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MONETARY WORK PROGRAMME: THE MONEY SUPPLY TARGET IN RETROSPECT

1. I attach a draft background note on the lines of the outline circulated earlier this week. I would welcome comments, particularly on the use I have made of figures from the latest forecast, and their relation to forecasts made a year ago.

2. I have not attempted in this paper to draw out any recommendations for monetary targets in the future. That is more appropriate for a cover note of some kind, or perhaps for the paper Mr Turnbull is preparing on conditionality. I hope to put round another note on this shortly.

Pauline Hogg

pp A J C BRITTON
15 January 1981

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THE MONEY SUPPLY TARGET IN RETROSPECT

1. Between March 1980 and March 1981 we now expect £M3 to have risen by about [ ] per cent, compared with a target range of 7-11 per cent annual rate for much the same period. The adjustment to be made for the abolition of the corset is very uncertain, but probably small. The figure for the underlying growth of £M3 might be about 18 per cent. The growth of nominal income (GDP at current prices) over the same period may turn out to be about 10 or 11 per cent.

2. This paper aims to provide some assessment of the significance of these developments. It is strictly too early to conduct a post-mortem examination of 1980-81, but as a background to the Budget judgment and the setting of a monetary target for 1981-82 there are three questions that must be asked:

(i) Why did £M3 rise so fast?

(ii) Why did we not stop it? and

(iii) What will be the consequences for the future?

The Causes

3. A wide monetary aggregate such as £M3 does not track nominal income year-by-year at all closely. Over a run of years the velocity of circulation (the ratio of nominal income to the money stock) has been reasonably stable, as we were able to show in the EPR article last July and in evidence to the Treasury Select Committee. For individual years, however, the fit is not at all good. Many attempts have been made to estimate stable relationships for the demand for money based on movements in nominal income in the Treasury, the Bank and elsewhere, but they have not produced encouraging results. The recent discrepancy between the growth of £M3 and nominal income, therefore, is not in itself surprising.

4. There seems to be a rather better relationship between £M3 and the total financial assets of the private sector. When financial wealth increases, the demand for money increases also, in a way which seems, with hindsight, reasonably stable and predictable. Too much should not be claimed for this relationship, which is new and may be controversial, but it does provide a framework within which a quite plausible account can be given of the events of the past year or two.

Before providing an analysis in these terms, however, it is necessary to warn that statistics on wealth (especially for the recent past) are subject to major revision.

5. The total financial assets of the private sector must equal the net financial wealth of the sector plus its borrowing from the public sector, overseas and the banks. During 1980-81 it now seems that the net financial wealth of the private sector, through new savings plus capital gains, may increase by something over 20 per cent - perhaps even by 30 per cent. Borrowing from the banks is likely to rise less rapidly, perhaps by 17 per cent and borrowing from overseas may not rise much at all. The total financial assets of the private sector are forecast to rise by about 18 per cent, which happens to be almost exactly the same rate of growth as that expected for "adjusted" £M3.

6. Within this framework the main cause of the rapid growth of £M3 (and the other wide aggregates) in 1980-81 is a high rate of saving and a low rate of physical investment - what used to be called "hoarding". The personal sector savings ratio is exceptionally high and is only in small measure offset by the deficit of the company sector, which in the event has not been strikingly large.

used in prices

7. Taking the explanation another stage back, the high level of personal savings and the (after all) rather low company sector deficit can be seen partly as a response to insecurity, to fear of falls in real income, loss of employment, or, in the case of companies, fear of financial collapse.

8. To put the situation in perspective, it is necessary to look back to the preceeding financial year, 1979-80. In that year the net wealth of the private sector hardly rose - net saving was relatively modest and rising interest rates caused major capital losses. It was also a year of very rapid inflation, so the real value of net financial wealth fell sharply. The real value of the money supply also fell, and velocity rose by [about 6] per cent (after adjusting for the corset). This year the private sector has been taking the steps necessary to rebuild its financial position.

9. The counterpart of net saving by the private sector must be a deficit for the public sector (a large PSBR) or for the overseas sector (a surplus on the current account of the balance of payments).

This year we have seen both, thanks partly to the recession. The recession itself can be attributed in part to the high level of saving and the low level of investment, especially the running down of stocks. In many circumstances a fall in output will go with a reduction in the money supply. This year, however, the opposite seems to have happened, there has been something of a scramble for liquidity which has deepened the recession whilst adding to £M3.

