not be inflationary. It will be inflationary if it is financed by creating money, ie by printing currency or creating bank deposits.
10. An increased rate of monetary growth raises the amount of cash which people and businesses have in relation to other assets. With the attempt to reduce cash balances, the effect spreads from one asset to another. This tends to raise asset prices and to reduce interest rates, which encourages expenditure on the production of new assets. It also encourages spending on current services rather than upon existing assets. Thus the initial impact on balance-sheets is translated into an effect upon income and spending.
11. Monetary expansion **initially lowers** interest rates but, as spending and price inflation increases, it also produces a rise in the demand for loans which will tend eventually to **raise** interest rates. This two-edged relation between money and interest rates explains why Monetarists insist that interest rates are a highly misleading guide to monetary policy. Moreover, rising (or falling) prices introduce a discrepancy between real and nominal interest rates which disturbs real sectors of the economy.

10. Two Views on Monetary Control

The quintessence of Monetarism – too important to be itemised even as one of a number of central propositions – is a belief in the inherent tendency of a free

market economy to achieve maximum economic efficiency without government intervention. From this it follows that monetary policy should be carried out in such as way as not to disturb the real economy. For this the Monetarist recommendation is that the money supply should be allowed to grow at a rate equal to the rate of growth in the productive capacity of the economy. This is the Monetarist Rule, by which it is argued that it is possible to achieve a zero inflation rate:

> 'It will not produce perfect stability; it will not produce heaven on earth; but it can make an important contribution to a stable economic society' (Friedman 1970 p.28).

It is because policy makers face a situation of imperfect information and uncertainty that they cannot be relied upon to act with discretion. Advocacy of the Monetarist Rule rests upon the proposition that discretion leads to mistakes whereas the Rule gives the most efficient policy stance. However, it is not possible to put this proposition to the test: with full information and no uncertainty, discretion could at worst achieve the result obtained by the Monetarist Rule. So, if enough were known to test the proposition then, logically, it would necessarily be proved false![2]

Successful application of the Rule turns upon the extent to which government can exercise control over the extension of bank credit. This depends upon the quantity of bank reserve assets. (To simplify, these may be regarded as comprising wholly of government I.O.U.s, ie interest-bearing stock acquired when the banking sector lends to the government.) These reserve assets comprise the 'monetary base' upon which the extension of credit depends. So, to control bank credit creation requires:

a) a precise definition of eligible reserve assets.

b) close control over the issue of eligible reserve assets.

c) a minimum ratio of eligible reserve assets to total assets.

d) close surveillence of banking practice.

By these means, Monetarists believe that governments can control the aggregate level of private borrowing.

An opposing view is that controls of this kind would provide the incentive for the creation of new kinds of financial intermediaries – not covered by banking regulations – which would take over business denied to **bone fide** banks and so undermine government policy. The history of financiers' initiative and inventiveness lends plausibility to this argument. Many different kinds of liquid assets may serve as money, so that the composition of 'the money supply' is both complex at a point of time, and ever-changing (in line with varying private market incentives and official intervention) through different periods of time.

The idea that it is possible for government policy to retain control over a variable, the money supply, for which there is no single definition, has been a source of confusion to many able minds. In the nineteenth century, controversy over the role of money and 'money substitutes' was the central issue between the Banking School and the Currency School. The latter believed that a mixed paper-gold currency should be closely regulated; and this view lay behind the Bank Charter Act of 1844 which set an upper limit (equal to gold reserves plus a fiduciary issue of £14 million) to the volume of Bank of England notes. In this the Currency School may be regarded as one of the forbears of modern Monetarism.

The Banking School countered with the argument that control over the Bank of

England could not give control over the total volume of credit advanced, because of advances made by other banks (and near banks) and the volume of their notes (and cheques) in circulation. This is the view expressed by modern Keynesians, such as Roger Bootle and Lord Kaldor[3], who have argued that the volume of credit will always follow 'the needs of trade'.

These particular contentious issues relate to the distinction between money and credit. Money is an asset; credit is a debt. With the double entry book keeping of commercial banking, bank liabilities (money) are necessarily equal to bank assets (credit) but money and credit are not always so closely linked. Trade credit extended by business firms to customers does not constitute money (since it cannot be used to settle debts between third parties).

