The gilt-edged market

The principles on which the marketing and management of marketable government debt other than Treasury bills (gilt-edged stocks) are at present based have been long established and may be summarised as follows.

- Investors and traders are free to determine the size and composition of their gilt-edged portfolios in the light of their own assessment of current and prospective economic and financial conditions, and of the prices and yields determined by a market made in the stock exchange by jobbers.
- The Bank deals or is prepared to deal continuously in this market within a well-defined and well-known framework, an essential element of which is that the Bank operates at prices close to those determined by the general body of transactions in the market.
- The Bank issues periodically on behalf of the Government new stocks which normally are intended to replenish the portfolio which is available for market operations, although recently some issues have been fully or nearly fully subscribed on application. The terms of new issues too are pitched so as to offer yields very close to those prevailing in the market at the time of the announcement of the issue.

An article in the June 1966 *Bulletin*[1] described the objectives and techniques of the Bank's management of the gilt-edged market within the above framework. The present article describes subsequent changes in those objectives and the consequent adaptation of techniques and instruments, and considers, against that background, a number of proposals for further change that have been the subject of recent public discussion.

The evolution of objectives and techniques

In the 1966 article, the main objective of gilt-edged management was stated to be to maximise the long-run desire of investors at home and abroad to hold British government debt. This main objective followed from the Government's continuing need for large amounts of long-term finance both to meet its current borrowing requirement (at that time for new capital investment by the public sector) and to replace maturing debt. Other aims of gilt-edged management which were seen as important from time to time were to assist economic policy by promoting or sustaining the most appropriate pattern of interest rates, and to assist credit policy by limiting government borrowing from the banking system. These two aims were regarded as shorter-term and were clearly subsidiary to the longer-run aim of preserving the attraction of government stocks and sustaining the health and capacity of the market.

This concern to maintain the longer-run, structural health of the market has remained an important objective of gilt-edged management. Since 1966, however, as the main emphasis of monetary policy has shifted to controlling the trend in the growth of the money supply (and in particular, in recent years, the growth of sterling M_3), the raising of government finance from domestic investors outside the banking system has become an increasingly important shorter-term objective of gilt-edged market management. This change of emphasis came about by stages and was accompanied by adaptations of the Bank's operating techniques.

In 1966, the principal quantitative objective of monetary policy was limitation of the growth of bank lending in sterling to the domestic private sector, and the principal method of achieving that objective was quantitative rationing. The short-term development of bank lending to the public sector was not a principal consideration. Finance for the Government could be obtained as necessary from the banking system—through the tender for Treasury bills and the Bank's financing operations in the money market—and this left

Net official sales of gilt-edged stock

£ millions

	Total net official sales(+)	Purchased by:							
		Other public sector	Banking sector	Non-bank private sector					Overseas sector
				Savings banks	Insurance companies and pension funds	Other financial institutions	Industrial and commercial companies	Persons (residual)	
1972									
1973	− 519	− 1	−1,114	193	305	− 68	16	− 23	173
1974	1,543	− 13	− 35	113	509	79	39	735	116
1975	664	− 29	− 146	− 4	201	97	− 39	603	− 19
1976	5,208	− 5	812	31	2,503	776	92	1,005	− 6
1977	5,399	4	68	270	2,976	84	123	1,744	130
1978	7,293	2	708	579	3,346	764	88	822	984
	5,052	108	− 60	519	3,958	310	− 2	319	−100
Total	**24,640**	**66**	**233**	**1,701**	**13,798**	**2,042**	**317**	**5,205**	**1,278**

[1] Page 141.

a degree of flexibility over the timing of government funding in the gilt-edged market, which allowed the Bank, consistently with, and indeed in pursuit of, its main aim of strengthening demand for government stocks in the longer term, to seek to moderate changes in yields arising from changes in market sentiment.

The essence of the technique of gilt-edged management employed at that time was summarised by the phrase 'jobber of last resort'. Thus the Bank was prepared to deal in gilt-edged stocks of all maturities at prices close to the market level, prime considerations being to preserve the almost unlimited marketability of gilt-edged stocks and, to that end, to limit the pressures experienced from time to time by the gilt-edged jobbers. This technique did not and could not preclude, as a part of interest-rate policy, changes in prices and yields in response to market developments, but it was considered that sharp changes, other than any that might be consequent on a change in Bank rate, would be likely to be disruptive to the market and liable to impair the demand for gilt-edged stocks over the longer term.

Starting in 1968, more importance came to be attached to a wider quantitative aggregate than bank lending as a target for the conduct of monetary policy. In 1968 and 1969, in agreement with the International Monetary Fund, quantitative limits were set for domestic credit expansion (DCE). This step was of limited importance for the management of the gilt-edged market, however, partly because the Government's requirement for finance was quite small at that time and partly because it was not then regarded as a lasting change in the objectives of monetary policy. The basic technique described above remained unchanged but the Bank, while still concerned to avoid disruptive volatility in the market, tended to move more quickly the prices at which it was prepared to deal.

A more significant step was taken in 1971 when direct quantitative control of bank lending was abandoned, and the arrangements for credit control were modified, with the broader aim of regulating the growth of the money supply, principally by variations in interest rates. This new emphasis on the money supply, rather than on interest rates *per se*, as the immediate goal of monetary policy has been carried further since, leading to the public announcement, from 1976, of quantitative targets for the growth of a particular monetary aggregate—sterling M_3 in the last two years—for periods of twelve months ahead.

In May 1971, preparatory to the change in credit control arrangements which took place the following September, the extent of the Bank's operations in the gilt-edged market was modified; and the Bank's position in relation to the market was codified as follows.

- The Bank is not prepared, as a general rule, to buy stock outright except in the case of stocks with one year or less to run to maturity.
- It reserves the right to make outright purchases of stock with more than a year to run solely at its discretion and initiative.
- It is prepared to undertake, at prices of its own choosing, exchanges of stock with the market except those which unduly shorten the life of the debt.
- It is prepared to respond to bids for the sale to the market of tap stocks and of such other stocks held by the Bank as it may wish to sell.

This remains the framework of the Bank's operations.