10. The rapid growth of net financial wealth has been reinforced by a growth of bank lending also well in excess of nominal incomes. This must come as something of a surprise given the sharp rise in interest rates not long before the beginning of the financial year. It may owe something to the distribution of income between persons and companies. It seems that persons tend to borrow from a position of comparative financial strength to support purchases, particularly of durable goods; companies, however, tend to borrow out of need when internally generated funds are lacking. The combination of a high exchange rate and high wage settlements has certainly resulted in a marked imbalance between the personal and company sectors this year. We believe we can now explain the growth of company sector borrowing from the banks (16 per cent) tolerably well, given the overall financial position, but the growth of personal sector borrowing (20 per cent) is not so easy to understand.

11. No account of 1980-81 can be complete without reference to the exchange rate. The monetary effects of the strength of sterling are complicated and very difficult to quantify. On balance, it seems that the strength of sterling reduced the growth of £M3. The typical pattern was a movement by non-residents into sterling (which does not add to the money supply) financed by a movement by residents out of sterling - partly because exchange control had recently been abolished - which reduced £M3. Moreover, the appreciation of the pound certainly helped to get the rate of inflation down, which will have reduced net saving and the growth of bank lending.

12. The exchange rate appreciation also contributed to the imbalance between persons and companies. As already suggested, this may have increased total bank lending. Its effect on net saving is much less clear. Normally, one would have said that a transfer of income from the company sector to the personal sector would reduce net saving,

but 1980-81 was not a normal year and company spending may have been more sensitive to income (and, therefore, company saving less sensitive to income) than commonly observed relationships suggest.

13. With the benefit of hindsight then, there is no great mystery to be explained. The rapid growth of £M3 was part of a general movement by the private sector to rebuild its financial position following a period of especially rapid inflation and to avoid a financial crisis. But these developments were not predicted beforehand; and the intention of policy was to prevent the accommodation of inflation that took place. This directs attention to a rather different group of questions.

Control Failure

14. When the Budget decisions for 1980-81 were taken, we believed that the fiscal measures taken were compatible with a growth in £M3 at the centre of the target range and perhaps a slight fall in interest rates. The forecasters put forward this judgment with some hestitation.

> "The money supply targets are assumed to be met in the forecast, but they will not be met without difficulty. The problems we have already experienced in holding back the growth of £M3 stem from the strength of the demand for bank credit fed by the plight of the company sector and also the expectation of continuing inflation. This demand will not easily or quickly be cut back, so the banks are likely to face continuing liquidity pressure. They may also come to fear for the solvency of their customers. This points to the continuation of high interest rates, especially at the short end, for some time, despite the recession and despite a gradual improvement in the outlook for inflation."
>
> (Report on the short-term forecast, 13 February 1980)

15. At the time we were conscious of being more pessimistic than most outside forecasters. At a meeting we arranged with five City pundits last March, the general view was that 1980-81 would repeat the experience of 1975 with bank lending cut back sharply and companies solving their financial problem by longer-term borrowing. An 8 per cent target was seen as compatible with a substantial fall in interest rates. In the early months of the financial year we were warned by City commentators (Gordon Pepper, for example) to beware of overfunding the PSBR and undershooting the target.

16. An analysis of the forecasts presented a year ago can identify the main reasons for our inadquate pessimism so far as £M3 is concerned.

Forecasts of £M3 and its Counterparts

(£bn)

1980-81	February 1980	January 1981
PSBR	9.6	12.8
Gilts	5.5	7.8
National Savings	1.8	2.0
Bank Lending	6.3	8.8
Net Externals	-2.3	+ 0.7
£M3	4.4	10.1

Not an actual sum

Part of the trouble was the PSBR (where the error was in fact greater than the table suggests since the Budget reduced the expected PSBR by £[ ] billion). The discrepancies on funding and on bank lending roughly offset each other. The other major source of error was the net external adjustment, where the error arose from the forecast of £3.8 billion deficit on the current account of the balance of payments: our latest view is that the account will be in surplus by £3.4 billion.