As regards policy, a Keynesian view would be that control over credit inhibits expenditure and so directly affects output and employment. On the other hand, relaxation of credit restrictions would not necessarily lead to increased expenditure, since no one can be forced to borrow. Fiscal stimulus might be required to stimulate expenditure.

Monetarists would argue that the volume of credit constitutes only one factor within the money supply; that it is possible to exercise tight control over credit while monetary policy is lax (see section 11). Moreover, if commercial banks have the reserve assets base upon which credit can be created, they will offer sufficiently generous terms to attract potential borrowers. To be effective, monetary policy must exercise control over those reserve assets, with the objective of achieving monetary stability (ie zero inflation) to allow the real economy to function most efficiently.

The difference between the two sides does not turn on whether or not there is a close relationship between monetary expansion and real economic activity, but rather upon how it is to be interpreted. Keynesians would regard movements in monetary aggregates as useful **indicators** by which demand management by fiscal measures might be made more effective. For example, when those indicators warn of a slump/boom, public expenditure might be increased/decreased in order to achieve a moderating influence.

In rejection of Monetarism, it is argued that the statistical links between the money supply and the price level are only to be found for periods when the authorities have not attempted to manipulate monetary aggregates as **instruments** of policy in opposition to the needs of trade. When the authorities have, for example, attempted to limit monetary expansion (by any given definition of the money supply), business has found it relatively easy to switch into some other medium of exchange which then acts as a substitute for those money aggregates which are subject to government controls. This view has been encapsulated as 'Goodhart's Law' '... that **any** observed statistical regularity will tend to collapse once pressure is placed upon it for control purposes' (Goodhart 1984: p.96), according to which **any** definition of the money supply must lose all relevance one it becomes subjected to official control. That such developments have been experienced is scarcely in doubt; but so too is the conclusion that these must frustrate attempts to exercise strict monetary control. Unlike the many historical examples of quantitative controls, rationing in various forms, proposals for control of bank credit creation, through control of the monetary base of eligible reserve assets, represent a call for the application of a mechanism whereby the market would be left free to determine interest rates. That is all. Why should near-universal advocacy of the price mechanism be qualified when it comes to the market for money?

Consider the operation of such a mechanism in a situation where disappointed prospective borrowers (from banks directly affected by a decision to restrict the supply of eligible reserve assets) are forced to look for an alternative source of credit. Inventiveness would ensure the availability of such credit, but at a price. The very fact that those new institutions did not compete successfully **before** the contraction of the supply of eligible reserve assets implies that they are a higher cost alternative.

An extreme case re-enforces this point; even if banks were left totally unrestricted by regulations, so that they were permitted to operate at any ratio of reserve assets, leverage could still be exercised by the method chosen to finance the PSBR. This would determine the amount of eligible (though no longer in any legal sense) assets released into circulation. Competition between banks (and the public generally) to acquire such assets would increase banking costs which would be passed on to the cost of borrowing.

Credit would become expensive. Some financial intermediaries might be tempted to operate with less secure reserve assets, or to reduce reserve ratios, but with these there would be an increased risk to depositors (who would surely demand more favourable terms in compensation). A rise in the cost of borrowing would be inevitable, as would be the eventual contraction in the demand for credit and bank credit creation.

Undoubtedly, such a regime would bring less conservative banking practices, more spectacular successes, and more disastrous failures. It would also lead financial analysts to create an even greater confusion (than at present) of statistical measures of the aggregate money supply; but none of this should obscure the mechanism by which the government has the power to determine the level, and to cause changes in the level, of money and prices.

11. Attempts at Monetary Control in the U.K.

U.K. monetary policy during the 1960s was guided by the findings of the Radcliffe Committee[4]. These were influenced by the principles of the Banking School: the ingenuity of financial intermediaries in providing acceptable substitute liquid assets would always circumvent attempts by the authorities to control the volume of credit. As an alternative approach to monetary policy, Radcliffe recommended that the authorities should engineer variations in interest rates as the means to control not only the demand, but also the availability of credit. (Capital would be 'locked in' by a rise in the rate of interest, so that banks would incur a capital loss whenever they sold illiquid stock in order to be in a position to advance more credit.)

