

# The UK 1979-82 "Monetarist Experiment": why Economists still Disagree

## I - Introduction

Nowhere in applied economics is the terrain more bitterly contested than in the macroeconomic policy arena. The breakdown of the post-war "Keynesian consensus" in the early 1970s undoubtedly served to intensify internecine strife, but even within the more restricted boundaries of this earlier, so-called "consensus", disagreement was commonplace. The history of pre-1976 "consensus" policy in the UK is littered with the intellectual battlefields of economists: the 1967 devaluation, entry to the European Community and the move to floating exchange rates all brought the divisions within the economics profession into sharp, and uncomfortably public, focus (Hutchinson, 1977).

In the altogether more uncertain world of the late 1970s and 1980s, however, the fragmentation of macroeconomic theory reinjected controversy into issues once thought long settled, allowing the battle to range over a much broader front (Cobham, 1984). Budget deficits to counter unemployment, the automatic response of earlier "consensus" chancellors, are now derided by monetarist and new classical economists as counter-productive. Real wage cuts, generally accepted in the 1950s and 1960s as likely to deepen a recession by further depressing aggregate demand, are now urged by many economists as the only solution to joblessness.

One episode of recent macroeconomic policy which most graphically illustrates the present gulf between different schools of thought is what Galbraith (1980) dubbed the Conservative Government's "monetarist experiment". While many monetarists and new classicists welcomed the new economic strategy unveiled by the incoming administration, others were publicly hostile. This groundswell of dissent eventually culminated in the famous letter by 364 eminent economists to the

national newspapers on 30 March 1981 condemning Mrs. Thatcher's policies and concluding that "present policies will deepen the depression, erode the industrial base of our economy, and threaten its social and political stability".

The fact that different economists hold different views as to the most appropriate construction of macroeconomic policy is, of course, unsurprising. But the reason why this particular period is so important to students of economic controversy is that it arguably constitutes the closest approximation to an "experiment" in macroeconomic policy-making yet seen in the UK. Since the purpose of experiments, by definition, is to test theories and provide conclusions, it might be expected that the experience of 1979-82 would have enabled theories to be refined and the differences between competing perspectives to be reduced. In reality, after studying the results of the UK's monetarist experiment for over five years, the profession remains as divided on its interpretation of the evidence as it had previously been on the wisdom of the original strategy.

The reasons why economists disagree are complex. This paper is a case study in the limitations of empirical research as a means of resolving these differences. It reviews the evidence generated by the 1979-82 monetarist experiment and reveals the strategies different schools of thought have employed to construct radically different interpretations of events. In each instance, there is a strong sense of reading a "whodunit" having already glanced at the final page. Contrary to Friedman's famous dictum that "the differences between economists are empirical rather than theoretical" (and, by implication, capable of resolution by applied research), this paper concludes that economists are divided by issues that run far deeper.

## II - The nature of the 1979-82 "Monetarist Experiment"

During the 1970s, many Western governments, including the then Labour Government in the UK, adopted monetary rules (or targets) as part of a wider response to the world-wide acceleration in inflation. Monetary targets, first for M3 and later for £M3, were first publicly announced in the UK in 1976, although the Bank of England had been operating policy on the basis of "secret, internal money supply targets"

since 1973 (Smith, 1987, p. 59). For the 1974-79 Labour Government, however, these targets were only one part of an anti-inflation package which relied primarily on an incomes policy (the "social contract") and, on occasion, the deliberate over-valuation of the exchange rate (Gowland, 1983, p. 139).

More importantly, the adoption of a monetary rule — the fundamental policy prescription of monetarist school — did not mean, for the UK Labour Government at least, automatic acceptance of the associated monetarist theory. Almost any theoretical model will predict inflation if the money supply is increased sufficiently rapidly and the dramatic surge in both monetary growth and inflation experienced in the early 1970s had convinced many Treasury officials that a degree of monetary control was an essential pre-requisite of any credible anti-inflation strategy. Moreover, in a situation where the domestic and international financial markets are strongly monetarist-oriented, explicit monetary targets are the simplest way for a government to manipulate their inflationary expectations — and hence the level of nominal interest and exchange rates (Browning, *op. cit.*, p. 288).

In contrast, the succeeding Conservative administration took office in 1979 with the declared intention of implementing a textbook monetarist anti-inflation programme. Developed with the assistance of well-known monetarists during their years in opposition (Keegan, 1984; Green, 1987), the new Conservative strategy gave overriding priority to the attainment of predetermined monetary targets, eschewing all other non-market restraints on the price level. A "bonfire of controls" on prices, incomes, international capital flows and banks' balance sheets quickly followed the election. Fiscal policy was subjugated to the need for tight money, in the sense that quasi-targets for the budget deficit were introduced alongside those for £M3 that they were intended to support.

The programme was based on a form of monetarism known as "gradualism" (Treasury and Civil Service Committee, 1981a, pp. xxxvii-xxxviii), in which inflationary expectations are assumed to be adaptive (*i.e.* react to past experience with a lag), rather than static or rational. It was designed to gradually eliminate inflation, without imposing serious adjustment costs on the real economy, by steadily reducing monetary growth over a period of years. The essential elements of this "experiment" were brought together for publication in the shape of the Medium Term Financial Strategy (MTFS).

MTFS 1980				
Targets for:	1980-1	1981-2	1982-3	1983-4
£M3	7.11%	6.10%	5.9%	4.8%
PSBR (% of GDP)	3.75%	3.00%	2.25%	1.50%

Source: *Financial Statement and Budget Report*, March 1980.

The experiment lasted from June 1979 to March 1982. During this period, short term interest rates were raised to record levels and fiscal policy severely tightened in an attempt to bring the growth of £M3 within its target band. Although the underlying behaviour of £M3 was masked by rapid financial change following the abolition of banking controls, the sharp appreciation of the exchange rate 1979-81 suggests that a significant monetary retraction was in fact achieved (Niehans, 1981). At the same time, employment and output fell quickly, with the greatest losses being suffered in construction and the tradeables sector of manufacturing. After initially rising, inflation also fell after 1980 (see Table 3).

