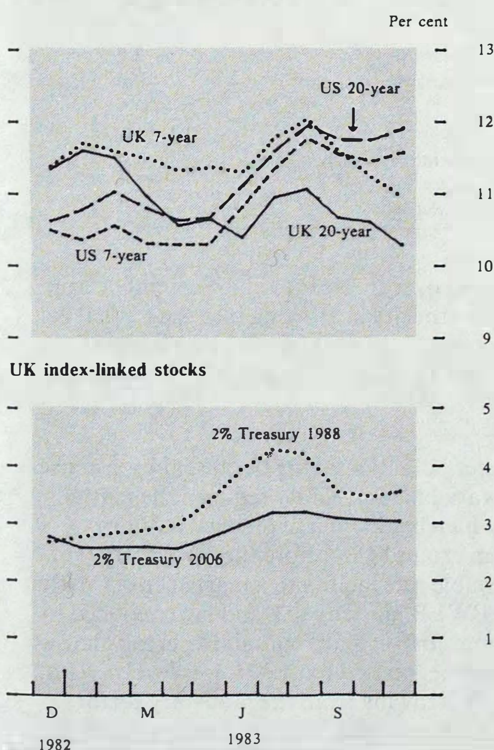
Operation of monetary policy

This article covers the three months from mid-August to mid-November 1983.

Monetary growth decelerated further during the period under review. Sterling M_3 came down to within the target range; and M_1 and PSL_2 also grew more slowly, though they remained above target for the period since mid-February as a whole. Other monetary aggregates also showed moderate growth, while among the other indicators of monetary conditions, the exchange rate was steady, and price developments and prospects remained satisfactory (see Economic commentary on page 465). Interest rates declined modestly.

The main expansionary influence on the broad monetary aggregates was the high PSBR; monetary policy operations were therefore aimed at maintaining a sufficient rate of government funding to offset this influence. This objective implied continued substantial official resort to the gilt-edged market, which was still digesting the heavy sales that had been made in the preceding three months.

Gross redemption yields on government stocks *in the United Kingdom are now below those in the United States.*



In the event further heavy gilt-edged sales were achieved without preventing a further fall in yields. Indeed, sales of central government debt in all forms (but mainly gilt-edged stocks) to the non-bank private sector were even higher than in the preceding three months.

There were very heavy inflows of funds into building societies. Ordinary share rates had been increased as from 1 July, and in addition individual societies increasingly offered more attractive terms on shares of other kinds. Moreover, they drew further amounts from the wholesale money markets. Though the pace of building society lending was little changed, the rate of lending commitments increased.

The accumulation of evidence that monetary growth was moderating from its earlier excessive rate, associated with the continuing success of the funding programme, helped to ease market concern about a possible rise in short-term interest rates which had been evident during July and early August. Indeed, by mid-September, expectations of a fall in short-term interest rates developed and the discount houses began offering bills to the Bank in its daily money-market operations at rates below those at which it had been dealing earlier. The authorities responded cautiously at first to this pressure, just as they had resisted market pressure for higher rates in July. By early October, however, monetary conditions in the United States appeared more settled and there were indications that the money figures for banking September would be encouraging. On that basis, and in the light of other indicators of monetary conditions, the authorities acquiesced on 3 October in a $\frac{1}{2}\%$ fall in short-term interest rates.

Over the period as a whole, long-dated gilt-edged yields fell by $\frac{3}{4}\%$, to $10\frac{1}{8}\%$ (for twenty-year stocks), and money rates by about $\frac{1}{2}\%$, so that the three-month interbank rate ended the period at $9\frac{5}{16}\%$.

Monetary effects of the financing of local authorities

In August 1982 the Public Works Loan Board (PWLB) introduced a new variable rate loan facility for local authorities at a fixed margin above the three-month London interbank offer rate (LIBOR) for periods of three to ten years (see page 353 of the September 1982 *Bulletin*). Net borrowing under this and the existing fixed-rate facility totalled £4.7 billion over the fifteen months to end-October 1983, compared with net repayments of £1.2 billion over the preceding fifteen months.

Any borrowing by local authorities contributes to the public sector borrowing requirement (PSBR), but its monetary effects depend on the source of the borrowed funds. If local authorities finance a given borrowing requirement from the non-bank private sector, then there is no direct effect on sterling M_3 because the expansionary effect of the borrowing is offset by the contractionary effect of the debt sales to the private sector. (There may, however, be an effect on PSL_2 if the borrowing is short-term and from the non-bank private sector.) Borrowing from banks and central government is an expansionary influence on sterling M_3.

There is an important difference for the money market between the effects of local authorities' borrowing from the banks and from the central government. In the latter case the net flow of funds from the banks to the government is smaller (or the net flow to the banks is larger) and the daily cash shortages in the money market correspondingly smaller (or the surpluses larger). In recent circumstances, in which persistently large cash shortages have created difficulties for money-market management, the redirection of local authority borrowing from the banking system to the PWLB has been very helpful. This was one of the reasons why the PWLB variable rate facility was introduced last year.

There were, however, potential risks in introducing such a facility. Local authorities might be tempted to use it for arbitrage—borrowing and redepositing the proceeds in the money markets. The terms of the facility, therefore, were set to ensure that such operations cannot be undertaken at a profit. Moreover, it is likely that some of the funds borrowed under the PWLB facility will be used to repay borrowing from the non-bank private sector. To the extent that this happens it will have expansionary monetary effects, though of course they are offset if the central government expands its own debt sales correspondingly.

The net changes in local authorities' various assets and liabilities over the year to end-September are shown in the table.

