The Bank's operational procedures for meeting monetary objectives

This paper by A L Coleby, Assistant Director responsible for the Bank's Money Markets Division, was presented at a conference on monetary targeting organised by the Federal Reserve Bank of New York in May 1982.[1] *Mr. Coleby explains how debt management and interest rate policy have been used to pursue economic objectives in the shape of intermediate monetary targets. The structure of the UK gilt-edged market and recent technical developments in it are described, along with changes in the Bank's means of operation in the money market and of influencing short-term interest rates.*

Temporal references have not been altered so that, for example, 'last year' refers to 1981.

Introduction

John Fforde's paper on 'Setting monetary objectives' in the United Kingdom provides the starting point for discussion of the Bank of England's operational procedures for meeting monetary objectives. His paper brings out the central role played over the past dozen years by the accounting framework designed to give coherence and consistency to the various 'intermediate' fiscal and monetary magnitudes in relation to ultimate economic objectives. It comments on the operational implications of the choice of a single target for a broad money aggregate, especially when close control within the short term came to be desired. And it records the historical experience of direct credit controls.

Enough is said in that paper about direct credit controls for them to be dealt with fairly summarily here. Experience in the 1960s and earlier led the UK authorities to conclude that prolonged or heavy reliance on them was extremely damaging to the competitiveness and efficiency of the financial system. The arrangements introduced in 1971 assigned to direct credit controls, at most, a part to play in emergency restraint in a rapidly deteriorating monetary situation. They were so adopted on three occasions in the 1970s. Experience showed that, unless the controls quickly became redundant because money pressures subsided of their own accord, they were extremely difficult to remove, partly because it was rarely timely to give such a clear signal that restraint could be eased, and partly because it could never confidently be predicted how much activity they had suppressed or how quickly it might resume. This discouraging evidence of their value as an occasional instrument of monetary control was compounded by growing signs that the increasingly sophisticated banking and financial system could find ways round them with no great difficulty; and with no difficulty at all once exchange control was abolished in October 1979. Their real, as opposed to their cosmetic, monetary effect was therefore questionable.

This paper will therefore make no further reference to direct credit controls, but will concentrate on the Bank of England's two main operational areas in domestic markets—debt management in the government bond market and interest rate management through money-market operations. The context for both is set in the manner described in John Fforde's paper. The setting of a monetary target, which typically accompanies periodic decisions on fiscal policy, is related to a companion set of forecasts for the real economy and for a wide range of financial flows. The coherence and consistency of the whole projection rests on the building-in of some econometrically-derived relationships, and the testing for plausibility of a variety of others. The problems that have arisen with the variability of these relationships have been described; but the forecasts nevertheless provide *ex ante* a consistent projection for the period ahead.

Among the ingredients are the fiscal policy that is to be followed, projected paths for short-term interest rates, for bond yields and for the exchange rate, and projections for the amount of non-monetary finance of the public sector, all intended to be consistent with successful achievement of the declared monetary target. Inevitably, the process may call for some adjustment of starting assumptions before a consistent outcome can be identified, and it is at this stage that decisions about fiscal policy, and notably about the size of the fiscal deficit, can be illuminated by examining, for example, the interest rate implications of various choices. Once those decisions have been taken, and the monetary targets set, then the accompanying projections of interest rates, bond yields and debt sales become 'best guesses' of what monetary operations will be seeking to deliver over the coming period.

The description 'best guess' is to be preferred to that of 'target', or even 'indicative target'. The relationships involved in the forecasting process are imperfectly understood, and seem perpetually variable. Once fiscal decisions have been taken, it then is for monetary

(1) See also paper by J S Fforde on page 200. Copies of the conference proceedings, *Central Bank Views on Monetary Targeting* are available from the Public Information Department, Federal Reserve Bank of New York, New York 10045, USA.

management to respond to any variations so as to achieve the monetary target, because fiscal changes can take place only infrequently, and even when made will usually require considerable time before becoming fully effective.

