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CABINET
MINISTERIAL COMMITTEE ON ECONOMIC STRATEGY

MONETARY CONTROL
Note by the Chancellor of the Exchequer

In my statement to the House on 15 November last year, I promised to issue a consultative document on monetary control. I attach a copy of the document which I propose to publish as a Green Paper on Thursday 20 March. This will ensure that it is out of the way before the Budget.

2. The document is in two parts. The first short section is a statement about the role of monetary policy and monetary targets. The second is a paper by the Treasury and the Bank on the basis of which consultations will take place. A number of changes in the present arrangements are proposed. But the analysis suggests that the more ambitious changes in the system which have been put forward by commentators are unlikely to improve our short term monetary control. The discussions will however enable us to test the arguments and see whether there are any schemes - particularly those of the monetary base type - which would be an improvement on the present arrangements.

(G.H.)

H.M. Treasury

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MONETARY CONTROL

Presented to Parliament by the Chancellor of the Exchequer

by Command of Her Majesty

March 1980

LONDON

HER MAJESTY'S STATIONERY OFFICE

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MONETARY CONTROL

INTRODUCTION

1. The Chancellor of the Exchequer announced in his statement to the House of Commons on 15 November 1979 that he had set in hand a review of methods of controlling the money supply, and that the Bank and Treasury would issue a discussion paper for consultation about possible changes in the methods of control.

The Role of Monetary Policy

2. The Government considers that a progressive reduction in the rate of growth of the money stock is essential to achieving a permanent reduction in inflation. It is thus a prerequisite to a sustained revival of the British economy. Other Government policies, such as those to restore incentives, support this objective. But control of inflation, and thus control over monetary growth, is indispensable.

3. The relationship between the rate of growth of the money stock and the growth of prices and incomes is complex. They can diverge in the short run, but there are strong grounds for believing that they will not diverge significantly over a period of years. The Government's policy is therefore to sustain downward pressure on prices by a progressive reduction of the rate of growth of the money supply over a period of years.

Monetary Control

4. The first requirement is that the authorities should have the means to control the money supply over the medium term in order to bring down the trend. Second, it is desirable for the authorities to have at their disposal instruments to moderate short term fluctuations in monetary growth as the

trend is being reduced. Excessive short term fluctuations may cause uncertainty about the Government's resolve and its ability to control monetary growth. This, through its effect on expectations in the financial markets and in the economy generally, can set up conditions which both make the medium term objective for the money supply harder to achieve, and delay its effectiveness in reducing the rate of inflation.

5 The main instruments must continue to be fiscal policy and interest rates. The Government is satisfied that these provide the means to achieve its medium term monetary objectives. In particular it intends to bring down over time the Public Sector Borrowing Requirement (PSBR) as a proportion of national output. But there may be room for improvement in monetary control over shorter periods.

Measuring Money

6. No single statistical measure of the money supply can be expected fully to encapsulate monetary conditions, and thus provide a uniquely correct basis for controlling the complex relationships between monetary growth and prices and nominal incomes. The degree of substitutability between forms of money or liquidity just inside or outside the respective measures of money and liquidity mean that it is insufficient to rely on one measure alone: in assessing monetary conditions the authorities have to have regard to a range - including not only the narrow measure (M1) but the wider measures of money (M3, £M3) and various still wider measures of private sector liquidity, which include, for example, non-bank holdings of Treasury bills, and short term investments in building societies and local authorities. It is also desirable to monitor measures of credit expansion, such as DCE.

7. The ways in which these monetary aggregates move over short periods

can diverge significantly: £M3 is currently growing faster than the others. These divergences are partly caused by changes in relative interest rates. But they also reflect secular trends in banking and financial practices, such as changes in the relative attractiveness of different forms of money and liquidity, on grounds other than interest rates, as incomes and wealth grow and the financial system evolves. Policies directed to controlling any one of the aggregates by adjusting the PSBR and interest rates will tend to control the others over a period, although not necessarily to the same numerical rate of growth. The rates of growth of all the wider measures will be affected in broadly similar ways by changes in the growth of private sector incomes and financial wealth - of which the PSBR is a major counterpart.

Monetary Targets

8. The Government believes that its monetary policy can best be formulated if it sets targets for the growth of one of the aggregates, against which progress can be assessed. This gives the clearest guidance to those concerned in both financial markets and domestic industry, on which to assess the direction of Government policy and to formulate expectations. It is for this reason that in recent years the United Kingdon, along with most other industrialised countries, has published monetary targets.

9. As no one aggregate is by itself a sufficient measure of monetary conditions it could be argued that there should be targets for several or all. But this would make it much more difficult for the market and the public to appraise the determination of the authorities to meet their monetary objectives. In the short run, the various aggregates respond differently and with different speeds to changes in interest rates so that seemingly inconsistent measures might be needed to meet the various targets. The Government therefore believes that targets are best set in terms of a single aggregate.

10. If one aggregate is to be chosen for the target, there seems to be considerable agreement that £M3 best suits the present circumstances of the United Kingdom. It is well understood in the markets. It indicates links with the other policies - fiscal policy, debt marketing policies, policies to restrain bank credit and exchange market management - and gives a general assurance that the macro-economic policies available to the Government will be used in a way which mutually support each other in the reduction of inflation. It is also relatively easy to define in terms of the banking system. This is not to say that the definition may not need to be adjusted from time to time as circumstances change, nor that it will remain the most appropriate aggregate in the face of long term changes in the institutional structure: but subject to these considerations, the Government will continue to express its monetary target in terms of this aggregate.

11. For the present therefore, the Government intends:-

a. to formulate the monetary target in relation to one aggregate;

b. to continue to use £M3 for this purpose;

c. to take account of growth of other aggregates, directing policy to progressive and sustained reduction in the rate of growth of all, although not necessarily by the same amount.

12 The paper by the Bank and the Treasury which follows concentrates on the problems of short term monetary control referred to in paragraph 4. It examines the scope for an improvement in monetary instruments and proposes certain changes to existing instruments, in particular the Reserve Assets Ratio and the cash requirement which the London Clearing Banks are required to hold with the Bank of England. It considers the role of direct controls and examines various alternatives to the present Supplementary Special Deposits scheme, including forms of monetary base control. It concludes by identifying the issues on which the Bank and the Treasury would welcome comments.

MONETARY CONTROL

A CONSULTATION PAPER BY HM TREASURY

AND

THE BANK OF ENGLAND

March 1980

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CONTENTS

1. THE CONTROL OF THE MONEY SUPPLY

1.1 There are a number of policy instruments available to the authorities in influencing monetary conditions. Of these the main ones are fiscal policy, debt management, administered changes in short run interest rates, direct controls on the financial system, and operations in the foreign exchange market.

1.2 Apart from notes and coin, the £M3 money stock consists of liabilities of the banking system. In considering how the above instruments affect monetary conditions, it is sometimes helpful to examine how a particular control will affect items on the asset side of the banking system balance sheet - the credit counterparts of the money stock. Indeed, by accounting identity, the change in £M3 equals the PSBR less sales of public sector debt outside the banking system plus the increase in bank lending to the private and overseas sectors plus the net external inflow to the private sector less the increase in banks' non-deposit liabilities. Useful though this widely known identity is, it must be emphasized that the counterparts are not independent. Policy action on one of them will typically induce changes in the others so that a change in any one rarely has an exactly equal effect on the money supply.

The Main Instruments

1.3 Fiscal policy has a major bearing on the growth of £M3. Tax and expenditure policies are the main means by which the Government affects the PSBR - though those policies also affect the other counterparts of the money stock. For example a change in taxation of companies can affect their demand for bank loans. A particular change in fiscal policy may have a significantly different effect on £M3 than on the PSBR; the former is usually smaller. It is impossible, however, to forecast the PSBR with precision and

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therefore very difficult to control it closely. Its size in any period depends on the level of economic activity and the inflation rate as well as the fiscal stance. And over short periods - a year or less -it can fluctuate markedly, even after adjusting for seasonal factors, due to minor variations in the pattern from month to month of Government expenditure and receipts.

1.4 In recent years the PSBR has been large, but substantial sales of gilts and other public sector debt have enabled a high proportion of it to be financed outside the banking system. But sales of gilt-edged stock have also been irregular, and there have been occasions on which the irregularities have accentuated fluctuations in the growth of the money supply. If the money supply starts to grow faster than the target range investors will expect interest rates to rise and so hold back from buying gilts: this further accelerates the growth of the money supply. On the other hand, there have been other occasions when the authorities have been able to take advantage of the effect of expectations - for example about the PSBR - on the gilts market to bring about sales which have brought the money supply back under control far more quickly than would have been possible with other instruments.

1.5 In its Quarterly Bulletin last June, the Bank of England considered various suggestions for securing a flow of sales more closely related to the requirements of shorter term monetary control. The Bank has already invited reactions to that paper.

1.6 Short term interest rates have a complex effect on the money supply; they affect all the counterparts but in differing directions, in differing degrees and with varying time profiles. A rise in rates will increase the PSBR through the cost of Government borrowing and affect the timing and amount of tax receipts. It will also affect both the amount and composition

of external flows and so the exchange rate. A rise will tend to increase gilt sales both by raising yields and also by affecting expectations about future trends in interest rates. In the short run, however, the effect may be perverse if the rise is viewed as a harbinger of yet higher long term rates. It will also decrease the level of bank lending to the private sector but this is likely to take some months to occur.

