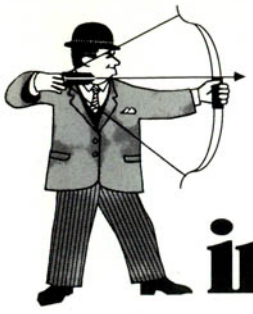
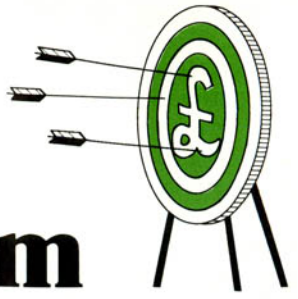


Monetary targeting in the United Kingdom



The motives for targeting money supply and the UK experience with £M3 targeting

Joanne Salop

During the 1970s the central banks of many major industrial countries adopted monetary targeting as a guide to the exercise of policy. The reasons for the individual decisions differed, but on the whole reflected practical considerations arising from the high and variable inflation rates that characterized the period following the first oil price shock in 1973. In that environment, nominal interest rates had become increasingly unreliable as indicators of financial conditions. The announcement of quantitative targets for the money supply also informed the private sector about the authorities' policy intentions for the ensuing period and, as such, was thought, in part, to shape expectations. To the extent that the targets were put in a medium-term context incorporating a progressive deceleration in monetary growth, the basis was established for a corresponding decline in expectations concerning the rate of inflation.

Formal monetary targeting began in the United Kingdom in 1976. It was launched amid growing uncertainties regarding the exchange rate of sterling, the rate of inflation, and the stance of fiscal policy. Published targets—on the broad aggregate M3 in 1976 and £M3 starting in 1977—were intended to act as an "overriding constraint" on other aspects of macroeconomic policy. The newly elected government in 1979 retained £M3 as the targeted aggregate and accorded it a central position within its medium-term financial strategy; it has been supplemented by a target on a narrower aggregate, M0, since the 1984–85 financial year. During 1985, in the face of very rapid growth relative to its target range, £M3's role as a indicator of financial conditions was downgraded on the grounds that, as a result of the relaxation of controls and financial innovations, its recorded growth rate appeared to be giving a distorted signal. With the 1986–87 budget, £M3 was reinstated with a target range much higher than that in 1985-86 to take account of these factors, but even that target range was exceeded in the first half of 1986.

Some theoretical considerations

A stable relation between money and nominal income has generally been the basis for the idea of monetary targeting. With the velocity of circulation related to its determinants—real income, interest rates, and expectations about inflation and exchange rates—in a fairly predictable manner, the growth of the money stock can be forecast, conditional on the evolution of those variables. Assigning specific values to the above variables generates the target range for the chosen monetary aggregates. The actual growth of money, when measured against such a benchmark, serves as a leading indicator of the strength of nominal income, and, depending on how rigidly the monetary targets are adhered to, may point to a tightening or loosening of policy.

The signals for policy are often easier to read when a narrow, rather than a broad, aggregate is targeted. For example, an overshoot on a narrow aggregate is typically interpreted either as evidence that the level of activity is higher than forecast or as the consequence of interest rates being lower than forecast, which in turn suggests that the level of activity is likely to rise in subsequent periods. But in either case, assuming that the previously estimated money/income relationship continues to hold, above-target growth of narrow money tends to be a harbinger of expansion, possibly inflationary expansion, suggesting the possible need for action to bring about a rise in interest rates. By contrast, an overshoot on a broad aggregate such as £M3 could reflect higher-than-forecast interest rates which could be aggravated by further tightening, at least in the short run.

This difference follows from the greater preponderance of interest-bearing assets in broad money than in narrow money, which causes changes in interest rates to operate in opposite directions on the demand for money in the two classes of aggregates. Thus, a rise in interest rates on monetary instruments relative to other financial assets tends to induce movement out of noninterest-bearing forms of money, unambiguously lowering the demand for narrow money, while interest-bearing accounts with banks are increased both by the fall-off in narrow money (which leaves broad money on balance unchanged) and by movement out of interest-bearing accounts with non-bank financial institutions and other assets (which increases broad money).

