

10. Monetary Control

Consultants

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MONTAGU

Quarterly Review

Monetary control

The purpose of this edition of the Review is to consider some of the implications of the UK authorities' recent proposals on monetary control for the UK financial system. 'Monetary control' was published as a green paper by HM Treasury and the Bank of England in March (Command 7858). However, the green paper needs to be assessed in the context of the announcement in the Budget of a medium term UK financial plan and in the context of recent modifications in the issue by the authorities of gilt-edged stock. The Bank of England has also put forward proposals on the measurement of liquidity which will affect UK banks' prudential requirements. But they do not directly affect UK monetary control. They are therefore not considered in this edition of the Review.

The cash requirement

The authorities currently use a cash requirement on the clearing banks for purposes of short term monetary control. The clearing banks have to maintain a minimum cash ratio on average each month equivalent to 1½% of their eligible liabilities in the form of non-interest bearing balances at the Bank of England. In the paper on 'monetary control', the UK authorities are proposing to extend the cash requirement for reasons of equity from the clearing banks to the UK banking system as a whole. The proposals for the extension of the cash requirement to all UK banks are not the same as monetary base control. The cash requirement is likely to have some of the same components as a monetary base. But the authorities are not proposing to set a target for the rate of growth of the cash requirement. On the contrary, they are proposing to supply all the cash that the banking system requires, retaining discretion only over the interest rate at which it is supplied. Consequently, short term interest rates may be more volatile as a result of the proposed new arrangements, but not necessarily so.

The clearing banks do not need to hold as substantial an amount of cash balances as they are required to hold by the Bank of England. This is why it is proposed to extend the cash requirement on grounds of equity to all UK banks above a minimum size. The same principle was applied when the requirement for special deposits was extended in 1971 from the clearing banks to other UK banks. So long as the clearing banks have to hold more cash balances than they require for clearing purposes, it is equitable to share the cost with other UK banks. Whether the cash requirement should be applied to the clearing banks and other UK banks at the same rate depends on whether they have the same requirement for cash in the normal course of their business. Banks other than the clearing banks have hardly any need to hold cash at all. The clearing banks have a need for cash balances at present, but they would not do so if they could obtain overdraft facilities at the Bank of England.

It is evident that the extension of the cash requirement will redistribute the cost of the tax for holding cash balances that is currently borne by the clearing banks alone. What is not evident is how this is going to enable the authorities to achieve greater short term control over the money supply (£M3). They are not proposing to control the rate of growth of cash balances, and they already determine the interest rate at which they supply cash to the banking system. While they can attempt to exercise greater short term monetary control by making the necessary interest rate changes with less delay than they have done in the past, this can in theory be done under the existing system. The only reason why it has not been done in practice is the difficulty the authorities have experienced in distinguishing between erratic fluctuations in monetary growth and fundamental trends. Although more frequent collection of monetary statistics from the banking system might help them to distinguish between erratic fluctuations and fundamental trends, the statistics are costly to prepare and the production of them would not by itself solve the problem.

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The reserve asset ratio and 'the corset'

While the authorities are able to operate on short term interest rates through the cash base of the banking system, the effects of the operation on £M3 have subsequently been distorted in the past by the existence of the reserve asset ratio and the supplementary special deposits scheme ('the corset'). Ordinary special deposits are not affected by the new proposals. They will continue to be called when the authorities consider that there is excess liquidity in the banking system.

Experience of the past few years has shown that a shortage of reserve assets does not necessarily encourage banks to restrict the growth in their eligible liabilities, but to bid for funds in the interbank market to buy more reserve assets. This drives up interbank rates relative to rates for reserve assets (such as Treasury bills), and encourages non-bank holders of reserve assets (such as Treasury bills) to switch them into bank deposits. A fall in non-bank private sector holdings of public sector debt and a rise in its holdings of bank deposits sometimes has the perverse initial effect of increasing £M3, when the shortage of reserve assets is intended to reduce it. In addition, if banks do not raise their lending rates as quickly as their deposit rates in the wholesale market for bank deposits, 'round-tripping' develops, which involves corporate borrowing from the banking system in order to lend back to the banking system at a turn, thereby increasing £M3.

The application of 'the corset' limits the banks' ability to manage their liabilities by bidding for funds. But instead of limiting the growth in banks' IBELs, the banks now manage their assets whenever there is a shortage by switching into reserve assets (which can be acquired outside the banking system) out of other liquid assets which do not qualify as reserve assets. In addition, they can increase their capacity to lend through disintermediation. Two examples of disintermediation that have developed in the course of the past year are the growth in bank-accepted commercial bills, which do not increase banks' IBELs or £M3, and the use of the 'euro-sterling loophole' since the abolition of exchange controls. If UK residents borrow in sterling from banks outside the UK, IBELs are not affected. If they then hold the proceeds in sterling deposits with banks outside the UK, £M3 is not affected either.

The authorities consider that any form of selective control will ultimately lead to distortions. They consequently intend to abolish the reserve asset ratio and 'the corset'. Since the reserve asset ratio and 'the corset' do not contribute to monetary control, they do not need to be replaced for monetary control purposes. The use of the reserve asset ratio for prudential purposes will be taken over by the requirement that the banks should hold liquid assets. The requirement for liquid assets is discussed in detail in the Bank of England's consultative paper on 'the measurement of liquidity'.

The control of £M3

The proposed changes in the system of monetary control affect monetary control over the short term (i.e. for periods under 1 year). The system of monetary control over the medium term is not likely to change as a result of the green paper. The UK authorities continue to have the reduction of £M3 in the medium term as the primary aim of monetary control, and

they recognise that in order to do this without putting undue pressure on interest rates they will have to reduce the PSBR as a percentage of national output. A monetary target will continue to be set in terms of £M3, because this particular aggregate is well known and related to the other variables which the authorities can influence: the PSBR, bank lending, intervention in the exchange market and official sales of public sector debt. But other monetary aggregates will be monitored in setting the target for £M3, and the definition of £M3 will have to be varied from time to time to take account of technological developments and changes in monetary habits.

The definition of £M3

Apart from technological developments and changes in monetary habits in future, there are a number of reasons why £M3 is not necessarily an accurate measure of monetary growth at present. £M3 is a measure of the liabilities of the Bank of England and the UK banking system in sterling to UK residents. It does not measure UK residents' holdings of building society deposits, national savings or Treasury bills, all of which are close substitutes for bank deposits. Nor does it measure UK residents' holdings of foreign currency with banks in the UK or their holdings of sterling and foreign currency with banks outside the UK, both of which are freely permitted as a result of the abolition of UK exchange controls. When the balance of payments is in substantial deficit on current account, it is also important to monitor domestic credit expansion, which is a measure of the assets of the banking system, as well as the conventional definitions of monetary growth.

The PSBR, bank lending and exchange intervention

The four variables which the authorities can influence in attempting to control £M3 in the medium term are the PSBR, bank lending, exchange intervention and official sales of public sector debt. By publishing a medium term financial plan containing targets both for the rate of growth in £M3 and for the level of the PSBR, the authorities appear to recognise the importance of maintaining a balance between fiscal policy and monetary policy. If the PSBR is too high, the requirement to sell public sector debt sufficient to contain £M3 within the target rate of growth would drive interest rates to unacceptable levels. It is consequently necessary to reduce the PSBR in line with the reduction in the growth of £M3, after making an allowance in the PSBR for the level of activity in the domestic economy.