These adaptations of technique were primarily intended to improve the effectiveness of monetary control. It was clear that the ability of banks and other investors to sell to the Bank large quantities of stock at moments of their own choosing, at prices not far removed from those ruling in the market at the time, was incompatible with monetary policy in its modified form. The principal change was therefore that the Bank ceased to be prepared to respond to requests to buy stock outright, except in the case of stocks with one year or less to run to maturity.

Inevitably this change implied greater short-term fluctuations in gilt-edged prices and some reduction in marketability. It was not felt, however, that the longer-term health of the market need suffer in consequence. It had become clear by 1971 that the Bank's willingness to deal at prices close to the market level allowed speculation too large and too easy a rôle in the management of portfolios; it often meant that in practice the Bank provided the counterpart to dealings by the rest of the market. The curtailment of the Bank's operations therefore made room in the market for others to operate in more realistic conditions.

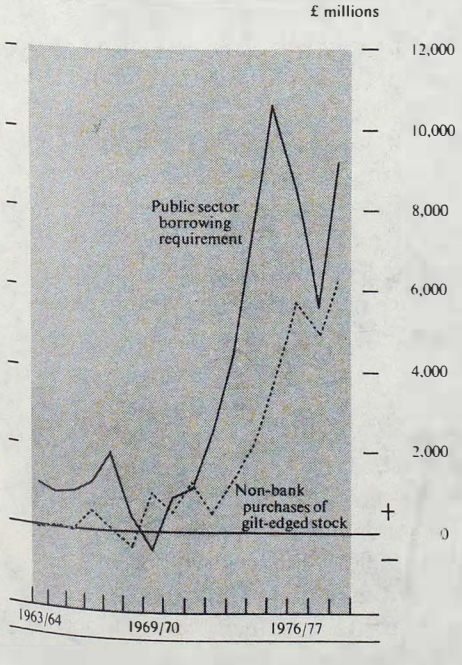
Nevertheless, tension for gilt-edged market management can arise between the objectives of shorter-term monetary control and of sustaining the longer-term health of the market. And this tension became more marked during the 1970s as the emphasis on control of the broader money supply increased.

The choice of the broader monetary aggregates, DCE and sterling M_3, as the immediate target for monetary policy has tended to concentrate attention on the role of gilt-edged market management in implementing monetary policy, in a way that has become increasingly evident. An important characteristic of such broader aggregates—which does not apply to narrower measures of the money supply such as M_1—is that they can be closely analysed, in an accounting sense, in terms of their credit counterparts. Properly interpreted, and allowing for the inter-relationship between the counterparts, this has the considerable advantage that it can help in understanding the factors contributing to monetary growth. It highlights the extent to which the public sector borrowing requirement (PSBR)—and, indeed, other sources of monetary growth such as bank lending to the private sector or inflows from abroad—are offset by sales of government debt, and more

particularly of gilt-edged stocks, to domestic investors outside the banking system. This direct accounting link between the gilt-edged market and the behaviour of the broader money supply, month by month, means that the extent to which the momentum of official sales of stock is being maintained has assumed much more significance—both for the authorities and for the general public—as an indicator of how far monetary policy is succeeding in its quantitative objective than was the case when the link was seen to be with the liquidity of the banking system.

This development has occurred against the background of a sharply higher government borrowing requirement and of a higher and more variable rate of inflation. In the eight years to 1970, the PSBR averaged a little over £$\frac{3}{4}$ billion (2% of GDP at current market prices). Since then, it has averaged £6 billion (6% of GDP), with a peak of over £10$\frac{1}{2}$ billion (10$\frac{1}{4}$% of GDP) in 1975. This huge expansion of government borrowing took place during a period in which not only the rate of inflation but also its variability from year to year increased sharply. In the eight years to 1970, inflation—measured by the increase in the monthly retail price index over the previous twelve months—averaged 4%, ranging from under 1% to 8%; in the eight years since then inflation has averaged just over 13%, ranging from 7$\frac{1}{2}$% to 27%. Nominal interest rates have naturally been not only higher but also more volatile as a result, and this volatility, and the associated volatility of expectations about the future rate of inflation, have greatly added to the problems of gilt-edged market management.

Public sector borrowing requirement and purchases of gilt-edged stock by non-bank private sector



Despite the unfavourable background, management of the gilt-edged market on the basis described above has proved capable of raising finance for the Government on a very large scale indeed over a prolonged period, as is shown in the accompanying chart. And this has helped to contain the trend in the growth of the money supply in the last five years to a rate that has been generally consistent with official policy objectives. Thus, sterling M_3 increased at a rate of around 10% in most calendar years since 1974, which has been well below the rate of growth of nominal national income. This has not been without a cost in terms of high nominal interest rates. Inflation, and the scale of government borrowing, have necessitated high nominal yields, which—given the uncertainties regarding the future rate of inflation—have largely excluded potential private borrowers on fixed-interest terms from the capital market.

Adaptations to deal with the effect of uncertainty

Government finance on this scale involves continuous borrowing. From time to time, however, investors may lack confidence in the outlook, for example in respect of wage demands and industrial disturbance and their implications for future inflation, and in the economic and financial policies being pursued. Some uncertainty and risk are of course always present, and it is for investors and their advisers to assess them. At times, the uncertainties are such that investors cannot be confident that the level of interest rates will not rise, and hence do not feel justified in committing the funds they manage—generally in the interest of others—to investment in fixed-interest securities at that time. Sometimes the extent of uncertainty may be such that some investors are disposed to sell their existing holdings of gilt-edged stocks, keeping the proceeds liquid, and this, within the framework of the Bank's operations described earlier, is allowed to bring about whatever rise in yields may arise from market transactions. Once such an adjustment is completed—and how long that takes will depend upon the degree of uncertainty and the range of investors affected by it—the Bank is then able to resume the Government's funding programme on the higher yield basis. But at other times, perhaps when it is less clear which way a situation will develop, investors generally may lack the conviction to sell their existing holdings but still decide to keep their accruing funds in liquid form. In such situations, while prices in the gilt-edged market may remain relatively stable for some time, turnover contracts, and the market effectively becomes immobilised until the way ahead becomes clearer.