It is equally true that changes in short-term interest rates take a long time to achieve their effect on a broad money aggregate such as M_3. As emphasis has grown on the desirability of keeping close control in the short run over the monetary target, so has attention concentrated on the operational area that has the most immediate and direct quantitative linkage with it, namely, debt management. So the first main section of this paper will look at that subject, to be followed later by a discussion of interest rate and money-market management.

Debt management

The sale of any form of public sector debt to the non-bank public will, in principle, help to restrain M_3, because the public sector will have a correspondingly reduced need to borrow from the banking system. It seems reasonable to presume that the deposits that the public sector can bid away from the banks are those most sensitive to alternative rates of return, and unlikely to be drawn at all heavily from M_1 balances, so that debt management would probably have attracted less prominence had we been on an M_1 target. Some of the sums subscribed to government debt might not in fact be attracted from bank deposits but from other assets such as corporate shares and bonds; if, as a result, corporations are in their turn obliged to borrow more from banks, the effect on M_3 of selling public sector debt is reduced.

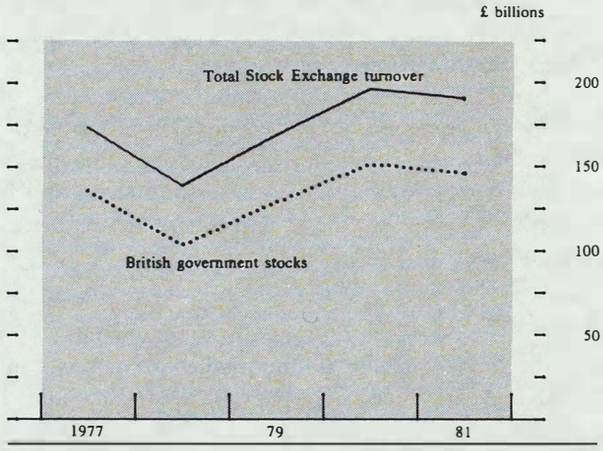
Central government is by a long way the biggest public sector borrower in the United Kingdom, partly because it channels to local authorities and to public corporations most of the finance they need, and restricts their direct access to the longer-term markets.[1] Central government borrows partly through non-marketable instruments, but mainly through marketable debt, principally in the form of bonds (known as 'gilt-edged'), with much smaller amounts obtained by way of Treasury bills, largely held by the banking system.

The non-marketable borrowing is mainly from the personal sector through various national savings instruments, including since 1975 an index-linked certificate. It is not possible to vary the terms offered on these instruments at all quickly or precisely in response to market rates and yields, because of the elaborate retail network involving post offices up and down the country. Partly for this reason, when interest rates began, in the mid-1970s, to be high and variable, national savings were for a period not used aggressively as part of the funding programme. More recently they have received renewed emphasis, so as to ease the load on other forms of borrowing, and their share in total net purchases of central government debt by UK non-banks has risen as high as 31 per cent in 1981. They have an important part to play in government financing, but do not provide instruments for adjusting monetary control from month to month. Moreover, some national savings instruments are relatively short term, eg, deposit accounts, and are included in the wider liquidity aggregate PSL_2 for which a target range has now been adopted.

The gilt-edged market

Sales of gilt-edged stocks, managed by the Bank on behalf of the Treasury, have consistently provided the bulk of total debt sales. They have also frequently exceeded, usually by a large margin, the amount projected in the forecasts when the fiscal and money target decisions were taken at the beginning of the year. This is illustrated in the table. The table is cast in terms of the total purchases by the domestic non-bank public. That is because it is those which count for monetary control purposes, rather than total official sales, although it is the latter that the authorities can most closely influence. Purchases by banks, or by overseas residents,[2] do not contribute directly to the restraint of sterling M_3.

