

# MONETARY BASE CONTROL

## PART 11

5 August 1981 – 7 October 1983



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5 August 1981

## MONETARY CONTROL

1. The Chancellor of the Exchequer said in the Budget Speech that a number of improvements in monetary control would come into effect later in the financial year. The Bank of England has now completed its discussions with the financial institutions; the agreed detailed arrangements are set out in a note issued by the Bank today. They will come into effect on 20 August - the first day of banking September.

### The Reserve Asset Ratio

2. Among the changes to come into effect on that day is the abolition of the requirement that the banks should maintain a minimum reserve asset ratio. The institutions to which it has been applied will discuss in advance with the Bank, as part of normal prudential supervision, any changes in their policies on liquidity management.

### The Cash Requirement

3. The previous requirement on the London clearing banks to hold  $1\frac{1}{2}\%$  of their eligible liabilities with the Bank in non-interest bearing form will also be abolished. Instead there will be a uniform requirement on all banks and licensed deposit-takers to hold  $\frac{1}{2}\%$  of their eligible liabilities with the Bank. The fulcrum for the Bank's money market operations will in future be the balances - over and above the  $\frac{1}{2}\%$  requirement - which the clearing banks hold voluntarily with the Bank for clearing purposes.

### Money Market Operations

4. Besides these changes, 20 August will mark a stage in a period of transition which we have been going through since last November. The Bank now relies mainly on open market operations - buying and selling bills - rather than on direct lending to the

money markets. Dealing rates are no longer quoted; the Bank responds to bids and offers from the market, making public the rate at which it has done business. In future, the Bank will aim to keep interest rates at the very short end of the market within an undisclosed band which will be moved from time to time.

5. The new arrangements are intended to reduce the "bias to delay" in changing interest rates - in both directions - which was identified in the Green Paper on Monetary Control. And the market will have a greater role in determining the term structure of short interest rates. Market pressure will show itself mainly in movements in rates at the longer maturities which the Bank does not influence so directly - and this experience of market conditions will be one of the factors taken into account in deciding on the position of the interest rate band.

#### Minimum Lending Rate

6. The Bank will cease to post a continuous Minimum Lending Rate from 20 August, as this would be inconsistent with the objective of the new arrangements to give the market more influence over the structure of interest rates. The option will, however, be retained for use in some circumstances of announcing in advance the minimum rate which for a short period ahead the Bank would apply to any lending to the market.

#### Changes in the Interest Rate Band

7. The undisclosed interest rate band will be changed by the Bank with the agreement of the Chancellor of the Exchequer primarily in response to the requirements of the annual monetary target, taking account of a range of factors indicated in the Budget Speech.

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## NOTES TO EDITORS

The new monetary control arrangements announced today flow from work begun in 1980 with the publication of the Green Paper on Monetary Control (Cmd 7858).

In the months following publication of the Green Paper the Treasury and Bank of England received submissions from and consulted a wide range of commentators and market participants on the issues raised in the Paper. In his statement to the House on 24 November 1980 the Chancellor reported on the outcome of these consultations and outlined a number of improvements in monetary control which it was proposed to introduce. These included the ending of the Reserve Asset Ratio requirement, and changes in the Bank's money market operations to allow the market a greater role in the determination of the structure of short-term interest rates. The Bank issued a background note on "Methods of Monetary Control" on 24 November (published in the December 1980 Quarterly Bulletin).

In his Budget speech on 10 March the Chancellor described some of the changes that had already taken place and explained that the Bank would be discussing further changes with the financial institutions. He said that when these consultations were complete the Bank would aim to keep interest rates within an unpublished band, but without an announced Minimum Lending Rate. On 12 March the Bank issued two papers "Monetary Control: Next Steps" and "The Liquidity of Banks" (published in the March 1981 Quarterly Bulletin).

On 2 July the Chancellor told the House that the Bank had issued on 22 June the final draft of the detailed provisions and that discussions with the financial institutions were well advanced. On 31 July he said in answer to a question from Mr Newens that the full system would come into operation on 10 August, the first day of banking September.

Today's Treasury Press Notice explains the major changes and their rationale. At the same time, the Bank of England are issuing a paper entitled "Monetary Control: Provisions", which sets out the details of the new arrangements.

Blower 13/7  
B2.

FROM: RACHEL LOMAX  
DATE: 13 JULY 1983

MR CASSELL

cc: Mr Monck  
Mr Sedgwick

MONETARY BASE CONTROL

... I attach a draft of a section on monetary base control that could either be inserted into the text of the larger paper on operating policy, or act as a free standing Annex. Depending on how much of this ground is covered in Sir T Burns' paper, we may also need a few charts and tables, illustrating recent experience, and possibly some more detailed discussion of the evidence on the economic significance of the base. It may also be worth discussing with the Bank at some stage.

2. I gather Sir T Burns' paper is likely to appear in draft later on today. If it is in anything like final form, it may be a good idea to think again about what we are going to offer by way of a paper. There are only three clear weeks left before I go on holiday.

RL.