Working to these recommendations, the authorities steadily let slip their grasp upon monetary expansion. In the Monetarist view, their unwillingness to permit interest rates to rise to levels consistent with stable prices (see section 8) was the root cause of persistent inflation throughout the 1960s and into the 1970s. Policy had failed, and thoughts turned again to the alternative of specific money supply targeting. Although, for some years before, undisclosed monetary targets had been used internally within the Bank of England and the Treasury, a publicly stated target was first announced in mid-1976; this was for 12 per cent growth in M3 for the financial year 1975/76.

In December 1976 a target range (for 1976/77) of 9–13 per cent was given for Sterling M3, which includes cash in circulation together with all sterling bank deposits held by U.K. residents.[5] From 1976 to 1985 Sterling M3 was regarded as the most important monetary aggregate. It was favoured because of its close relationship with its 'credit counterparts', *viz*:

a) bank lending to the non-bank private sector,

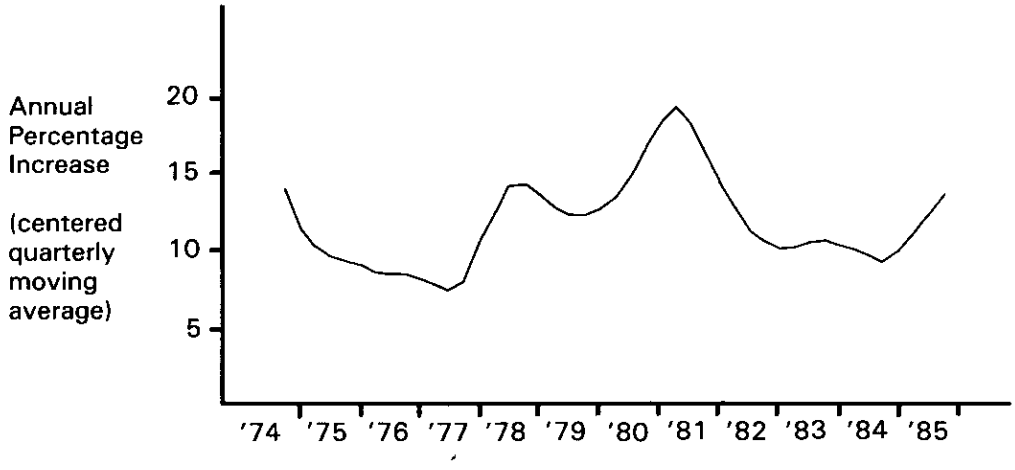
b) the PSBR, and,

c) public sector borrowing from the non-bank private sector.

Any change in Sterling M3 is equal to the change in a), plus b), minus the change in c). From this it should be clear that a tight credit control policy (affecting item a) is logically consistent with rapid monetary expansion (if item b) were sufficiently large, and item c) sufficiently small).

It is because these categories provide a useful basis for interpretation of monetary trends that Sterling M3 was chosen as the target variable. Nevertheless, there were some problems. For example, the system of direct controls on commercial banks, (the 'Corset' which was introduced in 1973 to limit the growth of eligible reserve assets held by commercial banks) was abolished in June 1980. Not only did commercial banks then compete more aggressively to reclaim business lost to secondary banks and other financial institutions which had not been subject to control but, in the following year, they took on the building societies in their own traditional area of housing loans. Growth in Sterling M3 was rapid as commercial banks regained deposits formerly lost; but this did not represent any great change in the overall liquidity position, and so no great import was attributed to this development.