1.7 Bank lending to the private sector is determined by a number of factors including the financial position of the company sector, consumer confidence and inflationary expectations, as well as interest rates. It appears to respond only slowly to changes in interest rates. Moreover, the growth of lending exhibits sharp month to month fluctuations in response to normal commercial demand from industrial and other customers. Because of this and the delay before interest rates have their full effects, it is not feasible for the authorities to exercise an exact control over it through interest rates in the short run.

1.8 External flows can exert a powerful influence on domestic monetary conditions, both directly through their impact on monetary growth and indirectly through changes in the exchange rate. Provided that intervention is small or self-balancing so that the exchange rate mainly reflects market forces, the direct effects of external flows on the money supply are likely to be small. However, there is no way in which the domestic money supply can be completely isolated from external flows because, even if in total there is no net inflow or outflow, changes in the composition of flows between the various sectors of the economy and abroad will still affect the money supply.

The Efficacy of the Main Instruments

1.9 Using the basic weapons of fiscal policy, gilt edged funding and short term interest rates, the monetary authorities can achieve the first requisite

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of control of the money supply - control, say, over a year or more.

1.10 However, there have been substantial swings in the rate of monetary growth, not only from month to month, but also from quarter to quarter. Given both the volatility and short term unpredictability of all the counterparts, it is almost certainly unrealistic to think in terms of a smooth path from month to month. This could only be achieved, if at all, by massive swings in interest rates, and then would probably involve significant switches back and forth between closely substitutable forms of liquidity just inside and just outside the definition of the target.

1.11 Such month to month control is not necessary to achieve the desired restraining impact of monetary growth on the growth of prices and nominal incomes, since that is essentially a medium term relationship. But there would be advantage in shortening the period within which it is possible to exercise control if it were practicable to find ways of doing this. If there were smoother growth of the money supply from quarter to quarter, there would be more complete confidence in the Authorities' instruments, and so expectations could be affected favourably to a greater extent - both in the financial markets and elsewhere in the economy.

Quantitative Controls

1.12 Various forms of quantitative controls have been used, or suggested, to supplement the main instruments of monetary policy. Such controls can be applied either to the assets side of the financial institutions concerned - as with the ceilings on bank lending in the 1960s - or to their liabilities, as in the Supplementary Special Deposits (SSD) scheme. The general pros and cons are, however, the same in either case. A more useful distinction can be drawn between permanent and temporary controls, a point returned to below.

1.13 The main purpose for introducing such controls in this country has been to reduce the need to raise interest rates, at least in the short term, by causing banks to ration their lending. It has generally been recognised that, in time, lending rates would still tend to rise. But controls have more recently been seen as a way of bridging the time-lag before other policies have their effect. They have also, on occasion, provided reassurance to financial markets that the Government is concerned to hold to its monetary policy, thereby helping to end a hiatus in gilt sales. A particular reason behind the form of the SSD scheme was the desire to affect relative interest rates - especially those on bank deposits vis-a-vis other short-term assets - to a greater extent than could be achieved through the more general instruments of MLR and open market operations.

1.14 If such a control is effective, it will almost certainly reduce competition within the controlled sector and between that sector and uncontrolled institutions doing similar business. It will involve some resource cost and loss of efficiency. There may also be prudential risks for - almost by definition -uncontrolled forms of business are less likely to be within the ambit of regulation by the monetary authorities.

1.15 If the control becomes permanent, the resource costs and prudential risks may in time be considerable. There is also the danger that funds are disintermediated, that is, business increasingly moves out of the controlled sector. The aggregate most directly affected by the control (£M3 in the case of the SSD scheme) becomes an increasingly distorted measure of the monetary position. This distortion soon becomes apparent, and causes both the statistic and the policy to decline in value.

1.16 If the control is occasional and temporary, resource costs and prudential risks would be much less significant. Distortion of the target

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aggregate may still occur as exemplified by the build-up of the so-called bill leak since 1978, when the SSD scheme was reintroduced. A different problem arises, however, because the controlled institutions may anticipate the reintroduction of the control and, at the worst, actually precipitate the action they have been expecting. Something of this sort occurred in the first few months of 1978. There is no obvious solution to the problem. A final difficulty with temporary controls is that, if conditions do not improve as quickly as was hoped when the controls were adopted, it becomes difficult to take them off, because of the likelihood of reintermediation and risk of appearing to ease the stance of policy.

1.17 The distortion of monetary indicators by a quantitative control is less misleading if it can be measured. For example, with the SSD scheme, it has at least been possible to monitor the main form of disintermediation hitherto: the bill leak. However, other forms are less easily measurable especially now that United Kingdom residents are free to transact business abroad in sterling or in foreign currency.

Possible Developments

1.18 Other forms of control - ratio controls of one sort or another -have different purposes. They are designed to enable interest rates to be changed more quickly that at present or to generate the changes in market interest rates necessary to achieve the monetary target. This is seen as the chief merit in some versions of monetary base control and is considered further in sections 4 and 5.

1.19 In the real world, there are no techniques of monetary control which involve no risk at all of disintermediation. But the authorities consider that any new technique must avoid providing a significant incentives to disintermediation. Another consideration is that some changes in methods

of monetary control would be so inconsistent with subsequent membership of the exchange rate mechanism of the European Monetary System that they could have to be changed again if the Government decided that the conditions for joining were appropriate.

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2. THE SUPPLEMENTARY SPECIAL DEPOSIT SCHEME

2.1 Under this scheme, now widely known as the "corset", the authorities set a guideline for the rate of growth of the banks'" interest bearing eligible liabilities", expressed as a percentage rate of growth over the average level in a specified base period. To the extent that the growth for a particular bank or other controlled institution, as measured by the moving average of the levels on 3 successive monthly make-up days, exceeds the guideline, that bank has to place non-interest bearing SSDs with the Bank of England. The rate of call for SSDs rises progressively with the amount of the excess, and is 50% of any excess over 5%. In practice this means that for a bank which is over the guideline the effective cost of securing additional funds for on-lending is significantly above market interest rates - in the highest penalty zone it is nearly two and a half times market rates.

2.2 The scheme succeeded, after it was first introduced in December 1973, in its immediate objective of causing the change in relative interest rates, necessary to remove the incentive for round-tripping. It appears also to have had the effect of inhibiting the development by the banks of new types of business. But a major effect has been to divert flows into uncontrolled channels. On occasions, the banks have reduced their holdings of short term public sector debt which has been taken up by others outside the banking system. This reduced £M3, but had little effect on the underlying liquidity of the economy since there is virtually no difference for that liquidity between, say, an industrial company holding a Treasury Bill itself, or the company holding a bank's certificate of deposit and that bank holding the Treasury Bill. More recently, the most obvious form of avoidance has been the growth in holdings outside the banking system of bank-accepted commercial bills. To the holder such bills are no less liquid than a bank

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deposit or certificate of deposit of comparable term, and to the borrower they are a very close substitute for direct bank credit.

2.3 These are but two of many possible forms of such disintermediation. Any attempt to stop them by redefining the scheme would only lead to disintermediation into other forms which would be more likely to carry the problems referred to in the previous section. They are difficult to measure so their extent would be unknown. There could be prudential risks, either for those involved or for the financial system as a whole.

2.4 It was originally envisaged that the scheme should not be applied continuously. It would be operated for relatively short periods when there was particular upward pressure on the money supply. But it would be held in suspense for the rest of the time. However, as mentioned in Section 1, it has run into the inherent difficulties with temporary controls, namely anticipation of reimposition and the likely resurgence of the controlled statistic when the scheme ends.

2.5 The Chancellor of the Exchequer therefore announced on 17 November that this scheme should not have a permanent place in the techniques for controlling the money supply.

3. SHORT TERM INTEREST RATES AND THE OTHER EXISTING CONTROLS

3.1 The level of short term interest rates at any time is determined by the interaction between the markets and the authorities. The short term interest rates generated by the markets are not necessarily those needed to achieve the monetary target. Markets respond to the current supply and demand for particular types of funds and their expectations about future movements in interest rates. Market operators will take a view of future trends in the domestic and world economies - notably the domestic inflation rate, and interest rates elsewhere - but also any actions which they believe the authorities need to take to achieve the monetary targets.

3.2 The Bank's main instrument to vary short-term interest rates is discretionary alteration of Minimum Lending Rate (MLR), made effective through money market operations conducted through the discount market. The Bank has available to help in this two requirements on the banks, namely the Reserve Assets Ratio (RAR), with the associated power to call for Special Deposits, and the requirement on the London Clearing Banks to hold cash balances with the Bank of England. (These are discussed in greater detail in Annex A).

3.3 The banks will normally respond to a rise in MLR, and hence in the cost of money to them, by raising their lending and deposit rates. The rise in lending rates will tend to reduce the demand for bank loans and thus the growth in £M3. This may be reinforced by an increase in the demand for gilt-edged securities by the private sector as yields rise. On the other hand the rise in deposit rates makes holdings of such interest-bearing deposits more attractive, and, when bank liquidity comes under pressure and the banks respond by bidding in money markets for funds, the yields offered for

those deposits may rise relatively sharply. Such liability management - which has been an increasingly frequent response in recent years - can produce large swings in short-term interest rates. It also reduces the ability of the authorities to "fine tune" the money supply.