RACHEL LOMAX

## Monetary Base Control

13. Of all the aggregates, the wide monetary base seems to have borne the closest relationship to subsequent movements in inflation over the past few years and, since about 1980, some of the more committed UK monetarists have begun to favour using the base as a policy indicator in its own right, rather as the Swiss do. This would not necessarily involve any change in the Bank's operating procedures. We could, in principle, try to control the base by varying the Bank's dealing rates directly, just as we have in the past tried to control the broader aggregates. But this would be most unlikely to deliver anything like close control over a period of, say, 6-9 months - if only because we remain extremely uncertain about the effect of changes in short term interest rates on the demand for base money. But this information is less critical, in the case of the base, since we have daily data about its movements (since it is simply the sum of the monetary liabilities of the monetary authorities)\* Were we to publish a target for the base, there would undoubtedly be pressure from some commentators for us to pay less attention to interest rates, and focus more directly on the quantity of base money supplied, as the most appropriate means of achieving our objectives.

14. This approach involves adopting something akin to non-mandatory monetary base control, and it raises some of the same issues as were considered in the more wide ranging debate on monetary base control, following the 1980 Green Paper on Monetary Control. In principle, there is no reason why the Bank should not direct its day-to-day money market operations at securing some path for the base rather than, as at present, at achieving some particular path for interest rates. (There is an analogy with the foreign exchange market, where there is a similar choice between conducting operations according to guidelines for quantities - ie intervention - or prices - ie the exchange rate).

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\* The base can also be expressed as the counterpart of the daily operations that are conducted to finance the CGBR and net foreign exchange market intervention by selling debt in all forms. See table 1 for definitions.



15. But it would not be sensible to try and control the wide monetary base on a day-to-day (or even week-by-week) basis. The Bank only directly influences the banking system's holdings of cash, and it is in terms of this narrower definition of base money that operational guidelines would need to be couched. Even then, the targets could not be met in the very short term. The Bank must always act to balance daily shortages and surpluses in the money markets, though it has a choice as to the rates at which it buys and sells bills to even out market imbalances. If the Bank were aiming to meet some quantitative objective, over say a month, it would, in practice, have to find the interest rates consistent with this path by a process of trial and error, by raising its dealing rates when base money was growing too fast, and lowering them when it was growing too slowly.

16. Control over the banking system's holdings of cash is not the same as control over the wide monetary base. Over 85 per cent of the wide base consists of the public's holdings of notes and coin which are supplied on demand. A surge in the public's demand for currency would require the Bank to squeeze the supply of cash to the banking system, until the banks bid currency away from non-bank (or equivalently, to drive up interest rates until the public's demand for notes and coin were reduced to the necessary extent). Either way the interest sensitivity of the public's demand for currency is critical in determining the degree of control that can be exercised for given interest rates, or, put another way, the variations in interest rates required to secure any given degree of control over the wide base.

17. The familiar objection to monetary base control is that it would induce considerable volatility in short term interest rates and possibly set off interest rate cycles that would have a damaging effect on the domestic economy both directly, and indirectly, by causing similar swings in the exchange rate. These risks would be real if we sought to exercise close control over the base, and if it turned out that the public's demand for currency were rather insensitive to changes in short term interest rates. Advocates

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FROM: RACHEL LOMAX  
DATE: 7 OCTOBER 1987

MR CASSELL

cc: Sir T Farns  
Mr Lankester  
Mr Odling-Smee  
Mr Monck  
Mr Sedgwick  
Mr Johnston  
Mr O'Donnell  
Mr Willoughby

SETTING TARGETS FOR THE MONETARY BASE

I promised to have a go at drafting a fairly simple note to meet the Chancellor's request for advice on the sort of numbers we ... might attach to an Mo target. The attached draft is certainly simple but also, I fear, rather long and laboured. I can cut it down, once we have agreed what we want it to say. At this stage I have not tried to tie it in with any of FEU's work on Mo, much of which is obviously directly relevant. That will be best done when (a) the work is nearer completion and (b) when we have decided what other notes on this subject are going to be submitted to Ministers, and when. In the meantime, I have to confess that chart 2 is pinched from FEU; all the other statistical work is courtesy of Gus O'Donnell and David Willoughby.

RL

RACHEL LOMAX



## SETTING TARGETS FOR THE MONETARY BASE

Introduction

1. This note considers how we might go about choosing a target for the monetary base. Setting targets for the broad aggregates has never been simply a matter of applying mechanical formulae, nor of reading figures for monetary growth off the post-Budget forecast. The published ranges need to convey a clear message about the Government's intended approach to inflation. They also need to be credible. In practice, what has already been said about monetary growth, and what has been achieved, have severely constrained our choice of targets.
2. Even though there have never been published targets or guidelines for the monetary base, the slate is not entirely clean. A range for  $M_0$  needs to be consistent with the existing targets for broad money, and what is said (and implied) in the MTFIS about the Government's medium term objectives on inflation. It also needs to make sense in relation to recent experience, since we will be arguing that the reason for adopting an  $M_0$  target is that it has been a relatively good indicator of monetary conditions, and future inflation, over the past few years.
3. The last MTFIS will provide the starting point for any new exercise in target setting this Autumn or next Spring. The ranges set for the broad aggregates this year were 7-11 per cent, declining by 1 per centage point a year over the next two years (when the ranges are described as "illustrative"). There were no precise objectives for inflation beyond the general statement that "the objective over the medium term is to continue reducing inflation". By implication, however, the target ranges are consistent with the inflation and money GDP assumptions on which the fiscal projections are based. This year they showed money GDP rising by 8 per cent a year over the next three years, with the GDP deflator increasing by a fairly steady 5 per cent a year, and real output rising more or less in line with productive potential.