Stock Exchange transactions



The gilt-edged market dominates the UK capital market. Net new issues of gilt-edged over the years 1977–81 inclusive amounted to nine times all new private sector issues of equity and debt combined, and turnover in gilts accounted for 75 per cent by value of the total on the UK stock exchanges. The techniques of issue and operation reflect the organisation and structure of the UK securities market, based on The Stock Exchange. This embodies a single capacity system, which makes a sharp distinction between jobber and broker. Jobbers are market makers, dealing for their own account and are not permitted to deal directly with the public, only through broker members of the market. Brokers may execute their client's orders only by dealing with jobbers, and may not take positions on their own account. These arrangements serve to concentrate secondary market transactions with the jobbers,[3] enabling them to conduct very heavy turnover on fine margins and to

(1) Local authorities undertake some longer-term borrowing through the capital market and directly from the public but it is fairly limited in extent.
(2) Overseas resident's holdings of sterling deposits are excluded from the UK definitions of money.
(3) Principal may deal direct with principal outside the market, but there is no active dealer network for doing so.

make a continuous market, preserving a high degree of liquidity for holdings of gilts.

The ample capacity of the secondary market in gilts compares with a virtual absence of a large primary market of the sort provided in New York by the specialist dealers. These structural features have led the Bank of England to rely on the 'tap' system for selling gilts. Under that system, new issues are bought by public offer at a fixed price—or, more recently, offered for tender with a fixed minimum price. Any stock unsold on those terms is taken up by the Bank for sale in the secondary market, through its own brokers, when there is demand to be met. As by far the largest participant in the market, the Bank established certain conventions in its behaviour in the market, in the interests of developing that market to the fullest extent and of minimising the long-term cost of selling the desired amount of debt. Thus, for example, the Bank does not, by convention, move the price of a tap stock down aggressively when prices generally are falling, on the view that this would disrupt the market and that any additional sales gained in the short run would be at the cost of conceding higher risk premia in the long run. Instead, the Bank waits until the market has found a new level at which demand has resumed, and then responds to it after a period of consolidation.

The table shows that, using the tap system, offering various types of stock to meet the particular investment horizons and tax positions of different classes of investor, the Bank was able persistently to exceed the volume of sales which the financial forecasts had suggested would be needed. Overperformance was necessary because other elements of the projections, eg the fiscal deficit, departed from their projected path. In the period before 1976, when money targets were not published, there was no publicly visible measure of the additional debt sales needed to satisfy monetary objectives. From 1976 onwards, there was. It became increasingly necessary not only to attempt over target periods as a whole to compensate by debt management for variations in other elements of the monetary forecast, but to keep closely to target throughout the period so as to avoid disturbances to markets. For once the actual figure departed from the target path, the expectation formed that there would be a compensating change in the level of debt sales pressed on the market, with a resulting change in yields. Demand was either dampened, if the target was being overshot, or stimulated, if the target was being undershot, threatening an explosive departure from the target path, and corresponding volatility in yields and interest rates.

Despite the experience of periods of feast and famine in official gilt sales, analysis has shown that gilt operations were on balance a stabilising factor in the management of M_3, which suffered even greater variability from other sources. But it was an entirely natural reaction, both within the Bank and on the part of outside commentators, to ask whether changes in technique could be found to improve performance. The persistent tendency during much of the late 1970s and early 1980s for M_3 to grow above target—especially if adjustment is made for growth concealed by the reaction to direct credit controls—compelled a search for any technique that might promise, simply through increased efficiency, to sell more. Beyond that, difficulty came in deciding which of various potentially conflicting objectives to pursue. One suggested objective was a smoother path, over a period, for gilt sales themselves. A more ambitious form was to achieve whatever level of gilt sales was necessary to deliver a smooth path, within its target, for M_3.