These figures show that the local authorities have, as intended, used the excess of funds raised from the PWLB above their borrowing requirement principally to repay debt to the banks. In addition, some local authorities may have borrowed from the PWLB to take advantage of lower long-term interest rates (even though their cash position was seasonally strong), and used some of the proceeds either to repay temporary debt, most of which is borrowed from the non-bank private sector, or to build up bank deposits; but such borrowing, in anticipation of future needs, appears to have been rather modest. It is unlikely that the increase in bank deposits reflected arbitrage operations using the variable rate facility, as this would not have been profitable.

Besides its helpful effects on conditions in the money market, the PWLB variable rate loan facility has reduced costs for the public sector as a whole.

The cost savings arise in two ways. First, as local authorities switch borrowing from banks to the PWLB (in whatever form), and as, in consequence, the authorities need to buy fewer bills from the banking system, the scale of dealings by the public sector as a whole with the banks is reduced and costs of intermediation lowered.

Local authority borrowing and bank deposits

£ billions

	1982 Q4–1983 Q3
Borrowing from PWLB	+3.9
of which, variable rate	*+0.9*
Borrowing from monetary sector	−2.6
Borrowing from non-bank private sector	−0.8
Other borrowing	+0.5
Local authority borrowing requirement	**+1.0**
Local authorities bank deposits	+0.2

The saving arising over the year to end-September from switching local authority borrowing into the PWLB is estimated at some £20–25 million, of which some £5 million may be attributable to the PWLB variable rate facility.

There is a further potential saving because the existence of the PWLB variable rate facility reduced the margins over LIBOR which banks charge on local authority borrowing from around $\frac{7}{8}\%$ before the introduction of the PWLB variable rate facility to a margin closer to that offered by the PWLB, initially $\frac{3}{8}\%$ and later reduced to $\frac{1}{8}\%$. And the margins on loans containing break clauses may have been renegotiated to these lower levels. With local authority borrowing from the monetary sector (excluding bills) of around £7 billion, this reduction in margins could, in due course, save perhaps £50 million a year.

Total interest savings to the public sector arising from the changes in local authority borrowing patterns over the year to mid-September could amount in due course to £70–75 million a year. Of this, £50 million or more can be ascribed to the PWLB variable rate facility.

Table A
Growth of the monetary aggregates
Percentage increases (annual rates); *seasonally adjusted*

Banking months	Mar. 83– May 83	June 83– Aug. 83	Sept. 83– Nov. 83	Mar. 83– Nov. 83(a)
Wide monetary base, M_0	5.2	8.5	8.6	7.4
Non-interest-bearing M_1	10.6	10.2	7.3	9.3
M_1	16.5	11.9	8.0	12.1
M_2				7.6(b)
Sterling M_3	13.8	11.1	6.5	10.5
PSL_1	17.1	9.2	6.0	10.6
PSL_2	18.1	11.3	7.5	12.2
M_3	11.4	11.3	9.2	10.6

(a) First nine months of current target period.
(b) Change over 12 months to mid-November 1983 (not seasonally adjusted), on the new definition described in the note on page 78 of the March *Bulletin*.

Table B
Composition of changes in the money stock
£ billions; *seasonally adjusted*

	Banking months	Mar. 83– May 83	June 83– Aug. 83	Sept. 83– Nov. 83	Level at mid-Nov. 83
1	Non-interest-bearing M_1	+0.7	+0.7	+0.5	30.7
2	Interest-bearing sight deposits	+0.8	+0.4	+0.3	11.3
3	M_1 (1+2)	+1.5	+1.1	+0.8	42.0
4	Other private sector sterling deposits	+1.8	+1.2	+0.6	55.5
5	Private sector holdings of sterling M_3 (3+4)	+3.3	+2.3	+1.4	97.5
6	Public sector sterling deposits	−0.2	+0.2	+0.2	2.5
7	**Sterling M_3 (5+6)**	**+3.1**	**+2.6**	**+1.6**	**100.1**
	Non-bank private sector holdings of:				
8	Treasury and commercial bills	+0.1	+0.6	−0.3	0.9
9	Local authority debt	+0.3	−0.4	+0.2	2.2
10	CTDs and certain national savings instruments	+0.1	−0.2	+0.4	10.0
11	Building society:				
	Shares and deposits(a)	+1.9	+2.2	+2.2	58.5
	Wholesale liabilities(b)	—	+0.3	+0.2	0.5
	Liquid assets (increase −)	+0.6	−0.5	−1.1	4.7
12	**PSL_2 (5 + sum of items 8 to 11)(c)**	**+6.4**	**+4.3**	**+2.9**	**163.5**

(a) Other than term shares; including interest credited.
(b) CDs and time deposits.
(c) Sterling bank deposits with maturity of over two years must also be deducted; there were £1.5 billion at mid-Nov. 1983.

Table C
Sterling M_3 and its counterparts
£ billions; *seasonally adjusted*

	Banking months	Dec. 82– Feb. 83	Mar. 83– May 83	June 83– Aug. 83	Sept. 83– Nov. 83
1	Central government borrowing requirement(a)	+1.8	+5.4	+3.9	+3.5
2	Other public sector(a)	−0.4	−1.4	−1.0	+0.3
3	Purchases (−) of central government debt by the non-bank private sector	−2.0	−1.6	−3.0	−4.6
	of which:				
	Gilt-edged stocks	*−0.8*	*−0.9*	*−2.8*	*−3.3*
	National savings	*−1.1*	*−0.5*	*−0.4*	*−1.1*
4	External and foreign currency finance of the public sector(b)	−1.5	−0.4	−0.2	−0.1
5	Sterling lending to the private sector	+3.3	+1.9	+3.0	+3.7
6	Banks' external and foreign currency transactions	+1.1	+0.5	−0.4	−0.4
7	Net non-deposit liabilities (increase−)	−0.5	−1.3	+0.3	−0.9
8	**Sterling M_3**	**+1.9**	**+3.1**	**+2.6**	**+1.6**

(a) The sum of rows 1 and 2 is the PSBR, *less* net purchases of local authority and public corporation debt by the non-bank private sector.
(b) Net overseas purchases of public sector debt, *less* the public sector's net acquisition of claims on the overseas sector.