17. These mistakes on the PSBR and the current account go with a serious underestimate of net savings and the growth of financial wealth. The net financial wealth of the private sector was expected to rise by 16 per cent (not much faster than the growth of nominal incomes, which we then put at 14½ per cent). Our latest view is that net wealth will grow at over 20 per cent (although the growth of nominal incomes now looks like coming out around 10 or 11 per cent). We were wrong on the company sector, where we expected a very large deficit indeed, and also on the personal sector where we did not foresee the sharp rise in the savings ratio. On bank lending to companies, we seem to have been almost exactly right, but the outturn for the growth of lending to persons now seems about twice the rate we then foresaw.

18. Financial forecasting has always been a hazardous business. Forecasts of the exchange rate a year hence are now generally greeted (and presented) with robust scepticism. Forecasts of the growth of the money supply a year hence should be regarded as the product of very much the same kind of exercise, with much the same kind of

uncertainty attached to them. A realistic error margin would be of the order of [5] per cent. That said, the record for 1980-81 on £M3 was rather worse than one could reasonably expect in a typical year. The circumstances of the company sector in particular made forecasting exceptionally difficult, as the forecasters acknowledged at the time.

19. The control of £M3 depends on successful prediction. The actual policy levers have to be pre-set in such a way as to achieve a pre-calculated effect on the target variable. The main instrument, fiscal policy, can only be brought into action at infrequent intervals. In 1980-81 it was set at the time of the Budget, at what proved to be a level inconvenient with the monetary target, and no subsequent corrections were made. Interest rates, which have usually been seen as an alternative instrument for controlling £M3, were not used for that purpose at all after the measure of October 1979.

20. It is now abundantly clear that forecasts of £M3 a year ahead are not nearly accurate enough for control within a margin of only 2 per cent. The burden placed on forecasting accuracy by such an exercise would be greater than ever contemplated by the enthusiasts for "fine tuning" output and employment. That burden is placed on some of the elements in the forecast (the PSBR, for example, and the balance of payments) which are known to be the least reliable.

21. The overshoot was not corrected then because it was not foreseen in time. That is not to say, however, that it could, or would, have been corrected if in fact it had been foreseen. If the "pre-Budget" PSBR and the current balance had been known in advance, we would probably have had to advise that the £M3 target was unattainable, or that no feasible policy action would make its attainment a central probability.

22. In many other respects the forecasts prepared in February of last year were quite a good indication of subsequent events. They were broadly right on output and employment, on inflation they were not so good (partly because they were wrong on the exchange rate). In the event, the rate of inflation has come out lower than we expected, despite the overshoot on the money supply. It would be easy to conclude from this that the overshoot did not matter very much, but the ultimate consequences are not at all easy to discern.

The Consequences

23. During 1980-81 there has so far been no sign of inflation speeding up so as to bring the growth of nominal income back into line with the growth of the money supply. But a study of the past relationship between money and prices suggests strongly that such a speedy response should not be expected. There is normally an incubation period of about two years before the symptoms come to light.

24. The best fitting relationship between £M3 and prices, taking account of no other influences at all, has been used to generate an alternative forecast of inflation over the twelve months ahead. This is compared below with the figures actually adopted by the forecasters in the round just completed:

	Retail Prices (change on a year earlier)	
	Money Supply only	Actual Forecast
1981Q4	10½ per cent	11½ per cent
1982Q4	12½ per cent	9½ per cent

The "crude" monetarist forecast is actually rather lower for the present year, but significantly higher in 1982. The contrast is not as extreme as one might have guessed, given the rapid growth in £M3 over the past year and more. But the "crude" monetarist forecast is sophisticated enough to take account of the starting position. Actual prices in 1979 and 1980 were <u>much</u> higher than the money supply on its own could explain. The relationship, therefore, starts from a position in which prices, even at the end of 1980, are very high in relation to money supply. In its projection, the relationship assumes that this margin of actual over "equilibrium" prices will be gradually restored. Hence, the inflation rate is not as high as recent monetary experience on its own would lead one to expect. This is rather like saying that some of the inflation due to come from the recent growth in the money supply has happened already back in 1979 and early 1980.

25. This is not quite as comforting as it sounds. It remains true (on the basis of this "crude" monetarist relationship at least) that inflation in 1982 would have been much lower if the monetary target for 1980-81 had been achieved. And a forecast inflation rate of 12½ per cent (say, a bit under 10 per cent to a bit over 15 per cent) is not at all reassuring. If the relationship is right, moreover, it is already getting rather late to do anything much to change the prospect for inflation before 1983.