### The growth of Mo relative to other aggregates

4. We already have a target for narrow money - 7-11 per cent. M1 is well outside it, but we shall be arguing that the rapid growth in interest bearing sight deposits makes M1 a bad indicator of narrow money. At first sight, it might seem natural to stick with the same target, but simply apply it to our preferred measure. We have, of course, always argued that there are good reasons why the growth in different aggregates may diverge; but the point applies with more force to the relative growth of broad and narrow measures, than it does to that of different versions of narrow money. This line of reasoning gets some support from the Annex chart and table, which suggest that over the 1960's and much of the 1970's, the growth rates of Mo and M1 were really quite similar, even from year to year.

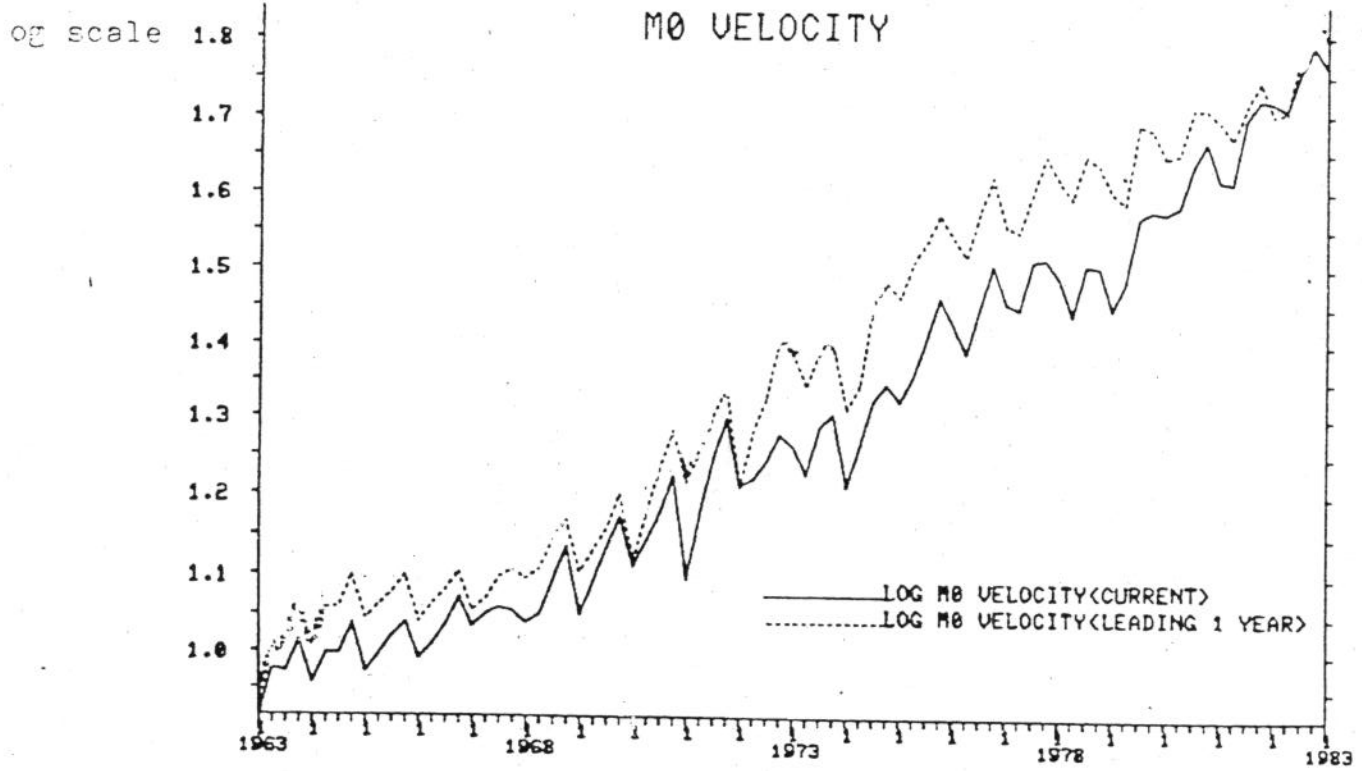
5. The most recent experience - since 1980 - establishes a rather different presumption. The monetary base has grown slowly relative not just to M1, but to the targets we set for M1 from February 1982 onwards. We will not want to concede that policy was unduly restrictive over this period, as some proponents of MBC have argued (notably Professor Niehans). To avoid this implication, we will therefore need to say that it was appropriate to look for a relatively low growth in the base (eg. to take account of changes in the demand for cash). It would be consistent with this position to start with a target for Mo lower than those previously suggested for M1.