Monetary aggregates and credit

The figures in this section are seasonally adjusted, unless otherwise stated.

Over the first nine months of the target period, from mid-February to mid-November, the broader aggregates tended to grow faster than the narrower ones (Table A). The lowest growth rates were recorded by the non-interest-bearing aggregates M_0 and non-interest-bearing M_1; sterling M_3, M_3 and PSL_1 all grew at annual rates of around $10\frac{1}{2}\%$ and PSL_2, which includes certain building society shares, grew at an annual rate of 12.2%. The only exception was M_1, which grew at an annual rate of 12.1%, on account of very fast growth of interest-bearing sight deposits. M_2 grew relatively slowly over the year to mid-November.

The main feature of the period under review was the very heavy inflow of funds from the non-bank private sector into building societies, which amounted to some £3.9 billion over the three months. In spite of this, PSL_2 grew only modestly faster than sterling M_3. Much of the societies' inflow (some £1.5 billion) was into term shares, which are not included in PSL_2—a number of societies made a special offer of term shares as from 1 September. More important, the societies used part of the considerable excess of their net inflows over their mortgage lending during the period to increase their holdings of bank deposits and CDs; these are already included in sterling M_3 so the liabilities that finance them are therefore not counted again in the calculation of PSL_2 (Table B).

Turning to the credit counterparts to broad monetary growth (Table C), the PSBR[1] was some £3.8 billion, more than in the preceding three months. The increase was accounted for by higher borrowing by the central government on its own account and by public corporations, partly offset by lower local authority borrowing. Net purchases of central government debt by the non-bank private sector, at £4.6 billion, exceeded the PSBR by £0.8 billion; and in addition, external and foreign currency finance of the public sector was contractionary by £0.1 billion, on account of net foreign currency borrowing by the public sector.

In spite of the rise in the PSBR, the pace of sterling bank lending to the private sector quickened: the increase during the period under review was £3.7 billion, compared with £3.0 billion in the preceding three months. The month-to-month changes in bank lending have, however, been erratic, and this increase may not be significant. Personal lending accounted for some £$1\frac{1}{2}$ billion of the total, of which about half was for house purchase.

Building society mortgage lending continued at a rate of some £$2\frac{1}{2}$ billion a quarter during the period under review—lower than the £3 billion a quarter recorded early in 1983, notwithstanding the recovery in the societies' liquidity since the summer when they began to take funds from the wholesale money markets and when they raised their share and deposit rates. The rate of new commitments for mortgage advances has, however, gone up since the summer, and this suggests that the rate of lending may rise in due course. Meanwhile, societies have used the excess of borrowed funds over mortgage advances to build up their liquidity.

(1) Strictly, the PSBR less net purchases of local authority and public corporation debt by the non-bank private sector.

Table D
Influences on the cash position of the money market[(a)]

£ billions; *not seasonally adjusted*
Increase in the market's cash +

Banking months	June 83– Aug. 83	Sept. 83– Nov. 83	Dec. 82– Nov. 83
Factors affecting the market's cash position			
CGBR(+)(b)	+5.0	+2.8	+15.1
Net sales of central government debt(c)(−)	−3.7	−4.9	−12.5
of which:			
Gilt-edged	*−3.5*	*−3.3*	*− 9.3*
National savings	*−0.5*	*−1.1*	*− 3.2*
Other	*+0.3*	*−0.4*	—
Currency circulation (increase −)	−0.3	—	− 0.8
Other	+0.2	+0.1	− 0.9
Total(A)	**+1.2**	**−2.0**	**+ 0.8**
Official offsetting operations			
Net increase(+) in Bank's holdings of commercial bills(d)	−1.2	+2.1	− 0.9
Net increase(−) in Treasury bills in market	−0.3	+0.3	+ 0.3
Other	+0.3	−0.2	—
Total(B)	**−1.1**	**+2.1**	**− 0.6**
Change in bankers' balances at the Bank (A+B)	+0.1	+0.1	+ 0.1

(a) Components may not add up to totals because of rounding.
(b) The PSBR *less* purchases of local authority and public corporation debt by the non-bank private sector, of which the CGBR is the major part, was £4.0 billion in June–August 1983, £3.1 billion in September–November 1983 and £12.7 billion in December 1982–November 1983 (banking months).
(c) Other than Treasury bills.
(d) By the Issue and Banking Departments of the Bank of England.

Table E
Official transactions in gilt-edged stocks[(a)]

£ billions; *not seasonally adjusted*

Banking months	Dec. 82– Feb. 83	Mar. 83– May 83	June 83– Aug. 83	Sept. 83– Nov. 83
Gross official sales(b)	+2.3	+3.1	+4.1	+4.2
less				
Redemptions and net official purchases of stock within a year of maturity	−1.5	−1.4	−0.7	−0.9
Equals net official sales(c)	+0.8	+1.7	+3.5	+3.3
of which, net purchases by:				
Monetary sector(c)	*−0.6*	*+0.5*	*+0.3*	—
Overseas sector	*+0.6*	*+0.3*	*+0.3*	—
Non-bank private sector	*+0.8*	*+0.9*	*+2.8*	*+3.3*

Note: Sales are recorded in this table on a payments basis, so that payments made on partly-paid stocks are entered when they are paid rather than at the time of commitment to make the payment.
(a) Components may not add to totals because of rounding.
(b) Gross sales of gilt-edged stocks are defined as net official sales of stocks with over one year to maturity apart from transactions under purchase and resale agreements.
(c) Apart from transactions under purchase and resale agreements.

Official operations in financial markets

The figures in this section are not seasonally adjusted, unless otherwise stated.