The last objective throws up many problems beyond those of being able to sell a specified quantity of gilts at will. It requires knowledge of the behaviour of the other components and counterparts of money which have to be compensated; and it requires knowledge of how much of the gilts being sold is being taken up by the non-bank public. None of that knowledge is available until some time after the event. But it has in common with the lesser objective of smoothing gilt sales the need for a technique that avoids 'feast and famine'.

Technical developments

Since 1977, there have been four evolutionary developments of technique each designed to contribute to that end:

- The issue of a number of variable rate stocks, where the coupon was linked to the yield on three-month Treasury bills and varied weekly. This was intended to enable the stocks to maintain their capital value which was thought likely to be an attractive feature when the market was uncertain about the future course of interest rates; but in practice they have been bought primarily by the banking system and therefore have been little help in restraining sterling M_3.
- The reintroduction after a long absence of partly-paid issues of gilt-edged, where only a part of the total price is due at the tender, with the balance coming in one or two 'calls' over the next couple of months. Thus at times when immediate funding needs have been met, a new issue can be announced, with perhaps as little as £15 to pay at tender per £100 of stock. If this is sold to the public in partly-paid form, a significant contribution to the funding needs of the next couple of months is assured.

The importance of gilt-edged stocks

£ millions

Fiscal years	Net purchases by UK non-banks of:			Purchases of gilt-edged as a percentage of all debt
	Gilt-edged		All central government debt	
	Forecast(a)	*Actual*	*Actual*	
1975/76	1,350	3,850	5,150	75
1976/77	3,000	5,800	6,400	91
1977/78	3,900	4,900	6,750	73
1978/79	5,800	6,200	8,300	75
1979/80	6,400	8,350	8,200	102
1980/81	5,350	8,900	11,500	77
1981/82	7,200	7,100	11,650	64

(a) Forecast at the time of the relevant Budget: ie roughly at the beginning of the year.

- The development of two ways by which the Bank can acquire modest amounts of additional stock to sell, without launching a full new issue. These are by creating additional tranches of existing stocks, and by taking existing stocks from other official holders in return for new non-marketable stock of a similar maturity. This increases the Bank's flexibility of operations, for example by allowing it to supply small amounts of a variety of stocks to a market it judges to be too weak to welcome a single large new stock.
- The offering of a short-dated stock with conversion rights into a longer stock. This refined an experiment made in 1973 and was launched at a time (ahead of a Budget) when a conventional stock might have been less attractive. Although the conversion rights of this particular stock currently have no value, because of changes in yields since it was issued, and the stock is accordingly not one of the market's favourites, there would seem to be a permanent—if limited—place for other such stocks in future.

Consideration has also been given to two changes, one of instrument and one of issuing technique, which have to be regarded as revolutionary rather than evolutionary. As regards issuing technique, one modest change was made in 1979, when the fixed price offer was replaced by minimum price tender. This safeguards against an unseemly scramble for allotments should there be a sharp rise in gilt-edged prices in the three or four working days between the announcement and the completion of the issue. All allotments are made at the lowest accepted price—in contrast with US practice—and, unless there is heavy application at above the minimum price, the practical effect is no different from that of a fixed price offer, and the outcome normally expected is undersubscription and subsequent operation as a tap stock.

A proposal widely discussed was to adopt instead the practice of making issues by free auction, with no underwriting, relying on the whole amount being taken up and, therefore, abandoning the tap system. The Bank and Treasury have not accepted that proposal, for two reasons. First, they are not persuaded that, in just those conditions of uncertainty when the tap system encounters difficulty, a free auction system could be relied on to take up the quantities of gross sales that are typically needed—currently about £1 billion per month. In other conditions, when the tap system works well, so might an auction system. But, even then, it would almost certainly require substantial change both in the structure of the gilt-edged market, described earlier, and in the UK securities market generally. It would be necessary to develop much greater capacity in the primary market, involving the creation of retailing networks, that would inevitably put great strains both on the ability of jobbers to maintain the present active secondary market, and on the separation of function between jobbers and brokers. Such changes would not be reversible, and would be disruptive while they were taking place, so that there is little attraction in experimenting for experiment's sake.