The Reserve Assets Ratio and Special Deposits

3.4 The RAR had its origins in the banks' customary holdings of liquid assets for prudential reasons and was adapted to its present form, and applied uniformly to all listed banks, in 1971. Under it, banks are required to hold the equivalent of at least 12½% of their eligible liabilities, on a daily basis, in reserve assets. Reserve assets consist essentially of balances at the Bank of England securities which the Bank is customarily prepared to buy in its open market operations, or money at call with the discount market, which has access to the Bank's lender of last resort facility.

3.5 Special Deposits, introduced in 1960, involve those banks subject to the requirement depositing funds with the Bank of England, on an interest-bearing basis, at some specified percentage of their eligible liabilities. While the funds are with the Bank, they are not available to the banks, and hence an increase in the rate of call for Special Deposits acts to reduce the liquidity of the banks as a whole. Until September 1971, only the clearing banks were subject to calls for Special Deposits. But since then, the requirement has applied to all banks on the statistical list.

3.6 The RAR was never designed to serve as an officially-controlled monetary base through which the pyramid of credit created by the banks might be directly limited. Instead, in conjunction with Special Deposits, the RAR was regarded as an element in the control of short-term interest rates. It enabled the authorities to vary bank liquidity and so influence the level of short-term interest rates in the required direction.

3.7 It has been argued that the RAR distorts the yield relationship between short-term assets qualifying as reserve assets and others; and that this distortion is a factor inhibiting the development of a broader market in short-term public sector debt which might otherwise be helpful to shorter-run control of some of the monetary aggregates, including £M3. In practice this differential is probably a reflection of the special liquidity of the assets in question.

3.8 Thus, although the RAR was introduced in 1971 as a monetary control, the assets which it includes also represent the banks' first line liquidity. This has undoubtedly caused confusion. The authorities have accordingly reviewed the operation of the RAR and, for the reasons set out in Annex A, consider that it is not necessary to retain it for the purposes of influencing short term interest rates.

3.9 It is therefore proposed, irrespective of whether it is decided, in due course, to introduce any of the changes discussed in sections 4 and 5, to end the requirement to meet the RAR. But it remains essential to ensure that adequate prudential standards of liquidity are maintained. The Bank of England are issuing a separate consultative document on prudential liquidity requirements in parallel with this paper: as soon as consultations on it have been completed, and the proposed new prudential requirements are agreed and specified, the RAR would lapse. It is, however, proposed that the Special Deposits system should be retained to guard against possible adverse effects of excess liquidity in the banking system as a whole.

The Cash Requirement

3.10 The London Clearing Banks are currently required to hold balances with the Bank of England amounting to 1½% of their eligible liabilities. In part, but only part, this reflects their need for balances with the Bank to

cover clearing operations. This cash requirement, rather than the RAR, is effectively the fulcrum on which the Bank of England works when it seeks to affect short term interest rates through its money market operations. However, it may be more equitable to apply the requirement more generally. It is proposed to discuss replacing the existing requirement by one that all banks and licensed deposit-taking institutions above a minimum size should be required to hold cash balances with the Bank. The Bank of England will issue a more detailed paper for discussion with those concerned about the amount, form and calculation of the requirement.

4.MONETARY BASE CONTROL

The Concept

4.1 In concept a monetary base scheme is very simple. The banks keep at least a known proportion of their deposits (which, currency in the hands of the public apart, constitute the money supply) in base money, however specified, either because there is a mandatory requirement on them to do so or because they can be relied on to do so over a period for prudential reasons. The authorities then either: -

a. control the amount of base money in existence and so the total growth of the money supply, since the banks' balance sheets cannot exceed a specified multiple of the base;

or b. use divergences of the base money figure from the desired trend as a trigger for a change in interest rates intended to correct the divergence.

4.2 In the former case, if there is a tendency for the money supply to grow too fast, banks compete in an attempt to secure the base assets which they require to match the growth in deposits. This generates changes in relative and absolute levels of interest rates. The first case therefore is intended to provide a means for the markets to generate the interest rates necessary to bring the rate of the growth of the money supply back towards the desired path.

4.3 The latter case provides an arrangement for more rapid and automatic adjustments in interest rates than the present discretionary changes since the timing of changes is determined by movements in the base. But the amount of the change could either be discretionary or determined by a scale set in advance by the authorities, rather than by a market process balancing

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the supply and demand for such a base asset.

4.4 A monetary base scheme in which the extent of interest rate changes is determined by the markets is directed to both the shortcomings referred to in paragraph 1.19 above - namely the timeliness of interest changes and the problem of fixing their amount. (Such systems are referred to below as monetary base control systems). But the variants where only the timing of interest rate changes is determined by changes in the base still face the authorities with the problem of setting the amount either each time or by a predetermined formula. (Such systems might more accurately be described as monetary base indicator systems and are so referred to below).

4.5 The translation of this apparently simple concept into practice raises a number of inter-related problems: as to how the scheme should be specified, as to how the authorities would control the base if the variant was of the first type, and as to how the banks and other financial institutions would behave in the changed environment. There are therefore a large number of potential schemes within the monetary base approach. These are discussed in more detail in Annex B.

Schemes without a Mandatory Requirement

4.6 In one family of monetary base proposals, the bankers' need for base assets stems from their own requirements for operating their business, rather than from a mandatory requirement imposed by the authorities. If such schemes are to control the growth of the money supply by controlling the size of the base, bankers' operating requirements must bear a fairly stable relationship over time to their total liabillties. With the present financial structure in the United Kingdom, this is most unlikely to be achieved since, if the present mandatory requirement applying to the Clearing Banks were removed and not replaced by a more general one, a

bank's requirement for cash balances would depend far more on the total level of transactions and type of business than on the size of its balance sheet. For a tolerably stable relationship to exist, it would probably be necessary for the banks' holdings of the base to stem from their need for liquidity rather than for transactions balances. This sort of relationship has been achieved in Switzerland, because cash at the central bank is virtually the only form of domestic primary liquidity. It could only be achieved in this country if there were a major change in the structure of the money markets, including withdrawing the lender of last resort facility. It is this facility which makes a range of money market instruments primary liquidity in the hands of a financial institution. Cash with the central bank would then become the only effective form of primary liquidity.

4.7 Even if this were done, and it were practicable to control the base sufficiently closely, it is doubtful whether it would produce a more even growth of the money supply. The banks' liquidity requirements are not absolute and would, in the absence of a mandatory ratio, vary somewhat from time to time: for example, if the banks' primary liquidity ratio moved from 10% to 9% over a period, it would permit the percentage monetary growth to be some 10 percentage points more than the growth of the base over that period.

4.8 It is, of course, true that the authorities' actions to influence the rate of growth of the base would, normally, tend to produce effects which would help to control the rate of growth of the money supply itself, at least in the sense that the movement in interest rates would in general be in the right direction. But the interest rate changes so generated 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.

4.9 A change to a monetary base system of this type would therefore have significant institutional effects, resulting in a less flexible money market. There would be a period of years before it could be established that there was a predictable relationship between money and the base and there would be no assurance that monetary control would necessarily be better at the end. It is possible that it would be, but there can be no certainty, given the scale of changes in institutional structure required. We therefore conclude, given the known costs and uncertain benefits, that the case for a scheme on this basis has not been made out.

Schemes with a mandatory requirement

4.10 A mandatory relationship between the base and deposits could be expressed in three ways:

a. lagged accounting - as in the United States - where current base requirements are fixed by reference to deposits in a previous period;

b. current accounting - as with the RAR requirement - where required base assets relate to the same make-up date as the relevant deposits;

c. lead accounting where the holding of base assets would put a limit on deposits at some future date.

4.11 The attraction of lead accounting would be that it would give a warning about the immediate future development of the money supply as foreseen by banks. But this would depend on the ability of banks to predict their future balance sheets and then to control them to achieve that forecast. This is difficult for the banks, given:-

a. uncertainty about calls on facilities - whether overdrafts or term loans;

b. that the banking system provides residual finance for the

Exchequer (including the Exchange Equalisation Account) whose position neither the banks nor the authorities can predict very accurately in the short term.

If, despite these difficulties, the forecasts were to have any value it would be necessary to have penalties for both under and over prediction. But if the penalties were of any significance the banks would protect themselves by artifical adjustment, disintermediation or reintermediation, to ensure that they kept to their forecast: the scale of such artifical adjustment might well be sufficient to cause serious distortions. We therefore consider that a scheme with lead accounting would not meet the requirement that any new system of control should not risk disintermediation on a significant scale.

4.12 Lagged or current accounting requirements run into a somewhat different problem. In the case of a lagged requirement, the total balance sheets of all the banks on one make-up day would determine the holding of monetary base assets they were required to hold on some later date. So, the amount of base assets required on a particular day would be pre-determined by what has already happened, and that amount might well not correspond to the level of the base desired by the authorities at that time. The situation with current accounting is similar, since by the time that the banks would know their requirement for base, it would be too late to change it, if the total differed from the level desired by the authorities.