Towards the end of 1981, the Government began to address its interest rate changes to the behaviour of the exchange rate, which had previously been allowed to float cleanly in accordance with orthodox monetarist prescriptions.<sup>1</sup> Consequent overshooting of the £M3 target range was officially sanctioned by revising upwards all the future targets in the 1982 MTFS. "It was less a question of moving the goalposts than laying out a new pitch" (Smith, *op. cit.*, p. 106). The monetarist experiment was effectively over (Johnson, 1982; Fforde, 1982).

The 1979-82 anti-inflation programme was, as noted above, based on the gradualist version of monetarism. As many economists (*e.g.* Galbraith, 1980; Pratten, 1982; Miller, 1982; Artis and Bladen-Hovell, 1987) have pointed out, the results of implementing this strategy should have revealed interesting information about the validity of the postulates which underpin gradualist monetarism. The Bank for International Settlements (1980), for example, noted that "economists and policy-makers have for once been offered the possibility of observing an experiment", a view confirmed by Tobin (Treasury and Civil Service Committee, 1981b) who described the Government's MTFS as "a very interesting and... risky experiment in macroeconomic policy" (p. 280).

<sup>1</sup> The Bank of England raised short term interest rates, first from 12% to 14% in September 1981, and then to 16% in October 1981, in a concerted attempt to arrest a run on the pound — in direct contravention of the Government's declared policy which was to allow the exchange rate to float cleanly.

Monetarism, even the more narrowly defined gradualism, is not a monolithic body of thought: like "Keynesianism" or "Marxism", it is a many-splendoured thing with a large number of subtle variations and nuances. There are, however, three key propositions to which all "monetarists" subscribe (Mayer, 1978; Arestis and Riley, 1980; Purvis, 1980; Laidler, 1981):

- (i) that the money supply is exogenous and can be controlled by the authorities;
- (ii) that the demand for money is a stable function of a few key variables, including most notably nominal income; and
- (iii) that the private sector is inherently stable, automatically tending towards a "natural rate" of unemployment and real output (in other words, once inflationary expectations have fully adjusted to changes in reality, any increase in nominal income over and above the natural rate of growth of real income shows up as a rise in prices).

In the next three sections (III-V), the evidence generated by the 1979-82 period, and the very different interpretations of these results by different groups of economists, are examined with respect to each of these three propositions.

### III - Controlling the money supply

Monetarist theory makes two fundamental and interrelated assumptions about the nature of money. The first is that the supply of money is exogenous with respect to the demand for money, in the same way that the supply of cars is, in an analytical sense, distinct and separate from the demand for cars. The second is that the authorities can, if they so choose, control the rate at which new money is supplied to the economy.

The first assumption ensures that the ultimate holders of money must respond to an exogenous increase in the supply of money (*e.g.* by spending it) in such a way that one or more of the arguments in their demand function changes (*e.g.* real income or the price level), so increasing demand and eventually restoring equilibrium. The second implies that the authorities have a duty to use their power to control

the rate at which money is supplied in order to avoid the fluctuations in real income and prices which would otherwise arise (Mayer, 1978, p. 14).

The history of targeting the money supply in the UK appears, at first sight, to throw some doubt on the second, and possibly the first, of these propositions. Table 1 sets out the actual target ranges for £M3 which were in force for each policy period 1976-87.

It is interesting that for the three target periods of the "monetarist experiment", the average overshoot was 8.3% on an average target mid-point of only 8.7%, compared with 4.0% on 10.5% under the 1974-79 Labour Government and 4.3% on 9.4% after 1981-82. In other words, although the targets themselves were rather more restrictive between 1979-82, the authorities' performance in achieving these targets was considerably worse (Healey, 1987).

TABLE 1

£M3 TARGETS AND OUTTURNS

Target Period	Target Range	Outturn	Overshoot from Target Mid-point
4.76 - 4.77	9-13%	17.7%	+6.7%
4.77 - 4.78	9-13%	16.0%	+5.0%
4.78 - 4.79	8-12%	10.9%	+0.9%
10.78 - 10.79	8-12%	13.3%	+3.3%
6.79 - 4.80	7-11%	10.3%	+1.3%
6.79 - 10.80	7-11%	17.8%	+8.8%
2.80 - 4.81	7-11%	18.5%	+9.5%
2.81 - 4.82	6-10%	14.5%	+6.5%
2.82 - 4.83	8-12%	11.0%	+1.0%
2.83 - 4.84	7-11%	9.7%	+0.7%
2.84 - 4.85	6-10%	12.2%	+4.2%
2.85 - 4.86*	5-9%	16.6%	+9.6%
2.86 - 4.87	11-15%	18.4%	+6.0%

Source: *Financial Statement and Budget Reports, Bank of England Quarterly Bulletin*.

\* Target temporarily suspended in October 1985.

There are three possible conclusions which could be drawn from these figures. The first, favoured by monetarists, is that despite the Government's rhetoric, the Bank of England flinched from properly using its power to control the money supply. The second, which now commands widespread support, is that the recent acceleration in financial innovation and the globalisation of financial markets has made

it technically impossible for a central bank to identify and control the growth of "money". The third, a long-standing objection raised by many orthodox Keynesians, is that the supply of, and demand for, money are not independent phenomena at all; rather, in a credit money economy, the supply of money is essentially demand-determined. Thus the authorities' inability to control the supply of money simply reflects their inability to act directly on the arguments of the demand for money.

### III.i - Was the Bank of England "monetarist"?

The essence of this charge is that, while ostensibly operating a monetary rule, the Bank of England refused to adjust its techniques of monetary control accordingly. Brunner, for example, has argued that, despite rhetoric to the contrary, the Bank's "strategy and tactics remain[ed] far removed from monetarist ideas" (Brunner, 1983, p. 53). Friedman has claimed that:

"Central banks throughout the world have rendered lip-service to the control of monetary aggregates by announcing monetary growth targets. However, few have altered their policies to match their professions of faith... The United Kingdom is... an egregious example". (Treasury and Civil Service Committee, 1980a, p. 57).

One major source of complaint is the method by which the Bank of England has traditionally controlled monetary growth. In principle, monetary growth may be controlled either by influencing the demand for bank credit (which creates new deposits) or by acting directly on the supply of bank credit, in the sense of limiting the banks' ability to satisfy any given level of demand. The favoured UK approach has always been to adopt the former option.