In the period under review, the authorities' main operational objective continued to be to secure an adequate volume of government debt sales to restrain monetary growth. For the money market, the achievement of this funding objective, in combination with the seasonally low CGBR, meant that an increase was needed in the amount of official assistance to the market.

Net official sales of government debt (other than Treasury bills) were as high as £4.9 billion (Table D), with national savings raising £1.1 billion, considerably more than earlier in the current target period. Gross official sales of gilt-edged stocks, which amounted to £4.2 billion (Table E), were partly offset by official purchases of a further £0.9 billion of the £3.4 billion of stock due to mature between 22 November 1983 and 20 February 1984. Net official sales of gilt-edged stocks to all sectors therefore amounted to £3.3 billion. All of this was accounted for by purchases by the non-bank private sector; that sector bought some £4.6 billion of government debt in all forms over the three months. The overseas sector bought no gilt-edged stock on balance, but owing to a small rise in public sector foreign currency borrowing, external and foreign currency finance of the public sector was contractionary by £0.1 billion.

Additional official assistance to the money market of £2.1 billion was needed, and was virtually all provided by an increase in the Bank's holding of commercial bills (Table D). This brought the outstanding total of official assistance to the money market, other than that extended through operations in Treasury bills, to some £8¾ billion.

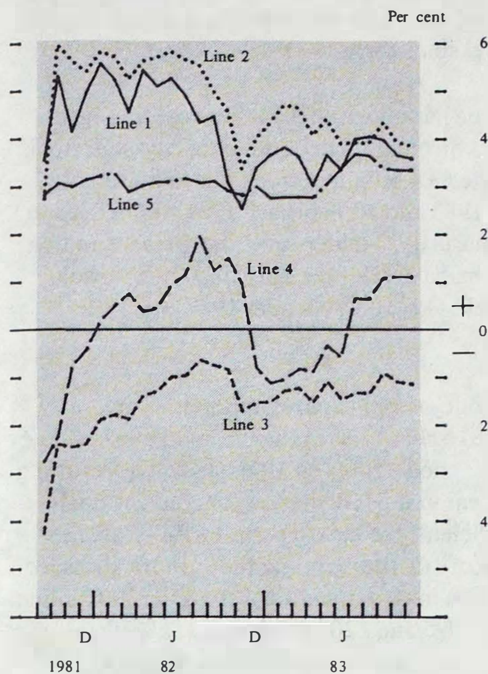
Over the twelve months to mid-November, during which sterling M_3 grew by 10%, there was a net reduction of £0.6 billion in official assistance to the money market (last column of Table D). This reduction was possible because the CGBR of £15.1 billion was a large positive influence on the money market's cash position, even though the PSBR, which is the public borrowing total relevant to decisions about government funding, was considerably smaller. Since 1982, official policy has sought to increase the CGBR in relation to the PSBR, for a variety of reasons including the desire to facilitate the management of the money market. The monetary effects of local authority financing are discussed on page 478.

The money market

In mid-August, the beginning of the period under review, the market was concerned about a possible rise in the general level of short-term interest rates, though this concern was less acute than it had been earlier in the summer when monetary developments both domestically and in the United States had seemed particularly threatening. Concern was reflected in the shape of the money-market yield curve, which sloped upwards from 9$\frac{7}{16}$% for one-month money to 10½% at one year.

Sentiment gradually improved, however, influenced by the evident success of the government's funding programme, and the consequent slowdown in monetary growth in the United Kingdom, and by a sequence of generally encouraging US money supply

Real interest rates *have remained steady.*



Line 1 One year interbank deposit rate *minus* the expected rate of retail price inflation over the following year.

Line 2 The London clearing banks' base rate *plus* 1% *minus* the expected rate of inflation.

Line 3 The London clearing banks' base rate *plus* 1%, divided by two to allow for the deductibility of interest payments for corporation tax purposes *minus* the expected rate of inflation.

Line 4 The building society ordinary share rate, net of basic-rate income tax, *minus* the expected rate of inflation.

Line 5 The gross real redemption yield on 2% Index-Linked Treasury Stock 1996.

Measures of real interest rates are discussed in the note on page 471, and also in the December 1982 *Bulletin*, page 483.

figures. As a result, the one-year interbank rate fell early in September, so that the yield curve in the interbank market became more nearly flat, and around mid-September expectations of a cut in the general level of short-term interest rates developed in the bill market. The discount houses began offering bills to the Bank at rates below those which it had been accepting in earlier dealings.

The authorities responded cautiously to this pressure for lower short-term interest rates. Although heavy funding had been achieved in banking September, they were anxious to have some indication that moderate monetary growth had continued during that month and that US monetary conditions had become more settled before acquiescing in a fall in interest rates.

During this period, the discount houses, expecting a fall in short-term interest rates at some stage in the near future, were keen to retain paper in the longer maturity bands rather than to sell it to the Bank. As a result, the average maturity of the Bank's assistance in the money market (in the form of outright purchases of shorter-term bills, short-dated bill purchase and resale transactions, and lending directly to the discount houses) became shorter, and the daily shortages of cash in the money market grew larger; the average shortage in banking October was £480 million, compared with £270 million in banking September.

Despite the Bank's caution in reacting to the market pressure for lower rates, it continued to receive offers of bills at rates below those at which it had previously been dealing, and on 3 October the Bank accepted offers at rates up to $\frac{1}{2}$% below its earlier rates. This led to immediate announcements from the clearing banks that their base rates would be cut by $\frac{1}{2}$%, to 9%; thereafter, money-market rates fell into a pattern consistent with the new general level of short-term interest rates.

From then until the end of the period, market conditions were very quiet, with no expectation of any further change in either direction in the general level of short-term interest rates.