The principal effect of such periods of uncertainty, given the present emphasis of monetary policy on controlling the behaviour of sterling M_3, is to interrupt the contribution which sales of gilt-edged stocks outside the banking system make to that control. It should be noted, however, that the other factors affecting the growth of sterling M_3 are also subject to similarly large and erratic short-term fluctuations: the PSBR, the growth of bank lending, and the impact of external transactions can all vary from month to month by amounts which are very large in relation to the average monthly increase in the money supply that is consistent with the monetary target. And such variations are predictable—even for just a short period ahead—only with large margins of error. The short-term interruption

Variability of the main credit counterparts of the money stock (sterling M_3)[a]

£ millions: *seasonally adjusted*

	Financial years[b]			
	1975/76	1976/77	1977/78	1978/79
Central government borrowing requirement	490	260	440	700
Other public sector	70	200	220	350
Purchases of gilt-edged stock by non-bank private sector	520	650	530	480
Sterling lending to the private sector	120	260	250	310
External finance	240	370	450	360
Money stock (sterling M_3)	420	490	280	580

[a] The table shows root mean squares of first differences which indicate the general magnitude of month-to-month changes for each year.

[b] Banking May to banking April, except for 1975/76 where the figures are for banking July 1975 to banking April 1976.

of the flow of official gilt-edged sales is therefore not the only reason why there may from time to time be random month-to-month fluctuations in the growth of the money supply; and even if a more regular flow of sales could be achieved, this would not in itself be enough to remove such fluctuations arising from other factors.

The purely temporary divergence of the growth of the particular target aggregate, sterling M_3, from the intended trend—whatever the origin of the divergence—is not in itself a cause for concern, in the sense that such erratic fluctuations are unlikely to have any significant effect either on the real economy or on inflation. This is more especially true when the origin of the divergence is a temporary interruption of the gilt-edged funding programme, since in this case the additional monetary balances which result are, in some large part, held by long-term investment institutions awaiting commitment in the capital market, and so are not in any direct sense available to finance transactions in goods and services. If, therefore, one could be confident in any particular case that a funding pause would indeed prove to be short-lived, the proper course would be simply to ride it out.

In practice, however, a central difficulty—for financial analysts generally, including investors in the gilt-edged market, no less than for the authorities—is to determine at the time whether an incipient divergence of sterling M_3 from the intended trend is merely erratic or whether it marks the beginning of an important acceleration of monetary growth in some more fundamental sense. Although, as noted above, interruption of official gilt-edged sales is not the only possible cause of short-term fluctuations in the growth of the money supply, any uncertainty on the part of investors in the gilt-edged market is likely in present circumstances to pose this question quite quickly. The size of the PSBR, and the continuous, heavy funding programme it involves, mean that if investors delay their purchases of gilt-edged stocks for only a month or two there is likely to be a noticeable upturn in the growth of sterling M_3. The authorities then have to assess—in the light of the causes of uncertainty and of other developments (including, for example, the behaviour of other aggregates, such as M_1, and particularly the non-interest-bearing element of M_1, which are much less directly affected from month to month by the timing of gilt-edged investment decisions)—the significance of this upturn and whether it is likely to continue. They may decide that the hesitation on the part of investors generally is well-founded and make policy changes; or they may decide that policy changes are not necessary. If, in either case, a sufficient body of investors remains unpersuaded, sterling M_3 will continue to grow above the required trend, and this can lead to more active selling in the gilt-edged market, until yields eventually rise to a point where investors come back into the market and the funding programme can be resumed.

In many cases, such a yield adjustment (or the policy action taken to forestall it) may be accepted in retrospect as having been necessary in the light of outside circumstances to maintain monetary control. But in other cases it may appear to have been part of a self-generating spiral, with the initial uncertainty causing an acceleration in sterling M_3 which in turn affects expectations about interest (and possibly exchange) rates, leading eventually to upward adjustments of yields which are in excess of those justified by the underlying situation and which may subsequently therefore be reversed. The danger of such unnecessary disturbance and interest-rate fluctuations would be reduced if a somewhat smoother pattern of sales of gilt-edged stocks to the non-bank private sector could be achieved in the first place.

Partly-paid stocks

Faced with this problem, the Treasury and Bank introduced an adaptation in their issue technique in March 1977 by providing for only part of the subscription money for a new issue to be paid at the time of application with the balance being payable in instalments timed by reference to the Government's expected funding need. This adaptation, which has been used with varying degrees of success on a number of subsequent occasions, was designed to smooth the flow of funds from outside the banking system into gilt-edged stocks by staging the calls to correspond with the expected funding requirements in successive banking months.

In addition, new gilt-edged instruments have been introduced which were designed to be attractive in conditions of uncertainty.

Convertible stocks

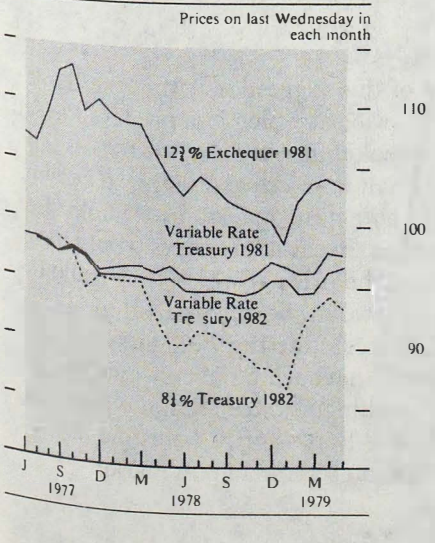
Even before the recent concern, namely in March 1973, a convertible stock, 9% Treasury Convertible Stock 1980, was issued, which offers holders an option, in 1980, to convert at predetermined terms into a stock maturing in the year 2000. With this type of security, investors are offered a short-dated stock at close to the current market yield for that maturity at the time of issue, with an option to convert at a later date into longer-dated stock at a yield close to that prevailing for the longer maturity at the time when the convertible short-dated stock was issued. Such a security gives the investor the option of holding a short-dated stock to maturity, or, by exercising the conversion right, of moving into the long end of the market at a specified

later date (or dates) on terms which are known in advance and which may then no longer be available in the market. The attractiveness of a stock of this kind depends in part upon the relationship between short-term and long-term yields at the time of issue. The attractiveness of the conversion option in particular depends on investors' assessment of the likely course, beyond the immediate future, of long-term interest rates. If they judge that there is a good chance that long-term interest rates will be lower by the time the conversion option may be exercised, they will find the option attractive. To the extent that it does, in the event, produce an advantage to the investor, it will of course prove correspondingly expensive to the Government, although this risk may be worthwhile if it enables the momentum of the funding programme to be maintained without a rise in interest rates. There are a number of possible variations on this general theme.