The relationship between (broad) monetary growth and the demand for bank credit can be expressed in various ways:

$$\begin{aligned} \text{Increase in Money Supply} &= \text{Increase in } \pounds \text{ Bank Lending to Public} \\ &\quad \text{Sector} \\ &\quad + \\ &\quad \text{Increase in } \pounds \text{ Bank Lending to Private and} \\ &\quad \text{Overseas Sectors} \end{aligned}$$

or:

$$\begin{aligned}
 \text{Increase in Money Supply} &= \text{Public Sector Borrowing Requirement} \\
 &\quad \text{(PSBR)} \\
 &\quad - \\
 &\quad \text{Net Sales of Public Sector Debt to the} \\
 &\quad \text{Non-Bank Private and Overseas Sector} \\
 &\quad - \\
 &\quad \text{Net Sales of Foreign Exchange Reserves} \\
 &\quad \text{(i.e. Open-Market Purchases of £ by the} \\
 &\quad \text{Public Sector)} \\
 &\quad + \\
 &\quad \text{Increase in £ Bank Lending to Private and} \\
 &\quad \text{Overseas Sectors}
 \end{aligned}$$

The Bank, through its interest rate policy, can directly influence both the volume of public sector debt sales (*e.g.* in the gilt-edged securities market) and the private and overseas sectors' demand for bank credit. It also operates in the foreign exchange markets on behalf of the government, so that with a given exchange rate objective, the scale of open-market operations depends critically on domestic interest rates. Hence it can be seen that there is a complex interrelationship between the rate of monetary growth, the size of the PSBR, the level of UK interest rates and the exchange rate.

The logic of the MTFs was that the rate of monetary growth and the size of the PSBR were to be predetermined (see Table 1). The Bank was then to adjust interest rates to whatever level was necessary to achieve the monetary target, taking a "hands-off" approach to the exchange rate and allowing it to find its own level in the market. The PSBR targets were calculated to ensure that interest rates need not rise too high, but in the event of a larger-than-expected PSBR, the clear presumption was that interest rates would take the strain, with the commitment to the monetary target having overriding priority. To quote the Government:

"To maintain a progressive reduction in monetary growth... it may be necessary to change policy in ways not reflected in the [MTFS] projections. The government would face a number of options for policy changes to achieve this aim, including changes in interest rates, taxes and public expenditure. *But there would be no question of departing from the money supply policy, which is essential to the success of any anti-inflationary strategy.*" (Financial Statement and Budget, March 1980, p. 19, italics added).

The Bank operates its interest rate policy by passively supplying the reserves that the banks need to underpin their increasing loans and deposits, but at an interest rate of its own choosing.<sup>2</sup> At the outset of the monetarist experiment, many UK monetarists, notably Brian Griffiths, Roy Batchelor and Allan Meltzer, were highly critical of the Bank's procedures for monetary control, arguing that it was technically deficient and that, by implication, the Bank's declared preference for the *status quo*<sup>3</sup> augured badly for monetarism. Friedman was particularly harsh in his assessment. Commenting on the Green Paper published by the Bank to promote discussion of monetary control techniques, he wrote:

"I could hardly believe my eyes when I read... 'The principal means of controlling the growth of the money supply must be fiscal policy — both public expenditure and tax policy — and interest rates'. Interpreted literally, this sentence is wrong. Only a Rip Van Winkle, who had not read any of the flood of literature during the past decade and more on the monetary process, could possibly have written that sentence." (Treasury and Civil Service Committee, *op. cit.*, p. 57).

The alternative procedure widely favoured by monetarists is monetary base control. This involves rigidly controlling the volume of reserves supplied to the banks and, through the credit multiplier, the total volume of new credit the banking system is able to create. In this system, it is claimed, rather than interest rates being adjusted in a hit and miss affair to achieve the monetary target, the monetary target is guaranteed and interest rates are simply the market mechanism by which the available bank credit is rationed between competing customers in the public, private and overseas sectors. In other words, the supply of bank credit is controlled at source, rather than by the Bank "guesstimating" the level of interest rates at which the target amount will be demanded. In Friedman's words:

"Trying to control the money supply through 'fiscal policy... and interest rates' is... in principle, possible... but in practice highly inefficient. Far easier to control... the money supply by controlling the availability of base money [*i.e.* reserves] to banks and others." (Treasury and Civil Service Committee, *op. cit.*, p. 58).

<sup>2</sup> Intervention Rate, formerly Minimum Lending Rate (pre-1981) and Bank Rate (pre-1972).

<sup>3</sup> See BANK OF ENGLAND (1984), pp. 129-149, for a discussion of the operation of a system of monetary base control and the Bank's view on its feasibility.

The monetarist view is thus that the Bank deliberately chose not to move to the system of monetary control which would have ensured the Government's MTFs targets were realised. Instead it maintained its traditional "Heath Robinson system" (Congdon, 1982, p. 96) of influencing monetary growth indirectly through changes in short term interest rates. There have been a number of reasons offered for this intransigence: the Bank's innate conservatism; the potential conflict between the Bank's historic role as "lender of last resort" and monetary base control (Walters, 1986, p. 121); a bureaucracy's dislike of the imposition of performance targets and the greater scope for flexibility offered by the existing *modus operandi*. With regard to the last point, it is notable that the Bank consistently played down the importance of £M3 targets throughout the period — in sharp contrast to the Government.

Many monetarists, however, go beyond this and argue that the Bank's refusal to adopt monetary base control was symptomatic of a deep-seated hostility to monetarism. There is some evidence for this view. The 1973-83 Governor of the Bank, Sir Gordon Richardson, was frequently openly sceptical of the ability of monetary targets alone to produce inflation-free economic growth.<sup>4</sup>

It is widely known that relations between the Government and the Bank were severely strained between 1979-82, the former concerned about the persistent overshooting of their monetary targets and the latter alarmed at the impact of the interest rate rises on the exchange rate (Riddell, 1983; Keegan, 1984). The monetarists complain that by retaining control over interest rates, the Bank was able to prevent them rising to the heights necessary to bring £M3 under control. They also point to the Bank's attempts to hold down the exchange rate by open-market sales of sterling. Such intervention had been explicitly rejected by the Government and caused further tension between the Prime Minister and the Governor.