### Velocity trends

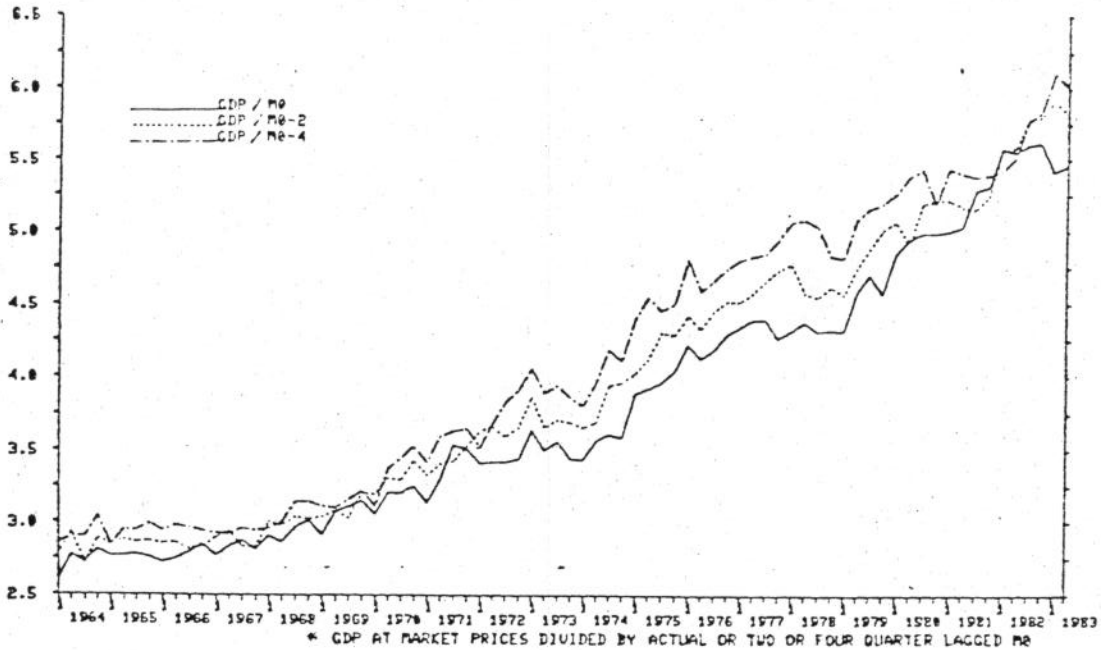
6. This points to constructing an Mo target from first principles. The simplest approach is to work back from some assumption about the desired rate of growth of money GDP, by deducting an allowance for the trend change in Mo velocity. This is very broad brush; all it does is identify the average rate of monetary growth that, over a period of years, should be consistent with a given growth in money GDP. Its value depends on being able to establish a clear stable trend in velocity, which can be extrapolated into the future with reasonable confidence.

7. As charts 1 and 2 show, there is sizeable upward trend in the velocity of Mo. Fluctuations about the trend are very small relative to the trend itself - by contrast with the broader aggregates, where