Over the three months interest rates fell, with the larger falls being at the longer maturities. In the interbank market the one-month rate fell from $9\frac{7}{16}$% to $9\frac{7}{32}$%, the three-month rate from $9\frac{25}{32}$% to $9\frac{5}{16}$% and the one-year rate from $10\frac{1}{2}$% to $9\frac{11}{16}$%. Clearing bank base rates fell from $9\frac{1}{2}$% to 9%. Building society mortgage rates remained at $11\frac{1}{4}$%, and ordinary share rates at $7\frac{1}{4}$% but, increasingly, individual societies offered more attractive terms on other kinds of share.

The gilt-edged market

For five months before the beginning of the period under review the authorities had aimed for and achieved an exceptionally high rate of gilt-edged sales, which might have left the market vulnerable to a setback. In the early part of the period, however, financial developments in the United States were almost continuously favourable, and with investors retaining their underlying confidence in the UK financial outlook, despite still rapid monetary growth and high government borrowing, it proved possible to maintain the rate of official sales. Demand for stock slackened, however, around mid-September, partly reflecting a shortage of cash among investors, and the authorities moderated their sales somewhat in order not to damage market sentiment. Prices

remained steady; indeed, market demand for stock revived towards the end of the period, and the yields on very long-dated stocks fell back to their lowest level since early 1973.

The authorities began the period with £0.5 billion of gilt-edged funding already secured through earlier sales of partly-paid stock. Against that, some of the £3.4 billion of stock due to mature between 22 November 1983 and 20 February 1984 would need to be bought in ahead of maturity. To help meet the further funding requirement, the Bank had available for sale substantial unsold amounts of two tap stocks—2½% Exchequer 1987 and 9½% Treasury 1988 'A'.

The encouraging US money supply figures announced on 12 August had prompted a sharp rise in the US bond market. They were followed by further good figures on 19 August. The resulting improvement in sentiment in the UK market for conventional stocks did not seem sufficiently secure to permit a full-scale new issue, but in order to secure further funding the authorities issued on 22 August £500 million in two tranches of stock—£300 million of 12% Treasury Stock 1995 and £200 million of 11¼% Treasury Stock 2003/07. In the event there was no immediate demand for these tranches, though market interest in index-linked stocks, which had begun to revive late in July, strengthened and was met in part by sales from the Bank's portfolio.

The market in conventional stocks revived on 5 September after another encouraging US money supply figure, and this was followed the next day by provisional figures showing low UK monetary growth in banking August. Substantial demand developed both for the tranches and for the unsold tap stocks: the longer-dated tranche was sold out on 6 September and the 1988 tap stock two days later.

Demand for index-linked stocks persisted, and on 7 September the Bank announced tranches of £100 million each of the stocks maturing in 2001, 2003 and 2009 in order to be able to meet it. The tranches served to increase the marketability of these stocks, of which only small amounts had been in issue, as well as helping to meet the government's funding needs.

The main demand, however, continued to be in the conventional sector, and on Monday 12 September, following yet another encouraging US money supply figure published the preceding Friday, the authorities announced a new short tap stock, £1,000 million of 10% Treasury Stock 1987.(1) This stock was issued in partly-paid form in order to spread the calls on investors' liquidity, which were already heavy in banking September. A substantial amount of the stock was sold at the tender on 15 September and the remainder was sold in the secondary market in the first four days of trading as the market advanced further. Moreover, official supplies of 2½% Exchequer 1987 were exhausted on 16 September.

Gross official sales of stock in banking September having been well over £2 billion, the highest total on record for a banking month, the market's potential vulnerability was increased. Nevertheless the market remained buoyant early in banking October, influenced by hopes of lower UK interest rates, by the successful sale of BP

(1) An additional £100 million was issued and reserved for the National Debt Commissioners.

Table F
Issues of gilt-edged stock

Stock	Amounts issued (£ millions)	Date announced	Method of issue	Date issued	Price per £100 stock (£)	Payable per £100 stock: Initial payment (£)	Payable per £100 stock: Further instalments (£)	Redemption yield (per cent)	Date exhausted
12% Treasury 1995	300	22/8	Direct to Bank	22/8	—	—	Fully paid	—	12/9
11¾% Treasury 2003/07	200	22/8	Direct to Bank	22/8	—	—	Fully paid	—	6/9
2½% Index-Linked Treasury 2001	100	7/9	Direct to Bank	7/9	—	—	Fully paid	—	21/9
2½% Index-Linked Treasury 2003	100	7/9	Direct to Bank	7/9	—	—	Fully paid	—	19/9
2½% Index-Linked Treasury 2009	100	7/9	Direct to Bank	7/9	—	—	Fully paid	—	19/9
10% Treasury 1987	1,100(a)	12/9	Minimum price tender	15/9	97.00	20	40 (17/10) 37 (14/11)	11.00	21/9
9¾% Treasury Convertible 1988	1,000	26/9	Minimum price tender	29/9	96.50	30	30 (31/10) 36.50 (5/12)	10.72(b)	9/11
2½% Index-Linked Treasury 2020	750	12/10	Direct to Bank	12/10	91.50	30	30 (7/11) 31.50 (12/12)	2.90(c)	—
3% Treasury 1986	100	28/10	Direct to Bank	28/10	—	—	Fully paid	—	10/11
2½% Exchequer 1987	150	28/10	Direct to Bank	28/10	—	—	Fully paid	—	11/11
10% Exchequer 1989	1,150(d)	11/11	Minimum price tender	16/11	97.00	20	40 (14/12) 37 (16/1/84)	10.72	—

(a) Of which £100 million was reserved for the National Debt Commissioners.

(b) Yield to 1988. Holdings may, at the option of the holder, be converted in whole or in part into 9½% Conversion Stock 2002, as on the following dates:

Date of conversion	Nominal amount of 9½% Conversion 2002 per £100 nominal of 9¾% Treasury Convertible 1988	Implied redemption yield (%)
14 June 1984	£100	9.93
14 December 1984	£98	9.73
14 June 1985	£96	9.55
14 December 1985	£94	9.38
14 June 1986	£92	9.22

(c) Real yield.