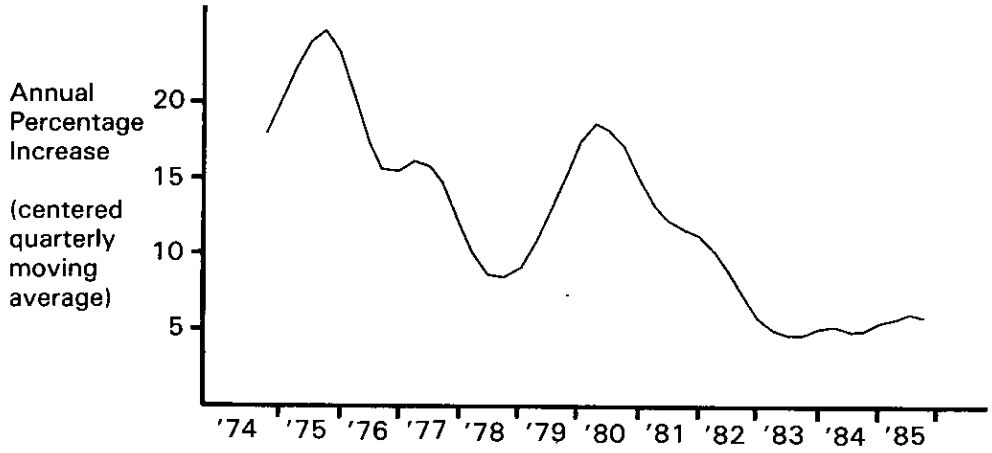
Figure 1: Sterling M3



Source: *Datastream*

A problem of a different kind is that the credit counterparts of Sterling M3 provide the monetary authorities with the opportunity to adopt window dressing tactics in the face of likely failure to achieve pre-set targets. Consider items a), b), and c) above. If item c) exceeds item b) this will offset, at least in part, the impact of item a) upon monetary growth. When the authorities employ this tactic it is termed 'overfunding':[6] the PSBR is overfunded. It becomes window dressing in the

Figure 2: The Retail Price Index



Source: *Datastream*.

context of monetary control if the government makes funds available to the non-bank private sector (for example, by purchasing commercial bills) which are otherwise denied to them by the added competition from overfunding. This it did in a very big way during 1983/84.

Faced by reduced cash balances, as the non-bank private sector drew upon commercial bank deposits to lend money to the public sector (item c), the banks found the government willing to take commercial bills off their hands. Thereby item a) was reduced as the government effectively took on the role of business creditor; and Sterling M3 became largely irrelevant to the actual state of liquidity.

In brief summary: when banks lend money to the non-bank private sector, Sterling M3 increases; when the government lends money to the non-bank private sector, Sterling M3 is unaffected.

The time-series of money (annual rate of increase in Sterling M3) and inflation (annual rate of increase in the Retail Prices Index) are illustrative of these and subsequent developments in monetary policy: see figures 1 and 2. Furthermore, they give support to the lagged relationship anticipated by the fifth of the eleven central propositions of Monetarism (see section 9).[7]

Consider the period 1974 to 1980. At the beginning, the peak of inflation (3rd quarter 1975) is a consequence of a 27 per cent increase in the money supply during 1973. Thereafter, from 1974 to 1977, monetary growth was in decline and the trough of 1977 (2nd quarter) is matched fifteen months later by a trough in the inflation rate (1978 3rd quarter). This was followed by an increase in the rate of monetary expansion through to the peak of 1978 (3rd quarter) which is matched by a lagged increase in the rate of inflation through to a peak in to 1980 (1st quarter). Then, in reverse direction once again, monetary contraction to 1979 (2nd quarter) is associated with a corresponding lagged fall in the inflation rate.

At this point in the time series, the relationship exhibits a distinct change which, in part, may be seen as a consequence of the removal of the Corset restrictions in 1980. The return of deposits to the commercial banks is clearly seen with the sharp surge in the rate of increase in Sterling M3. This is matched by no corresponding increase in price inflation; but, thereafter, from 1980 (1st quarter) to 1984 (3rd quarter), the paths of monetary expansion and price inflation are in close synchronisation, with no obvious lag in the relationship.

Early in 1980, in reaction to this confused interpretion of the growth patterns for Sterling M3, the authorities announced growth targets for both a narrower (M1) and a wider (PSL2) money aggregate: and in the Budget of April 1980 came publication of a Medium Term Financial Strategy (MTFS). Then, and in subsequent years, targets and revised targets for a number of years ahead were given for a set of money aggregates together with projections for public expenditure, taxation, and the PSBR.