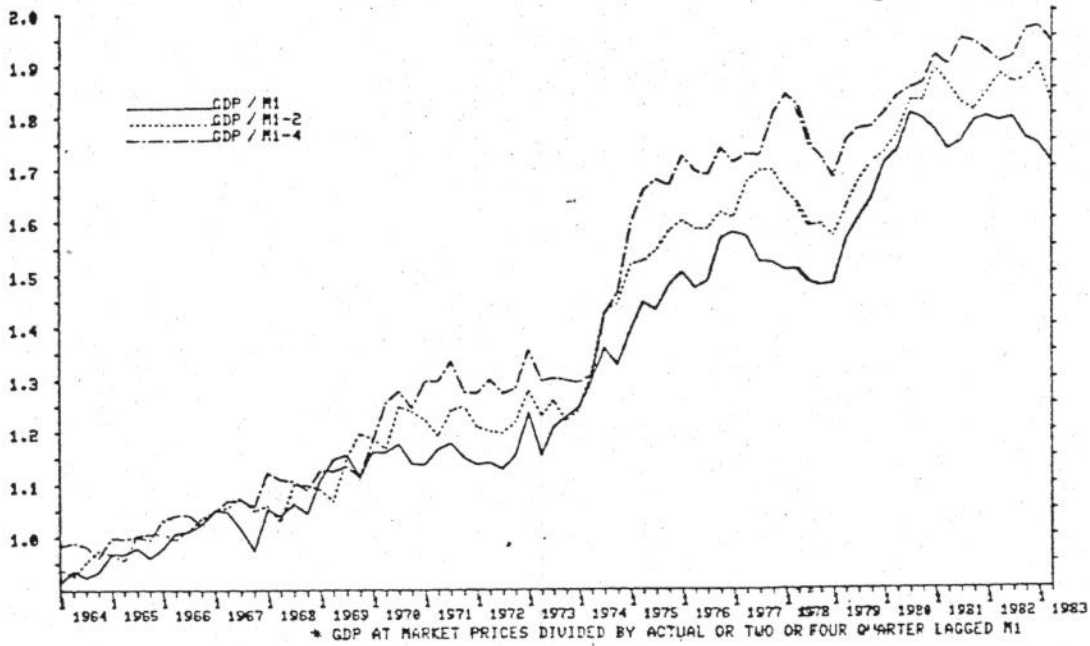
CHART 1



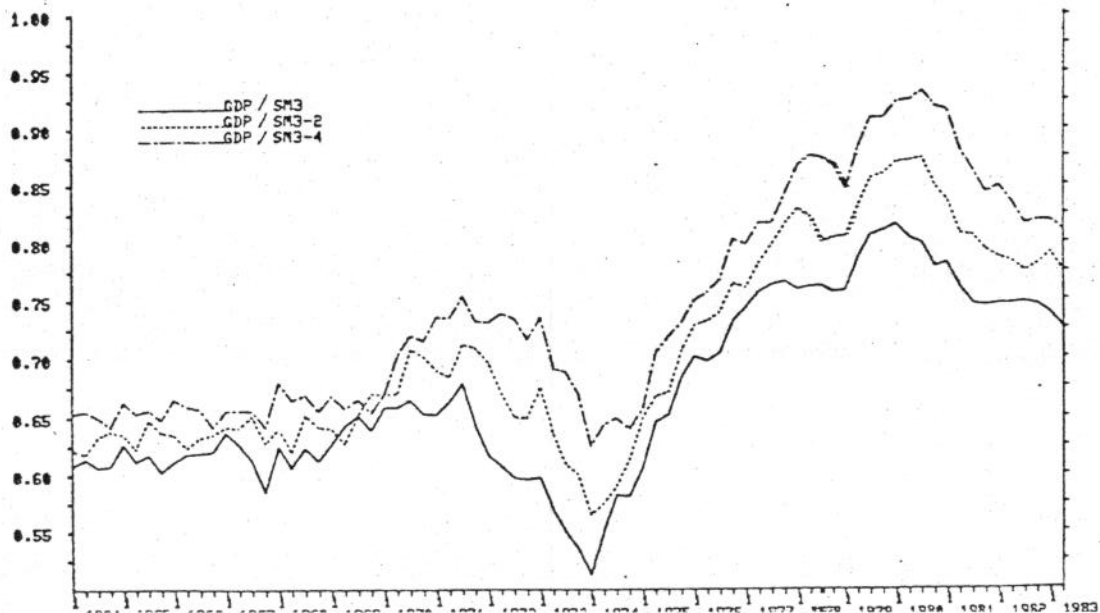
ACTUAL AND LEADING M2 VELOCITY\*



ACTUAL AND LEADING M1 VELOCITY\*



ACTUAL AND LEADING STERLING M3 VELOCITY\*



the trend is almost swamped by large fluctuations that have persisted for several years. Relative to M1, the trend also looks fairly unbroken; there are no obvious signs that it shifted upwards in the early 1970's, when inflation and interest rates increased sharply. Nevertheless, the Mo velocity trend does seem to have accelerated, albeit fairly smoothly, since the early 1970's, and even more clearly since about 1978 or 1979.

8. This acceleration is illustrated in table 1. The final column shows the effect of fitting simple linear time trends to the series

Table 1: Monetary Base, Money GDP, and Velocity

Period	% growth per year in:-		
	Money GDP	Mo	Mo Velocity (GDP/Mo)
1961 - mid 1983	13	8½	4½
1961 - 1971	8	4½	3
1972 - mid 1983	16	10½	5
1978 - mid 1983	12½	5½	6½

shown in chart 1, over different time periods. The trend over the 1970's is, in a statistical sense, significantly different from that over the 1960's. Not surprisingly, a non-linear (quadratic) time trend is a better fit to the period since the early 1960's than a simple straight line. This allows for a gradual rise in the trend growth in velocity, that brings the implied underlying growth rate to about 6½ per cent by mid 1983.

9. Mechanical extrapolation of these statistical trends yields numbers ranging from 4½ per cent to 6½ per cent for the growth in velocity over the next few years. If we take an 8 per cent growth in money GDP as being broadly consistent with the Government's objectives, that implies a target range for Mo of something like 1½-4 per cent.

10. Whether or not this makes economic sense depends on the interpretation that is put on the high (and possibly accelerating) growth in velocity over the 1970's, and more particularly over the last five years. On one view it is the result of technical innovations and changes in payment habits that have allowed people to economise in the use of cash, and that are likely to persist, and even gather pace, over the medium term, more or less regardless of wider economic developments<sup>1</sup>. But, arguably, the pace of change has itself been due to the persistence of high nominal interest rates and high inflation since the early 1970's. If we are entering a period when inflation and interest rates are likely to return to rates closer to those prevailing in the 1960's, it might be reasonable to expect some slackening in the growth in velocity. Chart 3 suggests that changes in the M0 velocity are closely associated with interest rates, most clearly over the past five years; but the trend in velocity seems to be independent of the level of nominal interest rates (an inference confirmed by more formal econometric tests).