Index-linked debt

The second radical change under discussion has been the introduction of index-linked gilts. This proposal raised both technical market questions, and wider ones about taxation policy and other implications for the economy generally. In the first category, it was argued that indexed debt would be a useful addition to the menu of public sector borrowing instruments and that, in particular, it would be valuable whenever a pause occurred in the demand for conventional debt because of developments threatening higher inflation and so higher nominal interest rates. It was also argued that indexed debt would prove to be a much better bargain for the government as borrower than would fixed coupon debt at current nominal yields, on the assumption that counter-inflation strategy succeeded. Somewhat in contradiction, the argument was advanced that gilt-edged investors had for too long been defrauded by having the real value of their assets eroded by inflation, and that simple honesty required the government to provide an asset which was protected from that risk. In a wider context, there was disagreement whether indexation would be regarded as implicit acceptance of inflation, with the risk of widespread adverse effects on expectations both in financial markets and in the economy at large, or whether it would be accepted as evidence of the strength of the Government's determination and confidence that inflation would come down. Finally, there was concern over the difficulty that might follow, if developments such as sharp increases in the price of oil required the acceptance of reductions in real wages, from giving protection to the real income of rentiers.

As early as 1975, there had been a limited acceptance of the 'honesty in borrowing' argument when the index-linked national savings certificate was introduced. This avoided most of the problems just mentioned by being confined to investors past the age of retirement, and being limited in amount even to them, so that the loss of revenue through exempting the inflation mark-up from both income tax and capital gains tax was contained. Subsequently the range of eligible holders was enlarged, and in 1981 the certificates were made available to all, but still with a limit on individual holdings. Meanwhile, in March 1981 the indexation of government debt was carried a stage further through the offering of an index-linked gilt-edged stock. This too was related to the protection of the real income of the retired, by restricting eligibility to hold it to pension funds and, in respect of their UK pension business only, to life insurance companies and friendly societies. As all those funds are permitted to accrue their income without deduction of tax, there was no risk of fiscal loss.

There was no existing yardstick by which to judge the real yield at which such a stock would be subscribed, and the issue was therefore made by auction with no published minimum price. In the event, the stock, which carried a coupon of 2%, was fully subscribed at par—all successful applicants being allotted at the same price whatever their actual bid—so establishing a real yield of 2%. Subsequently, however, the price fell in the market. Two further stocks issued on a similar basis failed to attract

sufficient bids from the public to absorb the full amount offered at any price, and the Bank was obliged itself to take up a large proportion of the offer, which was then available to be operated as a tap stock. By early March of this year, real yields on these stocks had risen to 3%–3¼%.

In his Budget of 9 March, the Chancellor of the Exchequer announced the ending of all restrictions on the holding of index-linked stock. Real yields on existing indexed gilts fell back to below 2½%. But the first new unrestricted stock to be offered, in mid-March, attracted an even lower level of applications than any of the previous ones, and the Bank again acquired a substantial holding.

It is too early to draw any confident conclusion about the contribution that indexed stocks will make in the long run to the funding of the Government. Obviously investors will need some time to get used to the new instrument and to decide the appropriate real yield at which to buy. The timing of the first opportunity given to the general body of investors must have made that decision a difficult one, because the yields currently available on conventional gilts are high in relation to the recent level of inflation, which in turn seems to be heading downwards. It would be reasonable to assume that an indexed issue would have greater appeal when inflation was thought likely to increase—the circumstances in which the sale of conventional stocks becomes difficult. Indexed stocks will certainly add to the range of options in debt management. The auction technique of issue, on the other hand, must on experience to date have a question mark against its suitability in the UK market structure.