<sup>4</sup> "This spirit of disillusionment with demand management is justified up to a point, but it is capable of being carried too far. To eschew demand management entirely would involve tenacious faith in the self-correcting properties of the private sector of the economy, for which the evidence is not strikingly clear... One should recognise that the blame for inflation rests not on any simple cause, but rather on a multitude of political and economic pressures" (BANK OF ENGLAND, *op. cit.*, pp. 53-54).

TABLE 2

	1979	1980	1981	1982	1983	1984	1985	1986
Short term interest rates	16.5	13.6	15.4	10.0	9.0	9.3	11.5	10.9
Exchange Rate (\$)	2.12	2.33	2.03	1.75	1.52	1.34	1.30	1.47

Source: Bank of England Quarterly Bulletin.

### III.ii - Does financial innovation make monetary control impossible?

The interpretation favoured by the Bank itself concerns the role of financial innovation. In principle, banks may be analysed using the same tools of microeconomics as industrial firms. The nature of their business (and that of all other financial intermediaries) is that they buy money in the form of deposits and sell it in the form of loans, making a profit from their mark-up. The "law of large numbers" allows banks to pool risks on both sides of their balance sheet: only a small percentage of their deposits is ever likely to be withdrawn at any time; only a small percentage of their loans is ever likely to be written off. As a result, they can borrow short and lend long (Lewis, 1987).

Like industrial firms, banks seek to maximize their profits subject to various constraints. Some of these constraints are external, most notably legislative restrictions on their activities. Others are internal, for example, prudential liquidity ratios and the availability of capital reserves. These constraints on profit maximisation may be eased by innovation, that is, diversifying into new markets and introducing new financial products (Silber, 1975, 1983; Aktar, 1983; Podolski, 1985). The parallels with industry are so close that this behaviour has been dubbed "financial engineering" (Podolski, 1987).

Since 1979, three major trends in financial innovation have become apparent (Bank for International Settlements, 1986). The first is "securitisation", the process by which bank loans are "parcelled up" into a "bundle" which can be traded on a secondary market. One effect is to transfer ownership of these assets from domestic banks, which are under the control of the Bank of England, to offshore institutions which are not. The second is the growing importance of "off-balance sheet" activities, that is, bank transactions which do not involve taking deposits and booking assets, but which still meet the requirements of their

clients. Such activities include currency and interest rate swaps and options, forward rate agreements and note issuance facilities. And the third is the increasing globalisation, or integration, of financial markets with the result that both the supply of, and demand for, credit can be easily switched between international centres.

The implications of such changes for the operation of monetary policy are far-reaching. Following Lucas (1976), previously stable demand functions for monetary aggregates are likely to be seriously disturbed, a problem discussed at some length below. On the supply side, financial innovation may render direct controls on certain activities meaningless, as banks find new ways to achieve the same ends; in terms of "Goodhart's Law", which states that "any observed statistical regularity will tend to collapse once pressure is placed on it for control purposes" (Goodhart, 1984, p. 96), recent innovations have thus tended to dramatically accelerate the speed with which direct controls can be circumvented by the banking system.

By the late 1970s, for example, it had become increasingly clear that one such innovation — known as the "bill leak" — had seriously undermined the "corset", a direct control on UK banks (Bank of England, 1984, pp. 117-127). With the abolition of exchange controls in October 1979, it became clear that all "such controls could now be avoided wholesale by offshore disintermediation" (Bank of England, *op. cit.*, p. 69). The decision to abolish all direct financial controls, and return to exercising indirect control through interest rates and fiscal policy, was therefore as much a matter of practical expediency for the Bank as it was an ideological commitment for the Government.

The problems this caused for monetary control in the immediate aftermath of deregulation are well-known. By removing virtually all external constraints on banks at a time when technologically-driven financial engineering was already moving into a new era, the subsequent surge in monetary growth was made almost impossible to interpret (some amount of "reintermediation" was expected, but the precise figures could not be known in advance). Of more lasting significance, however, has been the growing importance of off-balance sheet activities, particularly interest rate hedges, and the increasingly internationalisation of financial markets. With the Bank of England limited to short term interest rate policy as the only possible substitute for direct controls, it is far from clear that it can any longer maintain genuine

influence over financial flows which are becoming increasingly "stateless" and divorced from the domestic banking system.

### III.iii - *Is the money supply exogenous?*

As noted above, monetarism turns crucially on the assumption that the money supply process is exogenous to the factors which influence the demand for money. Monetary growth in excess of real growth can therefore be seen as an exogenous "shock" to the economy, which causes temporary disequilibrium in the money market as economic agents find themselves with excess real money balances. Friedman, for example, has frequently used the metaphor of scattering newly-printed money from a helicopter to capture the exogenous spirit of the money supply process. The changes in nominal income, and eventually prices, which later follow an initial increase in the money supply are the result of economic agents seeking to restore portfolio equilibrium by spending these excess balances on real and financial assets.

Many economists have long been hostile to this approach (*e.g.* Kaldor, 1970). As Davidson points out: "...in the real world, money is not created as the manna from heaven of a Patinkinesque world or dropped by helicopter as in Friedman's construction" (1972, p. 107). There is no *a priori* reason, therefore, to interpret the observed statistical correlation between changes in the money supply and changes in nominal income as evidence that the former causes the latter. Indeed, "Keynesian" economists have traditionally argued that the causality actually runs in precisely the opposite way postulated by monetarists. To quote Kaldor:

"Under a 'credit-money' [as opposed to a commodity-money *e.g.* gold] system such unwanted or excess amounts of money *could never come into existence*; it is the increase in the value of transactions [nominal income] — whether it due to a rise in costs or in the volume of production or both — which calls forth an increase in the money supply" (Treasury and Civil Service Committee, *op. cit.*, p. 90, italics in original).

Recalling the money supply identity expressed in terms of the PSBR (see above), it is easy to see how this might be the case. Suppose the private and overseas sectors find themselves with insufficient money balances because nominal income has risen. One solution is to borrow from the banking system; another is to switch from foreign currency

assets into sterling, which may force the authorities to undertake open-market sales of sterling on the foreign exchange market. A third solution is to reduce net purchases of public sector debt, both by cutting down on new purchases and allowing existing securities to mature. All three adjustment mechanisms have the effect of increasing the money supply; that is, of making the money supply endogenous to the system, so that it passively adjusts to changes in nominal income, rather than exogenous, so that it causes these changes.