(d) Of which £150 million was reserved for the National Debt Commissioners.

shares by the government and by the encouraging results of the US Treasury debt auctions. Against this background on 26 September the authorities announced the issue of £1,000 million of 9¾% Treasury Convertible Stock 1988, convertible into 9½% Conversion Stock 2002. The issue was again made in partly-paid form to avoid an excessive immediate drain on investors' liquidity. In the event, though there was substantial demand for the stock at the tender and later in the secondary market, official supplies were not exhausted until 9 November. Conditions became quieter as the market digested the heavy official sales of stock, though prices remained steady.

Market interest in index-linked stocks persisted, and the tranches which had been issued on 7 September were all exhausted by 21 September. To be in a position to meet further demand for such stock as it emerged, the authorities announced, on 12 October, the issue direct to the Bank of £750 million of 2½% Index-Linked Treasury Stock 2020—the longest gilt-edged maturity in issue.

In response to continuing demand for short-dated low-coupon conventional stock, the authorities announced small tranches of further stock on 28 October—£100 million of 3% Treasury Stock 1986 and £150 million of 2½% Exchequer Stock 1987—to replenish official supplies. Steady demand for stocks of this type continued, and official supplies of these tranches were exhausted by 11 November.

Sentiment in the market for conventional stocks improved after mid-October, partly in the light of the Chancellor's remarks about inflation in his Mansion House speech on 20 October and his statement that the Government's ultimate objective was price

The real yield on index-linked gilt-edged stocks

There are several possible ways of estimating the real yields on index-linked gilt-edged stocks and various methods are in use at present. As a result, different figures have been published in brokers' lists and in newspapers; the differences are generally larger for shorter-dated stocks.

In principle, the notion of a real yield to redemption which is independent of the change in the level of the retail price index (RPI) between issue and redemption of a stock is straightforward: the yield is calculated in the same way as for a conventional stock except that the calculation is in index-linked rather than money terms.

In practice, however, the calculation has to take account of the fact that the indexation of dividend and redemption payments on index-linked gilt-edged stocks is delayed by eight months. The main reason for this lag is the need to ensure that the rate of accrual of interest in money terms is known before trading starts in a six-month dividend period; but in addition, the RPI relating to a given month is available only after the lapse of a month, and an additional month is allowed in case there are delays in the publication of the RPI. The existence of this eight-month lag means that any calculation of real yields on index-linked gilts must involve some assumption about the future rate of change of the RPI.

Complicated techniques for forecasting the RPI to arrive at such an assumption would serve little purpose in this context. Such forecasts may in any case have little value in relation to stocks with ten or more years to redemption.

Two broad approaches to this problem have emerged. Either some explicit constant rate of inflation is assumed to hold from some suitable date (the 'explicit method') or alternatively it is assumed that the rate of inflation in the recent past will continue until the stock is redeemed (the 'implicit method').

Within the explicit method there are two broad lines of approach. Either a nominal yield can be calculated from projections of the money value of the dividend payments, and then reduced to a real yield by making due allowance for the assumed rate of inflation; or the real values of the dividend payments can be projected directly and a real yield calculated from them. For constant assumed future rates of inflation these approaches should produce the same result, though the former approach more easily takes account of differences among individual stocks in the timing of dividend payments. Further minor variations have involved, for example, the date at which the constant rate of inflation is assumed to start, and methods of choosing which constant rate of inflation to assume.[1] Even if the constant rate of inflation is assumed to begin immediately, some assumption must nevertheless be made about inflation since the last date for which an RPI figure is available.

The implicit method has the disadvantage that it is vulnerable to erratic fluctuations from month to month in the recorded RPI figures, which are reflected in corresponding fluctuations in the calculated yields.

Against this background, the Bank has been exploring the scope for some convergence in the methods of calculation used in the market and to that end has been keeping in close touch with the work of the Fixed Interest Subcommittee of the Joint Index and Classification Committee of the Institute of Actuaries and the Faculty of Actuaries, which has been examining calculations of real yields in the context of its work on the actuaries' indices.

The Subcommittee has opted for the explicit method using alternative assumed constant annual rates of inflation of 5% and 10%. There is no particular significance in the choice of rates of inflation since, over a reasonable range, and given the major uncertainties attached to these calculations in any case, simple extrapolation or interpolation will give adequate approximations for other assumed rates of inflation.

More precisely, the Subcommittee has adopted the first of the two explicit approaches, which involves first making projections of money payments and computing from these a nominal yield; and second, correcting this for the rate of inflation to produce the real yield. It assumes that the constant rate of inflation runs from the date to which the last published RPI refers: this assumption simplifies the calculations.

A detailed paper on the method of calculation will be published in due course in the Journals of the Institute and Faculty of Actuaries.

The attention which the Actuaries have devoted to this subject is timely, and the Bank welcomes the work which they have undertaken in this area.

(1) In arriving at a figure for the assumed constant future rate of inflation, some have used the difference between nominal yields on conventional gilt-edged stocks and real yields on index-linked stocks.