11. Another problem with extrapolating the time trends shown in table 1 is that they may be unduly influenced by recent M0 growth the full effects of which have yet to come through on to money GDP. Since money GDP reacts to changes in monetary growth with a significant lag, "leading velocity" (which compares current GDP with the money stock some periods earlier) may be a better guide to the underlying trend than 'actual' velocity. As the charts show, the two series<sup>2</sup> have moved rather differently, especially over the past decade. Leading velocity has been a rather flatter series, since the mid 70's, with no evidence of acceleration since 1978-79. However, the trend seems to have risen slightly between the 1960's and 1970's, even on this series, as table 2 shows:-

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<sup>1</sup> This view is documented in recent BEQB articles on the use of cash (December 1982) and the effect of financial innovation on the British banking system (September 1983).

<sup>2</sup> The measure of leading velocity used in charts 1 and 2 is defined as the ratio of GDP at market prices to the level of the monetary base lagged 4 quarters. Research at HMT and the Bank suggests that the average lag between changes in M0 and subsequent changes in inflation is about a year (may be less).



CHART 3

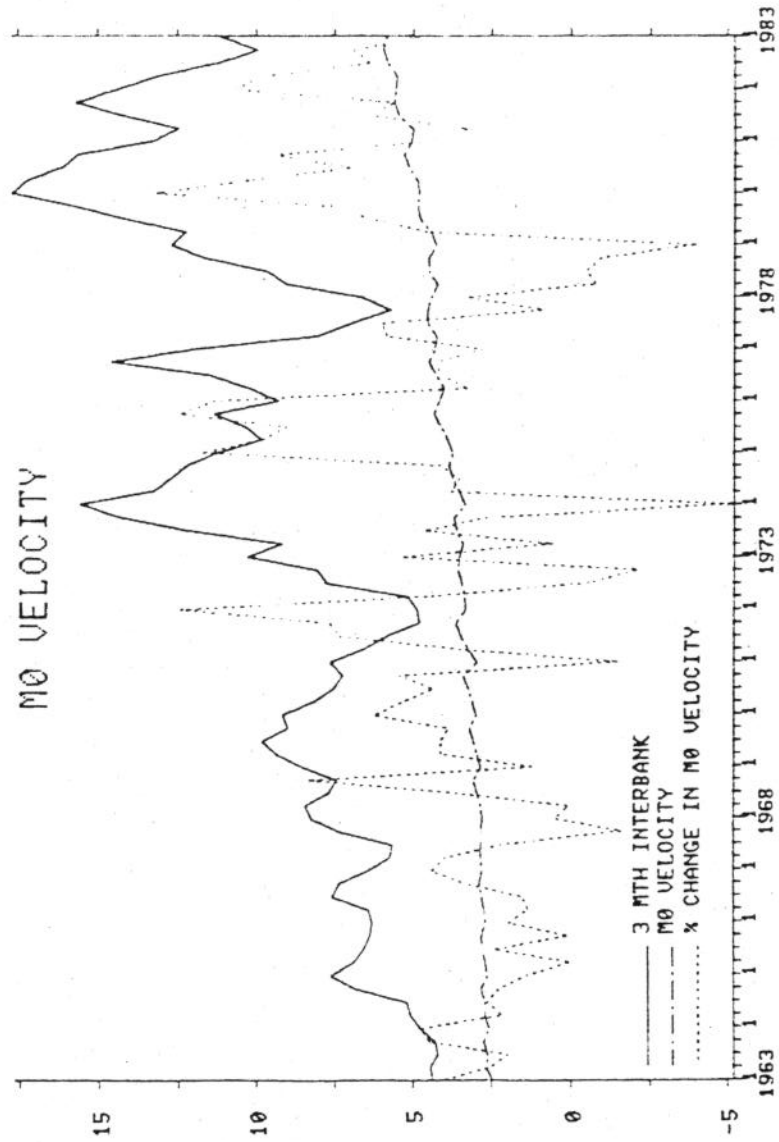


Table 2: Trends in "Leading Velocity"

	Leading Mo Velocity	% growth per year
	<u>GNP</u>	
	Mo <sub>-4</sub>	
1963 - 1983	4½	
1961 - 71	3	
1971 - 83	4½	
1979 - 83	4	

12. On the basis of the discussion so far, a reasonable estimate of the trend growth in velocity seems to be about 4 per cent a year - though there is clearly a margin of uncertainty. The implication is that Mo growth of around 4 per cent a year would, over a run of years, be constant with average GDP growth of 8 per cent.

Forecasts for Mo

13. Whether or not velocity grows at a steady trend rate in the medium term, it clearly does not do so from one year to the next. If the demand for Mo is a reasonably complex function of lagged money incomes and interest rates, there may be a lot of systematic variation in velocity, in addition to random noise. A more elaborate approach to target setting involves trying to predict year to year movements in velocity, rather than simply extrapolating the past trend; and trying to take some account of whether the starting point is one in which velocity is especially high or low relative to trend.