Because broad money comprises such a large part of banks' liabilities, the ultimate effect of a change in interest rates on its growth can be determined more readily by reference to the credit side of banks' balance sheets. In turn, this would depend on the extent to which the higher interest rates were policy induced—in which case broad money growth would likely slow as higher interest rates dampened activity—or market induced, reflecting an exogenous rise in demand for bank credit—in which case broad money could remain more buoyant than it was initially, despite some shrinkage from what it would have been had the authorities resisted the interest rate rise.

The interpretation of above-target growth in broad money can be further complicated by the fact that the demand for broad money tends to depend on more variables than does the demand for narrow money. This is largely because broad money encompasses assets that are held for portfolio as well as for transactions purposes, which implies that gross financial wealth is likely to be an important determinant of its desired level. Hence, even without a shift of the underlying money demand function per se, broad money could exceed its target because of a higher-than-

forecast rise in the level of gross financial wealth. This would or would not be expansionary, depending on whether demand for financial wealth had increased commensurately or not.

For example, higher-than-forecast borrowing at unchanged interest rates might imply a higher-than-forecast increase in gross financial wealth—in the form of broad money, if the borrowing passes through the banking system. It would not be expansionary if it simply represented an increase in desired portfolios of both gross wealth and debt, held respectively as bank deposits and bank loans. By contrast, it would likely be expansionary if the surge in money and credit was due to an overshoot on the PSBR (public sector borrowing requirements) or private spending, since it would involve an increase in actual gross financial wealth without a corresponding increase in its desired level. Indeed, any shift involving a smaller increase in desired relative to actual financial wealth would have expansionary consequences, continuing over the time period it takes for economic agents either to transform factors of production into physical wealth—namely, to invest in plant and equipment—or to replenish inventories.

In this respect, the behavior of narrow money can be a useful indicator of whether or not an above-target rise in broad money is worrisome. With narrow money on track, an overshoot on broad money would point to an upward shift in demand for money and financial wealth, while an accompanying overshoot on narrow money would tend to suggest that no such shift in demand had accompanied the overshoot on the PSBR or bank lending, and that the attendant increase in the money stock was spilling over into the expenditure stream. This, however, presumes a degree of stability for the chosen measure that may not be justified. Indeed, in the United Kingdom M1 was targeted alongside £M3 in 1982–83 and 1983–84, but was jettisoned during the latter year in the face of distortions arising from financial innovations. In such circumstances, including those of last year when £M3 targeting was in suspension, the authorities place more weight in their assessment of financial conditions on supplementary indicators, including the exchange rate.

Empirical evidence

Early studies of the broad aggregates in the United Kingdom seemed to show a good relationship between these aggregates and nominal income. These studies encompassed fairly short estimation periods, using the comprehensive monetary statistics that had become available in the United Kingdom in the 1960s. However, after the introduction of the Competition and Credit Control regulations in 1971, which reduced the role of quantitative limits on bank lending, the previously estimated relationship broke down. Since that time, the various studies of the demand for £M3 have shown that the estimated parameters are subject to considerable intertemporal instability. The estimated equations have also tended to exhibit dynamic instability, in that the coefficient on the lagged dependent variable has often been greater than one. Different approaches have been taken in trying to identify the sources of instability. These attempts have included modeling money holdings in a disequilibrium framework and using wealth as an explanatory variable. Nevertheless, a satisfactory equation for £M3 has yet to be identified.

The present equation in the United Kingdom Treasury model relates the demand for £M3 to contemporaneous and lagged values for gross financial wealth, expected returns on £M3 relative to other assets, and final expenditure in addition to lagged values for £M3. For forecasting purposes the equation has a "residual" term which makes it easier to override, on judgmental considerations, the equation's simple predicted value for £M3. In the period of financial liberalization since 1980, the equation has been unable to track the growth in £M3 closely and is given little weight in constructing the forecast for and, by implication, in choosing a target range for £M3. Over the last year, in particular, the equation has significantly underestimated growth in £M3.