While it is common ground that the PSBR should be reduced in the medium term, there is much less agreement over what is the best means of ensuring that the outturn for the PSBR conforms to expectations. In the past few years, the outturn for the PSBR has varied from the original official forecast by up to £3b. There appears to be no method of adjusting tax revenues (without altering tax rates) other than by changing the timing of tax payments. The mechanism which the authorities use for controlling public expenditure is the cash limit. While cash limits control blocks of public expenditure, it is often possible to contain expenditure within the ceiling specified by cutting services, raising rates or increasing monopoly prices, rather than by cutting staff.

Even if the authorities are successful in containing the PSBR, they may encounter considerable difficulty in controlling the contribution to monetary growth of bank lending and

exchange intervention. A commitment to reduce the PSBR may actually increase the requirement of the company sector for bank finance in the short term until stock levels adjust, and the only way in which the authorities can be sure of containing bank lending in the medium term is by keeping interest rates at sufficiently high levels. Relatively high interest rates, which are necessary to achieve the authorities' policy of financing the PSBR outside the banking system and containing the growth in private sector bank lending, may also have the effect of attracting capital inflows. If the authorities intervene in the exchange market to maintain the level of sterling, the counterpart of the increase in reserves is an expansion in the money supply.

The sale of public sector debt: form

In the past, the authorities have mainly relied on official sales of high coupon fixed rate long-dated gilt-edged to finance the PSBR in a way that is consistent with controlling the rate of growth of £M3. There appear to be three reasons why they have done so. One is that, over a period of time, the non-bank private sector has shown that it is prepared to absorb long-dated fixed rate stock, at a price. A second reason is that, if the authorities relied to a greater extent than they do already on issues of short-dated stock, not only would they fail to meet the preference of a substantial part of the non-bank private sector for long-dated stock, but they would compete with borrowing that already takes place by the local authorities in shorter dated maturities. A third reason is that the issue of more short-dated stock would, by shortening the average life of outstanding public sector debt, increase the scale of the authorities' refinancing operations. Official sales of public sector debt have to finance both the PSBR and maturing stock that has not previously been bought in by the authorities.

The problem with relying on the issue of high coupon fixed rate long-dated gilt-edged is that it gives the authorities no incentive to reduce the rate of inflation, which would increase the overall cost of servicing the public sector debt in real terms. There are two alternatives that the authorities could consider, apart from the issue of more short-dated stock for refinancing in the future at lower rates. First, they could consider issuing stock whose capital value is index-linked to inflation (or to changes in the price of oil). This would have the advantage of reducing the PSBR, because the cost of debt service would fall on the capital value of the stock to be repaid rather than on interest payments. The total cost of servicing index-linked stock would also be lower than high coupon fixed rate long-dated gilt-edged, if the rate of inflation falls. However, the introduction of index-linked might have adverse consequences for the functioning of the gilt-edged market and the rest of the UK financial system. It is one thing to issue index-linked savings certificates to old aged pensioners, and quite another to make index-linked securities available to the community as a whole and to foreigners.

Secondly, the authorities could reduce the extent to which they rely on sales of gilt-edged to reduce the PSBR. Up till now, the authorities have generally only allowed the local authorities in the rest of the public sector to borrow in their own name in the domestic market. Most of the external financing of the nationalised industries which has not been met by central government grants and loans has been financed by

market and overseas borrowing guaranteed by the central government, which consequently also contributes to the PSBR. It has been suggested that profitable nationalised industries should be allowed to borrow without a central government guarantee. In these circumstances, the borrowing would not contribute to the PSBR and the nationalised industries' cash limits might have to be redrawn. However, the ultimate impact on £M3 would not necessarily change as a result of the change in accounting treatment. That would depend on whether the nationalised industries' borrowing is financed from the banking system.

The sale of public sector debt: method

When issuing gilt-edged stock, the authorities have until recently relied on a method which involves a delay between the announcement date of a new issue and the subscription date, a fixed price offer and the subsequent sale of stock not taken up at issue on tap. The method of issuing gilt-edged stock has been modified over the past few years in some respects in an attempt to reduce the erratic impact of gilt-edged sales on £M3. The modifications do not extend to the introduction of a tender system, whereby the authorities would be able to sell the full amount of stock on offer at a given date at a price the market would bear. There is a parallel between the authorities' refusal to introduce a tender system for the sale of gilt-edged so as to improve their short term ability to control £M3, and their refusal to withdraw the lender of last resort facility, which would enable them to exercise short term control over the monetary base.

Despite the refusal to change from a tap system to a tender system, the authorities have experimented with a number of modifications to the method of gilt-edged sales. First, they have introduced partly-paid issues so as to stagger the monetary impact of gilt-edged sales. Secondly, they have (on one occasion) attempted to counteract the tendency for partly-paid issues to provide substantial stag profits by reducing the interval between the announcement and the subscription date. Since a reduction of the interval tends to exclude small investors, they have thirdly experimented with 'minimum price' tenders, so that profits that would otherwise accrue to stags accrue to the authorities.

However, 'minimum price' tenders do not necessarily enable the authorities to sell gilt-edged any more effectively than conventional tap issues. There may not be sufficient bids from the market at or above the minimum price. But even if there are, the impact of official sales of gilt-edged on £M3 depends on the sectoral classification of the purchasers. £M3 is only reduced as a result of sales of gilt-edged to the non-bank private sector. Sales to the banking sector or to the overseas sector (non-residents) have no effect on £M3. In fact, one of the more important remaining problems affecting gilt-edged management that the authorities have to face arises as a result of non-resident interest in gilts. Whenever interest rates in the UK are raised in an attempt to control domestic monetary growth, there is a tendency for a substantial proportion of the subsequent issues of gilt-edged to be taken up by non-residents. Apart from banning non-resident purchases of gilt-edged, the only way of solving the problem is by issuing tax exempt stocks of a kind that are attractive to residents rather than non-residents.

Conclusion

The proposals on monetary control put forward by the UK authorities involve minor modifications rather than a revolution in the existing system of monetary management. In particular, the authorities have rejected the introduction of

monetary base control, mainly on the grounds that it would be impracticable to control the monetary base over short periods of time. However, this is a problem that affects all measures of the money supply. In the last resort, it is not important whether the money supply is controlled effectively from day to date. What is important is that effective control is exercised — and seen to be exercised — in the medium term.

Composition of the growth in the money supply (£M3)

£b	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80*
Public sector borrowing requirement (a)	+8.0	+10.6	+8.5	+5.6	+9.2	+11.2
Public sector debt (b)	-4.2	-5.3	-7.2	-6.7	-8.5	-7.3
Bank lending (c)	+2.6	-0.2	+3.6	+4.9	+6.6	+6.3
Domestic credit expansion (d)	+6.4	+5.1	+4.9	+3.8	+7.3	+10.3
External finance (e)	-3.0	-1.7	-1.3	+2.9	-1.0	-2.4
Non-deposit liabilities (f)	-0.6	-1.0	-0.9	-0.4	-0.9	-0.9
Money supply (£M3) (g)	+2.7	+2.5	+2.8	+6.2	+5.3	+7.0

Notes: (a) deficit = +; (b) sales (-) to the non-bank private sector; (c) bank lending in sterling to the non-bank private and overseas sectors, and increase in Department's holdings of commercial bills; (d) DCE = (a) + (b) + (c); (e) increase (-) in external and foreign currency finance accruing to public and banking sectors; (f) increase (-) in banks' net non-deposit liabilities; (g) increase in £M3 = (d) + (e) + (f). Totals may not sum due to rounding. *First three quarters only. Source: Bank of England.