14. In practice, this is likely to mean paying some attention to forecasts, both Treasury and, where available, those produced by outsiders. The latest Treasury forecasts suggest a growth of Mo of about 5½ per cent a year over the current target period, falling to around 4½ per cent over the subsequent two target periods. The Bank forecast is much the same. None of the outsiders forecast Mo, as such. Phillips and Drew forecast the growth of currency in

circulation, put at 5½ per cent in the year to 1984 Q1, in their September update. Greenwells, Liverpool, and the City University all discuss movements in the base without offering precise forecasts. To judge by his September Bulletin, Patrick Minford seems to be looking for a year-on-year growth in Mo of about 5 per cent, consistent with the MTF5. City University Business School seem to be more or less alone in expecting a pick-up in Mo growth; in their Spring 1983 Review they suggested that the growth rates of the broad and narrow aggregates (including Mo) would be converging.

15. The City University's argument is an echo of one that has appeared in each of the last two MTF5. We have argued that falling interest rates and inflation are likely to lead to a shift back into non-interest bearing money. If this represents a permanent increase in the demand for money, it can be accommodated by allowing a faster growth in narrow money, without damaging implications for future inflation\*. The forecasts quoted above do not betray much evidence of this sort of effect. But it is worth considering how far the argument applies to Mo; and, if it does, whether it is appropriate to take it into account in setting targets.

16. In principle, the velocity of any interest sensitive aggregate is liable to shift when there is a step change in the rate of inflation. This is on the assumption that changes in inflation are more or less fully mirrored in nominal interest rates. The argument is simply that people will be more willing to hold higher money balances, relative to their incomes, the lower, on average, the opportunity of cost doing so. It is particularly relevant to cash and current accounts because the opportunity cost of holding these forms of money varies directly with the general level of interest rates. (Whether it applies to broader measures of money depends on how changes in the average level of interest rates affect the pattern of relative interest rates.)

17. The practical importance of this effect depends both on how sensitive Mo is to changes in the level of short term interest rates, and how short term rates themselves are likely to move over the next few years. Assumptions on either are inevitably subject to major uncertainty. That is why we stopped short of publishing a separate range for M1, even though our best view was that the velocity of M1

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\* Failure to accommodate the velocity shift would, of course, imply an unintentionally restrictive policy stance.

was likely to shift down in the next few years, partly reversing the upward shift that took place in the early 1970's.

18. Similar arguments apply, a fortiori, to Mo. We remain extremely uncertain about how responsive it is to interest rates. There seems to be some interest sensitivity, but the chances are that it is less than for M1. The forecasts, for what they are worth, suggest that the effect of falling interest rates on velocity is likely to be quite small, and more than offset by the longer term developments that are allowing people to economise in the use of cash. The risk that Mo velocity will fall sharply over the next few years cannot be entirely discounted. But the arguments are against making an explicit allowance for this effect in arriving at target numbers, even though we might want to mention it in public discussion, and bear it in mind in monitoring monetary developments.

#### Choosing a Range

19. The discussion so far suggests that a rate of growth of Mo of around 4 or 5 per cent over the next year or so is likely to be broadly consistent both with the framework set out in the MTFs, and the picture emerging from the forecast. There is the question of how to express this in terms of ranges. It has become customary to set targets as bands with a width of four percentage points. Arguably, at relatively low rates of growth, it makes sense to set a narrower band.

20. There is no great science about the width of the current band. In broad terms, it is intended to allow for:-

(i) uncertainty about the choice of target, eg. resulting from the problems of extrapolating future movements in velocity;

(ii) imprecision in control. The difficulty of detecting the underlying trend in monetary growth, the uncertainty about the effect of policy instruments, and the delays with which they impact on the monetary aggregates mean that we cannot hope to control monetary growth very closely, even over a period as long as a year;

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\* cross reference to FEU/Bank work.

(iii) the inherent volatility of the series. The chances are that a very noisy aggregate will be outside a very narrow target range most of the time, even if it is "on track" in an underlying sense.

21. The present ranges are almost certainly far too narrow to allow adequately for these factors. Our poor record in hitting targets is suggestive - though scarcely conclusive; £M3 growth has been within the target range only twice, since 1977-78 - and one of those times was during the operation of the SSD scheme. As far as Mo goes, our uncertainty on points (i) and (ii) is at least as great as for the broader aggregates - and probably greater than for M1; Mo is also a very noisy series, especially in terms of monthly data; it seems to be even noisier than M1, which in turn is a noisier series than £M3 and PSL2.