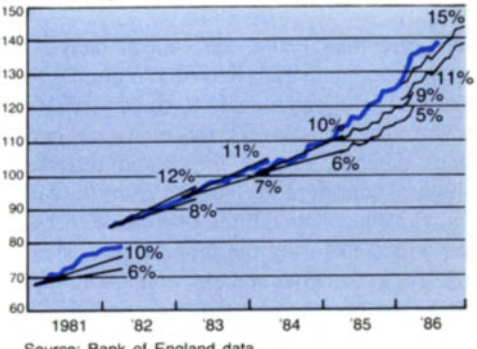
The authorities' continued monitoring of £M3, despite the failure to isolate a stable relation with nominal income, reflects, in part, the importance attached to the presentational role of monetary targeting. This has been described as the "political economy of a money supply strategy," as distinguished from the "practical macroeconomics of a money supply policy." In place of the stability or instability in the underlying *demand* for money, the political economy approach has focused on the money *supply* process and used monetary targets as a means of generating support for measures to contain the PSBR and the growth of private sector credit, both of whose contributions to £M3 growth can be easily identified. Of equal importance is the role that monetary targeting is seen to have played in signaling to markets the Government's commitment to maintaining monetary conditions that will continue to check inflation.

Recent behavior of £M3

Although the intellectual basis for targeting £M3 has not been the stability of an estimated demand equation, the source of the large overshoot in 1985 and the continued rapid growth this year nevertheless remains open to interpretation, particularly compared with past performance (see Chart 1). The official view is that the weight of the available evidence from M0, the exchange rate, and trends in the real economy suggests that monetary conditions have not been loose, despite £M3's large overshoot. With hindsight, the target range for £M3 was seen to have been set too tightly in 1985, having failed to allow for the downward trend in velocity that had begun in 1980 (Chart 2). This view was endorsed in the setting of the 1986–87 target range, that is 11–15 percent compared with 5–9 percent for 1985–86.

Chart 1

£M3: UK target ranges[1] and actual path[2], 1981–86

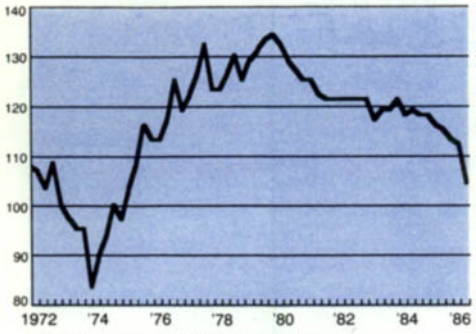


Source: Bank of England data.
[1]Since April 1985, the performance of the targeted aggregates has been evaluated by the authorities in terms of rolling 12-month growth rates rather than annualized rate of growth from the start of the target period.
[2]Discontinuities reflect changes in definition of £M3.

The trend in velocity can be related to several factors. First, since broad money includes a large savings component, the presumption is that its velocity should typically be declining as the wealth-to-income ratio rises. Second, the re-emergence of positive real interest rates in the 1980s has reestablished the attractiveness of financial assets as a store of wealth, and indeed the share of financial assets in personal wealth has risen sharply since 1980. Third, the fall in velocity coincided with a fall in the rate of inflation and in the savings rate, which—given the constraints of institutional savings programs adopted during the higher inflation period—has meant higher gross borrowings by the personal sector matched by higher wholesale deposits of pension funds and insurance companies. Fourth, changes in both the regulatory environment and the structure of financial markets precipitated by those changes, have led to a relaxation of previous constraints on borrowing that, in turn, have meant a period of rapid growth in credit by banks and by "building societies" (savings institutions specializing in housing finance) and a commensurately rapid buildup of their liabilities.

The present wave of deregulation in the UK began in the summer of 1979 with the ending of foreign exchange controls. This initiative necessitated the removal in 1980 of the "corset," which had penalized banks if their liabilities grew above a certain rate and discouraged them from seeking new loan business. The removal of constraints on banks' balance sheets increased the potential supply of bank credit in general, and to the mortgage market in particular, and set in train a competitive struggle with the building societies. This led to a lowering of margins between interest rates on mortgages and liquid assets, that is, it lowered the opportunity cost of holding precautionary balances. Coupled with the elimination of quantitative restrictions on credit availability—both through the ending of rationing in the mortgage market and the elimination of official limits on consumer installment loans—this seems to have encouraged a simultaneous buildup of personal sector debt and gross financial wealth.

Chart 2
Velocity of sterling M3[1]
(First quarter 1972 to second quarter 1986)



Source : IMF Datafund and staff estimates.
[1]Index: First quarter 1973 = 100.