Net purchase of government stock by sector

£b	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80*
Non-bank private sector	+2.3	+3.9	+5.8	+4.9	+6.2	+6.6
Banking sector	-0.0	+0.4	+0.2	+1.0	-0.0	+0.2
Overseas sector	-0.0	-0.0	+0.3	+0.8	+0.0	+1.1
Other public sector	-0.0	+0.0	+0.0	-	+0.1	-0.1
Total net purchases	+2.2	+4.2	+6.3	+6.7	+6.3	+7.9

Notes: Totals may not sum due to rounding. *First three quarters only. Source: Bank of England.

Net purchases of government stock by maturity

£b	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80*
Redemptions and conversions	-0.4	-0.7	-0.7	-0.7	-0.4	-0.8
Up to 1 year	-0.9	-1.1	-1.4	-2.3	-1.1	-1.4
Over 1 and up to 5 years	+2.6	+2.2	+2.6	+2.9	+2.0	+1.5
Over 5 and up to 15 years	+0.4	+1.0	+0.8	+2.8	+1.4	+3.0
Over 15 years and undated	+0.5	+2.8	+5.0	+3.9	+4.3	+5.5
Total net purchases	+2.2	+4.2	+6.3	+6.7	+6.3	+7.9

Notes: Totals may not sum due to rounding. *First three quarters only. Source: Bank of England.

Whilst great care has been taken to ensure that the information and statistics contained herein are accurate, no responsibility can be accepted for any mistakes, errors or omissions or for any action taken in reliance thereon.

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HER MAJESTY'S TREASURY
MONETARY CONTROL CONSULTATIONS

COMMENTS BY RICHARD COGHLAN

Note by the Secretaries

The attached article was published in "The Banker" of April/May 1980. At a quick glance, it seems to cover much the same ground as Richard Coghlan's submission to the Select Committee (circulated as TR(Mon)2M). In the same issue of "The Banker" Professor Griffiths et al have published (apparently without any amendment of substance) their submission to the Select Committee (TR(Mon)6M). A third article by Ian Morison and Paul Tillett is being circulated as MCC(80)19.

M D K W FOOT

M L WILLIAMS

H M Treasury

Abandoning monetarism for monetary control

Richard Coghlan

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The spotlight on monetary base control diverts attention away from the forces generating bank credit expansion.

The green paper on monetary control published in March was concerned with the technical details of how to achieve control over sterling M3. In particular, the paper rejected the proposals for monetary base control (MBC) as unworkable, and suggested that the present emphasis on changes in the Bank of England's lending rate and sales of long-term debt to the non-bank private sector be maintained, perhaps with the introduction of some indicator mechanism.

It is necessary to begin by identifying what it is that should be controlled, which itself requires some discussion of why money should be important and how it affects the rest of the economy. It will be seen that this approach automatically suggests its own solution, so that the question of how control should be achieved does not pose any particular problem. MBC is rejected as misleading and potentially distortionary, but so too is the emphasis on officially determined discount rate changes.

Although the main discussion concerns the United Kingdom the same arguments are also applied to the United States. It is often suggested that monetary policy in the United Kingdom has been far worse than in other countries, particularly the United States. The evidence, in fact, would seem to indicate that monetary policy in the United Kingdom has been remarkably successful, but that the strains on the system have been much greater, both because of the attempts to liberalise the banking system following severe non-market controls, and because of the adoption of inconsistent fiscal policies.

The main conclusion of this article is that the acceptance, and application, of mechanical monetarism would do more harm than good, and that better control would be achieved if more attention were paid to the forces generating credit expansion within the economy. Macroeconomic

policy has for many years been dominated by mechanical Keynesian theory which operated on the symptoms of economic malaise but which, in fact, contributed to the deterioration. It is important that the approach is not replaced by mechanical monetarism equally dominated by superficial appearances rather than fundamental causes.

It frequently seems that it does not matter particularly which definition of money is to be controlled, and suggestions have varied from narrow definitions, eg notes and coins or M1 through the range to broad definitions such as sterling M3 or M5, M6 etc. Monetarism does not seem to imply any particular definition and this is usually left as an open question. It may well be the case that there is no absolutely perfect definition in reality which corresponds exactly to the theoretical standard. However, monetary policy requires a practical analogue to the theoretical abstractions, and this requires a specific definition of money, or credit, as a guide to policy, and it is important to choose the best measure possible. Trying to concentrate attention simultaneously on a variety of different definitions would only prove confusing and misleading.

Narrow money

The quantity of narrow money (eg M1) outstanding generally reflects immediate financing needs plus the opportunity cost of holding money in that form, ie the return available on alternative assets, and is determined by the demand from individuals and companies in the conduct of their daily transactions—except under those circumstances in which the monetary authorities are imposing penalties on the banks for issuing such liabilities. In this last case, when subjected to non-market controls, the series become distorted and unrepresentative, as has happened in the

United States.

However, even when they are not distorted, such narrow definitions do not provide a useful indicator of any future inflationary pressure which may be created by excessive financial demands at the present. It is, in fact, some measure of the underlying financial pressures that is required in order to conduct a sensible monetary policy.

Monetarism, which provides the intellectual justification for MBC, generally makes the assumption that the stock of money (however defined) is determined by the monetary authorities independently of other economic behaviour. The method of control is through the rationing of reserve assets to the banking system, with bank deposits representing some mechanical multiple of the outstanding level of reserves. This, however, does not represent even a close resemblance to the operation of any major financial system.

Not only do such proposals fail to take account of the interesting questions involved, there is a very real danger that they would not succeed in achieving their objective. It is important to recognise that there is far more to successful monetary control than simply achieving the target for any particular monetary variable, no matter how

relevant it might otherwise have been. We may all agree that monetary control is the essential ingredient in the management of aggregate demand, but it is still crucially important how that control is achieved.

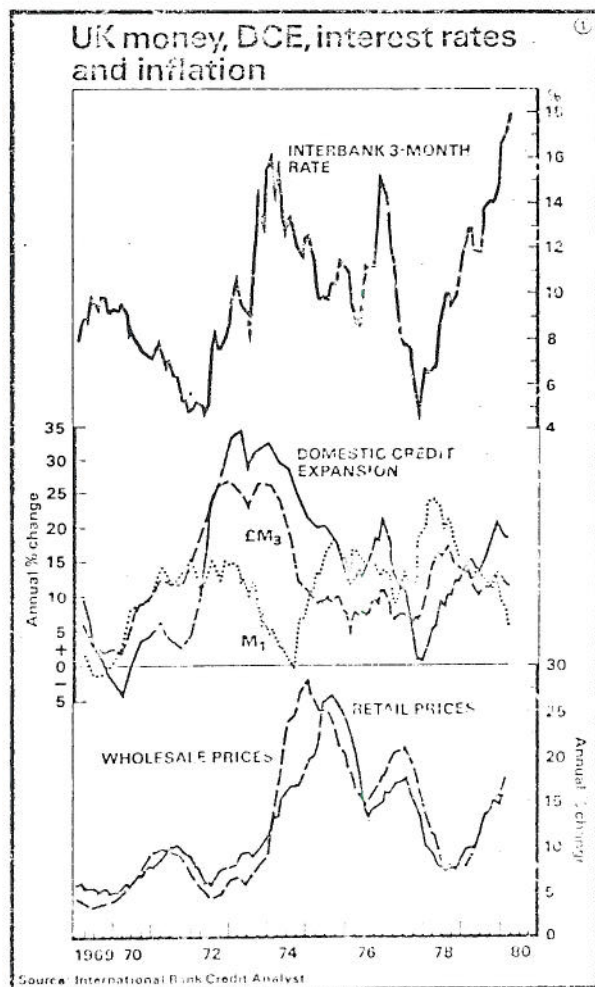
Other objectives of control

If all that is desired is to achieve a specific target for a particular definition of the money supply, then the problem is trivially easy to solve. This can be done by choosing a particular subset of bank deposits which the banks can easily control but which is also completely irrelevant. Difficulties only arise once it is recognised that there are other objectives to be achieved, and that monetary control is only a means to other ends. Even if a broad measure of the money supply is controlled it is necessary to achieve that control through market mechanisms which do not penalise the banking system relative to other financial institutions. Moreover, employing the outstanding quantity of reserves as a guide to policy action is likely to provide misleading and inconsistent indicators, and will not provide the improvement in control argued by the proponents of MEC.