On this view of the world, the money supply is essentially demand-determined. Controlling the money supply is therefore not only pointless, but largely impossible. To the extent that the authorities can exercise any influence over its rate of growth, this is only because the two main instruments of monetary policy, interest rates and fiscal policy, have a direct impact on nominal income. Deflating the economy through high interest rates and fiscal contraction may therefore succeed in reducing monetary growth, but only because the demand for money has been reduced by the fall in nominal income.<sup>5</sup>

Table 3 shows the sharp deflation which signalled the start of the 1979-82 monetarist experiment. Expressed in either cyclically-adjusted<sup>6</sup> or inflation-adjusted<sup>7</sup> terms, it is clear that the fiscal stance became extremely contractionary, with the underlying structural surplus moving as high as 5-6% at the nadir of the recession. At the same time, inflation was beginning to accelerate sharply following the large pay rises awarded during the breakdown of the previous Labour Government's incomes policy and the second oil price hike. As a result, nominal income continued to grow strongly, despite the downturn in real output and employment, and £M3 rose. Only later, when the deflationary

<sup>5</sup> As Kaldor argues: "These [monetary policy] instruments operate, not on the supply, but on the public's demand for money and on their desire to hold assets in monetary form either directly by changing the public's desire to hold bank deposits in preference to other financial assets, or indirectly, by influencing the level of expenditures on consumption and investment and through the latter, the change in money incomes and hence the transaction demand for holding cash and bank deposits" (Treasury and Civil Service Committee, *op. cit.*, p. 91, italics in original).

<sup>6</sup> The cyclically-adjusted, or structural deficit is simply the deficit which would obtain given government spending plans and tax rates, etc. at any given point in the economic cycle (usually "full-employment"). It therefore measures deliberate policy changes in the fiscal stance, abstracting from those which arise naturally due to changes in employment, output and inflation.

<sup>7</sup> The inflation-adjusted deficit is the deficit after allowance has been made for the "inflation tax" *i.e.* the fall in the real value of outstanding public sector debt due to inflation. It therefore measures changes in the public sector's real indebtedness. To the extent that the private sector seeks to maintain the real value of its savings, a fall in the inflation-adjusted deficit may trigger an increase in the savings ratio, hence implying a more deflationary fiscal stance.

effects started to make themselves felt on wage bargaining and the world recession caused a fall in import prices, did the growth of nominal income, and so £M3, begin to ease.

TABLE 3

	1979	1980	1981	1982	1983	1984
General Government						
Deficit (GGD) as % GDP	-3.2	-3.8	-3.1	-2.4	-3.3	-3.1
Cyclically-adjusted						
GGD as % GDP (1979 = 0)	0.0	1.1	4.0	5.4	4.3	4.2
Inflation-adjusted						
GGD as % GDP	4.2	6.3	4.6	2.4	-0.9	-0.7
Inflation (RPI %)	13.4	18.0	11.9	8.6	4.6	4.9
Increase in Nominal GDP (%)	15.6	15.9	10.6	10.2	8.0	6.3
Increase in £M3 (%)	13.4	18.8	13.4	9.3	10.4	9.7
Increase in Real GDP (%)	2.2	-2.1	-1.3	1.6	3.4	1.4
Unemployment (%)						
(excl. school-leavers)	4.8	6.1	9.5	11.0	12.1	12.6

Sources: *Economic Trends*, NEUBERGER (1985), Table 1, p. 17.

#### IV - The stability of the demand for money

Taken in conjunction with an exogenously-determined money supply, a stable demand for money function provides the basis of the monetarist case for postulating a causal link running from changes in the money supply to changes in nominal income. A stable demand for money function "guarantees that some, or all, of the factors [of which nominal income is the most important] determining the demand for money will shift in a systematic way in response to a change in the supply of money" (Treasury and Civil Service Committee, *op. cit.*, p. 58).

Another way of expressing the same point is to say that the income velocity of circulation (nominal income/money supply) is stable and



predictable over time, a point which is easily established by rearranging the familiar identity of the quantity theory equation:

$$M_s V = PY$$

(i.e., money supply x income velocity of circulation = price level x real output = nominal income).

$$\begin{aligned} \text{In equilibrium,} \quad M_s &= M_d \\ \therefore M_d &= 1/V (PY) \end{aligned}$$

(i.e., demand for money = inverse of income velocity of circulation x nominal income).

If the demand for money is in fact a stable function of, *inter alia*, nominal income, it follows that the observed income velocity of circulation should behave in a reasonably stable fashion (see Table 4).

TABLE 4

£M3 INCOME VELOCITY OF CIRCULATION

	Jan.-Mar.	Apr.-Jun.	Jul.-Sep.	Oct.-Dec.
1979		3.77	3.90	3.90
1980	3.92	3.91	3.82	3.76
1981	3.71	3.65	3.57	3.57
1982	3.23	3.23	3.21	3.24
1983	3.29	3.12	3.19	3.17
1984	3.16	3.10	3.10	3.10
1985	3.06	3.01	2.94	2.94
1986	2.81	2.76	2.75	

Source: Bank of England Quarterly Bulletin.

The startling decline in the £M3 income velocity of circulation has, in the eyes of many, cut deep into the heart of this central tenet of monetarist theory. It certainly provides *prima facie* evidence for a demand for money function which is inherently unstable, a conclusion confirmed by most recent studies. Following Grice and Bennett (1981) who characterised the history of empirical work on the demand for money as the "years of hope" (1966-71), the "years of despair" (1972-78) and the "years of Hendrification" (1979-80), Taylor (1987)

has brought the nomenclature up to the present with the "years of uncertainty" (1981-87).

There are, of course, conflicting interpretations of this evidence. Broadly speaking, opinion is divided between those who consider that the demand for money function is inherently stable and have therefore sought explanations for its apparent breakdown since 1980, and those who view the post-1980 episode as further confirmation of the deep-rooted instability of the demand for money.

#### IV.i - Is the demand for money stable?

It is important to note that monetarist theory does not postulate a constant, irrevocably fixed velocity of circulation, nor even one which is invariant with respect to monetary impulses. To quote Friedman:

"...the initial effect of a change in monetary growth is an offsetting movement in velocity, followed by changes in the growth of spending... The initial offsetting movement in velocity is misleading, since it simply reflects the lags in reaction." (Treasury and Civil Service Committee, *op. cit.*, p. 59).