Interest rates and money-market operations

The description in the introductory section of this paper of the preparation of periodic real and financial projections did not claim that they led to firm targets for short-term interest rates. The projected path provides no more than a starting point for decisions in the ensuing period on interest rate objectives. The more immediate and powerful influences, then, are the actual behaviour of the target variable, hitherto quantified only for M_3 (both in terms of its target path and in its relationship with the real economy), and the state of financial markets including the foreign exchange market. A departure from target that cannot be regarded as transient leads to a reappraisal of interest rate levels; it does not necessarily lead to change in the desired level, if the ultimate objectives of monetary policy seem to be being achieved despite the behaviour of M_3. Such reappraisals could be hastened by market anticipation of an impending change in official interest rate policy, or prompted by markets responding to other influences such as the course of interest rates in other countries.

Until recently, and despite variations and appearances to the contrary, the operational technique for giving effect to official interest rate objectives has stayed close to the classical model. That involved the setting, and periodic variation, of an official discount or lending rate, which, when necessary, is 'made effective' by open market operations in the money market. 'Making Bank rate effective' means restraining a decline in market rates from an unchanged Bank rate, or bringing them up to a newly established and higher Bank rate; it is accomplished by limiting the availability of cash to the banking system so as to 'force the market into the Bank' to borrow at the somewhat penal level of Bank rate. There have been some actual or apparent departures of practice in the past dozen years from this simple model, which need to be mentioned, as do some features of the institutional structure within which it has operated.

The first departure proved to be more apparent than real. It came with the introduction in 1971 of the reserve asset scheme, which required banks to maintain holdings of certain short-term assets in a certain ratio—12½ per cent was the general level—to a measure of their deposit liabilities. The effective level of the ratio could be raised by requiring the banks to place special deposits with the Bank of England. These arrangements were in no way intended to provide the means of operating a reserve base/money multiplier form of control. But they did provide a supplementary or alternative means of managing interest rates, by containing the supply of reserve assets. Experience soon showed that, in a world in which banks were increasingly relying on liability management to square their books, this technique for managing interest rates was markedly inferior to the classical one, especially with a monetary target expressed in terms of a broad aggregate. The banks reacted to a shortage of reserve assets simply by bidding for more deposits, driving up interbank rates to levels that made it profitable for customers having overdraft facilities linked to the rather sticky base lending rates of the banks to draw on them and earn arbitrage by redepositing elsewhere. The immediate effect on M_3 of seeking to manage interest rates in that way was accordingly perverse, and the technique was effectively abandoned very soon, though the reserve asset scheme did not finally lapse till last August.

The second departure came in 1972. There was upward pressure on market interest rates at a time when the Government's economic strategy was expansionary and it was unwilling to indicate a change of approach by endorsing an increase in Bank rate. Changes in Bank rate, though initiated and put into effect by the Bank of England, took place only with the agreement of the Chancellor of the Exchequer. In order to give such changes a less high political profile, while still enabling the official lending rate to stand at a modestly penal level in relation to market rates, Bank rate was replaced by minimum lending rate (MLR), itself derived from a formula linking it to the result of the most recent weekly tender for three-month Treasury bills, though with provision for the formula to be overriden. This was at first a more satisfactory system than its immediate predecessor, but was itself found to have shortcomings especially when high and variable inflation was accompanied by sharp changes in interest rate expectations and in the term-structure of short-term rates. Lending was never undertaken for longer than seven days or so, and a three-month market rate was frequently a rather poor guide. The formula-related MLR was replaced

by an explicitly administered MLR—virtually back to Bank rate—in 1978.