A much better way to approach the question of monetary control is to begin by examining the important role played by the banks in the provision of new finance. The demand for credit is closely related to expenditure plans, either for goods and services, inputs to the productive process or for financial or real assets. The importance of the banks in this process has been well documented, and was emphasised by Lord Keynes. It is generally recognised that the banks are the providers of residual finance to the government, but more importantly they are also the providers of residual finance to the private sector. This means that banks play an important role in providing the credit to finance an expansion in economic activity.

In the process new deposits will come into existence, unless financial demands are reduced elsewhere, thereby increasing the supply of money. As real incomes and expenditure, prices and interest rates adjust to this stimulus so the demand for money will also adjust in order to match the increase in supply. The economic changes will have further implications for the supply of money and the process of adjustment will be both complicated and will take time to be completed.

Money, therefore, comes into existence as the result of increases in the demand for and supply of bank credit, and it is the relationship between credit and expenditure that actually provides the primary direct relationship between the money supply and the rest of the economy. A secondary relationship is provided by the continuing reac-



tions required in order to bring about equilibrium between the demand for and supply of money.

The arguments presented above regarding the role and significance of financial flows in the creation of money obviously favour a broad definition of the money supply, reflecting the overall bank portfolio. It might, in fact, be preferable to look directly at total bank credit creation, measured by some definition of domestic credit expansion (DCE). This has the added advantage of including the credit financed through an increase in non-deposit liabilities or through other sources outside the definitions subject to controls.

Disparate parts of financial system

This emphasis on the banks stems from their role in the provision of residual finance and this, in turn, derives from the means of payment function of certain types of bank deposits, combined with the institutional structure of the banking system (in particular, the highly developed inter-bank market and the need for retail banks to operate extensively in the wholesale banking market). It is these features of the system which together allow the banking sector to maintain its central role in the financial system, and determine the appropriate definition of money and credit. Moreover, an increase in DCE will normally be a good indicator of additional demand pressures within the economy, while changes in the money supply or in national income will not be good measures to the extent that the additional demand is for foreign goods and services or assets.

The definition adopted naturally depends on the institutional structure of the financial system, and it is possible that future developments may require a reconsideration of how the money supply, and DCE, should be defined for the purposes of control. For present purposes it seems sensible to exclude the building societies and other financial intermediaries. Such institutions play an important function in allocating funds within the economy, but this role is sufficiently different from the residual financing operations of the banks to warrant separate treatment.

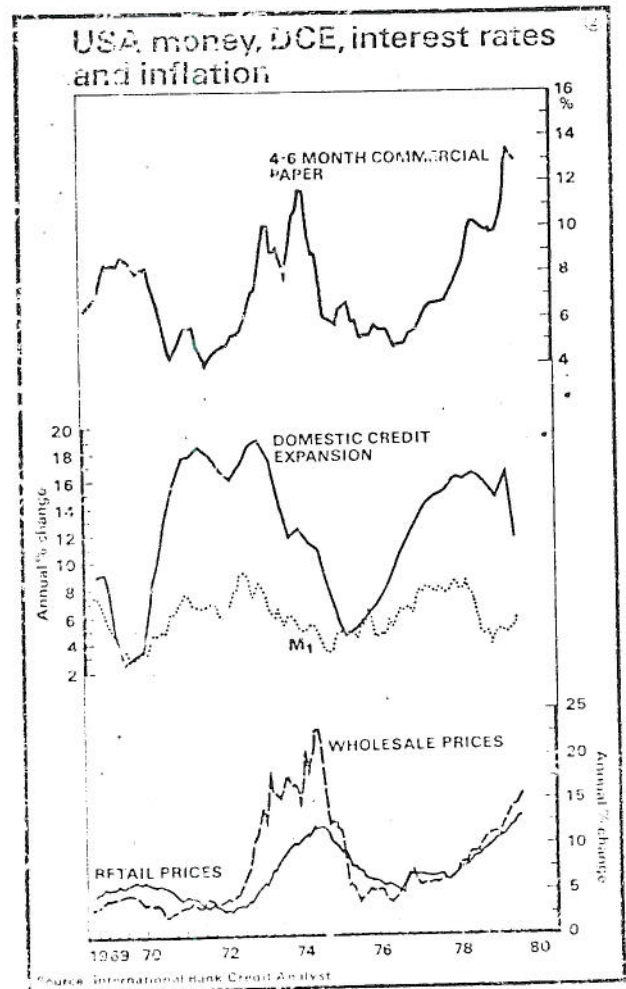
However, it is not suggested that the rest of the financial system should be ignored. Directly monitoring the behaviour of the building societies, for example, allows the authorities to take account of their specific characteristics, which seems preferable to aggregating all deposit-taking institutions into one amorphous heap, taking no particular notice of the operational differences that exist between different groups.

It also seems wrong to include treasury bills, and other short-term public sector debt instruments, in the definition of the money supply, as is suggested, in ambiguous fashion, in the green

paper. The fact that this debt may be highly substitutable with bank deposits in private sector portfolios is not a restriction on the use of such debt sales to achieve short-term control. On the contrary, this substitutability is actually an important requirement for dynamic monetary control purposes, and additional sales of treasury bills will naturally push up interest rates in the direction required. However, before turning to discuss the methods of control it might help to clarify the argument if we take a look at some evidence in support of this approach.

Chart 1 shows the relationship between short-term interest rates, the rate of inflation and the rate of growth of money and a measure of DCE. It is clear from this chart that the rate of growth of DCE provides a good indication of future rates of inflation, sterling M3 is not quite so good, and M1, as expected, provides a very poor advance indicator. DCE also maps out the broad pattern followed by short-term interest rates.

To begin with interest rates lag DCE, but the relationship gets closer and the interest rate movements more pronounced as time goes by. This is exactly what should be expected as the monetary authorities increasingly recognised the im-



portance of controlling money and credit as a means of controlling inflation. Predictably, M1 tends to fall as interest rates get pushed up, as this has the effect of increasing the opportunity cost of holding non-interest-bearing deposits and cash. It should, however, be clear that M1 provides a very poor guide to policy.

What is perhaps even more interesting is that the same basic relationships are also apparent for the United States; these are shown in chart 2. In this case, it takes longer for interest rates to react to a rise in DCE, which is a direct consequence of the concentration on narrow definitions of the money supply. Eventually the rising interest rates should have the effect of reducing DCE, but too late to prevent the creation of excess demand and inflationary pressure. In fact, the biggest danger of looking at a misleading indicator is that the government will actually add to excess demand through its own credit demands at precisely the wrong point in the cycle. This has been a persistent characteristic of economic policy in both the United Kingdom and the United States which has then required the very high interest rates to reverse the trend.