Variable rate stocks

The second instrument designed to cater for conditions of uncertainty is the Treasury Variable Rate Stock, of which three issues have been made, maturing in 1981, 1982 and 1983. These stocks offer investors a degree of insurance against rising short-term interest rates, always provided that their market price is relatively stable. The insurance takes the form of six-monthly interest payments based on the average discount rate for Treasury bills over the preceding six months. At par, the interest rate payable is a half per cent over the Treasury bill discount rate, and for every one point discount on par the prospective capital gain to maturity effectively widens the margin over the Treasury bill rate, if the stock were held to redemption, by about a quarter per cent. In practice none of these stocks has traded at par, so that the effective margin over the Treasury bill discount rate has always been larger than a half per cent. The variable rate stocks have not yet, however, proved to be more than modestly attractive to investors outside the banking system as stocks to be held; they have not been very actively traded in the market, and, partly as a result, they have not perhaps so far enjoyed sufficient price stability. They have none the less played some small part in smoothing the flow of funds to the Government, coming into demand when the outlook for interest rates seemed particularly uncertain and when official sales of conventional stocks were depressed, and being bought back by the Bank, against sales of conventional stocks, at other times. This rôle could grow with increasing market experience of the stocks. In the case of variable rate stocks, too, a number of variants are possible. One such variant that has already been adopted by a number of local authorities has the interest rate set half-yearly at a fixed margin above the six-month inter-bank deposit rate ruling at the beginning of each interest period, though these stocks too have yet to establish any significant market outside the banking system.

Prices of variable rate and other selected gilt-edged stocks



Some suggested possible further changes in technique and instruments

The adaptations so far described have not involved any departure from the established principles on which official management of the gilt-edged market has been based. It remains the case, however, that uncertainty among investors continues to cause occasional interruptions to the Government's funding programme. The rest of this article, therefore, considers a number of possible further changes—some more radical than others—which, it has been suggested, might be introduced to achieve a smoother path of official sales despite recurrent periods of uncertainty attributable to factors external to the gilt-edged market itself. These would involve changes, either of operating technique, or in the range of gilt-edged instruments.

A number of these changes could have significant implications for the structure of the gilt-edged market, and in particular for the market-making mechanism. Despite the developments since 1971 described above, a gilt-edged investor is still normally able to deal almost instantly at his own initiative in large amounts of stock of any maturity at—or at something very close to—a known market price; and this liquidity, provided by the gilt-edged jobbing system, remains an important element in the attraction of gilt-edged investment. It is difficult to avoid the conclusion that the present market-making mechanism would be seriously affected by some of the changes that have been advocated, but it is not easy to predict what alternative mechanism might emerge and how effective such an alternative might be. These questions are touched upon in the discussion that follows, but they would need to be very fully considered in a complete analysis of the proposals.

Changes in technique

In the area of technique, the changes that have been suggested fall into two main groups. The first group of suggestions would involve sharper changes in the prices and yields at which gilt-edged stocks are made available. The second group would involve some form of more direct relationship between the authorities and major investors through which the amounts, the timing and the terms of gilt-edged stocks to be taken up would be determined in advance.

Suggestions for greater flexibility in the price at which government stock is marketed are based on the proposition that a sufficient fall in the price at which the stock is obtainable will, in any surrounding circumstances and without any associated policy action, produce the required demand. In the Bank's judgment this proposition needs qualification, as is explained below.

These suggestions for greater price flexibility are of two kinds. The first relates to the prices at which the Bank markets stock out of its own portfolio through transactions on the stock exchange, where the initiative for varying the price would fall upon the Bank. The second relates to the method of public issue of government stocks, where proposals have been made for issues by tender (or auction) which, in this variant, would not be underwritten, and under which the variation in price would be determined entirely by the investors.

The pricing of tap stocks

At present, a new stock is normally issued at a price closely in line with the prices of other comparable stocks already in the market, and the amount of the stock not taken up by the public—usually a large proportion—is taken into the Bank's own portfolio, with the Bank acting in effect as an underwriter. If the market remains firm, this tap stock is subsequently sold by the Bank through the market at prices raised in fractional steps above the issue price. If, on the other hand, as a result of a change in conditions giving rise to uncertainty among investors, demand for the stock does not develop, the Bank does not immediately reduce the price at which it is known to be prepared to sell. Instead, the Bank waits until the market recovers or, if the market generally weakens, until the yield adjustment is completed and the market has stabilised, when the tap price will be lowered in a single step in response to bids from the market. This established practice provides assurance to investors who subscribe for stock on issue, or purchase it through the market soon afterwards, that, short of a general weakening in the market, their position will not be undermined by the Bank's supplies being subsequently made available at lower prices.

The main suggestion that has been made in relation to more flexible pricing of stocks from the Bank's own portfolio is that, in order to maintain the momentum of sales through periods of uncertainty caused by changes in outside circumstances, the Bank should be more willing to lower the tap price in one step, going beyond the fall in market prices generally, or in smaller steps, in line with the decline in the market, without necessarily waiting until the market yield adjustment is completed. A difficulty with this approach is that such behaviour, in the conditions of weakening confidence where it would be relevant, could tend to add to, rather than diminish, the uncertainties in the minds of investors.