26. In fact, such a simple relationship between money and prices does not provide a very satisfactory explanation of the past. It rests heavily on the experience of 1972 and 1974 when identifiable special factors, like the world oil price increase, were clearly at work. It does not explain the experience of the late seventies at all well. The forecasters use a much more complex model in which £M3 as such does not play a dominating role.

27. The overshoot on the £M3 target has not led to an upward revision of our inflation forecasts. On the contrary, our inflation forecasts have been revised down. At the risk of oversimplifing, this can be explained in terms of the level of the exchange rate and the level of economic activity. We see these as the principal channels by which monetary events are transmitted to prices.

(i) The exchange rate has remained very strong, despite the overshoot on the money supply target. This itself is a surprise. Before the event we would have said that an overshoot on this scale would have precipitated a substantial depreciation. We saw the high exchange rate as transmitting monetary restraint; it now seems the restraint is effective even if its origin is not monetary. Indeed, the exchange rate is now [ ] per cent higher than we were expecting a year ago. This must have reduced the price level by about [ ] per cent.

(ii) The level of output has fallen much as foreseen. This has reduced wage settlements (broadly as expected) and has also had a direct effect on prices in the shops (which was not expected at all). Again, the restraint is there, despite the £M3 figures. In this case, however, the explanation could well be in the lagged response of output to financial conditions. The very tight monetary policy of 1979-80 may lie behind the current level of economic activity and the recent success in reducing inflation.

28. These forecasts for prices leave a lot of questions unanswered. Suppose the monetary targets had been achieved, would not that, even in the complicated Treasury model, mean lower inflation in later years? The answer must depend very much on the measures which might have been taken in this hypothetical case to achieve the target. If they had

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raised the exchange rate yet higher or further depressed output and employment, as in general measures do which reduce £M3, then the prospects for inflation would indeed have been improved - perhaps quite sharply, because the measures needed would, as already indicated, have had to be very tough measures indeed.

29. Looking back, then, the target set for 1980-81 was a very tough one indeed - tougher than we knew at the time. It should have been seen more than it was in the context of the year before. After a year of very rapid inflation in 1979, the money supply position and the financial position of the private sector generally, was already very tight indeed. Had the pressure been maintained, and indeed increased as intended, the outcome on inflation might have been very impressive (although the cost in terms of output and employment might not have been acceptable). As it was, we grossly underestimated the extent to which the private sector would react to the threat of financial crisis in ways that relieved the pressure (and incidentially also the resiliance of spending in some parts of the public sector also). The outcome for the economy itself has, so far, given no hint that policy is lax.

30. The targets set for 1980-81 may in retrospect be judged too tight. Our methods of controlling £M3 are not capable of delivering the degree of financial pressure which they would have implied. What such pressure would do to the economy if it were successfully applied is, of course, another question, and one we are ill-equipped to answer.

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MONETARY WORK PROGRAMME: THE MONEY SUPPLY TARGET IN RETROSPECT

At our meeting last week, I took on the task of writing the background paper on monetary experience over the past couple of years. I would welcome comments on the outline attached. I hope to get a draft round before the end of this week.

AJCB

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13 January 1981

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THE MONEY SUPPLY TARGET IN RETROSPECT: DRAFT OUTLINE

1. Between March 1980 and March 1981 we now expect £M3 to have risen by something like 18 per cent (after adjusting very roughly for the corset), compared with a target range of 7-11 per cent for much the same period. Growth of nominal income will be about 10 or 11 per cent. This paper deals with three broad questions:

(i) Why did £M3 rise so fast?

(ii) Why did we not stop it?

(iii) Will it add to inflation?

The Causes

2. A wide aggregate like £M3 does not track nominal income year by year. It seems to be more closely related to financial wealth. We now have a relationship using gross wealth which explains £M3 well in retrospect for 1979 and 1980. This method of analysis is new and controversial, and subject to reservations because of measurement difficulties.

3. Bank lending is not the main problem. The reasons for increase in private sector bank borrowing are: the sectoral split of income; the excess of personal sector borrowing over a normal relationship with income and interest rates; new company borrowing equation predicts well. Total bank lending to private sector in 1980-81 rose about 17 per cent - similar to £M3 (persons 20 per cent, companies 16 per cent). Repayment of debt to overseas sector following abolition of exchange control.