Even in the United States there is increasing recognition of the importance of taking a broader view of financial developments, and of controlling bank credit. Although the main targets continue to be set in terms of a narrow definition of money, restrictions are increasingly being placed on more important aggregates. While this is a move in the right direction, it should also be recognised that to the extent that certain institutions are being penalised relative to others this is distorting the recorded money and credit series and is building up potential troubles for the future. The green paper acknowledged the importance of such distortionary influences in the United Kingdom and because of this recommended the abolition of the 'corset'

Focus on credit demand

Having identified the problem it is necessary also to say something about the solution. Control should naturally be achieved through operating on the supplies of and demands for credit, and to do this effectively requires more than simply setting reserve ratios for the banks. Discussions about MBC are in effect attempts to decide on the best way of corking the bottle so that no liquidity escapes. Such an exercise is obviously futile if at the same time someone is trying to pour a quart into a pint bottle. In the same way it is quite possible that the monetary authorities will achieve perfect control over the quantity they are controlling directly, but only by diverting the pressure elsewhere. There is then a real danger that they end up with the worst of all worlds; an inefficient financial sys-

tem and no clear indicator of excess financial pressure. It would, therefore, be better to focus directly on the underlying credit demands as a guide to policy.

Private sector credit flows can be influenced through changing the cost of credit or by directly restricting the availability of finance. Moreover, excessive credit demands by both the private and public sector can be offset by additional public sector debt sales to the non-bank private sector, and this will also require an increase in interest rates. If the government is not prepared to accept the rise of interest rates necessary to achieve control then the only options open are direct controls on the banks, or a reduction of the government's own financial demands. If we dismiss direct controls as distortionary and inefficient that leaves control over the public sector borrowing requirement as the main alternative to changes in interest rates.

Interest rate effects

It should also be recognized that the effect of increases in interest rates is not necessarily effective in the short run; unless, that is, such rises reflect the aggressive sale of debt at a market determined rate. In particular, bank lending is not very sensitive to high interest rates in the short-run. The initial effect could, in fact, well be to increase financial deficits and borrowing needs. After all, it is no easier, and is probably more difficult, for the private sector to reduce its borrowing requirement than it is for the government to reduce its.

Such methods of control penalise the private sector which does not have as easy access to funds as the public sector, and essentially works by creating a recession—which eventually results in the desired objective of reducing bank lending. Efficient monetary control, which combines control over monetary conditions together with a viable private sector, under normal circumstances requires restricted credit demands from the public sector (that is from the PSBR plus intervention in the exchange market). This is, in fact, an essential condition if the authorities are to achieve long-run stability.

However, it is also necessary to improve short-term monetary control, and this, in turn, requires the sale of short-term government debt, eg treasury bills, at yields which make it competitive with bank deposits. This can be achieved by tendering sufficient quantities onto the market until the required amounts have been sold to the non-bank private sector. Whether the main short-term instrument employed in this way is excluded from the definition of reserves is not essential, since the purchase of a treasury bill by a bank does not create reserves but simply converts existing reserves into a different form. If it is ac-

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cepted that the control mechanism should not penalise the banks then it is necessary that they receive a market-related return on their liquidity holdings. Although there will probably be some small benefit in terms of the predictability of response if treasury bills etc are excluded, it is only of secondary importance.

The essential point is whether the government is prepared to pay the price. If the credit demands are extremely high, the rise in interest rates necessary to achieve short-term control could be very high. This is the main restriction on short-run policy actions, and changing the definition of reserves, and imposing strict ratios, will do nothing to stop reserves being created if the alternative is not acceptable to those in control of monetary policy.

The argument in the green paper that treasury bill sales (or, by implication any similar short-term instrument) should not be used for control purposes is based on a static view of total liquid assets in the hands of the private sector. This is certainly an important consideration, and for that reason it is necessary for the government's long-term financing needs to be funded in long-term markets. Short-term control is, however, a dynamic problem, and the important feature of the proposal outlined above is that it creates the right kinds of pressures on the system. In particular, it pushes interest rates up when bank credit

is expanding too fast. It is not necessary for the authorities to force the banks to hold balances with the Bank of England, as suggested in the green paper, in order to gain control over interest rate movements. Such movements will follow automatically from the sales of short-term debt, and MLR need only change to reinforce these changes.

It therefore also follows that attempts automatically to link Bank of England lending rates to changes in the monetary base, or some other monetary aggregate, would also be misleading. The objective should be to limit bank credit creation, through market mechanisms and without penalising the banks. If in the short run it is necessary to push up short-term interest rates, this will happen automatically through the sale of treasury bills, etc. in sufficient quantities to offset the excess credit creation. Longer-term stability requires limiting public sector demands so that they do not put undue pressure on the financial markets.

A cost to the government

The costs involved in monetary control are the interest rates necessary to sell debt or reduce bank lending (eventually) or the fiscal policy changes required to control the PSBR. The crucial question to be asked in terms of control of the money supply is: is the government prepared to pay the price? In the short term, given the PSBR, that means is it prepared to accept the interest rates necessary to sell sufficient quantities of debt or restrict bank lending?

If they are, then control could be achieved with the present definition of reserve assets. If they are not, then changing the definition of reserves will not make any difference—the authorities will continue to supply reserves upon demand. Directing attention on the technicalities of MBC is liable to divert attention away from the fundamental issues, towards matters which should be of secondary importance.

It is easy to see the dilemma that the monetary authorities find themselves in. The government starts by expanding the PSBR for what it sees as good social and economic reasons, and only later does it become apparent that excess credit, and excess demand, have been created. At that point the choice is between raising interest rates or cutting the PSBR. Both of these solutions are likely to prove disruptive, economically and socially, thereby reversing the initial objectives and it would, in fact, have been far better to have avoided getting into this position in the first place. What is required is a proper understanding of the financial implications and long-run consequences of short-term policy actions, and the rigid control of bank reserves provides no easy solution.



St George without the Dragon?

Alas for St. George! His existence doubted, his sainthood questioned, his feast day uncelebrated, but still he holds a place in our affection for the story of his bravery in slaying a dragon and rescuing a maiden who would otherwise have met a fery fate.

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A banking view

Ian Morison and Paul Tillett

Few bankers will mourn the official thumbs-down for monetary base control. But the closely related paper on liquidity raises important questions about the reasons for holding liquid assets.

March 20 was something of a red letter day for the Bank of England. It started gloomily enough with the publication of the March *Bulletin* together with the governor's forecast of further monetary restraint to come. It proceeded with the arrival of the long-awaited green paper on *Monetary Control*, co-authored by the Bank, which suggests that whatever other means are used to achieve this restraint, strict control of the monetary base will not be one of them. And it ended with the release of a Bank discussion paper entitled *The Measurement of Liquidity*, which many bankers regarded as the most depressing document of the lot.

It was no coincidence that the papers on monetary control and liquidity should have appeared together. The two subjects are intimately connected and both have been in serious need of reappraisal for some time. So before considering some of the practical implications of the green paper for the banking system, it may be helpful to look first at the proposals on liquidity.