If the Bank—as by far the largest seller in the market, and with earlier knowledge of some important developments likely to affect the market, such as imminent policy steps, statistics, etc.—had had to reduce its price once, why should it not do so again shortly thereafter? Given this evidence of official urgency to sell stock, investors might well conclude that, by waiting, they might obtain still higher yields. There could be a danger that prices in the market would move away from the Bank, simply falling further in response to each successive reduction of the official price of the tap stock. At some point one must presume that this process would stop, and that yields would reach a level at which investors were prepared to commit the required funds; but the increase in yields might need to be unnecessarily large in these conditions, and, in the case of the proposal for a single step change, it would be difficult to arrive at a reasoned judgment in advance as to the tap price which would ultimately need to be set. In these circumstances, it could, as a practical matter, become necessary to find other means of establishing an appropriate price, perhaps through tenders or through a process of negotiation with major investors, with the further implications discussed below.

The argument has been put that the authorities already act on prices in the gilt-edged market by changing minimum lending rate (MLR), and that shifts in the tap price would only differ in degree. But the difference in degree would be very considerable. Changes in MLR are made as a result of varying considerations, not necessarily immediately related to developments in the gilt-edged market, and their effect on gilt-edged prices is indirect and may be greater or smaller depending on the surrounding market circumstances. Furthermore, a change in the yield on a three-month bill from, for example, 9½% to 10% changes its price by only one tenth of one percentage point, while to secure a similar change in the yield on a 20-year stock would require a change in price of about 5%. Such changes in price imposed unilaterally by the authorities would involve heavy capital losses which operators would be likely to regard as beyond the normal hazards of business; and the only defence for the market-makers against such behaviour on the part of the authorities would be to narrow the market drastically whenever such conduct appeared to be in prospect.

A modified version of this suggestion is that the Bank should lower the tap price at which it is prepared to sell during periods of a weakening market, but by less than the full extent of the fall in prices generally, so keeping the price a little way above the market as a whole. The intention would be that, because investors would have greater certainty as to the price at which they could re-enter the market, they would be encouraged to sell their holdings and so accelerate the yield adjustment. It would seem, however, that such a policy would in practice be almost indistinguishable from the previous suggestion, and that the Bank's price adjustments would have much the same effects upon market expectations.

More generally it has been suggested that the Bank's technique in pricing tap stocks is too easily predictable: investors, it is argued, can, if they are uncertain, postpone their purchases of stock in the knowledge that if prices should improve, they will not, while a tap stock is active, move ahead too rapidly so that the cost of delay is likely to be small. This argument sometimes prompts the suggestion that the Treasury and the Bank could price a new issue some way ahead of the market, or that the Bank could adjust its selling price of the tap stock upwards by larger amounts, so encouraging investors to accelerate their purchases in the immediate situation and weakening their complacency over the longer term. There are circumstances where, within generally rather narrow limits, this tactic can be—and indeed has been—used. But it can only be used where the Bank is reasonably confident that the surrounding conditions in fact justify an unusually sharp decline in yields and where this prospect is likely to carry conviction with investors. If used where the overall circumstances did not in fact justify a fall in yields to the extent implied by the pricing decision, the tactic would be likely to induce an otherwise unnecessary interruption of the funding programme as yields subsequently adjusted back to more appropriate levels. In a similar way, it has been suggested that the authorities should vary their tactics in introducing new stock issues, by periodically standing aside from the market, but this possibility has been largely precluded by the recent size of the funding programme, which has involved more or less continuous borrowing.

In considering these various proposals for a more active pricing policy, the Bank is conscious that a securities market cannot function satisfactorily if there is an operator in a position to exercise overwhelming influence who is liable to enter the market unpredictably both as to timing and behaviour. All of the proposals would—if carried very far—introduce an important new element of uncertainty into the determination of gilt-edged prices. This in turn would seriously impede the making of a market, in any size, in gilt-edged stocks—whether by jobbers, as at present, or under some different institutional arrangement. The restriction on marketability which could then result would tend to reduce one of the principal attractions of the gilt-edged market for investors, damaging its long-term capacity.

Tenders

A different kind of suggestion for achieving a smoother pattern of gilt-edged sales through greater price flexibility is for the adoption of a tender system for new issues. Again there are a number of possible variants, but a common element would involve the Government announcing from time to time the volume of securities it wanted to sell on particular dates, or in a given period, and then leaving it to investors to determine the price and yield at which they were prepared to buy it. As with the suggestion for a more active policy of lowering of the tap price, the object would be to enable the authorities to sell the amounts of stock expected to be required in any given period to achieve shorter-term control over the growth of sterling M_3, unhampered by interruptions in government funding arising from changes in outside circumstances. (This would of course still leave sterling M_3 subject to erratic short-run fluctuation arising from unpredicted variations in the other credit counterparts, as mentioned earlier.) The proposal may derive in part from the regular use of the tender technique for new issues of US government securities by the US Treasury. In considering it, however, one needs to bear in mind that there are substantial differences in the size and structure, and in the rôle, of the government bond market in the two countries.

In the United States, the $330 billion of government bonds outstanding are equivalent to only some 16% of GNP, whereas the £57 billion of gilt-edged stocks outstanding is equivalent to some 42% of GNP in this country. Although government borrowing has increased in the United States—as in the United Kingdom—in recent years, government bonds have not dominated the capital markets to the same extent: in 1977 government bonds absorbed only some 30% of the total funds raised in the US domestic capital market, whereas the comparable figure for the United Kingdom was nearly 90%. In the United States, too, government bonds are typically of much shorter maturity. They include a large proportion of two-year issues, and only about 16% have a life beyond eight years; whereas in this country gilt-edged stocks are rarely issued for less than four to five years, and some 60% are of more than eight years' maturity. This results in an average maturity of US government bond issues of about five years, compared with about twelve years for gilt-edged stocks in this country. Finally, the institutional arrangements in the two government bond markets differ: prices are made in the US market, for example, by dealers in government securities rather than through the stock exchange as in this country. Such differences suggest the need for considerable caution before one can conclude that arrangements found helpful in the United States would be similarly effective in the United Kingdom.