4. Problem of unidentified net saving of £5½ billion (cf £12½ billion identified). Net financial surplus of personal sector was exceptionally large, swamping large company deficit.

5. Counterpart is large PSBR and current account surplus. Both are partly result of recession, but also laxer fiscal stance than intended and J-curve effect of appreciation.

6. Main reason for gross wealth increase was high saving and low investment. Quantity of net saving, and its distribution between persons and companies, uncertain. Motivation for saving may be precautionary, fear of falls in real incomes, loss of employment, fear of bankruptcy etc. Response to fall in output, and perhaps to policy stance.

7. Should look at 1979-80 as well, when private sector NAFA was much smaller, when market value of gilts fell and when net wealth fell sharply in real value. Net saving in 1980-81 partly rebuilding of real value of net assets eroded in preceeding year. In 1979-80, £M3 grew only /15 per cent/ when nominal GDP grew 21 per cent. Taking two financial years together, velocity little changed.

8. Exchange rate appreciation as such would reduce £M3 (to roughly in line with its effect on the price level - see simulation results for confidence change). Sectoral imbalance of income could have increased £M3, but problem of measurement prevents very refined analysis. In retrospect, no great mystery, but £M3 responding passively with a lag to inflation. This is not what was intended.

Control Failure

9. Control of £M3 depends on successful prediction. Main investment is fiscal policy deployed at annual intervals. Use of interest rates for mid-year adjustment abandoned since end 1979. Yet financial forecasting is the most hazardous kind of forecasting (cf exchange rate). Realistic error margin for forecast of £M3 a year ahead would be /5?/ per cent. Last year was worse than most. Forecasting not accurate enough for the task - compare "fine tuning" of output and employment.

10. This time last year we assumed money supply target would be hit, but warned it might be difficult. (Outside forecasters thought it would be easy and worried about undershooting - quotes from G Pepper etc.] We were very wrong on PSBR and also on current balance. Therefore we were wrong on net savings and the growth of private sector wealth. Had we known PSBR and current balance in advance, we would have had to advise that £M3 target was probably unattainable. /Something on forecasts of bank lending./

11. In other respects, the forecasts produced a year ago were broadly right. So far, inflation is lower than expected, despite £M3 overshoot. Does this mean that concern over £M3 is misplaced?

The Consequences

12. During 1980-81 there was no sign of inflation speeding up to bring nominal income into line with £M3. This was not to be expected. The historical association of £M3 and prices shows a lag of 2 years - even a delay of about 2 years before much effect at all is visible (cf 1972 and 1974).

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13. A forecast of inflation based on the path of £M3 alone would suggest - using the Wren-Lewis equation -

1980(4) on 1979(4)	13 per cent (actual, 15½ per cent)
1981(4) on 1980(4)	10½ per cent (winter forecast, 11½ per cent)
1982(4) on 1981(4)	12½ per cent (winter forecast, 9½ per cent)

A crude monetarist forecast would be significantly more pessimistic than the latest Treasury forecast in the later years, but the contrast is not as extreme as one might have guessed. (This is on the assumption that £M3 grows in line with MTFS from now on.)

14. In fact, these simple reduced from equations are not a satisfactory explanation of the past. £M3 does not play much of a role in Treasury price forecasts. We have not revised up our inflation forecasts at all as a result of the target overshoot as such (although higher PSBR has indirect effect). Before the event, we would have attributed much of the strength of sterling to money supply policy. Now we have to look for other explanations of the exchange rate. However it is explained, it accounts for a good deal of the error in our price forecasts and is one reason for the rapid slowing down in inflation this year. The other reasons are probably associated with the fall in output (or in expected output) which has reduced wage settlements and may have been one cause of the compression of profit margins.

15. Before the event, we saw the exchange rate as one of the main transmission mechanisms by which monetary restraint would reduce inflation. It now seems that the restraint is effective even if its origin is not monetary. The other transmission mechanism expected was the fall in demand and output resulting from public spending cuts and high interest rates. The success we are having on prices now may be because output has fallen in response to the very tough stance of policy in 1979-80. Since then, policy has become much more accommodating in the event, though not in intention, with a large PSBR and falling interest rates. Further progress in reducing the "going rate" of inflation is expected to be slow. Policies that reduce £M3 next year will also (in many cases, but not all) reduce inflation subsequently.