The connection between the two subjects is at its most obvious in the decision to abandon the 12½ per cent reserve asset ratio for monetary control purposes, while at the same time proposing new liquidity controls which involve—in the guise of 'primary liquid assets'—holdings of very much the same assets in very much the same quantities. Here the wheel of the Bank of England policy may be said to have turned full circle. The 12½ per cent reserve asset ratio was based largely on the 28 per cent (previously 30 per cent) liquidity ratio maintained by the clearing banks until 1971. This requirement itself represented a codification, for monetary control purposes, of the banks' traditional prudential holdings of liquid assets. Now, once again, these assets are to be held for prudential rather than monetary purposes.

The liquidity proposals, it will be recalled, are that banks should hold a quarter of their 'maturity uncertain' deposits (eg current and seven-day notice deposits and deposits on call) in the form of liquid assets, 40 per cent of which (in the case of their sterling business) would need to be in the form of 'primary liquidity'. A range of liquid coefficients (from 90 per cent to 5 per cent) applies to the banks' mismatched liabilities in six maturity bands, while 100 per cent liquidity cover is required for standbys and inter-bank borrowings of up to one month.

Three difficulties

The first point to stress about these proposals is the impossibility of proving objectively whether they will result in banks holding the 'right' amount of liquidity. There are at least three difficulties, which are worth discussing briefly.

First, there is a fundamental difference between the liquidity of an asset and the liquidity of an institution. The liquidity of an asset is a measurement of the speed and certainty with which it can be realised for cash. The liquidity of an institution is an indication of its ability to meet its commitments, whether by selling liquid assets or other means (eg from the proceeds of loan repayments or by raising fresh deposits). Thus the liquidity of an institution is by no means merely a sum of its liquid assets. The Bank recognises this, and recognises also that the liquidity coefficients it has proposed do not go all the way towards reflecting the more elusive, dynamic aspects of institutional liquidity.

Secondly, and closely related to the previous point, is the fact that liquidity requirements differ from bank to bank in ways that cannot easily be embraced by a simple formula. The same is, of course, true of capital needs; and one of the criticisms of the Bank's recent proposals on cap-

ital adequacy is that they failed to recognise the diversity of risk attached to different types of lending business. In the case of capital adequacy, this is one of the reasons why the Bank proposes to supplement its objective measurement of capital needs through the use of risk coefficients with a more subjective assessment of the overall position of each institution. Perhaps a similar two-stage approach would have made more sense for liquidity purposes as well.

Thirdly, there is an important respect in which adequate liquidity is *per se* harder to assess than adequate capital. It is fairly obvious that the more capital a bank has, the better able it is to absorb losses. But it is not so obvious that the more liquidity it has the better able it is to meet its commitments. The reason is that there is a major discontinuity between a healthy bank, whose functional needs for liquidity are limited to its 'working capital' of cash and near-cash items, and a bank which has lost the market's confidence, for which no amount of liquid assets are adequate. Confidence is a virtually indivisible force; a bank either enjoys it or it doesn't. There is an inherent danger, therefore, that the Bank's proposals will force sound banks to be over-liquid, while doing little to protect the position of unsound ones.

Onerous and complicated

For all these reasons, the Bank's proposals are hard to assess analytically, at least as far as the overall liquidity requirement—the so-called 'integrated test' is concerned. On the face of it they are rather onerous. After all, if the banks were reckoned to be adequately liquid when they were locked into their holdings of reserve assets, they should become very much more liquid once they are free to use these assets for liquidity purposes again. Also, they are alarmingly complicated. It will not be easy for bank treasurers to organise their borrowing and lending in the money markets in such a way as to simultaneously observe the Bank's new rules and to keep within the bank's own internal guidelines covering such matters as interest-rate mismatching.

If the 'integrated test' is open to criticism it is perhaps on points of detail rather than on the general principle underlying it. Few would contest the general proposition that prudential holdings of liquid assets should be related to the extent of the bank's maturity mismatching. But in the case of the proposed primary liquidity requirements it is possible to make some more fundamental criticisms.

The Bank rightly draws a distinction between liquidity crises affecting an individual institution and those affecting the system as a whole. In order to protect the system as a whole from sudden and abnormal outflows to the central govern-

ment or abroad a mechanism for central bank intervention is necessary—under such circumstances liquid assets only retain their liquidity characteristics to the extent that the markets in them are supported by the Bank of England. Primary liquid assets are needed, the Bank says, to enable such assistance to be provided "within the framework of the Bank's customary market operations and lender of last resort facilities."

There is a gaping hole in the argument here. In the first place, there is no discussion at all in either the liquidity paper or the green paper of why the Bank's "customary" procedures take the form they do. Unless there are good reasons why the Bank should limit its intervention to purchases of treasury bills and other designated paper, together with lending to the discount market (rather than purchasing other bank assets or lending in the inter-bank market), the requirement to hold primary assets is just as arbitrary and unsatisfactory as the old 12½ per cent reserve asset requirement.

In the second place, even if good reasons exist for restricting the range of intervention techniques under normal circumstances, it is not clear that the same would hold good under abnormal circumstances. It is difficult to believe that the Bank would in fact refuse to refinance other bank assets if the need arose—it has in fact undertaken to refinance export credit if necessary, and a sale-and-repurchase arrangement for the clearing banks' gilt edged holdings is actually in force at the time of writing.

Need for open discussion

The proposed primary liquid asset requirement, like the reserve asset requirement before it, would have the effect of holding down the yield on treasury bills (relative to other money market paper). It is understandable that the authorities should be concerned to keep down the cost of government borrowing, but it would be desirable for this aspect to be discussed openly. By the same token, the requirement would hold down the discount houses' borrowing costs (relative to those of banks). The authorities' motives for conferring a special status on the discount market are far from obvious, and a reappraisal of the market's role is long overdue.

Turning to the green paper, the thumbs-down for monetary base control will cause few tears to be shed by bankers. The very real dangers of unacceptable interest rate volatility and disintermediation that most of the proposed systems would have entailed are well analysed. Particularly welcome is the clear analysis, lacking in much recent academic discussion, of the banks' demand for base money under modern conditions, and the recognition that there can be no stable relationship between the demand for the

Bank of England balances (which is a function of unpredictable flows in the clearing) and the stock of bank assets. The demise of the corset is also, of course, particularly welcome to bankers.

The less straightforward aspects of the green paper concern special deposits, the suggested cash requirement, and the proposed 'indicator system' for determining the interest rates at which the Bank conducts its money market intervention. In the case of the first two of these matters, it is the absence of discussion which gives rise to difficulty. The discussion of special deposits in the main body of the paper consists of a single sentence asserting that they will be needed to "guard against possible adverse effects of excess liquidity", but it is not at all clear what these adverse effects are.

With the abolition of reserve assets for monetary control purposes and the recognition that control is to be exercised solely by influencing short-term interest rates, the old-fashioned idea of a multiplier relationship between bank liquidity and total bank assets has been buried once and for all. The relevant appendix adds that calls and releases of special deposits would be used to help smooth out money-market conditions, but it is not clear why forced loans to the Bank of England should be more efficacious than voluntary loans through the inter-bank market or additional sales of treasury bills to the market.

Disappointing delay

In the case of cash, the deferment of the Bank's detailed proposals to a subsequent paper is particularly disappointing, since this could well be the most important part of the reforms in terms of their effects on bank profitability. The authorities are now thinking in terms of a cash requirement for all banks, not just for the London clearing banks.