The **time/yield curve of British government stocks** *has fallen—by most at the short end.*

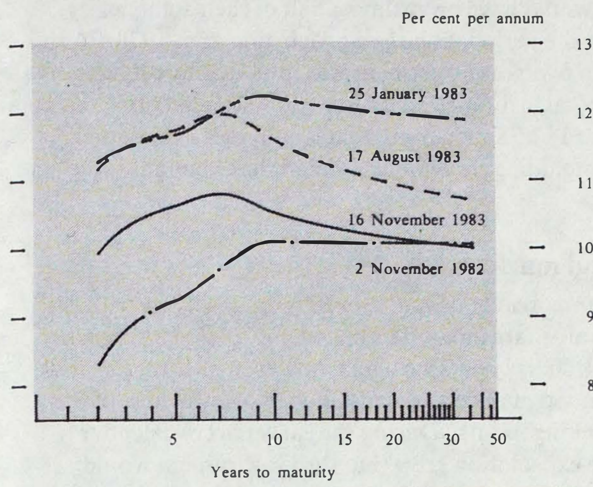


Table G
Analysis by purchaser of official gilt-edged sales[a]

£ billions

	Financial years				
	1979/80	1980/81	1981/82	1982/83	First half of 1983/84
Gross official sales	12.6	15.7	10.6	10.5	8.5
Redemptions and net official purchases of stock within a year of maturity (−)	−3.2	−3.2	−4.7	−5.2	−1.0
Net official sales	**9.4**	**12.5**	**6.0**	**5.3**	**7.5**
Analysis of net official sales:					
Monetary sector	0.1	2.0	−1.4	—	0.9
Overseas sector	1.1	1.5	0.3	0.8	0.9
Non-bank private sector (total)	8.3	8.9	7.1	4.5	5.7
of which to:					
Building societies	*0.8*	*1.3*	*1.2*	*0.9*	*0.7*
Life assurance and pension funds	*4.9*	*4.4*	*3.8*	*3.0*	see text
General insurance companies	*0.5*	*0.7*	*0.3*	*0.1*	
Other	*2.1*	*2.5*	*1.8*	*0.5*	

(a) Other than transactions under purchase and resale agreements.

Table H
Life assurance and pension funds: investment of net inflows

£ billions; *percentages of total investments in italics*

Financial years	1979/80	1980/81	1981/82	1982/83
Gilt-edged stocks	4.9	4.4	3.8	3.0
	49	*37*	*29*	*23*
UK company securities	2.1	3.0	3.0	3.6
	21	*25*	*23*	*27*
Overseas securities	0.9	2.1	2.3	3.0
	9	*18*	*17*	*23*
UK land and property	1.3	1.7	1.7	1.6
	13	*14*	*13*	*12*
Bank deposits and CDs	−0.1	—	1.0	0.7
	− 1	*—*	*8*	*5*
Other	0.9	0.8	1.5	1.3
	9	*7*	*11*	*10*
Total	**10.0**	**12.0**	**13.3**	**13.2**

stability, and perhaps partly as the cash position of investing institutions recovered. The improvement was particularly marked at the longer maturities. The market for index-linked stocks, however, was quiet, though prices remained steady.

Against this background, the Bank announced on 11 November a new short-medium conventional stock—£1,000 million of 10% Exchequer Stock 1989[1]—in partly-paid form, for sale by tender on 16 November, the last day of the period under review. The market rose further immediately after the announcement, but fell back early the following week before the tender; nevertheless a substantial amount of stock was sold at the tender.

Over the three months yields fell on balance—for five-year stocks from $11\frac{3}{4}\%$ to $10\frac{5}{8}\%$ and for twenty-year stocks from $10\frac{7}{8}\%$ to $10\frac{1}{8}\%$. Real yields on index-linked stocks also fell: on the 1988 stock from 4.27% to 3.46% and on the 2016 stock from 3.06% to 2.90%.[2]

Distribution of official sales of gilt-edged

In the first half of the financial year 1983/84, gross official sales of gilt-edged securities to all sectors were as high as £$8\frac{1}{2}$ billion. With the incidence of maturing stocks abnormally low, net sales to all sectors were £$7\frac{1}{2}$ billion. The distribution of net sales of gilt-edged stocks in the last five years is shown in Table G[3] and in more detail in an article on page 513.

In 1981/82 and 1982/83, net official sales of gilt-edged stocks to all sectors were substantially lower than in the two preceding years. There was a modest reduction in sales to the overseas sector and a large reduction in sales to the non-bank private sector, especially in 1982/83. Within the non-bank private sector, purchases by building societies increased at much the same rate as in 1979/80 and 1980/81.

Life assurance and pension funds, however, bought much less stock than in the two preceding years: as a proportion of their total net investments, gilt-edged purchases fell back from 43% on average in 1979/80 and 1980/81 to 26% in 1981/82 and 1982/83 (Table H). These institutions filled the gap left by lower gilt-edged purchases with additional overseas investment, which until 1979 had been inhibited by exchange controls, by acquisitions of bank deposits and CDs, and, at least in 1982/83, by additional purchases of UK company securities, contributing to the rise in equity prices and to the subsequent increase in equity issues.

It is more difficult at this stage to identify the destination of the net official gilt-edged sales in the first half of 1983/84. The overseas sector bought some £0.9 billion, as much as in the whole of 1982/83, and the monetary sector bought a similar amount. Purchases by the non-bank private sector, at £5.7 billion, were considerably more than in the whole of 1982/83. The rate of purchases by building societies is known to have increased, those purchases being concentrated in the second quarter of 1983/84. Only limited information is available about purchases by other

(1) An additional £150 million was reserved for the National Debt Commissioners.

(2) The real yields quoted are calculated broadly on the assumption that the retail price index will continue to change in the future at the same rate as over the most recent six months for which figures have been published. The calculation of real yields on index-linked stocks is discussed on page 484. See also chart on page 481.

(3) This is based on incomplete information, so the figures should be used with care.

parts of the non-bank private sector, but life assurance and pension funds could have bought perhaps some £3 billion during the six months. This would have been almost half of their total net investments in the period, as large a proportion as in 1978/79 and 1979/80, when overseas investment was inhibited by exchange control. If general insurance companies, investment trusts and unit trusts, bought £1½ billion in total, that would mean that other purchasers—including individuals—might have bought some £1½ billion.