A major difference in the present context is that the US Treasury's debt management objectives are not the same as the present objectives of debt management in this country as described above. In particular, the US Treasury is not directly involved in the implementation of monetary policy and its use of the tender technique for new stock issues is not primarily directed to the achievement of short-term monetary control. In the United States, the main emphasis of monetary policy in recent years has been on controlling the narrower monetary aggregates, which the Federal Reserve authorities influence essentially through management of the level of short-term interest rates. There is consequently not the same direct link between government debt management and the chosen monetary target in the United States as there is here, and debt management policy can therefore be directed to a far greater degree to the narrower objective of providing finance for the Government at the lowest cost consistent with maintaining an appropriate maturity

structure. In this context, the use of the tender technique would seem to be designed to deal with the difficulty that can at times arise with a fixed-price offering if market sentiment should change (in either direction) between the announcement of terms and subscription, rather than as a means of keeping up the volume of sales in circumstances of uncertainty without regard to the effect on market yields. On the contrary, in framing its programme of debt sales, the US Treasury pays considerable regard to the advice given by the Federal Reserve authorities, and by the main government securities dealers (who effectively underwrite the tenders and act as intermediaries in on-selling a large part of new issues to final investors) on the capacity of the market to absorb new issues—particularly of longer maturities—without an undue effect on market prices.

A form of tender technique, with a minimum tender price set in line with market yields at the time of announcement of the issue and designed to secure for the Government—through a lower borrowing cost—a part of the benefit from any sharp improvement in market sentiment between the announcement of terms and the date for subscription, was in fact adopted by the Treasury and the Bank for a new issue (12¼% Exchequer Stock 1999) in March 1979. This followed the uniquely heavy oversubscription, resulting from an abrupt reversal in market expectations about the future course of interest rates, of two stocks issued a month earlier. The use of the tender technique for this purpose, however, is basically different from its use to achieve greater short-term control over the growth of the money supply by ensuring the necessary volume of gilt-edged sales in any given period. If that were the objective, it would at times involve pressing ahead with an issue even in a market which was unsettled by outside conditions, and accepting the resulting yield; the objective would in such conditions be likely to be frustrated if there were a minimum tender price, unless it were set on a yield basis substantially higher than the prevailing market level. A change to this method of issue would not of itself help to diminish investors' uncertainties about the future, nor make it easier for them to make a judgment about the future course of yields, and hence about the yield at which they should commit any large volume of funds to long-term fixed-interest investment. Given that they would still have open to them the possibility of buying stock in the secondary market or—because of the continuous nature of the Government's borrowing need—of entering a subsequent tender, by which time the particular uncertainty might have lessened, they could, in uncertain conditions, continue to find it more prudent to stay short and wait. Investors would, therefore, not necessarily enter a tender even of this sort, in the required volume, at the times when it mattered. And to the extent that they did so, it would probably be at prices and yields that discounted an unfavourable outcome in those areas that were the source of uncertainty.

The effect of tenders of this second kind, in terms at least of short-term price volatility, might be somewhat similar to that of a more active policy of moving the official tap price, with similar longer-run implications for the capacity of the market. Used with the object of selling a predetermined volume of stock, the tender technique would have a further corollary. It would run counter to this objective for the Bank itself to enter the tender on any substantial scale; the Bank's own dealings in the market would, therefore, be curtailed and would no longer provide a reservoir for adjusting the level of sales to the level of investor demand as under the present tap arrangements. At the same time, as things stand at present, the gilt-edged jobbers do not have the resources to bid regularly at tenders in amounts that would enable them to assume this function. If the tenders were to be successful, therefore, given the present institutional arrangements in the United Kingdom, virtually all the stock offered would have to be taken up directly by investors—whatever the state of market confidence happened to be—with no large intermediary to cushion the impact on prices. In part, the gap left by the implied change in the Bank's rôle might be filled if the capacity of the present jobbers were to increase or if new intermediaries emerged, perhaps of the kind of short-term dealer in government securities that exists in the United States. Such a development would be unlikely to come about overnight, and the market in gilt-edged stocks could be severely affected in the meantime. But even in the longer term, the change in market structure and the greater short-term price volatility that could result from the tender technique—if used to achieve closer short-term monetary control—might well lead to both reduced marketability and a significant shortening of the maturity structure of government debt. In the conditions envisaged, market-makers might be prepared to run a sizable book in short-dated stocks, but they are less likely to be prepared to take in the longer maturities on the same scale because of the higher risks. Any development in this direction would involve a considerable change in the management of the government debt, in view of the already heavy burden of annual maturities that have to be refinanced.

Because of structural changes in the gilt-edged market that could result from a general shift to tenders, some commentators have alternatively suggested that tender issues might be made on occasion, at times of particular uncertainty rather than as the normal method of issue. This more modest step might still, however, have the disadvantage that it would tend to increase rather than diminish uncertainty. There would be the danger that once the tender technique had been used in the manner suggested, the possibility that it would be used again could damage confidence in a hesitant market on subsequent occasions: prospective buyers might be deterred from investing when they would otherwise have done so, by the fear that a subsequent tender would impose capital losses on them. Experimentation in this area is not, therefore, wholly straightforward.

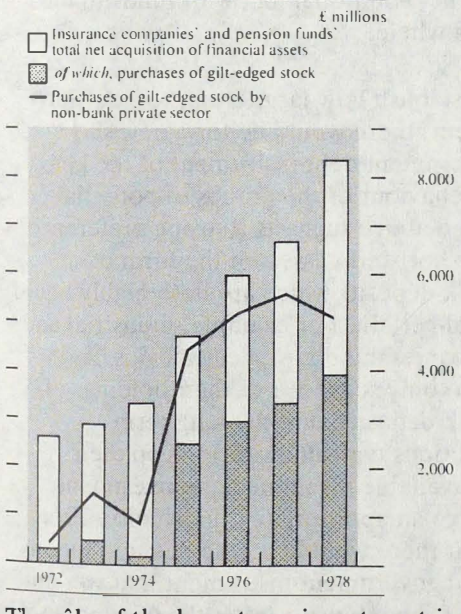
A more direct relationship with the major investors

The suggestions for possible changes in technique discussed so far would maintain the traditional arms-

length nature of the relationship between the authorities and investors in gilt-edged stocks. An entirely different approach would involve a more direct relationship between the Government, as borrower, and major investors, for example, the larger pension funds and life assurance companies. Suggestions under this heading include:

- the negotiation of underwriting of government stock issues by the long-term investment institutions, rather than by the Bank as at present (whether such issues were on a fixed-price or tender basis); and
- the negotiation of direct placings of government stock with the institutions.