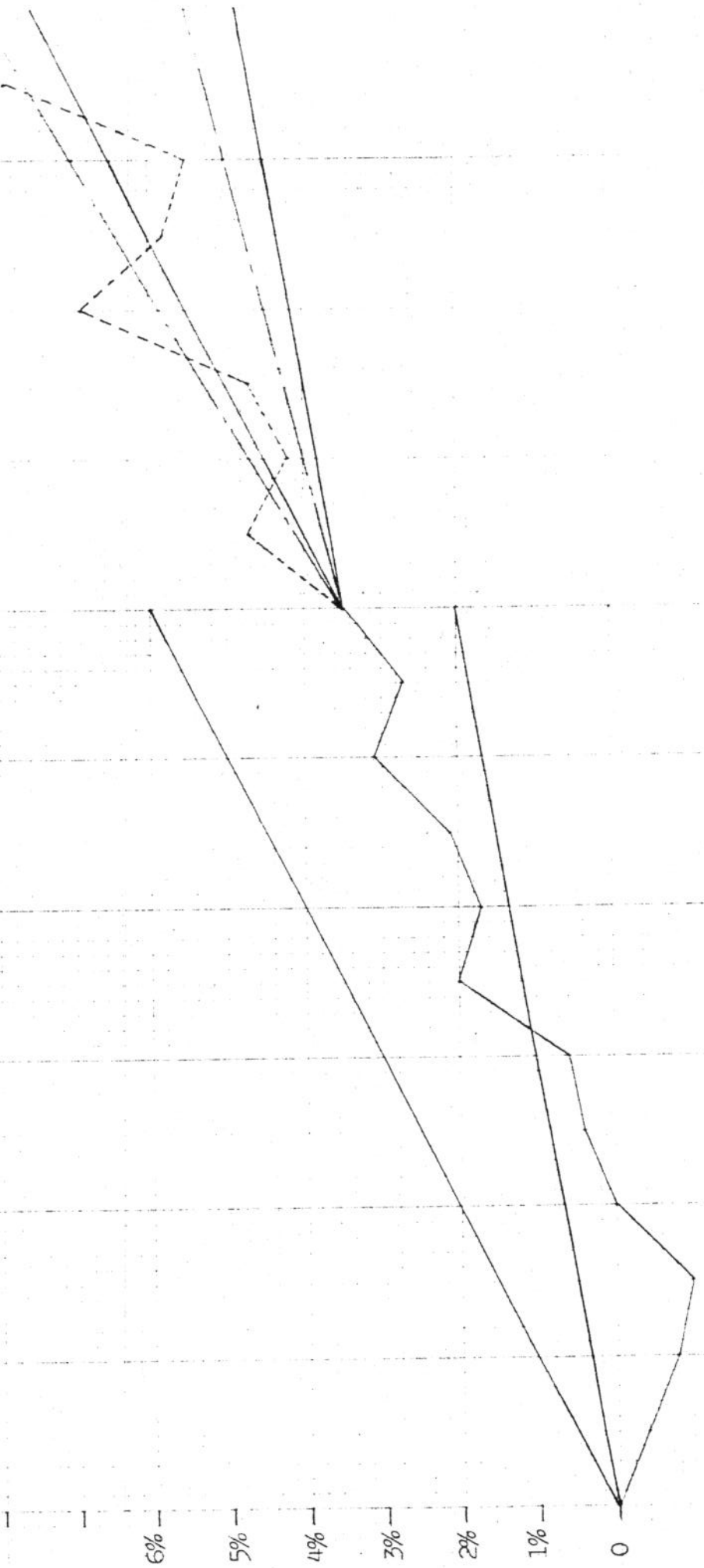
22. All this points to setting a range for Mo at least as wide as that used for the other aggregates. On the basis of the figuring set out earlier in this note the choice, for the current target period, would seem to be between 2-6 per cent and 3-7 per cent. There is a case for choosing the higher figure initially - partly to leave room for some decline in the published ranges, however modest, over the MTFs period, and partly to take out some insurance against the risk of a downward shift in velocity if, and as, nominal interest rates fall. There is also something to be said for choosing a range that is reasonably compatible with current rates of growth, if our overall judgement is that monetary conditions are broadly satisfactory. Chart 4 shows how the recent behaviour of Mo would look against target ranges of 2-6 per cent and 3-7 per cent respectively. Last year's growth would have fallen near the middle of a 2-6 per cent range; but the current trend in Mo looks more consistent with the higher range.

CHART 4: NO GROWTH: ALTERNATIVE TARGET RANGES

— 2-6%

- - - 3-7%

SEASONALLY ADJUSTED



FEB MAR APR MAY JUN JUL AUG SEPT



## MONETARY GROWTH 1963-83

	<u>Mo</u>	average % change p.a.	
		<u>M1</u>	<u>£M3</u>
1963 - 82	7.7	8.5	11.8
1963 - 68	5.1	3.9	6.8
1968 - 73	6.7	8.9	13.8
1973 - 78	12.9	14.7	11.1
1978 - 82	6.1	6.5	16.5

TARGET PERIODS

	<u>Mo</u>	<u>M1</u>	<u>£M3</u>	% change at annual rate	
				<u>Target range</u>	
FY 1977-78	14.2	22.9	15.5	9-13	(£M3)
FY 1978-79	14.3	14.7	10.8	8-12	(£M3)
Oct 1978-Oct 1979	14.1	14.1	13.1	8-12	(£M3)
Jun 1979-Oct 1980	8.0	5.9	16.2	7-11	(£M3)
Feb 1980-Apr 1981	5.2	8.9	19.4	7-11	(£M3)
Feb 1981-Apr 1982	2.0	13.9	12.8	6-10	(£M3)
Feb 1982-Apr 1983	3.6	12.3	11.2	8-12	(M1, £M3, PSL2)
to Sept	7.6	11.6	9.7	7-11	(M1, £M3, PSL2)

ANNEX CHART

Ratio of M1 to M0