Modern versions of monetarism have attempted to embrace an important new development in monetary theory, the "buffer stock" or "disequilibrium money" approach.<sup>8</sup> In monetarist guise, the buffer stock approach extends Friedman's notion of "lags in reaction". The argument is that, faced with sudden, unexpected increases in the money supply, economic agents in a monetary economy have no choice other than to absorb these excess balances into their portfolios while they decide how best to reallocate their assets; that is, money acts as a "shock absorber" or "buffer stock", temporarily insulating the real economy from disturbances in the financial sector. In the early 1970s, for example, when there was an even greater surge in monetary growth than in the 1980s, the long-established upward trend in the income velocity of circulation for £M3 was indeed reversed for several years, after which it gradually rose, returning eventually to trend by the late 1970s and bringing associated inflationary pressures with it.

\* Many non-monetarist proponents of the buffer stock approach, e.g. Tobin and latterly the Bank of England, argue that the unpredictable shifts in portfolio behaviour which follow money supply shocks provide a strong case against monetary rules (e.g. a monetary target of 5% now may be swamped by the unexpected melting of the "glacier of liquidity" built up during the early 1980s). They argue for greater discretion in monetary policy as a result, in contradistinction to the monetarists.

As Laidler (1984) concludes:

"...we have here an obvious starting point for an explanation of why... short-run demand functions have been less successful in recent years. It is well known that the transmission mechanism of monetary policy is complex and subject to long and variable time lags, and yet in the case of single equation 'demand for money' studies, the buffer stock approach implies the mechanism is embedded in a constant parameter. Would it be surprising if such a procedure proved satisfactory enough when dealing with periods of monetary tranquility, but turned out to be inadequate when faced with... unstable money supply behaviour?" (p. 29).

To illustrate this point, consider the relationship between a firm's output, stocks and sales. In a period of "tranquility", there will tend to be a straightforward relationship between the three, with output equal to sales and stocks more or less constant. Introduce a shock to the system, for example a strike which temporarily reduces output, and this relationship dramatically changes: output and stocks fall, but sales remain unchanged. In other words, the firm's stocks act a buffer between its output and its sales, absorbing shocks and ensuring that production disturbances do not disrupt market sales. If money balances perform the same function, simple statistical equations linking the money supply and nominal income will be easy to identify during periods of "monetary tranquility", when the (stable) buffer stock element will be "embedded in a constant parameter" without harming the equation. But the same equation will break down if applied to periods of monetary instability, since it fails to explicitly allow for the buffer stock feature.<sup>9</sup>

An alternative defensive response also starts from the same basic presumption that the underlying function is stable, but seeks to explain the apparent breakdown of the demand for money function in terms of deficiencies in earlier empirical studies rather than in the basic theory itself. In essence, this view assumes that past equations have been wrongly specified, but that it has taken recent monetary developments to expose these weaknesses.

The basic equation of the traditional demand for money study is:

$$M_{dt} = a + bPY_t + cr_t$$

(PY = nominal income; r = rate of interest on non-money financial assets, e.g., long term rate of interest).

<sup>9</sup> In Laidler's words: "...the apparent fragility of the demand for money function stems not from problems with that relationship, but is rather a statistical artifact generated by inadequate modelling of the transmission mechanism" (LAIDLER, *op. cit.*, p. 29).

This basic equation can be made more sophisticated by entering non-interest rate variables as logarithms, building in lag structures and incorporating other explanatory variables (e.g. financial wealth, different rates of interest, etc.). Various recent studies have suggested, however, that the current failure of this approach to explain monetary behaviour in the 1980s stems from the widespread omission of certain key variables whose importance has increased of late.

One candidate is the rate of inflation. Most studies assume that by including nominal interest rates, the operation of the Fisher effect (*i.e.* that nominal interest rates = real interest rates + expected inflation) ensures that inflation effects are implicitly captured. Where nominal interest rates are institutionally sticky, this assumption may be invalidated. A recent study by two well-known UK monetarists, Budd and Holly (1986) suggests that incorporating the rate of inflation explicitly may offer a way of improving the performance of estimated equations. Buiter and Miller (1982) have separately pointed out that the existence of strong inflation effects in the demand for money would explain why the increase in the money supply has been willingly held following the sharp decline in inflation since 1980.

Another key variable widely omitted from earlier studies is the "own rate of return" on money. In a world where money is predominantly non-interest bearing (e.g. notes and coin and zero interest current accounts), the rate of interest on alternative financial assets (e.g. the long term rate of interest on government securities) serves as a useful proxy for the opportunity cost of holding money. One of the most dramatic effects of financial innovation has been to blur the distinction between money and non-money, by making some forms of money (e.g. chequing accounts) interest-bearing and some forms of interest-bearing non-money more liquid (e.g. building society deposits); since it is presumably the differential between the rate of return on money and non-money which affects the demand for money, incorporating an estimate of the own rate of return on money into the equation is one way of allowing for these changes. Taylor (1987), for example, reports that:

"...the effects of financial innovation (operating through the opportunity cost of holding money) and the effects of inflation are important determinants of both the short- and long-run demand for broad money... if proper account is taken of [these factors]... the evidence for the stability of the demand for broad money is at least as strong as the evidence for instability..." (Taylor, *op. cit.*, p. 237).

It should be pointed out, however, that Hendry (1985) has also examined the impact of financial innovation on the demand for money, concluding that: "money demand models [only] remain useful if it is thought, or known, that financial innovation will not occur; or if innovations do occur but their quantitative effects can be anticipated". Since financial innovation is notoriously unpredictable, this line of monetarist defence is therefore tantamount to saying that the demand for money is stable at any moment in time, but it is a function of variables which are unstable and unpredictable.

#### IV.ii - *Is the demand for money inherently unstable?*

One of the truly revolutionary features of Keynesian theory was that it moved economics out of the neo-classical world of perfect certainty into one characterised by uncertainty. "Uncertainty", unlike risk, implies a future which cannot be predicted with a mathematical probability, thereby rendering expectations about the future necessarily subjective and changeable. In Keynes' words, he sought to construct a theory of output and employment that was capable of "analysing the economic behaviour of the present under the influence of changing ideas about the future" (Keynes, 1936, p. vii).