Through to 1984, Sterling M3, still regarded as the most telling indicators, remained more-or-less within target range, and inflation fell from 21 per cent (second quarter 1980) to 5 per cent (second quarter 1984); but in 1985 came a problem which still awaits satisfactory explanation. Sterling M3 crashed through its target band ceiling and continued rising. In the 1986 Budget, a new range was announced, well in excess of those previously considered to be consistent with the Thatcher government's 'Monetarist strategy'. No sooner was this done, than Sterling M3 crashed through that higher ceiling and by mid year it was growing at an annualised rate of 39 per cent.

Earlier, in the Mansion House speech given by the Chancellor of the Exchequer in October 1985, it had been announced that Sterling M3 would no longer be the key stone of monetary policy. While the course of Sterling M3 and other money aggregates would continue to be monitored, more serious attention would be given to movements in the exchange rate. The comment was also passed that 'benign neglect' of the exchange rate was 'not an option' for the government.

Without doubt, there has been a loss of faith in Sterling M3 and, in large part, it reflects the general problem of defining an appropriate measure of money. When attempts are made to control some forms of money, the market is quick to produce an alternative. Moreover, changing patterns of saving and international capital movements can confuse the linkages between money and prices; and the impact of these changes upon real economic activity must add to that confusion. Deregulation in the City of London is a case in point. Of this the Chancellor has remarked (Mansion House speech of October 1986):

> '... it was clear that the liberalisation of the financial system... the increased competition between financial institutions would lead to a steady increase in the ratio of broad money to GDP. This indeed has been a consistent feature of the 1980s. There is every sign that people are holding the increased amounts of broad money quite willingly. And so long as this is so its growth is not inflationary.'

There have always been such problems in administering effective monetary policy, but the Chancellor now pursues a rather different approach. Instead of monitoring and manipulating different definitions of the money supply (ie the MTFS), greater attention is given to a variable which is known to be systematically influenced by changes in the money supply, ie the exchange rate.

Since a belief in monetary targets is a basic tenet of Monetarism, this can only be viewed as a departure from Monetarist principles. As the foreign price of a domestic currency, the exchange rate reflects relative price levels between trading nations. If the rate of price inflation is higher in the U.K. than in (say) the U.S.A., the dollar price of sterling will fall. Now the fifth of the eleven central propositions of Monetarism (section 9) says that the total delay between a change in monetary growth and a change in the rate of inflation averages around twelve to eighteen months. How then could the exchange rate, which is determined in part

by the inflation rate, provide an 'early guide'? This could only occur if foreign exchange dealers were able to **anticipate** the impact of U.K. (and U.S.A.) monetary policy – on the basis of the MTFS, the PSBR, projections and so on – rather quicker than the Chancellor who is himself looking to the exchange rate as a guide!

This use of the foreign exchange market more closely reflects the views of the New Classical School (with its hypothesis of rational expectations), than it does Friedman's Monetarism, but that is another story.[8]

Table 1

The Annual Rate of Increase in Money and Prices
(Quarterly data: four quarter centered moving averages)

A Sterling M3 – data.
B Sterling M3 – moving average.
C The Retail Price Index – data.
D The Retail Price Index – moving average.