4.13 Several alternative methods have been suggested for bridging the gap between the base desired by the authorities and that needed by the banks to meet their requirements. These are considered in more detail in Annex B. In broad terms the alternatives are either:-

(i) to provide the banks with the assets they need by lending to the system on a scale of progressively penal rates

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(ii) to make the requirement less than absolute but with increasing penalties on individual banks for divergences from the norm.

4.14 Under (i), so long as the actual base was above that desired by the authorities, the rate at which the Bank lends would be entirely determined, not by the market, but by the scale which the authorities had laid down. This would be a major determinant of other short-term money market rates but the associated change in longer rates would, as now, reflect the markets' response. Under (ii), the market would have a larger role to play, but there would be a risk of significant disintermediation to avoid the penalties on individual banks. Monetary base control systems also encounter the general problem resulting from liability management identified in paragraph 3.3.

4.15 There would also be practical operational difficulties common to all these schemes. The authorities cannot estimate accurately on a day to day basis either the actual base that would be consistent with the (seasonally adjusted) target path for the money supply or the base that the banking system may obtain; or, with current accounting what the banks would need to match their requirements. This is, in part, because of the large, erratic and unpredictable swings in cash flow on some days.

4.16 These difficulties, which are set out more fully in Annex B are such that we doubt whether a monetary base control system with a mandatory requirement to hold base assets would produce the desired results. None of the schemes so far suggested appear to give a reasonable prospect of doing so. Moreover, there would be severe practical difficulties, in operating such schemes with any precision. However we would welcome views on whether the difficulties which are set out more fully in Annex B, can be surmounted, and, if so, by what form of scheme.

5. INDICATOR SYSTEMS

A System related to the Base

5.1 The problems for the authorities of controlling the base and of relating interest rate changes to divergences of the base from the desired level as they occur could be avoided by an alternative approach - using the monetary base for an indicator system. Under this, the monetary base would not be directly controlled, but would be measured in arrears and divergences from the desired level used to trigger changes in the Bank of England's lending rate and so other interest rates. The requirement to hold the base would be mandatory, for the reasons discussed already. Lender of last resort facilities would be available. The desired path, for the base would be calculated to correspond to a smooth path seasonally adjusted for the growth of the target variable, £M3 if divergence would trigger an adjustment by the Bank of its lending rate size of the adjustment would be dependant to the amount of the divergence by a predetermined scale. The resultant change in other interest rates would depend on the markets' response. It might well lead to quicker adjustments in short term interest rates than at present.

5.2 However, if the divergence between the actual monetary base and the target monetary base could helpfully be used to determine short term interest rates, then the divergence between the actual growth of £M3 and its intended trend could be used directly and thus more appropriately for this purpose - as well as being operationally simpler. Moreover, there would be relatively little time lag between the availability of figures for such a monetary base and for the money supply itself. Such a system could certainly be operated, and would not necessarily involve significant changes in the financial system.

A system related to £M3

5.3 If the scheme were to give a significant time advantage over the present system, in which discretionary decisions by the authorities are based on monthly data, it might be desirable to base the figures on the weekly series for the money supply, which are currently collected by the Bank of England on a sample basis - although they are still experimental, and further work would be required before they were ready to be used in this way. But the system would be as fallible as the data on which it was based. There are problems of accuracy of measurement and of seasonal adjustment, which would be serious with a newly introduced statistical series. This is further discussed in Annex B.

5.4 Such a scheme might broadly work in the following way. There would be a pre-set graduated scale of adjustments to the Bank's lending rate to deviations of £M3 from its target path. This scale would be varied as experience was gained. Initially at least, the scale would also have an upper limit in order to reduce uncertainty. Apart from this, the authorities could continue their operations in the money markets much as as present.

5.5 It is possible that such policy changes could be introduced without necessitating any consequential changes in the structure and working of the financial system, at least at the initial stage. However it is not easy to foresee the full implications for the financial markets of arrangements on these lines.

5.6 These arrangements should provide added assurance that interest rates would be adjusted promptly in response to a divergence from the target rate of monetary growth, and that such adjustments would be continued until the money supply came back on course. This assurance should strengthen confidence in effective monetary control, and so could encourage greater

long term stability in the gilt-edged markets. The financial markets would still need to assess whether the initial divergence which triggered a change in the Bank's lending rate was likely to persist, leading to further changes in that rate, or whether it was erratic and likely to be quickly reversed. The short term markets would, as now, seek to anticipate changes in the Bank's lending rate, and their expectations would determine the structure of short term rates which would in turn affect bank lending rates. With the authorities' discretion constrained, it is uncertain whether or not short term markets would become any less volatile. In any case uncertainty about the future course of short term interest rates would be likely to continue to affect the gilt-edged market periodically in the short run, so that it is not clear that it would become easier to tailor the gilt-edged funding programme any more closely to the achievement of a smoother path for the growth of £M3 through the year than at present. Indeed it is arguable that the reverse would be the case: the arrangement would increase the attention given by operators in the gilt-edged market to short-term monetary developments, rather than to underlying trends.

5.7 The main advantage claimed for such an automatic arrangement over the present one is that it could reduce what may be a bias towards delay. The causes of movements in the monthly money supply are frequently difficult to assess confidently on the basis of one month's figures, and short-term forecasts are hazardous. Given this, and the unwelcome consequences of higher interest rates for other areas of policy, there may be a built-in tendency to avoid increases in interest rates that could prove in the event to have been unnecessary, by delaying the decision until the new trend is clearly established. Moreover, such delay, in those cases where the adjustment does turn out to be needed, may lead to a need for a greater adjustment in interest rates when the time comes.

5.8 On the other hand, there will also be cases under an automatic system when an adjustment is triggered by transient and erratic fluctuations in monetary growth: this might increase variability not only of short-term interest rates but arguably of the monetary aggregate itself. In assessing the underlying trend, and when taking discretionary decisions under the present system, the authorities can take account of what they know about future developments, for example, possible trends in the central government borrowing requirement.

5.9 The scale of response would inevitably be somewhat arbitrary. As at present with discretionary interest rate changes, the authorities would not know whether a particular excess of money of x% could be eliminated over some desired time period by a rise in rates of y%. All they could expect is that, by altering their lending rate, market rates would tend to move in the same direction, which would, over time, tend to influence the money supply in the desired direction. But there could be a risk that too vigorous a response of interest to the deviations could produce added instability, since the long run effect of interest rate adjustments on £M3 could well be much greater than those in the short run, as earlier indicated in section 1.

5.10 It would seem desirable that there should be a power for the authorities to override automatic interest rate changes, for example if the Government decided that the correct policy response to the growth in the money supply deviating from the target was a fiscal one, rather than an interest rate one, particularly in a pre-Budget period. Moreover, as at present, it might be right to take account of what is happening to aggregates other than £M3 and so of the general development in monetary conditions. If, however, the override had to be used frequently, the advantages of automaticity would be lost.

5.11 Any automatic system linking the Bank's lending rate to the money supply would of course preclude the use of the authorities' influence over interest rates for any other purpose. It would for example be impossible to use short-term interest rate changes as a response to the strength or weakness of sterling.

5.12 The difference between the present discretionary system and an automatic system with override is that the authorities would have to justify delaying a change in either direction, rather than the present situation where the presumption is that the authorities must justify making the change, particularly in an upward direction. It is certainly arguable that such a shift in presumption would be appropriate, given that monetary policy is now directed to controlling the growth of the aggregates, and not to maintaining any particular structure of interest rates.

5.13 We would therefore welcome view on whether such an automatic system of adjusting the Bank of England lending rate would, on balance, be advantageous.

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6. SUMMARY AND CONCLUSIONS

6.1 This paper has discussed means of achieving the objective of controlling the growth of the money supply. The principal means must be fiscal policy - both public expenditure and tax policy - and interest rates. These are sufficient to control the growth of the money stock in the medium term. But the time lags in the system are such that they can take up to a year or so to bring monetary growth back to the desired trend once a substantial divergence has been identified. Direct quantitative controls are not an alternative, since they either act by changing interest rates or tend, over time, to divert and change the forms of liquidity and credit rather than to affect underlying monetary conditions.

6.2 We have reviewed a number of possible changes in monetary control techniques which it has been suggested might achieve a smoother path in the growth of the money supply from quarter to quarter.

6.3 With regard to the present arrangements:-

i) The Supplementary Special Deposit scheme has come virtually to the end of its useful life, and should be phased out as soon as it conveniently can be;

ii) the requirement to maintain the 12½% Reserve Assets Ratio appears to be no longer necessary either as a means through which interest rates are influenced or as a means of affecting the rate of growth of banks' balance sheets. It is proposed that it should end;

iii) the Bank of England are issuing a separate Consultation Paper on the needs for holding liquid assets for prudential reasons;

iv) it is necessary to have some cash requirement, to act as a fulcrum for the Bank when it wishes to generate interest rate changes. It is proposed that the present requirement, which applies only to the

London Clearing Banks, should be replaced by one which applies more generally. The Bank will issue a detailed discussion paper on this;

v) the Special Deposits system should be retained to guard against the possible effects of excess liquidity in the banking system as a whole.