The direction of these effects on the velocity of credit and on the wider measures of liquidity than £M3, such as PSL2, which includes deposits at building societies, is clear. However, it is less clear for £M3 itself, whose velocity may have been raised above what it would have been without the competitive effort of the building societies. Nevertheless, while this may have been a factor in 1983 and 1984, when PSL2 was rising much faster than £M3, in 1985 and the first half of 1986, £M3 grew at least as rapidly as PSL2, on the strength of the effort staged by banks to restore their market shares. Hence, it seems likely that at least part of the faster-than-trend drop in £M3's velocity in 1985 and 1986 can be attributed to the effects of financial liberalization.

Alternative targets

In considering whether an alternative aggregate or set of aggregates should be targeted, it should be kept in mind that the narrow aggregates are useful complements to the broad aggregates in interpreting monetary conditions. Indeed, M0 appears to serve as a leading statistical indicator of activity through its large currency component. While there is a technical problem in trying to forecast M0 in the light of current financial innovations that encourage economizing on the use of currency, all the aggregates are beset by forecasting difficulties associated with changes in financial markets. The growth of the other narrow aggregates, such as M1 and noninterest bearing M1, has been strongly influenced by the spread of interest-bearing checking accounts, with total M1 growing very rapidly because of its interest-bearing component, while noninterest-bearing M1 is growing very slowly. As a result, neither is useful as a target at present.

As to the broad aggregates, there is also a considerable uncertainty about the likely duration and magnitude of further effects of financial innovation and liberalization. Hence, the setting of target ranges is subject to a greater-than-usual margin of error. Moreover, because of their large interest-bearing component, the broad aggregates are difficult to control in the short run with available instruments. These difficulties notwithstanding, if a broad aggregate is to continue to be targeted, there would seem to be considerable merit in replacing £M3 with an even broader liquidity aggregate that includes liabilities of the building societies. With a target on £M3, shifts in deposits between banks and building societies assume an undue importance, inasmuch as financial innovations are increasingly blurring the lines between them and making such shifts commonplace.

Conclusions

In the major industrial countries inflation is no longer the pressing problem it was during the period in which monetary targeting was adopted. Moreover, with the recent drop in oil prices reversing the supply shock that precipitated the acceleration of inflation during the 1970s, a continued slowdown of inflation is likely. At the same time, in these countries financial innovations have increasingly rendered obsolete the previous relationship between nominal income and the various targeted and nontargeted monetary aggregates. Against this background, monetary authorities have reacted flexibly to overshoots on monetary targets, and in some instances targeting has been abandoned altogether.

Nevertheless, the experience with targeting remains relevant to those countries with serious inflation problems still to solve. Furthermore, the specific experience of the United Kingdom speaks directly to the issue of narrow versus broad money as appropriate target variables. While the former tends to be warranted by technical considerations regarding the stability of demand—and its related ability to indicate the economy's turning points—the latter can help focus public attention on the sources of excess money creation, typically the budget deficit and private credit creation, and thus serve a useful function in the wider arena of public choice.

F&D

Monetary terms and expressions

Broad money: The spectrum of monetary aggregates that include savings deposits as well as cash and other bank deposits that are more clearly related to transactions.

Narrow money: The spectrum of monetary aggregates that purport to measure transactions balances.

"Corset": The "Supplementary Special Deposit Scheme." A Bank of England regulation that was in effect on and off during the 1970s, penalizing banks for faster-than-specified liability growth.

Desired wealth: Economists' jargon for the level of wealth that would be attained after a number of periods of current prices, interest rates, and income.

PSBR: Public sector borrowing requirement.

M0: A very narrow aggregate comprising currency (99 percent) plus bankers' operational balances at the Bank of England.

Noninterest-bearing M1: A narrow aggregate comprising currency in circulation plus noninterest-bearing demand deposits.

M1: Noninterest-bearing M1 plus interest-bearing demand deposits.

£M3 (sterling M3): A broad aggregate that includes currency in circulation and residents' sterling bank deposits.

M3: £M3 plus foreign currency deposits of residents.

PSL2: A very broad aggregate that includes residents' sterling deposits at banks and "building societies" (i.e., savings institutions) plus money market instruments.

Michele Iannacci for F&D

Joanne Salop
a US citizen, has a PhD from Columbia University. Now with the Bank's West Africa Country Programs Department, she was a senior economist in the Fund's European Department until July 1986. She has published on macroeconomic issues.