Purchases of gilt-edged stock by insurance companies and pension funds



The rôle of the long-term investment institutions in the gilt-edged market has grown rapidly in recent years. Even so, these institutions do not generally account for more than about half of all net purchases of gilt-edged stocks by investors outside the banking system, and their combined holdings of gilt-edged stocks still amounted to only a third of the total nominal amount outstanding at the end of 1977. The institutions do not represent the small, tightly-knit grouping that is sometimes supposed: at the end of 1977 there were some 300 life assurance companies and over 2,000 pension funds in the United Kingdom, with over 100 institutions with assets of over £100 million accounting for two thirds to three quarters of the total long-term institutional investment. Thus, while suggestions of this kind might in principle be applied to a significant part of the Government's gilt-edged market borrowing, they would not of themselves provide a total solution to the funding problem.

A key question—as in the case of the proposal for tenders—is whether the suggested change in new issue technique would in itself make it easier for the long-term investment institutions to maintain their purchases of gilt-edged stocks through periods of uncertainty, without wide fluctuations in interest rates. Other things being equal, there is little reason to suppose that institutional investors would be willing to commit their funds—at times of uncertainty—to fixed-interest stocks offered by way of a placement where they were not prepared to buy the same stock offered by way of a public issue, unless they were given the inducement of a significantly higher yield. Nor is it clear that the institutions could prudently, in the interest of their pension fund members or insurance policyholders, take on the very considerable risks of loss that would be involved in the regular underwriting of government stock issues (which are at present underwritten by the Issue Department of the Bank) on anything like the recent scale, unless they were free to move the underwriting price quite widely to protect themselves in adverse conditions. While, therefore, it is possible to see how this approach could function in market conditions that were reasonably favourable—when the present technique is satisfactory—it is hard to see that arrangements of this sort could be freely negotiated in those conditions where they would be most helpful, without producing much the same effect of greater short-term price fluctuations that would result from the earlier suggestions.

Some suggestions for a more direct relationship between the authorities and major investors would go some way towards displacing a free market and would involve varying degrees of government influence over the decisions taken by the major investors. In the extreme this could extend to statutory direction. It is beyond the scope of this article to discuss the general arguments for and against such an extension of government influence. It is reasonable to assume, however, that the use of such influence would tend, in the first instance, to hold yields on gilt-edged stocks below the level that would otherwise be established in the market; and that this in turn would tend to reduce the attraction of investment in gilt-edged stocks to other investors not subject to similar influence or control. Though it might be possible to achieve in this way a smoother flow of investment in gilt-edged stocks by the major institutions, it would not necessarily follow that gilt-edged sales to the non-bank private sector as a whole would be more regular; nor perhaps that a higher overall volume of sales would be achieved.

The last three suggestions considered—for tenders; for negotiated underwriting of government issues by the institutions; and for some element of direction by the Government of the institutions' investment—have been discussed separately, as logically distinct proposals. In practice, however, this distinction could prove difficult to maintain. The pressures on the Government could tend to lead to a progressive development: in order to avoid the disturbance to interest rates that might be expected to result from the adoption of tenders, there would be a temptation to look for some underpinning of the tenders by institutional investors, and, in negotiating the terms of such underpinning, the Government would need to exercise considerable restraint if a free market was to be preserved. To this extent, therefore, the implications of the various proposals in these areas need to be looked at together.

New forms of gilt-edged instrument

Suggestions advanced for possible new types of gilt-edged stocks fall into two main groups. First, there have been various proposals for new short-term marketable government debt instruments, with maturities ranging from perhaps three months up to about two years. Secondly, some commentators have advocated the introduction of a marketable government stock indexed in some way against inflation.

Short-term instruments

The short-term instruments suggested are principally designed to attract into government debt institutional funds awaiting investment (including longer-term investment in the gilt-edged market) and some part of the liquid resources of industrial and commercial companies currently held with the banking system and so forming a part of the money supply. They could also appeal to personal investors, though in this area particularly they would compete with the range of (non-marketable) national savings instruments already offered by the Government.

At present, there are two marketable short-term central government debt instruments generally available to investors: Treasury bills and gilt-edged stocks approaching maturity. Both Treasury bills and gilt-edged stocks with less than one year to run to maturity are eligible reserve assets for the banking system. They consequently have a particular value to banks as compared with most other short-term assets with which they compete, and their yield, therefore, tends, on occasion, to be bid down to a level unattractive to investors outside the banking system. The suggestion has, therefore, been made that a new instrument could be issued which would not be an eligible reserve asset, and in relation to which—because of the short maturity—a more active pricing policy could be adopted without the implications such a policy would have if adopted in relation to the gilt-edged market generally.

Although there is no central government instrument of this kind available to the market, it is an area which is already quite heavily drawn upon by local authorities, through deposits, mortgages and negotiable bonds, none of which is eligible as a reserve asset. The total of such temporary local authority debt outstanding is around £4 billion, of which some £1½ billion is held by non-bank financial institutions and about £½ billion by industrial and commercial companies and persons taken together. If the central government raised additional funds from outside the banking system by marketing a new short-term instrument, it would be in competition with local authority short-term borrowing; this would tend to limit the net additional inflow of funds to the public sector as a whole.