These changes would leave the way open for further developments after discussions on this consultation paper if it were decided to proceed with them.

6.4 We would welcome views on:-

a. Whether the difficulties with monetary base control outlined in section 4 and developed more fully in Annex B could be surmounted, or whether it is right to conclude that there would be no advantage in such a system;.

b. Whether an automatic system of adjusting the Bank's lending rate would on balance be advantageous.

Annex A

SHORT-TERM INTEREST RATES, RESERVE ASSETS AND SPECIAL DEPOSITS

The Official Influence over Short-Term Interest Rates

1. It was noted in para 3.2 of the main paper that the Bank of England's present influence over short-term interest rates is exerted through discretionary changes in MLR, made effective through money market operations conducted through the discount market.

2. In principle, the discount houses' long-standing agreement to underwrite the weekly Treasury Bill tender - whatever the size of the tender - enables the Bank (using forecasts of other cash flows between the banking system and the Bank) to engineer a shortage of cash, week by week, in the money market. Individually banks that are short of cash can either borrow or realise assets in the market, but the overall market shortage can only be relieved by the banking system borrowing from or selling assets to the Bank itself. One form in which the banking system can obtain such relief at their own initiative is by banks running down cash balances at the Bank: but the scope for this is very limited - only the London clearers, under present arrangements, maintain cash balances at the Bank of any significant size, and they have agreed to maintain a minimum cash ratio of 1½% of their eligible liabilities on average over each banking month. Apart from this small element of flexibility, the net cash transfer to the Bank has to be financed through the Bank's money market operations which are mainly conducted through the discount market, through the purchase of Treasury, corporation or eligible bank bills or through secured lending, either overnight or for seven days. The form in which, and hence the cost at which, the Bank provides the necessary assistance affects the cost of funds to the discount houses, which will in turn affect both the price that they are prepared to pay for short-term assets (most obviously their bid at the subsequent Treasury

Bill tender, but also their buying rates for commercial bills, CDs, etc.) and the interest rates they are willing to pay for funds borrowed in the market (mostly from commercial banks). Thus the terms on which the Bank is prepared to assist the discount market has a diffused influence on the level of short-term interest rates generally.

3. In practice the Bank's influence over short-term interest rates is much less mechanical than this would suggest. In the first place, there may be large unanticipated movements of cash between the Bank and the banking system (eg. through unexpected swings in central government revenue or expenditure, or through official foreign exchange or gilt-edged market transactions) - on a week-by-week as well as a day-by-day basis -which mean that the Bank cannot in the short run be sure that the money market shortage intended will in fact materialise, or that it will not be much larger than anticipated. The resulting pressures on very short-term rates can cause them to become quite volatile.

4. But more fundamentally market interest rates beyond the very short term are often heavily influenced by expectations about the future movement of MLR, which may mean that greater importance is attached to the prospect of capital gains or losses, particularly on longer-term money market assets, then to the immediate interest cost to the discount houses of short-term funds. In this case, if there is a strong expectation of an early cut in MLR, it may take persistent penal lending to stem a fall in, say, 1-3 month market rates in relation to MLR; or, if an early rise in MLR is expected, even generous help by the Bank to relieve any shortage of funds, or the deliberate creation of easy conditions, may not be enough to induce the houses to hold on to longer-term, say, 1-3 month assets, or therefore to prevent the comparable money market rates from rising. Thus in practice the Bank's money market operations are at times intended to influence

expectations in a much broader way rather than simply to influence the immediate cost of money to the discount market. Such operations do not depend on the existence of the present minimum reserve assets ratio.

The Reserve Asset Ratio and Special Deposit Requirements

5. Special Deposits, introduced in 1960, involve those banks subject to the requirement depositing funds with the Bank of England, on an interest-bearing basis, at some specified percentage of their eligible liabilities (ELs). While the[1] funds are with the Bank, they are not available to the banks, and hence an increase in the rate of call for Special Deposits acts to reduce the liquidity of the banking system as a whole. Until September 1971, only the clearing banks were subject to calls for Special Deposits. But since then, the requirement has applied to all banks on the statistical list.

6. Also since September 1971, all listed banks[2] have been requested to hold a minimum of 12½% - on a daily basis - of their ELs in specified reserve assets. Before then, the clearers had maintained voluntary liquidity and cash ratios and the replacement of these by a uniform reserve requirement was seen by the authorities as an integral part of the encouragement of fair competition and of equitable credit control as between banks.

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[1] These comprise, in broad terms, sterling deposit liabilities excluding deposits having an original maturity of over two years, plus any sterling resources obtained by switching foreign currencies into sterling. Inter-bank transactions and transactions with the discount market (other than reserve assets) and sterling certificates of deposit (both held and issued) are taken into the calculation of individual banks' liabilities on a net basis, irrespective of term. Adjustments are also made in respect of transit items.

[2] Certain of the larger finance houses have maintained a similar 10% ratio and been subject to Special Deposits.

7. Reserve assets are defined broadly as being:-

a. balances with the Bank (other than Special and Supplementary Special Deposits).

b. money-at-call with listed discount market institutions and brokers;

c. Treasury bills issued by the British and Northern Irish governments;

d. British Government marketable securities (gilts) with less than one year to maturity;

e. UK local authority bills eligible for rediscount at the Bank;

f. commercial bills eligible for rediscount at the Bank (to a maximum of 2% of eligible liabilities).

This definition of reserve assets adopted in 1971 reflected the Bank's view that no significant change in the structure of the short-term sterling markets or its operations therein was required. The choice of definition reflected the authorities' decision not to seek to control strictly the supply of reserve assets, for it included claims on the public sector which could be held by non-banks as well as by banks and also certain claims on the private sector. The lack of control over the supply of reserve assets has not been a particular concern, because as described above the authorities regard the datum point of control over short-term interest rates as being the 1½% of their ELs kept by the London Clearing Banks at the Bank of England.

8. It was, however, intended that the RAR should be used in conjunction with Special Deposits to mop up any abnormal excess liquid assets in the banking system and, on occasion, to go further than this and to require the banking system to seek to dispose of assets not eligible as reserve assets. It

was recognised that this second use might lead to a strong upward influence on, for example, short-term interest rates in the inter-bank market and that, under some circumstances, it would be necessary to accompany a call for Special Deposits with an increase in Bank Rate (Minimum Lending Rate from October 1972) so as to bring about the rise in short-term interest rates and the consequent fall in prices of marketable short-term assets that would be needed to shift debt out of the banking system.

9. In the event, it quickly became apparent that use of joint RAR and Special Deposits requirements presented particular short-term difficulties. In the new competitive environment, after September 1971, the inter-bank market became increasingly active, and, when Special Deposits were called late in 1972 and again in July and November 1973, the immediate response of the banking system as a whole was to practice liability management on a much greater scale than had been envisaged in 1971. (In other words, to meet a shortage of reserves engineered by calling Special Deposits, the banks bid for funds in the wholesale money market - increasing their liabilities - with which to obtain more reserve assets, rather than reduce their total assets.) Interest rates in such circumstances tended to shift in an unhelpful fashion, with the Treasury bill rate falling[3] (as the banks competed vigorously to buy additional reserve assets) often in absolute, and always in relative, terms compared to the inter-bank rate which was pushed up as banks bid for funds. As the inter-bank rate rose relative to other

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[3] The introduction of Minimum Lending Rate (MLR) in October 1972 made this a particularly difficult problem. MLR was formally linked to the Treasury bill rate and, although the authorities had the power to override the formula, they were reluctant to exercise this power except when absolutely necessary. Repeatedly during the first half of 1977, however, the formula had to be overridden as the authorities tried to restrain downward pressure on short-term interest rates when a massive volume of funds moved into sterling; while, subsequently, the restoration of short-term interest rates to a level appropriate to domestic monetary policy was achieved through the market related formula only with considerable difficulties. In May 1978, MLR became fully administered.

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rates, the non-bank private sector was encouraged to switch funds into bank deposits and Certificates of Deposit; £M3 rose perversely as a result, in the short-term at least. The problem was compounded when institutional rigidities in the system or inhibitions felt by the banks (partly, no doubt, the result of uncertainty as to the authorities' attitude to higher interest rates) made the banks unwilling to pass higher rates on immediately to their customers; this led to a slower rise in the rates on banks' lending than borrowing and consequently provided opportunities for "round-tripping", namely borrowing from banks to re-lend at a higher interest rate on the money markets. (In the summer of 1973, it is thought that such round-tripping inflated M3 by over 1% in one month). As a result, it became apparent to the authorities that it was better to put up interest rates directly rather than to use Special Deposits to achieve this effect less directly.

10. When the Supplementary Special Deposit(SSD) scheme was introduced in December 1973 and on the subsequent occasions when it has been in operation, the effect of the reserve asset requirement in combination with the SSD scheme has been to encourage banks to manage their assets rather than their liabilities. This followed from the fact that the SSD scheme restrained banks' liability management, by imposing an upper bound on the volume of interest-bearing deposits (IBELs) that a bank could take. Thus a bank close to its upper bound and also short of reserve assets tended to find it cheaper to manage its assets (for example, switching from non-reserve to reserve assets) rather than manage its liabilities (which might entail penalties under the SSD scheme). The result was still to put upward pressure on at least some interest rates, as banks sought to sell non-reserve assets and thus pushed their prices down. However, the risk of a jump in inter-bank rates, and thus a perverse short-term effect on £M3 was reduced by the

operation of the SSD scheme.