There are three features of the institutional structure to be mentioned. The first is that facilities to discount and to borrow at the Bank of England have not been made available to banks in general, but only to the money-market specialists known as discount houses. It is also, in the main, with the discount houses that the Bank conducts its money-market operations, using bills—Treasury bills, local authority bills and bankers' acceptances. The second feature is that there is a need for a substantial volume of activity in the money market for purely housekeeping reasons. The accounts of the central government are centralised at the Bank of England, with no spare cash balances either there or with commercial banks. Any net balance of cash flows to or from the government therefore has to be absorbed by, or financed from operations in the money market. In order to accommodate such transactions without disturbance to interest rates, the Bank for many years made known each week the rates at which it would conduct its operations—buying or selling—for bills of any maturity up to three months. The third feature is that the only banks required to maintain balances at the Bank of England were, until last year, the London clearing banks. They had an operational need for balances, so as to be able to meet settlements against them in the cheque clearing at the end of the day. A conventional level had been established, in relation to their deposits, which they had to maintain on average over a period. It provided an ample margin above actual operational needs, enabling them to draw down the balances somewhat when overnight interest rates moved up, and vice versa.

The wide-ranging debate in the United Kingdom on monetary control, punctuated by the publication in 1980 of a Green Paper (or official discussion document), left the Bank unpersuaded that there would be an advantage in replacing its approach to setting interest rate objectives by the more direct control of quantity—some form of monetary base; and wholly convinced that no practical basis existed for the early adoption of such a system. But there were aspects of interest rate management which looked good candidates for change. First, it seemed sensible to try to remove any bias to delay in changing official objectives for interest rates that might be attributable to the high political profile associated with formal government approval. Second, it seemed likely that more effective and prompt official responses to market pressures could be facilitated by imparting greater technical flexibility to the way in which our day-to-day operations were conducted, and by adjusting the pattern of those operations so as to allow more scope for market influences to determine the term structure of money rates. Institutional features tending to produce rigidities in rates needed to be questioned.

New arrangements

By November 1980, the way ahead was sufficiently clear for the authorities to outline a programme of limited but useful change, the impact of which was concentrated on the money markets and upon the Bank's exercise of its influence over short-term interest rates. These proposals were developed further publicly in March and June 1981 and detailed arrangements discussed with the banking system in time for the changes to become fully effective in August 1981. The parallel changes in the Bank's operations in the money market began in the autumn of 1980 and were complete by last August.

The starting point for description of the new arrangements is the reformulation of official interest rate objectives. MLR has been suspended and the Bank's operational aim is now set primarily in terms of an 'unpublished band for very short-term interest rates'. The aim of this change was to make shifts in the official interest rate objectives less obtrusive, thereby reducing both the political sensitivity of a shift and the extent of official influence over longer money rates. To this end, market operators were denied guidance not only to the position of the band at any point in time, but even to the instrument or term to which it applied.

A complementary set of changes introduced in the year to August 1981 sought to place an increasing weight on market factors in determining the structure of short rates, by a radical alteration in the Bank's daily dealing methods. Progressively, over a short period of time, the Bank disengaged from setting official dealing rates, putting the onus upon market participants (notably the discount houses) to bid for cash. Thus, now on a day when cash is short, the houses may offer bills to the Bank twice in the day, quoting a rate (or rates) at which they will sell. The Bank has complete discretion to take which offers it chooses. The houses know that if their offers of bills are not sufficiently aggressive and they are obliged to borrow from the Bank, they are likely to be charged somewhat above prevailing market rates. Lending at market rates is now done only rarely and in response to exceptional (largely technical) factors.

The purpose in seeking, through making borrowing terms unattractive, to concentrate the demand for cash on the offering of bills is to provide a competitive basis for determining rates. An alternative means of putting cash into the system, advocated by some as simpler and technically more efficient, would have been for the Bank to lend directly in the interbank market. That method did not seem, on examination, to offer a satisfactory means of determining interest rates, because the highly concentrated structure of sterling deposit banking would have confronted the Bank with only a handful of large takers of funds—the clearing banks. Rate determination in those circumstances would have come close to a bilateral haggle. So the decision was taken to continue to provide cash through bill operations, dealing largely with the discount houses.