In a constantly changing world, such expectations, formed subjectively on the basis of imperfect information, will therefore tend to be highly volatile. In Keynes' words: "...opinions... are themselves subject to sharp fluctuations... [due to] the flimsiness of the basis of the knowledge on which they depend" (Keynes, 1937, p. 217). In such a world, money plays a crucial role in the operation of the economy. It provides a "temporary abode of potential purchasing power" (Friedman, 1968b, p. 186) and thus allows what would otherwise necessarily be simultaneous barter transactions to be split and spread over time; hence "money, in its significant attributes, is above all a subtle device for linking the present to the future" (Keynes, *op. cit.*, p. 294). As Davidson notes: "In the absence of uncertainty, neoclassical theory had no room for the store of value function in its definition of money; nor would money play any more important role than peanuts in a neoclassical world" (Davidson, 1972, p. 101). Once uncertainty is introduced, money provides a perfect hedge: spending on goods, services and capital-uncertain financial assets can be deferred by accumulating money balances.

The concept of uncertainty is therefore assigned pride of place in Keynes' theory of the demand for money. Of the familiar trinity of motives for holding money — transactionary, precautionary and speculative — the latter pair are intimately bound up with expectations of an uncertain future: expectations of future income, expenditure, inflation and interest rates. Speculative balances, for example, are held with "the object of securing profit from knowing better than the market what the future will bring forth" (Keynes, *op. cit.*, pp. 170, 196). It follows as a direct consequence that the demand for money will tend to be highly unstable, waxing and waning with every change in financial market sentiment.

In Hutton's words: "Liquidity-preference is at the heart of the market economy... The whole point of liquidity-preference is that there is no stable relationship between a given interest rate, the classes of financial asset held, the level of saving, and the level of investment" (Hutton, 1986, pp. 112, 113). Commenting on the way in which Keynes has subsequently been interpreted and taught, Hutton writes: "to box [liquidity-preference] into the IS/LM approach and to assume that expectations are given... is to traduce Keynes to the point of betrayal" (Hutton, *op. cit.*, p. 113).

This approach has traditionally underpinned the Keynesian case against monetary targeting. Twenty years before Mrs. Thatcher first took office, the Radcliffe Committee concluded that they could not "find any reason for supposing, or any experience in monetary history indicating, that there is any limit to the velocity of circulation" (Radcliffe Committee, 1959, par. 391). The "LM" curve has often been described as a "straw in the wind of uncertainty", since volatile expectations would cause it to shift its position in the absence of accommodating changes in the money supply. Although Keynes himself conceded that, *ceteris paribus*, changes in the money supply might cause changes in interest rates (and so nominal income), he pointed out that "there were several slips between cup and lip" (Keynes, 1936, p. 173), the most fundamental being the instability of expectations in an ever-changing non-ergodic world. For many orthodox Keynesian economists, therefore, the behaviour of the income velocity of circulation since 1979 is conclusive evidence that the demand for broad money is inherently unstable.

## V - The stability of the private sector

Although controversy over the authorities' ability to control the money supply and the existence of a stable demand for money function continues to rage, there is little doubt that the tide of academic and political opinion has turned firmly against the monetarists. On the issue of whether or not the private sector is inherently self-stabilising, however, the *tempo* of the debate has, in anything, increased in recent years. That this should be so is puzzling. The performance of the real economy, unlike movements in monetary variables and reports of statistically-established demand functions, is transparent and open to continual inspection by academics and non-academics alike. Figures for employment, unemployment, output and the current account of the balance of payments are widely available and it is common knowledge that between 1979 and 1982 unemployment more than doubled to over three million. Despite nearly twenty definitional changes to the official statistics over the last five years, all but one of which reduced the recorded total, unemployment today remains only slightly below its 1982 figure. This experience conflicts sharply with the third tenet of monetarism, namely that "the private sector is inherently stable if left to its own devices and not disturbed by erratic monetary growth" (Mayer, 1978, p. 14).

Underpinning this central assumption of stability is the theoretical concept of a "natural rate of unemployment" to which the economy naturally tends in the absence of destabilising monetary policy. To quote Friedman:

"At any moment of time, there is some level of unemployment which has the property that it is consistent with equilibrium in the structure of real wage rates... The 'natural rate of unemployment', in other words, is the level that would be ground out by the Walrasian system of general equilibrium equations, provided there is embedded in them the actual structural characteristics of the labor and commodity markets, including market imperfections, stochastic variability in demands and supplies, the cost of gathering information about job vacancies and labor availabilities, the costs of mobility and so on" (Friedman, 1968a, p. 8).

It is clear that the hypothesis of private sector stability, and the related concept of a natural rate of unemployment, contrast sharply with "the fundamental practical message of the *General Theory*: that a private enterprise economy... needs to be stabilised, can be stabilised,

and therefore should be stabilized by appropriate monetary and fiscal policies" (Modigliani, 1977, p. 1). Unsurprisingly, those hostile to monetarism have seized on the persistently high levels of unemployment suffered by the UK as further evidence of its failure.

Proponents of the natural rate hypothesis, however, have provided a strong defence, to the extent that their policy prescriptions have inspired the Government to move on from a counter-inflationary strategy based on monetary control to an employment-creating programme based on supply-side reforms. The essence of the monetarist case is that a variety of factors has raised the natural rate of unemployment in recent years.

### V.i - Has the "natural rate of unemployment" increased?

It is important to note that, in Friedman's words, the "natural rate of unemployment [is not] immutable and unchangeable. On the contrary, many of the market characteristics that determine its level are man-made and policy-made" (Friedman, 1968a, p. 9). Various economists, most notably Minford (1981), have offered a number of reasons why these "man-made" and "policy-made" factors may have changed to force the natural rate of unemployment from between 1.5% and 2.5% in the 1960s to 6% in the 1970s and 10% in the 1980s. These so-called "supply-side" factors all turn on an intensification of atrophy in market forces (Brittan, 1982, pp. 110-138).