Other capital markets

The *equity market* reached record levels in mid-August with the FT-Actuaries all-share index standing at 465.74 on 18 August. Prices fell back sharply on 23 August, however, as investors took profits and a mood of uncertainty developed over the rest of the September banking month. During the early part of calendar September the expectation grew that the Government would shortly proceed with the sale of a further part of its holding of shares in British Petroleum, as foreshadowed by the Chancellor on 25 July. This was confirmed on 16 September by the announcement that underwriting was in progress in respect of an offer for sale by tender of 130 million BP shares at a minimum tender price of 405p per share, 200p payable on application and the balance by 11 January 1984. The market rallied on the following Monday amid optimism about the likely outcome of the sale and thereafter traded quietly ahead of the subscription day. At the tender on 23 September the issue was oversubscribed, and the striking price was set at 435p. Applications at or above this price totalled 1.3 times the number of shares offered.

Despite the successful outcome of the BP sale and the record price levels being recorded on the New York and Tokyo stock exchanges, sentiment remained uneasy and little encouragement was taken from the base rate cuts announced on 3 October, which had already been discounted. Oil shares weakened on fears about the oil price, and clearing bank shares suffered from renewed international debt worries. But ICI improved against the general trend on demand from US investors.

By 19 October the all-share index had fallen to a low of 426.58. Leading shares rallied strongly on 20 October, partly on technical factors but also on buying encouraged by the latest Central Statistical Office leading indicators. But no sustained follow-through was seen despite the encouraging economic assessment in the Chancellor's Mansion House speech. Insurance shares were, however, an active sector in the wake of the bid for Eagle Star by the German insurance company, Allianz Versicherung.

A more confident mood began to develop around the end of October, helped by continuing support for ICI and interest in the property and consumer goods sectors. On 27 October the Financial Secretary to the Treasury announced that the Government was considering selling a further tranche of its holding in Cable and Wireless.[1] The firmer trend continued into November with demand for blue chip industrials being encouraged by a more optimistic view of the economic outlook and the prospects for inflation. The financial sector remained a focus of attention in the

(1) The offer for sale of 100 million shares in the company was announced on 25 November for subscription on 2 December.

Table J
Amounts raised in the capital market
£ millions; *not seasonally adjusted*
Net cash raised +

Banking months	Dec. 82–Feb. 83	Mar. 83–May 83	June 83–Aug. 83	Sept. 83–Nov. 83
UK private sector				
Loan capital and preference shares	− 14	+323	+153	+ 94
Equity capital(a)	+304	+616	+852	+477
Unit trusts(b)	+340	+309	+354	+271(c)
Issues on the unlisted securities market	+ 16	+ 36	+ 48	+ 32
Local authorities				
Stocks	− 70	+ 45	− 94	− 37
Negotiable bonds	+ 10	+ 28	− 16	+ 3
Overseas	+158	+ 41	+148	+283

(a) Net issues by listed UK public companies.
(b) Calendar months.
(c) September and October only.

Table K
Debt issues announced on the London capital market, mid-August to mid-November 1983(a)

Date of announcement	Issuer	Nominal amount (£ millions)	Coupon	Maturity
Domestic borrowers				
28 September	Eastbourne Water Company	3.8	12½%	2004
Overseas borrowers				
23 August	Cigna Overseas Finance	30	13%	2008
3 October	Ireland	50	12½%	2008
17 October	Australia	100	11¾%	2015
31 October	IBRD	100	11½%	2003

(a) The first two issues were placed and the remaining three were offered for sale. Issues of convertible stock and issues of less than £3 million are not included.

Table L
Outstanding droplock arrangements

Trigger levels(a)	Amount committed as at mid-December 1983 (£ millions)
10½% up to 11%	7
10% up to 10½%	33
9½% up to 10%	81
9% up to 9½%	5
8½% up to 9%	20
No specified level	26

(a) Usually set with reference to the yield on high coupon, long-dated gilt-edged stocks.

wake of moves by Citicorp to buy 29.9% of the stockbrokers Vickers da Costa and by Mercury Securities to buy a similar stake in the stockjobbers Akroyd and Smithers. At the end of banking November the all-share index stood at 453.98, a fall of 2¼% over the period as a whole.

The net amount of new equity finance raised during the period was much less than in the previous three banking months (Table J). However, these figures relate only to issues of new shares, and thus exclude the initial proceeds (£260 million) of the BP offer which involved the sale of existing shares. The largest issues of new equity announced during the period were rights issues for Exco International (£48 million) and Tate & Lyle (£42 million), and a placing of shares in International Thomson (£45 million).

There were no issues of significance by domestic corporate borrowers in the *fixed interest market* after Westland's issue of £30 million in July (Table K). But two issues were announced by UK companies in early December and there are indications that a number of other borrowers may be preparing to approach the market in due course. No *local authority* issues were made during the period and, although no droplocks were triggered during the period, an overseas borrower issued £7¼ million under a similar facility after the period ended. Droplock arrangements outstanding at mid-December are shown in Table L.

Four issues by *overseas borrowers* were made in the domestic fixed interest market during the three banking months. These included an issue of £100 million by the IBRD, representing its third borrowing in this market.

The main feature of the *eurosterling market* during the period was the revival of floating rate note issues. This sector of the market was reopened at the end of September by a French state borrower with a ten-year issue of £75 million, priced at par and carrying a margin of ¼% over three-months LIBOR. This was the first such issue for over three years and it was followed by a further three issues, ranging from £30 million to £100 million, and with margins over LIBOR of ⅛% to ¼%. In addition, five fixed-rate issues were launched to raise an initial total of £200 million. These included two issues by Investors in Industry: one of these was for £25 million with provision to sell the same amount on tap and the other was £50 million of an 11½% issue due 1991 with warrants attached to subscribe for the same amount of a 10½% bond, also due 1991. This was the first eurosterling issue to carry warrants of this type. There are indications that these issues may presage further interest by UK borrowers in this market.