11. There were still major limits on what the Authorities could achieve, however, not least because of the difficulty of forecasting the likely reserve asset position of the banking system even over short periods of time. This is important because, under the terms of the scheme, the banks can dispose of any excess reserve assets and reduce their IBELs. Further, asset management has frequently taken the form of disintermediation, notably through the bill-leak, by which bank lending (and thus £M3 and IBELs) has been kept below what it otherwise would have been, without any significant impact on activity in the economy.

12. The reserve asset ratio has also had the effect of ensuring that banks always hold a significant proportion of their assets in "near-cash"[4]. The total against which the ratio is calculated (ELs) makes little sense in supervisory terms. For example , among other offsets and exclusions, a bank can offset its claims on other banks against its total deposit liabilities in calculating ELs. The Bank of England's proposals for a system designed specifically to meet prudential needs are set out in a separate consultation paper. These proposals include:

a. that the banking system should normally hold a significant amount of primary liquidity;

b. that the assets which the Authorities regard as primary liquidity should include certain claims on the private as well as the public sector;

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[4] The reserve ratio was not intended as a prudential control, but it grew out of the liquidity ratio maintained by the clearers until 1971, which did have prudential origins.

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c. that the requirement should be specified as a norm - departures from which may be permissable in certain circumstances -rather than as a daily minimum;

13. As the companion document explains, primary liquidity would be provided by cash, and by those assets which the Bank of England is customarily prepared to buy in its open market operations or which represent claims on institutions in the money market having access to lender of last resort facilities. On strictly prudential grounds therefore, under the present arrangements for open market operations, the definition should include call money with the discount houses and eligible commercial bills. The proposed list is:-

i. cash;

ii. balances with the Bank of England ;

iii. call money with the London discount market;

iv. UK and Northern Ireland Treasury bills;

v. bills eligible for re-discount at the Bank of England;

vi. British government securities with less than one year to maturity.

14. The present RAR has little to contribute to the present system of monetary control, especially as and when the SSD scheme is ended. Its limited prudential value would become redundant once specific prudential proposals were adopted.

15. There would, however, remain a need for Special Deposits. It would still be appropriate, as now, to call Special Deposits to absorb excessive liquidity in the banking system as a whole. Further, it would remain true

that releases and recalls of Special Deposits could help to smooth out conditions in the money markets and announcements of such moves could help to show the pattern of official policy towards conditions in these markets. For example, the release of Special Deposits would be one option open to the authorities if the liquidity position of the banking system was brought under pressure through, for example, official sales of gilt-edged securities and the Authorities thought it appropriate to ease that constraint.

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MONETARY BASE CONTROL

1. This Annex examines more fully than in section 4 the issues which arise when considering how a monetary base control system might operate, and the concomitant problems. It goes on to discuss how a scheme of the kind outlined in section 5 (automatically linking interest rates to deviations of the money stock from its target path) might operate and certain consequential statistical problems should weekly money stock figures be used for this purpose.

Operating without a Mandatory Cash Reserve Requirement

2. Several of the proposals for monetary base control start from the view that the base should be an asset which the banks wish to hold for operational reasons, but that there need be no mandatory minimum requirement. The system then depends on there being a reasonably stable relationship over time between the banks' holdings of this asset and their total balance sheets. The operational system which comes closest to realising this concept of a monetary base system, described at the beginning of section 4, is that undertaken by the Swiss central bank (SNB). In Switzerland, the banks voluntarily hold balances at the SNB[1] for prudential purposes, largely because - at least until recently - there has been no adequate alternative source of domestic primary liquidity. The SNB found that the resulting monetary base - defined to include these balances - was a stable and leading indicator of movements in M1, for which the SNB set targets until the end of 1978. From movements in the base, the SNB could therefore determine whether the growth in M1 was likely to remain on target and, if not, could conduct foreign exchange operations to influence the base.

(1) Swiss banks have to meet cash requirements on only four days each year and the SNB always ensures that adequate cash is readily available on these days.

3. In this country, a system along Swiss lines without regular compulsory cash reserves, would be unlikely to work in the sense that movements in the base would necessarily indicate anything about the money stock. Unless there were some change in the structure of the financial system, most banks might well be prepared to hold no balances at the Bank of England, and even the clearing banks might be prepared not to do so if they could obtain overdrafts at the Bank for the operation of the clearing house system. If, as at present, such overdrafts were not allowed, the clearing banks would need balances to settle inter-bank transactions at the end of each business day. However, the total of such balances need not, of itself, give a good indication about the immediate or future movements in any monetary aggregate in which the authorities were interested; rather, it could be expected to be a function of the expected values of both the average volume, and the variability in that volume, of all transactions - including inter-bank payments - passing through the banking sector.

4. The system would become closer to the Swiss case if the banks chose to hold prudential as well as operational balances at the Bank. But shifts in the attractiveness of various competing assets would almost certainly lead the banks to adjust, in no easily predictable fashion, their preferred liquid assets portfolio so that it is unlikely that a stable relationship between their balances at the Bank and £M3 would emerge. The position would be similar to the present situation where the authorities have little idea, at any point in time, of the relative size of banks' preferred holdings of, say, call money in the discount market, of Treasury bills and of local authority short-term deposits.

5. Therewould seem to be a reasonable chance of such a scheme working only if the authorities were to induce the banks to hold the bulk of their

prudential balances as bankers' balances at the Bank rather than in short term primary liquid assets. This would require a strict limitation on the ability of the banking system to transform such short term assets into cash, thereby making them cease to serve as primary liquidity for the banks. This would have far-reaching structural consequences for the present London money markets, and might impair the services that the banking system is presently able to provide to its customers. The authorities would need to keep the discretionary right to intervene in a crisis to inject additional cash reserves by purchasing assets from the banking system. But uncertainty about the size, timing and terms of such intervention would remain.

6. On the other hand, the gains from such changes in terms of improved monetary control are uncertain. Even if bankers' balances at the Bank became the main form of primary liquidity, it is, to say the least, doubtful whether, at the end of this major readjustment, any predictable relationship between that monetary base and present or future monetary growth would be established. At best it would be several years before it became apparent. Indeed, it is of the essence of prudential holdings that their ratio to the total balance sheet would vary somewhat over time, as circumstances change, perhaps unforeseeably. There will be situations in which individual banks, or banks generally, may consider it prudent to hold more than the norm, and there will be other circumstances when banks will need to draw on their liquidity. The arithmetic is such that it would be possible to have sharp short term swings in the growth of the money stock on the scale experienced at present, while the monetary base grew steadily and there were only relatively small variations in the primary liquidity ratio, to an extent which might be acceptable to the banks and the authorities on prudential grounds.

7. Therefore, in our view, there is no presumption that the relationship between the growth of the monetary base in this type of system and the

growth of the money stock would of itself be sufficiently close to ensure that a steady growth path for the base would produce a steadier path than now for the growth of sterling M3.

8. Flexibility in the relationship between the growth of the monetary base and the money stock would not of itself be a conclusive argument against a system of this type if the actions which the authorities took to control the growth of the base generated changes in interest rates which could be expected to lead directly to a smoother path for the growth of the money stock. But it is far from certain that they would have that effect. Insofar as banks are prepared to allow the ratio between their holdings of base money and their deposit liabilities to vary, the interest rate adjustments resulting from open market operations to achieve a given target level for base money might not have the desired effect on the growth of the money stock. Although there is some presumption that any interest rate changes generated in order to control the base would be in the direction necessary to correct undesired growth in the money stock, even that would not always be the case.

9. To sum up, a scheme not based on a mandatory requirement would first require substantial changes in the structure of the money markets and it would be a period of several years before it could be established if there was any predictable relationship between the base and the money supply. Even then, it would be far from certain that it would generate a steadier path for the growth of the money stock than now.

A Mandatory Requirement - Lead Accounting

10. There are three ways in which a mandatory requirement could be expressed:

i. banks could be required to hold base assets at time t+1 related to the level of deposits in some previous period t (lagged accounting);

ii. the banks could be required to hold base assets at time t related to the level of deposits at the same time t (current accounting);

iii. the banks could be required to limit their deposits at time t to some multiple of the base assets held at a previous time t-1 (lead accounting - never, so far as we know, used anywhere).

11. Lead accounting would have the attraction of giving a warning about the immediate future trend in the money stock. The controlled institutions would have to forecast movements in their balance sheet over the lead period, in the knowledge that there would be some penalty for inadequate holdings of base assets and also perhaps for excess holdings; if there were no penalties, the banks would have little incentive to make realistic forecasts. A significant rise in the demand for base assets would suggest that the banks expected a similar rise in their deposits. Either the base would lead the money figures, if the system were an indicator one, or the rise in demand would generate a rise in interest rates, if the total quantity of base was controlled by the authorities.

12. For such a system to work , it would be necessary for the banks to be able to make tolerably accurate forecasts of their balance sheets. One difficulty is that much of the volatility and vagary of monetary growth is in fact caused by fluctuations in the public sector's position, not only in revenue and expenditure accounts but also arising from a whole range of financial transactions. Another is that, for the conduct of their business, the banks' customers need assurance that finance will be available, and the need to give such assurance through lending commitments makes it difficult, if not impossible, for the banks to forecast their future position vis-a-vis the private sector at all accurately.