The operation of the housing market is one suggested area in which recent developments have contributed to a rise in the natural rate of unemployment by reducing the geographical mobility of labour (one of the structural characteristics "embedded" in Friedman's natural rate). Private rented accommodation in many areas has become increasingly scarce since the early 1960s and local authorities have accordingly experienced growing waiting lists for council houses; owner-occupation has also increased rapidly over the same period, but moving between areas has been made increasingly difficult by the growing gulf between house prices in north and south.<sup>10</sup>

<sup>10</sup> MINFORD *et al.* (1987 pp. 1, 121), lays the blame for all these ("policy-made") factors, and the unemployment they cause, squarely at the door of government: "The housing market in Britain is subject to massive government intervention in four main ways: the Rent Acts, the subsidies to council-house rents, the subsidies to owner-occupiers through mortgage tax relief [and the abolition in 1961 of Schedule A, the former tax on the notional value of home ownership], and the system of planning restrictions on land for housing... The British housing market is a mess because it is over-regulated and this has serious effects on mobility and so on unemployment".

Another source of upward pressure on the natural rate of unemployment is the operation of the tax and social security systems. The Liverpool Group argues that political pressure to raise the level of social security benefits relative to income tax thresholds has created "poverty" and "unemployment traps" which catch increasing numbers of people (the "poverty trap" reduces the incentive to take better paid jobs, so inhibiting labour mobility, while the "unemployment trap" deters individuals from taking registered jobs at all). Minford claims that every 10% rise in real social security benefits has raised the natural rate of unemployment by over 2%, or half a million.

Finally, growing monopoly power on the part of trades unions is frequently cited by monetarists as contributing to the continuing high levels of unemployment. Although Friedman denies that, in themselves, trades unions cause in the long run higher unemployment, since the higher real wages gained by organised labour simply puts downward pressure on real wages in the competitive, non-unionised sector of the labour market, if social security benefits set a floor below which real wages cannot fall, union activity could work to raise the natural rate in this indirect fashion. More generally, trades unions could use their monopoly power to impose a range of restrictions on occupational and geographical labour mobility.

The Government has been particularly concerned that developments in the labour market have contributed to the rise in the natural rate of unemployment. A series of new employment acts since 1979 has been aimed at reversing the concessions granted to the union movement in the 1970s. The Government has also addressed other alleged imperfections in the labour market, including the Wages Councils, the 1946 Fair Wages Resolution and public sector pay, bargaining procedures based on the notion of "comparability" (Treasury, 1984; 1986).

#### V.ii - *Is the private sector inherently unstable?*

Economists hostile to the neo-classical concept of a natural rate of unemployment typically interpret events since 1979 as confirmation of its invalidity, regarding the attempts by monetarists to explain the rise in the natural rate as mere *ex post* rationalisation. A central element in the rejection of the natural rate hypothesis is the way in which the labour market interacts with the goods and money markets. The essential message of Keynes is that employment is determined by the level of

aggregate demand, with real wages determined in turn by the level of employment. This turns monetarist theory on its head, by reversing the direction of causality between changes in employment and changes in real wages. More importantly, it implies that the economy will settle at whatever level of unemployment is consistent with the prevailing level of aggregate demand.

Many economists (*e.g.* Pratten, 1982; Reddaway, 1982; Neuberger, 1985) take the view that, by assigning overriding priority to defeating inflation at a time when prices and wages were accelerating and world demand falling, the Government imposed an unduly severe deflationary shock on the economy. While this has succeeded in bringing down inflation, through "disinflation by fear" (Matthews and Reddaway, 1980), the short run trade-off between unemployment and inflation — and the surprising ease with which the electorate has accepted mass unemployment — now prevents the authorities from anything more than modest reflation.<sup>11</sup>

A separate view denies that there is any relationship between unemployment and inflation at all in the UK. Beckerman (1985) has shown that the decline in price and wage inflation since 1979 can be explained entirely in terms of the fall in international commodity prices. It follows that "there is no particular level of unemployment which keeps inflation stable" (p. 9). Beckerman's interpretation of the 1979-82 is that the upturn in inflation caused by the 1979 OPEC oil price rise misled the Government into sharply deflating demand and forcing up unemployment. Because unemployment and inflation are unrelated, there existed no feedback mechanism to halt the deflation which therefore continued until import prices began to ease — by which time unemployment had risen to unprecedented levels. Once inflation stabilised at around 5%, the logic of the monetarist theory dictated that the economy must have lodged at a new, higher natural rate — hence, any reflation of demand was futile since it would lead to renewed inflationary pressures.

<sup>11</sup> Such economists are dismissive of the opposing argument that the natural rate of unemployment has increased. As NEUBERGER (*op. cit.*) points out: "...the conclusion that government action can improve employment can only be rejected if the Keynesian analysis is rejected in total and the whole explanation is cast in terms of supply-side factors... This is not to say that supply-side factors cannot play a role in output and jobs [but] the case that they have done so in the recession of the last five years remains to be demonstrated. The Keynesian analysis remains as relevant today as [ever]" (pp. 18-19).

## VII - Conclusions

"Economists cannot experiment to test their theories. The nearest approach to an experiment occurs when a Government adopts new policies... Mrs Thatcher's policies, which are based... on monetarist theories of how the economy operates are therefore of special interest to economists." (Pratten, 1982, p. 36.)

These words, written shortly before the end of the 1979-82 monetarist experiment, convey something of the way many economists viewed the anti-inflationary strategy launched by the Conservative Government in 1979. Amongst supporters and opponents alike, there was a general air of expectancy and a feeling that this experience would answer important theoretical questions about the design of macroeconomic policy.

In the event, the experiment has proved, or rather disproved, nothing. Monetarists have denied that an experiment ever took place; they have developed new theories to explain the behaviour of the income velocity of circulation or blamed external shocks for structural shifts in the demand for money and the natural rate of unemployment. Non-monetarists, in contrast, have interpreted the Government's failure to execute its strategy as planned as evidence that the money supply cannot be controlled; the gyrations in the velocity of circulation have been taken as further proof that the demand for money is inherently unstable and the coincidence of continuing mass unemployment and stable inflation has been used to attack the natural rate hypothesis.

In a political sense, the 1979-82 experiment certainly did provide a test of practical monetarism and, if nothing else, it established that rigid monetary rules are not the panacea for inflation-free growth in a dynamic, open economy that the Government originally hoped. But in the economic sense of testing key macroeconomic theories, the experiment has merely served to illustrate once again the limitations of empiricism and to highlight the fact that the sources of controversy in economics run far deeper than many of its practitioners would like to believe.

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