At present the London clearers hold interest free balances at the Bank of England representing 1½ per cent of their eligible liabilities—a figure which is by common consent well in excess of their normal functional needs for settlement balances. Non-clearers have virtually no functional need for balances at the Bank, since they operate settlement accounts with their clearing banks instead. There is clearly a danger that if the requirement is in excess of the functional needs of the banking system it could simply encourage disintermediation. The more 'penal' a system of monetary controls is, the more it will tend to be self-defeating by encouraging the routing of banking business outside the controlled channels. It must be hoped that this lesson has been fully learnt from the experience of the 'corset'.

The need for a cash requirement arises from the fact that the Bank cannot successfully influence short-term interest rates unless the banking

system's demand for cash is stable. It should be noted that this objective is served whatever level the requirement is pitched at, and that the discussion in the green paper therefore provides no criterion for deciding what the level should be.

In particular, it would seem that the needs of monetary policy would be perfectly well served if the requirement were pitched at zero: non-clearers need keep no balances at all, while the clearing banks could be asked to aim for a target balance of zero on their settlement accounts—they would be in overdraft on some days, in the black on others, but all square on the average. (It is, of course, the target that has to be stable, not the actual balance, which inevitably fluctuates from day to day in response to unforeseen flows in the clearing.) Provided the Bank's overdraft rate was not penal, this would virtually eliminate the 'tax' on the banking system.

The 'tax' could also be eliminated by the Bank paying a market rate of interest on cash balances. Of course, eliminating the 'tax' would at the same time eliminate the revenue the Bank derives from the system. But the question of how the Bank of England should best be financed is worthy of consideration in its own right, and should not be confused with the needs of monetary policy.

A political issue

As for the suggested indicator system, the green paper itself questions whether it would really make sense to adjust the Bank's operating rate more or less automatically in line with departures from trend in the money supply. The real issue here is political, not technical. Perhaps the main problem with any system of monetary control is that the Bank may feel politically constrained from adjusting interest rates as much and as often as its reading of the monetary situation suggests is necessary. The trigger mechanism suggested (with the facility for 'overriding the trigger' where appropriate) could just help to depoliticise interest rate adjustments and thus contribute to stabler growth in the money supply. But the case is far from proven, and would require that consequential adjustments in banks' base rates and building societies' mortgage rates were equally free from political influence.

Taken as a whole, the green paper will obviously have disappointed those who have been promoting a radical breach from the past in the conduct of monetary policy. It may also have lent support to the cynical view that the Bank is adept at resisting innovation in any of its areas of responsibility. But on this occasion at least, the cautious tone of the green paper will be widely echoed within the institutions and markets through which monetary theory is actually translated into monetary practice.

A Comment on the Consultation Paper
on Monetary Control

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June 1980

^{*/} International Finance Division, Federal Reserve Board. This comment represents the views of the author and should not be interpreted as reflecting the views of the Board of Governors of the Federal Reserve System or other members of its staff.

The U.K. Treasury and the Bank of England have issued a consultation paper entitled Monetary Control (London, March 1980). This green paper presents a defense of current methods of medium-term monetary control in the United Kingdom but recognizes that there may be room for improvement in the techniques of monetary control in the short term (quarter to quarter). The paper proposes some useful changes in the monetary system and hints that a more automatic link between deviations in monetary growth from its target path and changes in interest rates may be adopted; systems involving a monetary base measure as a policy target or control variable are rejected. The purpose of this comment is to examine the Treasury and Bank's argument against a system of monetary base control both without a mandatory reserve requirement (paragraphs 4.6 - 4.9 and Annex B, paragraphs 2 - 9) and with the present cash-ratio reserve requirement on the London clearing banks.

1. U.K. Treasury and Bank of England Argument

As the green paper points out, in order for the authorities to be able to control monetary growth by controlling growth in the monetary base, it is necessary that banks' demand for the monetary base be related to total bank deposit liabilities. The paper then asserts that with the present U.K. financial structure it is "most unlikely" that such a relationship could be achieved since without a mandatory requirement, an individual bank's demand for cash would depend more on its volume of transactions and type of business than on the size of its balance sheet. It is further asserted that in order for there to be well-behaved bank demand function for cash reserves, banks' demand for the monetary base probably must derive from a need for liquidity rather than transactions balances and that the present U.K. financial structure -- including the Bank of England's lender-of-last-resort facility -- makes a whole range of money market instruments forms of primary liquidity. (The paper defines primary liquidity as consisting of "those assets which are in all circumstances a ready source of cash to the banking system as a whole.") Thus, it is concluded, a major change in financial structure would be needed to implement a monetary base scheme, including the withdrawal of the lender-of-last-resort facility.

The green paper's second line of argument is that even if the necessary structural changes were made, banks' demand for base would vary over time and therefore would alter the relationship between money supply growth and monetary base growth. The paper argues that even though a monetary base scheme would generate interest-rate movements that in general would be in the right direction

for monetary control, the changes "could not be relied upon to produce smooth short term monetary growth because of the differing potential short run response of the base and the money stock to changes in interest rates."

The paper concludes that a monetary base system with no mandatory reserve requirement would have "significant institutional effects, resulting in a less flexible money market." Moreover, several years would have to elapse before "it could be established that there was a predictable relationship between money and base" and there is no "assurance" that monetary control would be improved. The paper concedes that it is possible that control would be better but points out that "there can be no certainty." Thus, based on the "known costs and uncertain benefits", the scheme is rejected.

This comment concentrates on a crucial element of the green paper's argument: the nature of the relationship between banks' demand for the monetary base and their liabilities. What is essential for a monetary-base system of monetary control is that there be a well-defined and predictable demand function for the monetary base; in particular the banks' demand function for base should include, among other variables, bank deposit liabilities. The existence of such a function means that the ratio of bank-held monetary base to total bank deposits (i.e., the reserve ratio) is predictable but not necessarily constant. The green paper's discussion (see paragraphs 4.7 - 4.8) often loses sight of this distinction and treats changes in the reserve ratio as being a problem in a monetary-base scheme when actually only unpredicted changes present a problem for monetary control since predicted changes in the reserve ratio can be offset by suitable changes in the monetary base. Furthermore,

the paper seems to assume that there is no significant statistical relationship between banks' demand for base and their deposit liabilities in the present U.K. financial system. However, there is evidence -- presented below -- of a well-defined and well-behaved bank-demand-for-cash function in which there is a significant statistical relationship between bank cash reserves (vault cash plus cash deposits at the Bank of England) and bank deposits. To be sure, the function contains variables in addition to deposits and the reserve ratio is not constant, but, nevertheless, the empirical evidence indicates that the ratio can be predicted fairly well.

2. Empirical Evidence Pertaining to Banks' Demand for the Monetary Base

The money stock, M , is defined to be the sum of the nonbank public's holdings of cash, PC , and its bank deposits, D :

$$(1) \quad M \equiv PC + D.$$

In addition, the monetary base (or high-powered money), B , consists of banks' cash reserves, R , and PC . That is,

$$(2) \quad B \equiv R + PC.$$

The two identities, equations (1) and (2), can be manipulated to yield:

$$(3) \quad M \equiv \left(\frac{\frac{PC}{D} + 1}{\frac{R}{D} + \frac{PC}{D}} \right) B.$$

The green paper raises questions about the properties of the reserve ratio -- R/D -- in equation (3). In this comment, evidence pertaining to the cash-reserve ratio is presented. (This comment summarizes the results reported in a larger study, a copy of which is attached; see the larger study for a more complete discussion.)