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13. One natural response to these uncertainties, especially in the absence of penalties on excess holdings, would be for banks to hold base assets above the level that they thought they were likely to need. There might frequently then be occasions when changes in the demand for base assets indicated a change in the banks' precautionary holdings of excess base or in relative yields, rather than the expectation of a definite change of trend in their liabilities.

14. More damaging, the response by the banks to an under-prediction of the level of their deposits could well be to ensure that business over and above the level for which they had previously acquired base assets was done through channels which did not require base (such as the euro-markets and through the "bill leak"). Severe penalties on over prediction could give rise to a similar problem of artificial reintermediation. All the disadvantages associated with such cosmetic adjustments would recur.

A Lagged or Current Requirement

15. If the requirement were set on a lagged accounting basis, the size of the mandatory base requirement would be determined by what had already happened to the past known growth in the monetary liabilities against which the base was required. The total requirement could well differ from the level intended by the authorities, but it would by then be too late for the banks to adjust. It would therefore be necessary either:-

a. for the authorities to provide the additional base assets to enable the banks to meet the mandatory requirement;

b. to modify the requirement so that it was not absolute, but those banks not meeting it had to pay penalties - as with the SSD scheme now;

c. to make the mandatory base such that the banks would normally

hold substantial excess balances, for example by setting a very low required ratio and paying interest on such balances. This would give the banks protection against unforeseen swings in deposits.

16. Similar problems would in fact arise over a current requirement, because the clearing banks, with their large networks and their vulnerability to any fluctuation in demand for deposits, would not know at a time when they still had an opportunity to bid for base assets what their requirement at the close of business on any day would be.

17. Taking the options in paragraph 15, the difficulty with (c) as with a non-mandatory scheme, is that the linkage between the growth of base assets and monetary growth becomes very weak as the volume of excess base assets fluctuates.

18. The difficulty with (b) is that, as with the SSD scheme, penalties on individual banks would induce them to disintermediate. Banks, facing prospective penalties, would no doubt seek to avoid such penalties in part by bidding for funds in markets. This would not, however, reduce the penalty payable by the system as a whole, only spread its incidence. In practice, such penalties would tend to concentrate on those banks attempting to maintain some stability in their lending rates and these would be induced to disintermediate, switching business to offshore associates, or into uncontrolled forms, rather than lose the business altogether. The risk of extensive disintermediation is a serious disadvantage of a penalty system.

19. This leaves option (a) in which the authorities provide the cash to the system as required and accept that, as a result, the volume of base assets in existence on any day will differ from the desired level. It has been

suggested that this could be reconciled with the idea of a base control system if there were arrangements for progressively higher interest rates for larger amounts of relief for the markets, and the authorities were committed to controlling the base over a period and thus counteracting undesired divergences over time. Such arrangements could preserve the concept underlying monetary base control outlined at the beginning of section 4, in that deviations of the money supply from the desired trend would trigger changes in interest rates and the authorities would act to control the base over a period. Indeed some of the advocates of monetary base systems see such a commitment by the authorities to controlling the base as the main advantage of a monetary base control system.

20. Under this option, the Bank would, in principle, undertake open market operations on a day-to-day basis, with the aim of keeping the base over a period at the desired level. Any additional requirement of the banking system for base on any day would be provided through lender of last resort facilities, on a penal scale of interest rates related to the extent of relief provided by this means.

21. In practice, this would pose a number of problems. Firstly, the desired level of base could not be precisely established. It is difficult enough to estimate the actual path of the weekly money stock that would correspond to the desired seasonally adjusted trend, and hence the desired weekly level of base; this is not just a question of the correct seasonal adjustment but also of other factors such as variations in any excess holdings of base. But operationally it would be necessary to work on the basis of daily targets, for which no initial means of calculation would be available.

22. Secondly, it would not be possible to hit a desired figure for the base on any particular day. The authorities would have a forecast of the various

factors likely to affect the base and thus an estimate of the appropriate level of open market operations to achieve the desired figure. However, there are frequently large unforeseen swings on any day in cash flows between the public and private sectors. As a result, the level of base which actually ruled at the end of business and the extent of the Bank's lending under the lending facility would differ from what had been forecast. The consequent penalty imposed would therefore vary, on some days quite sharply, from that which had been intended. Moreover, even if the authorities set a target for the base over a period, the daily swings in money market flows would mean that the authorities would be unable to be sure that their operations in the market on each day were in fact working to remove any cumulative difference between the desired and actual base. Expressing the cash requirement in terms of an average over a period might help with some of these problems but would not resolve them entirely, and could lead to other complications, for example at the end of the averaging period.

23. One way of dealing with the problem of unforeseen swings might conceivably be to change the basis of settlement for all cheques to a following day basis, so that both the size of the base and the amount of lending required could be computed at the beginning of each day. Such a change would significantly affect the money transmission system and inhibit innovations such as electronic funds transfer.

24. Two further difficulties would remain. First, the inherent fluctuations in the various elements affecting the cash base would inevitably lead to greater fluctuations from day to day in interest rates. Second the penal interest rates might over time erode the value as liquid assets for the banking system of the money market instruments which the Bank is prepared to buy. This would affect both the functioning of these markets and the liquidity of the banking system.

Effects on Interest Rates

25. Even if these practical problems could be overcome, there would remain the question of whether the changes in interest rates generated by the Bank's operations - in response, say, to an excessive rise in the base and the money stock - would be sufficient to bring £M3 back to its desired path and thus reduce the bank's demand for base money to the authorities' target. To the extent that the changes in rates were insufficient, the divergence between targeted and actual base would remain and as a result further action would be required.

26. In this respect this approach focusses on bringing about changes in (short term) interest rates until the actual growth in the money stock comes into line with desired growth. Short term interest rates are, however, already varied discretionarily for this purpose. The question therefore arises whether this form of monetary base control would bring about conditions which might allow short term interest rate changes to lead to quicker or more efficacious changes in the money stock than at present. The discussion in Section 5 of the main paper deals with many of the issues that arise when considering the relative advantages of automaticity or discretion.

27. Moreover, in the short term, a reduction in £M3 requires the sale of government debt outside the banking system[2] given the apparent short-run insensitivity of the demand for bank credit to changes in interest rates and the short-run inflexibility of the PSBR. This could be achieved - cosmetic adjustments by the banking system apart -by securing sales of Treasury bills,

[2] In contrast, the base is reduced whether the buyer of debt is in the banking system or not.

or other Government short term paper, outside the banking system on a far larger scale than has been usual hitherto. The only alternative would be a system of gilt sales which gave greater assurance about the level of sales which can be achieved in a particular period than is possible at present. The possibilities in this respect have been discussed in the Bank of England's article on debt management (in its Quarterly Bulletin, June 1979) and are not further considered here.

28. The development of a wider market outside the banking system, in Government short-term paper, such as Treasury bills, is seen by some as another possible product of a monetary base system which is desirable in its own right. Moreover, it has been argued that if such a market developed, disintermediation would take the form of switching holdings of such paper outside the banking system, and that this would be intrinsically less harmful than other forms of disintermediation such as switching business offshore or the acceptance leak. It is true that such switches might not have some of the undesirable effects in terms of loss of business to the United Kingdom financial system or prudential risks that these other forms of disintermediation may have. But the resultant changes in the £M3 statistic would still be essentially cosmetic: the Treasury bill would be as liquid in the hands of its holder as a Certificate of Deposit, but the former would be excluded from £M3 while the latter would be included. It would therefore be little, if any, less damaging than other forms of disintermediation to the credibility of the £M3 statistic as an adequate indicator of monetary conditions, and so as the basis for the monetary target.

29. The argument as to why disintermediation might take this form runs as follows:-

(i) The discount market, together with other parts of the banking

system that customarily hold large portfolios of marketable short-term securities, would know that the authorities would respond in a certain way if the monetary base deviated in a defined manner from a known desired path. Such deviations would be observable and, accordingly, official behaviour in the money market would be predictable in respect of interest rate alterations.

(ii) The discount market (and banks) would, in effect, respond to knowledge that the base is growing too fast by selling short-term securities. The yield on such securities would then rise a little, relative to that on bank deposits and CDs, and disintermediation would occur; or vice versa if the base had been observed to grow too slowly. The general level of interest rates would have changed little while the deviation to sterling M3 would have been corrected, albeit in a cosmetic fashion.

30. What actually happened could be very different:

(i) The discount houses (and banks) would observe the monetary base rising too fast and would know that this heralds an increase in short term interest rates. They would also know that the increase might be quite sizeable, because the official purpose is the control of the underlying growth of £M3, which experience suggests cannot in the short run be achieved by small changes in rates.

(ii) It would also be the case that the expectation of higher rates could not be confined to discount houses and banks. It would instead be shared among virtually all operators and investors in the money markets. At that point, all investors would wish to sell short-term securities, including negotiable CDs, and get into overnight money until the expected rise in rates had occurred.