It is difficult to establish how large a market, outside the banking system, there would be for a new short-term central government debt instrument of the kind proposed. The behaviour of the groups of potential investors identified above suggests a strong preference for holding their short-term assets in the form of conventional bank deposits which are both highly liquid and wholly capital-certain. For example, industrial and commercial companies' holdings of certificates of deposit amount to only some 5% of their holdings of conventional bank deposits; and the long-term investment institutions typically wish to keep their liquid resources available for immediate investment when they perceive an appropriate opportunity. This might suggest that there would be little demand for any short-term central government instrument that was not a close substitute for bank deposits. If the Government offered such a close substitute, this would not produce a meaningful reduction in the liquidity of the economy. If

Local authority short-term debt by type of holder[a]

£ millions: *amounts outstanding at end-year*

	Total	*of which:*[b]						
		Banking sector	Building societies	Insurance companies	Other financial institutions	Industrial and commercial companies	Personal sector	Other
1972	2,408	475	298	83	329	359	294	330
1973	3,274	660	346	236	460	483	266	541
1974	3,976	376	741	582	465	484	242	704
1975	3,758	371	649	362	524	459	211	746
1976	4,349	497	452	407	768	579	243	974
1977	3,013	332	842	269	110	229	203	585
1978	3,872	632		1,405		387	233	716

[a] Includes all loans repayable within one year of their inception.
[b] Excluding revenue bills.

Distribution of main sterling liquid asset holdings at end-1978

£ millions

	Bank deposits	Building societies	Other financial institutions	National savings	Local authority debt	Tax instruments	Treasury bills and gilt-edged stocks
Holders							
Persons	24,174	36,616	4,578	11,238	233	146	..
Industrial and commercial companies	11,904 [a]	337	230	—	665	763	509
Insurance companies[b]	1,537		139	—	269	..	10[c]

.. not available.

[a] *of which,* certificates of deposit £440 million.
[b] 1977 book value (net).
[c] Treasury bills only.

holdings of the new instrument were excluded from the definition of sterling M_3 (which does include certificates of deposit issued by banks), the growth in sterling M_3 might statistically be reduced; but this effect would be seen by the financial markets as largely optical.

To attract such liquid funds into a less liquid asset, the Government would need to offer a higher yield. Indeed, action has already been taken to make both national savings instruments and certificates of tax deposit more attractive. The contribution that a new general-purpose, short-term, marketable security could make would depend in part on how far this higher cost was regarded as acceptable.

Indexation

The final suggestion to be considered is some form of index-linked marketable government security. There is little doubt that an appropriately priced, inflation-proofed marketable security could be attractive to a wide range of investors. This is not because it would necessarily yield a higher return to maturity than a conventional fixed-rate security—that would be difficult to judge in advance and would depend upon whether, in the event, the future rate of inflation proved to be greater or less than the rate presently discounted in nominal market yields. (By the same token, the real cost to the borrower would also be difficult to predict in advance and might prove to be greater or less than on a conventional stock.) The attraction would be that the 'real' rate of return to maturity would be fairly clear; this would provide a measure of protection to investors, and would be particularly attractive to institutional investors such as pension funds whose liabilities also rise with inflation. It would also mean that investors would be substantially protected against capital loss as a result of a fall in the market price arising from an upward shift in inflationary expectations (though not from price fluctuations associated with changes in real interest rates). This characteristic particularly means that indexed gilt-edged stocks would remain attractive to investors when they feared accelerating inflation, which is the predominant cause of interruption to the government funding programme at present. The introduction of indexed stocks almost certainly could in principle, therefore, make an important contribution to smoothing the pattern of official gilt-edged sales.

The question of an indexed stock cannot, however, be looked at solely in this narrow context. Frequent recourse to an instrument of this type—and once a start had been made down this road it would be difficult to draw back in future conditions of uncertainty—would create considerable pressure for indexation in the capital markets more generally. There is room for differences of view about how far the introduction of indexed gilt-edged stocks would lead to the spread of indexation through the economy as a whole. But if this were a significant possibility, the authorities would need to be assured that the implications of indexation (e.g. for the tax structure, for the financing of industry, etc.) were fully understood and that the economic and social consequences were acceptable. Whether or not the generalisation of indexation through the economy would be advantageous is a question that probably cannot be answered in an absolute sense: it would depend to a considerable extent upon the prospect for the development of the economy, in the light of the other available policy options, at the time. But it is not the purpose of this article to discuss that much wider question: the immediate point is that the argument for indexed gilt-edged stocks needs to be made in that wider context, and not considered solely as an expedient to facilitate gilt-edged market management.

Conclusion

The purpose of this article has been to explain the evolution of the rôle of gilt-edged market management, and of the techniques and instruments employed, during the past decade or so; and to contribute to the public discussion of certain possible further developments.

Present policies have enabled the funding in the gilt-edged market of the Government's borrowing requirement—which has itself been very large—to make an important contribution to the objective of controlling the trend in the growth of the money supply over the past years. Closer month-by-month control over the growth of sterling M_3 is not, however, achievable. One reason for this—but one reason only among others—is because the contribution of gilt-edged funding can be interrupted from time to time as a result of a weakening of confidence among investors, particularly relating to the outlook for inflation and the adequacy of economic and financial policies to contain it, which makes yields seem unattractive. Steps have, however, been taken to secure a smoother flow of government funding and to moderate the effect of such interruptions.

The latter part of the article has discussed various suggestions for further change put forward with the aim of improving the authorities' capacity for short-term monetary control, and of reducing the risk of the authorities having to accept interest-rate fluctuations, or to take preventive policy action, not justified by the underlying economic circumstances. Some at least of these suggestions would seem likely to add to, rather than diminish, the short-term volatility of interest rates without necessarily leading to greater stability, or to lower interest rates, over the somewhat longer term. Most of the suggestions that have been put forward would be likely to have far-reaching implications—for the structure and capacity of the gilt-edged market in the longer term, for the nature of the relationship between the Government and the major institutional investors, or for economic management in general—and the question arises whether the objectives aimed at justify such possible consequences.

As noted earlier, erratic, short-run, month-to-month fluctuations in the rate of growth of sterling M_3, or indeed of any other monetary aggregate, may derive

from a number of causes, and are not likely in themselves to be important. Monetary control is therefore properly directed to the trend of monetary growth over a longer period. As this emphasis becomes more widely understood, and provided that investors are convinced that the authorities are prepared to take the steps necessary to maintain this control, unjustified reaction in the gilt-edged market to erratic short-term fluctuations in monetary growth may diminish. While there may, nevertheless, be scope for further technical changes in gilt-edged market management, which are designed to improve the authorities' capacity for shorter-term monetary control, one cannot properly expect that such changes will serve in place of substantive policy changes that become necessary from time to time in other areas.