An essential ingredient in this process—given that it is not intended as a vehicle for management of a quantity of base money—is that there should be broad equivalence between the quantity of cash supplied and the actual demand for it. The Bank's stated objective is 'broadly to offset the cash flows between the Bank and the money markets' and to

leave the clearing banks within reach of their desired operational balances. As part of the new arrangements, the clearing banks were relieved of their former obligation to hold balances well in excess of their operational needs, and they now aim for whatever level they judge necessary to avoid overdrawing their account at the Bank, which is not permitted. At the same time, to maintain the income of the Bank (all the profits of the note circulation passing by statute to the Government), all banks and licensed deposit-takers above a certain minimum size have agreed to maintain a non-interest bearing and non-operational balance at the Bank.

The first six months of the new arrangements have passed in an often difficult and volatile external and domestic environment. Within the first six weeks, the combination of downward pressure on sterling, and domestic concern about monetary conditions, pushed short rates up by between 3%–4%. A period of uncertainty in October was followed by one of quite marked downward market pressures in November; and, after renewed uncertainty around Christmas, there has been further downward pressure on rates since. One problem of market management which has arisen is that this period has seen the unwinding of much of the effect of the civil servants' dispute last spring and summer which, at its peak, had delayed perhaps £7 billion of net government revenue. The process of catching up on these arrears has made the task of forecasting the daily cash position of the banks unusually hazardous. More recently, the combination of this catching up, heavy funding of the government's borrowing requirement and a seasonally heavy period for normal tax revenue have combined to draw massive amounts of cash from the banking system, which the Bank has recycled through its open-market operations.

In general, the new operating techniques have worked well so far and the discount market has normally made offers at a sufficiently wide range of rates over the day for the authorities to avoid overtly setting an interest rate by lending through the discount window. However, on the first occasion when a major rise in very short rates was desired by the authorities (in mid-September) lending was necessary at a specified rate. In November and again early in March the Bank lent through the discount window to discourage too rapid a decline in rates.

Market forces have, as intended, played a more important role than before the new arrangements were established. On occasion, the signals given by longer rates in the money markets have been an important element in determining the authorities' objectives for very short rates; thus, after longer rates had risen persistently in the second half of September, the authorities did not seek to resist the market when, at the end of that month, it offered shorter-dated bills to the Bank at significantly higher rates than hitherto. But at other times, for example in the first week of October when longer rates continued to rise, the authorities have considered it appropriate to assert their view by leaning against the market movement.

It is, of course, too early to judge the technical merits of the arrangements as a whole but it does appear that the authorities' own operations do indeed have considerably greater flexibility. A similarly cautionary note is appropriate in considering whether the changes have lowered the political temperature of interest rate policy. Market pressures, however, clearly played a significant part in the sharp rises in rates in September and probably did help the authorities to establish both the fact and, fairly quickly, the extent of the needed increases. In general, it does indeed seem that the authorities have been able to keep a lower profile.

Conclusions

Monetary policy has had to operate in an often difficult environment over the last five years. Its main objective—to counter inflation—has remained unchanged, although there has been a wide-ranging debate over almost every aspect of its aims and operations and there have been changes (particularly in the last eighteen months) in the weights given to particular factors considered in formulating policy.

Along with these changes have gone developments in the Bank's operations in the money and gilt-edged markets, the nature and roots of which have been explored in this paper. In many cases, the changes have not been in effect long enough for us to judge their contribution. Moreover, it cannot be claimed that the period of change is necessarily over. We now move to a period in which less primacy is to be given to M_3 as the sole quantified target; targeting is now more explicitly a matter of interpretation in the light of a number of factors, such as the behaviour of exchange rates, and is moreover expressed in terms of three aggregates including a narrower one, M_1. This will add further considerations to the already difficult task of setting the path for interest rates. But the changes of the last five years in the flexibility of the Bank's operations in the gilt-edged market and those of the last two years in the money market, will leave us the better equipped to tackle the problems to come.