Simultaneously, banks would try to borrow longer and attempt to issue more CDs before rates rise. This collective behaviour would itself bring about the expected rise in rates and ordinary dealings would recommence at the new level. Nothing discernible would have happened in this process to alter relative interest rates between, for example, negotiable CDs and Treasury bills of comparable maturity and no disintermediation would have occurred.

31. In response to all these pressures, the general level of rates would move up in an orderly manner in two-way markets, provided that the balance of expectations points in that direction. In the process, and depending haphazardly on the distribution of expectations within and outside the banking system, short term securities might move either into or out of that system, but without the pattern of relative rates altering in any particular way.

32. In the absence of direct controls, the pattern of relative rates under the present system mainly reflects differences of liquidity and credit risk between short-term securities of similar term. But it can occasionally reflect also a condition of relative plenty or scarcity. For example, if a growing money stock is associated with large governmental borrowing and a depressed state of private sector loan demand, the banking system will tend to become very liquid. Banks will then not wish to acquire additional Treasury bills if their counterpart has to be additional 3-month wholesale money, for the latter normally costs more than can be earned on a Treasury bill. They may instead buy higher-yielding gilt-edged which, if supplied by the authorities, will eliminate the unwanted supply of Treasury bills. But if, because of adverse expectations, intermediation into gilts is not attractive, the banks will simply reduce their wholesale money rates somewhat and

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cease bidding for marginal funds. The unwanted supply of Treasury bills will then flow into non-bank hands. This has happened on various occasions over the past decade, helped by the marketing skills of the discount houses. But it bears little resemblance to the processes required for short-run control of sterling M3. For this can hardly be expected to be achieved by, for example, deliberately rendering the banking system over-liquid when £M3 is rising too fast.

33. It has to be concluded that the evidence in favour of the hypothesis that base control would produce less undesirable disintermediation, except occasionally and by chance, is weak. To succeed in this, the control would need to create an expectation that a small but significant change in interest rate relativities was going to occur, and nothing much else. But control of the money stock, except in a very transitory sense, in fact requires periodic substantial alteration in the level of interest rates. The markets know this, and their expectations are formed accordingly; the processes whereby such expectations become translated into a change in the level of rates are likely to be neutral in their effect on the relativities between rates.

An Alternative Approach - Negotiable Entitlements

34. It has also been suggested that the problems in controlling the conventional cash base could be side stepped by instead having as the base "negotiable entitlements" (NEs) specifically designed for the purpose. In its simplest form, this approach would involve the creation by the authorities of a supply of such entitlements which banks would be required to buy in proportion to the deposits that they wish to take. The authorities would be the sole source of supply of NEs and they could increase that supply in line with the growth of deposits that they though desirable. The banks would bid for new entitlements and trade the existing stock. Competition would ensure that, if the flow of deposits into the banks tended to rise above the

level implied by the stock of entitlements then the market price of NEs would rise. This would effectively raise the marginal cost of additional deposits to the banks taking them, because they would have to pay the going market rate for deposits and buy the entitlement as well. The banks would, in turn, raise their lending rates or otherwise restrict their loans; the process would continue until the total credit granted had fallen to the point where the total deposits that the public wished to hold with the controlled institutions at the ruling market rates of interest were within the total allowed by the stock of entitlements.

35. The effects of such an approach would be those of a direct control, such as the SSD scheme, but in which the adverse effects of a permanent control on competition and efficiency within the controlled sector were mitigated by making NEs saleable. As with the present SSD scheme, the impact of a tight montary policy (in which the demand for deposits was rising faster than was compatible with the authorities' target) would effectively be to tax the banks covered by the scheme, obliging them to raise the margin between their lending and deposit rates and/or to pass the business on elsewhere, and so provide an incentive to disintermediation.

36. There seems to be no satisfactory way out of these problems if the control is to be effective. Thus, for example, the extent of the discrimination could be limited by allowing controlled institutions to pay only a modest penalty if they held an inadequate volume of entitlements. This would effectively put a ceiling on the market price of entitlements and limit the implicit tax. However, some discrimination would inevitably remain and, of course, the lower the penalty the less the effect of the control on the total of deposits.

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The Operation of an Indicator System

37. As explained in Section 5, the essential feature of such a system would be a pre-set graduated scale of lending rate adjustments to deviations of £M3 from its target path. As also noted in Section 5, it might be desirable to relate the scheme to weekly rather than monthly £M3 figures, in order to achieve a significant time advantage over the existing system.

38. On the assumption that weekly money figures were indeed used[3], the scheme might work in the following way:

(a) Every Thursday, the Bank of England would announce the money figures for the Wednesday eight days earlier and/or the moving average (of, say, four or five weeks' figures) being used;

(b) The Bank would also announce MLR, as at present, together with any change triggered by the money figures. MLR plus or minus this change would be the "operative rate" for lending to the discount market in the following week;

(c) The authorities would also announce the size of the Treasury bill tender for the following day (Friday)[4].

39. The extent to which the operative rate could diverge from MLR would, it was argued in Section 5, need to have an upper limit, at least initially. In practice, the authorities consider that, at most, 3% above MLR might sensibly be the largest figure imposed on the system at the start. Within

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(3) The statistical and other problems arising from this assumption are discussed in paras 42-47 below.

(4) Currently the size of the tender is announced a week in advance.

this overall limit, which could also operate below MLR, there could be a number of triggers, say 3 of 1% each. Deviations in monetary growth which left the system persistently operating towards one end of the range of official rates would suggest a need for MLR itself to be changed.

40. When the money markets were short of cash, there would be no major changes to the Bank's existing practices, except that any lending to the discount market would be at the operative rate rather than at MLR. If a desired shortage did not materialise (because, for example, Government expenditure was unexpectedly buoyant), open market operations would be needed to reduce the cash base and thus to bring pressure on controlled institutions' cash balances. The aim would be to force them to withdraw call money from the discount market to meet their requirements and thus to force the market to borrow from the Bank; in this way, the operative rate would come to influence market rates. To this end, Treasury bill tenders would almost certainly have to be larger on average than at present.

41. It might be necessary for the Bank to undertake transactions in Treasury bills at more volatile rates of interest than at present. In particular, it might be necessary to sell Treasury bills of very short (one or two days') maturity at rates reflecting the current operative rate. Such a procedure could encourage the development of a market in such bills and generally the rate on these bills would be close to overnight interest rates. It might also prove necessary for the Bank to take deposits at the short end of the inter-bank market, to mop up cash in the system, with the object of maintaining short term interest rates reasonably close to the operative rate. Calls for Special Deposits could be made to mop up persistent cash surpluses. Experience with such a system would be necessary before the appropriate combination of operations could be established.

The Use of Weekly Money Stock Data

42. Any scheme of the kind outlined in the previous paragraphs would focus considerable attention on the weekly statistics for sterling M3. It is therefore important to explain briefly the Bank of England's experience with these figures, since they were first collected in September 1977, and the limitations of the current series.

43. The purpose of collecting weekly figures was to obtain a more frequent snapshot of the banking system. However, the Bank recognised from the outset that weekly returns would impose a considerable additional statistical burden on the banks and a number of steps were taken to limit this burden. Most importantly, returns were only requested from about eighty banks (including eleven discount houses and the Banking Department of the Bank of England[5]) and the forms were restricted to the minimum information needed to compile estimates of £M3 and the main counterparts.

44. From comparisons with the mid-month returns, it does not seem that either the limited coverage of banks or the absence of balance sheet cross-checks have led to serious distortions in the estimate of £M3. On specific occasions, however, errors have been made by reporting banks of a kind that would have been noticed and corrected in the calculation of the monthly figures (because the latter are based on more complete returns); also, there is no reason to suppose that the banks reporting weekly are always representative of movements in the banking system as a whole.

(5) Apart from some discount houses, all those reporting had a sterling balance sheet total of over £100 million at the start of the scheme. Subsequent changes in size among weekly reporting and other banks have not been reflected in changes in the list of those reporting, except that figures for the National Girobank have been collected since January 1979.

Consequently, the greater the weight in any future form of monetary control upon these weekly data, the stronger is the case for a fuller and more detailed coverage each week. How long a more comprehensive approach would take to set up and how rapidly the reporting could be done would be a matter for discussion with those concerned, should some form of automatic linking of interest rates to money be decided.

45. Even with these improvements it is doubtful if the weekly figures could ever be seasonally adjusted at the time of publication with any great assurance. The raw figures indicate a definite intra-monthly pattern, but only two years' useable data are at present available, insufficient to establish - even within reasonable bounds - the size of the adjustments. But even with a longer time series the seasonal pattern of the weekly figures (to an even greater extent than the monthly figures) would be altered by changes in the timing of large financial payments - most notably those relating to Petroleum Revenue Tax and Mainstream Corporation Tax. These shifts can be roughly estimated a few weeks after the event, but the appropriate adjustments can only be finally determined several years later. Consideration of both seasonality and erratic movements would suggest the use in any indicator system of some smoothing of the figures; for example, a four or five week moving average.

46. There is a trade-off between speed of response of interest rates (requiring a short moving average) and appropriateness of that response (requiring a longer moving average). However, a decision on this, together with consideration of the best way to handle the problems outlined above, would require further detailed consideration by the authorities, should it be decided that some automatic system was desirable.