The banks' cash-reserve-ratio function is specified to be:

$$(4) \quad R/D = \alpha(D/P)^{-1} + (\beta_0 + \beta_1 r_{TB})(DD/D) + (\delta_0 + \delta_1 r_{TB})(TD/D) + \theta(RR/D) + \phi(CTB/D) + \epsilon,$$

where

R = banks' holdings of vault cash and cash deposits at the Bank of England;

RR = quantity of R which the banks must hold in order to comply with mandatory cash-reserve requirements;

CTB = banks' holdings of bills eligible for sale to the Bank of England and qualifying as liquid-asset reserves;

D = sterling deposit liabilities of the banks, including certificates of deposit;

DD = sterling sight deposit liabilities of the banks;

TD = sterling deposit liabilities of the banks other than sight deposits, i.e., $TD \equiv D - DD$;

P = the price level;

r_{TB} = interest rate on U.K. Treasury bills, i.e., the interest rate on a close substitute for R;

ϵ is a disturbance term, and α , β_0 , β_1 , δ_0 , δ_1 , θ , and ϕ are parameters.

Equation (4) can be expressed as a demand-for-excess cash reserves by setting θ equal to unity and subtracting (RR/D) from both sides of the equation. The resulting equation is:

$$(5) \quad XR/D = \alpha(D/P)^{-1} + \delta_0(1-\lambda) + (\beta_1 + \delta_1)\lambda r_{TB} + \delta_1 r_{TB} + \phi(CTB/D) + \epsilon,$$

where $XR \equiv R - RR$, $\lambda \equiv DD/D$, and, based on empirical work reported in the larger study (attached), β_0 is set equal to zero. Equation (5) is also specified to include a linear trend term, seasonal binary variables, and a binary variable reflecting the extraordinarily high level of banks' cash deposits at the Bank of England in July 1978. The econometric estimate of equation (5) is presented in the table.

As can be seen by examining the table, equation (5) performs well in explaining the behavior of the excess-cash-reserves ratio, and, therefore, the total cash-reserves ratio. As shown in the larger study (attached), the banks' demand for cash reserves is interest sensitive in the expected direction; that is, increases (decreases) in the Treasury bill rate lead to decreases (increases) in the demand for cash. Furthermore, it is found that the ratio of demand deposits to total bank deposits affects the interest-sensitivity of the demand-for-reserves function: an increase (decrease) in this ratio decreases (increases) the interest-sensitivity of demand.

The sign of the interest-sensitivity of the demand for reserves and the sign of the coefficient of the (CTB/D) variable indicate that U.K. Treasury bills and certain other bills are substitutes for cash in banks' portfolios. However, the relatively small size of the coefficient of (CTB/D) implies that cash reserves

Estimates of Equation (5)

<u>Variable</u>	<u>Estimated Coefficient</u>	<u>t-ratio</u>
r_{TB}	-0.2165	3.846
$(1-\lambda)$	0.0531	6.937
λr_{TB}	0.5440	3.584
$(D/P)^{-1}$	378.70	2.800
(CTB/D)	-0.0262	1.929
DUM	0.0065	3.768
T	-0.00019	8.855
JAN	-0.0035	3.908
FEB	-0.0058	5.956
MAR	-0.0052	5.401
APR	-0.0034	3.643
MAY	-0.0040	4.266
JUN	-0.0028	3.068
JUL	-0.0017	1.741
AUG	-0.0036	4.050
SEP	-0.0033	3.769
OCT	-0.0039	4.477
NOV	-0.0032	3.742
<hr/>		
R^2	.83	
DW	2.288	
n	72	

Notes: DUM is a binary variable equal to 1 in July 1978 and zero otherwise; T is a linear trend; JAN,..., NOV are seasonal binary variables; n is the sample size (January 1973-December 1978).

and bills definitely are not interchangeable and that cash reserves are not just part of a larger aggregate called liquid-asset reserves or liquidity.

Finally, the empirical results indicate that there is a significant downward trend in the cash-reserves ratio and a definite seasonal pattern in the behavior of the ratio. In order to put the estimates of the seasonal effects in perspective, it should be noted that the average value of (XR/D) during the sample period was 0.036.

The empirical evidence reported in this comment and in the larger study (attached) does not support the position taken in the green paper that the banking system presently views money market instruments such as U.K. Treasury bills as virtually interchangeable with cash as reserve assets. Furthermore, the evidence indicates that there is a statistically significant and predictable relationship between the banks' demand for cash reserves and the level of their deposit liabilities in the present U.K. financial system. Thus the evidence does not support the green paper's assertion that substantial institutional changes are required in order to establish such a relationship between the monetary base and bank deposits.

3. Policy Implications

In order for the monetary authorities to be able to control monetary growth by controlling the growth of the monetary base, it is necessary (but not sufficient) that the banks' demand for the monetary base be related to the level of bank liabilities in a predictable and well-defined way. In terms of equation (3), the reserve ratio -- R/D -- must be a well-defined function of known and observable variables. The empirical evidence reported in this comment indicates that there is a well-defined and well-behaved banks' demand-for-cash-reserves

function in the United Kingdom and that the function includes as an argument deposit liabilities, among other variables. Thus, one of the necessary conditions for the feasibility of controlling money growth by controlling growth in the (conventionally defined) monetary base is fulfilled.

A monetary-base-oriented policy would involve the explicit recognition and use of the monetary base as an instrument of monetary policy, the formal adoption of a monetary-base growth target, and the explicit abandonment of interest-rate targets. The conclusion of this comment is that no institutional changes -- other than the obvious changes in the Bank of England's operating procedures -- appear to be necessary before a monetary-base-oriented policy can be adopted in the United Kingdom, assuming that the (PC/D) function in equation (3) is well-defined.

The empirical results reported in this comment indicate that there already exists a well-defined banks' demand-for-cash-reserves function that can be used for monetary policy purposes. Thus, no change in cash-reserve requirements appears to be necessary for monetary control. Furthermore, since the reserves function behaves well even though the requirement for banks' cash deposits at the Bank of England is not really a constraint on any particular day and applies only to part of the banking system (the London clearing banks), and since there is no legal requirement on vault cash at all, one might well conclude that no mandatory reserve requirement is necessary for monetary control. As long as the banks have a well-defined demand for the liabilities of the Bank of England, the Bank can use open-market operations in its liabilities to affect the monetary base and bank deposit liabilities. Thus what is necessary for a monetary-base approach to monetary control to be feasible is that there be an incentive for the banks to use Bank of England liabilities as their reserve asset; a mandatory reserve requirement is just one way of providing such an incentive.

The discussion in this comment has not addressed the question of what the appropriate monetary policy regime is for the United Kingdom. It would appear that the present monetary system could be used to achieve a target path for monetary-base growth which is chosen as being consistent with some desired growth in the money stock or nominal income or even as being desirable in its own right for that matter. Alternatively, the system could be used in connection with feedback rules or reaction functions, where monetary developments -- money stock growth or interest-rate changes -- elicit automatic or discretionary changes in the base. Other policy regimes -- e.g., pegging the price of Bank of England liabilities in terms of a particular commodity, group of commodities, a particular currency, or group of currencies -- are also possible. It must be noted, however, that any change in the U.K.'s monetary policy regime would very likely bring about a response in the private sector. For example, strict adherence to a money-supply-growth target by means of a monetary-base-oriented policy would represent a rather dramatic change in the way in which the monetary system is used by the authorities, and changes in certain empirical relationships would be likely to occur -- for instance, the banks' demand for cash reserves would probably increase under such a policy regime. Thus any change in the monetary policy regime must be undertaken cautiously, perhaps gradually, and certainly only after careful consideration of the alternatives and implications.

Attachment