		A	B	C	D			A	B	C	D
1974	1	22.8	–	13.5	–	1980	1	13.0	13.2	19.9	18.6
	2	18.1	–	16.5	–		2	12.1	14.8	21.0	18.2
	3	14.0	14.3	17.1	18.5		3	17.6	16.6	15.9	17.1
	4	9.6	11.5	19.2	19.7		4	20.4	18.5	15.1	14.9
1975	1	8.0	10.1	21.2	22.1	1981	1	19.9	19.4	12.6	13.2
	2	10.4	9.4	26.1	24.0		2	20.1	18.4	11.3	12.2
	3	10.4	9.3	26.6	24.7		3	16.7	16.6	11.4	11.6
	4	8.1	9.0	24.9	23.1		4	13.3	14.6	12.0	11.0
1976	1	8.6	8.4	21.2	20.1	1982	1	12.7	12.7	10.4	10.2
	2	7.2	8.4	13.8	17.3		2	11.8	11.3	9.2	8.9
	3	9.0	8.4	14.3	15.5		3	9.4	10.5	7.3	7.3
	4	9.8	8.1	15.1	15.5		4	9.5	10.1	5.4	5.9
1977	1	6.3	7.8	16.7	16.1	1983	1	10.0	10.2	4.6	5.0
	2	7.8	7.2	17.7	15.9		2	11.3	10.6	3.7	4.7
	3	5.7	8.0	15.6	14.6		3	10.7	10.8	5.1	4.8
	4	8.0	10.1	12.1	12.4		4	11.1	10.5	5.3	5.0
1978	1	14.7	12.2	9.1	10.1	1984	1	10.1	10.0	5.2	5.2
	2	15.7	14.1	7.4	8.6		2	9.1	9.7	5.1	5.0
	3	14.8	14.4	7.8	8.3		3	9.0	9.5	4.7	5.0
	4	14.2	13.6	8.4	8.8		4	9.8	9.9	4.6	5.4
1979	1	11.5	12.9	9.7	10.4	1985	1	9.7	11.1	6.1	5.7
	2	12.1	12.5	11.4	12.6		2	12.9	12.4	7.0	6.0
	3	13.0	12.4	16.5	15.0		3	14.7	14.0	5.9	5.9
	4	12.4	12.6	17.2	17.4		4	15.2	–	5.7	–
						1986	1	16.5	–	4.2	–

Source: *Datastream*.

Notes

1. The explanation for this is that, in a situation of high chronic unemployment, Keynes believed that monetary expansion would not cause money wage rates to rise. Although diminishing returns to labour would cause costs of production to rise – and this would cause product prices to rise – with money wages constant, this would not constitute inflation. Rather, **real** wages would thereby be reduced so that employment would be permanently raised.
2. This fine point is attributed to Gowland (1985: 258).
3. See Kaldor and Trevithick (1981) and Bootle (1984).
4. *Report of the Committee on the Working of the Monetary System*, (1959) Cmd. 827.
5. Sterling M3 excludes residents' deposits in foreign currency, changes in which were considered to have little significance for changes in domestic demand.
6. See Gowland (1986: 166).
7. Statistical support rarely constitutes proof of a proposition. In 1977, in a letter to *The Times*, a Cambridge biologist argued that the correlation coefficient of 0.7 for the relationship between inflation and the lagged money supply was enough to convince any biologist. In reply, two economists pointed to an even higher correlation between inflation and the incidence of dysentry in Scotland (cited in Gowland 1985: 3).
8. For an introduction to the New Classical School of Economics see Shaw (1984).

Sources

Bootle, R. (1984) 'The origins of the monetarist fallacy – the legacy of gold.' *Lloyds Bank Review*. July, No. 153 pp. 16–37.

Friedman, M. (1956) 'The Quantity Theory of Money: a Restatement' pp. 3–21 in *Studies in the Quantity Theory*. Chicago University Press.

Friedman, M. (1959) 'Statement on monetary theory and policy' in *Employment Growth and Price Levels* (Hearings before the Joint Economic Committee, 80th Congress 1st session, May 25–8, 1959) pp. 605–612, U.S. Government Printing Office.

Friedman, M. (1970) *The Counter-Revolution in Monetary Theory*. London, Institute for Economic Affairs.

Goodhart, C. A. E. (1984) *Monetary Theory and Practice*. London, Macmillan.

Gowland, D. (1985) *Money, Inflation and Unemployment*. Brighton, Wheatsheaf Books.

Gowland, G. (1986) 'Monetary Policy', Chapter 7 in G.B.J. Atkinson (ed.) *Developments in Economics. An Annual Review*. Vol. 2. Ormskirk, Causeway Press Ltd.

Kaldor, N, and Trevithick, J. (1981) 'A Keynesian perspective on money'. *Lloyds Bank Review*. January, No. 139, pp. 1–19.

Keynes, J. M. (1923) *A Tract on Monetary Reform*. London, Macmillan.

Keynes, J. M. (1936) *The General Theory of Employment, Interest and Money*. London, Macmillan.

Shaw, G. K. (1984) *Rational Expectations: An Elementary Exposition*. Brighton, Wheatsheaf Books.