The operation of monetary policy

- *UK official interest rates remained unchanged at 6% in the first quarter of 1997.*
- *Sterling appreciated by a further 2% in effective terms, to 98.0 on its exchange rate index.*
- *Gilt yields, in common with yields on government bonds in many other major economies, rose in this period.*
- *The Bank introduced reforms to its daily operations in the sterling money markets on 3 March.*
- *Gross gilt sales were £9.7 billion, bringing the total for the 1996/97 financial year to £38.8 billion.*
- *The Government's financing requirement and remit to the Bank of England for the 1997/98 financial year was published on 12 March.*

Introduction

Developments in financial markets in the first quarter of 1997 reflected the continuing perceived divergence between the economic cycles of the United States and the United Kingdom on the one hand, and the major continental European Union (EU) countries and Japan on the other. Continuing evidence of robust economic activity resulted in an upward revision of interest rate expectations for the United States and the United Kingdom relative to Germany and France in particular, which were experiencing slower growth, and to Japan, where uncertainties remained about how much private sector growth would pick up given the prospect of a fiscal tightening after April.

While there was no change in UK official interest rates in this period, there were significant shifts in market expectations of the future path of official rates. There was some expectation of a rise early in the quarter, but between the middle of January and the end of February domestic markets advanced as markets interpreted UK data releases in the main as being less suggestive of inflationary pressure than they had anticipated. Expectations of the timing of an increase in official rates were postponed, and expectations of the extent of the eventual tightening of monetary policy were revised down. Sterling's continuing rise also appears to have been a factor in moderating market expectations of future official interest rate rises. Sentiment began to shift towards the end of the period, however, and there was a particularly sharp rise in money-market and gilt yields following the release of labour market and retail sales data on 19 March. By the end of the quarter, money-market rates were consistent with an expectation of a moderate rise in UK official rates in the spring or early summer.

Internationally, financial markets were influenced by the increasing expectation, and the implementation, of an increase in US official interest rates. The Fed Funds target was raised by 25 basis points to 5.50% on 25 March, the first tightening of US monetary policy

Table A
Interest rates, gilt yields and exchange rates; selected dates[a]

	Interest rates (per cent per annum)					Gilt yields (b) (per cent per annum)				Exchange rates		
	Sterling interbank rates (c)				Short sterling future (d)	Conventionals			Index-linked			
	1 month	3 months	6 months	12 months	3 months	Short	Medium	Long	Long	ERI	$/£	DM/£
31 Dec. 1996	6 5/32	6 15/32	6 21/32	6 15/16	6.92	7.27	7.51	7.62	3.58	96.1	1.7120	2.6373
18 Feb. 1997	6 3/16	6 3/16	6 11/32	6 5/16	6.46	6.78	7.08	7.27	3.39	96.8	1.6017	2.7085
7 Mar. 1997	6 1/32	6 5/32	6 11/32	6 5/8	6.41	6.93	7.30	7.48	3.51	98.1	1.6052	2.7590
19 Mar. 1997	6 1/16	6 1/4	6 15/32	6 27/32	6.67	7.28	7.59	7.72	3.58	96.3	1.5968	2.6850
27 Mar. 1997	6 3/32	6 5/16	6 9/16	6 15/16	6.67	7.37	7.63	7.76	3.61	98.0	1.6303	2.7345

(a) Close-of-business rates in London.
(b) Gross redemption yield. Representative stocks: short: 7% Treasury 2001; medium: 7½% Treasury 2006; long: 8% Treasury 2015; index-linked—2½% Index-Linked Treasury 2016 (real yield assuming 5% inflation).
(c) Middle-market rates.
(d) Implied future rate: June 1997 contract.

Chart 1
Effective exchange rate indices: United Kingdom, United States, Germany and Japan

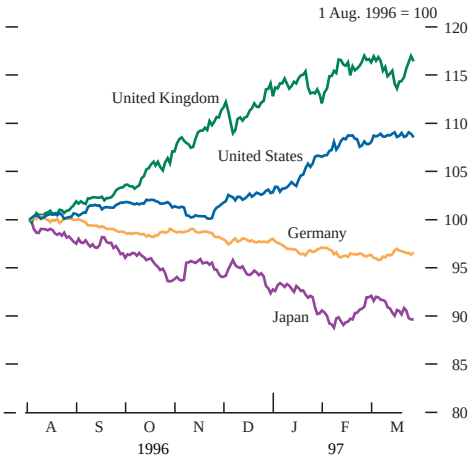
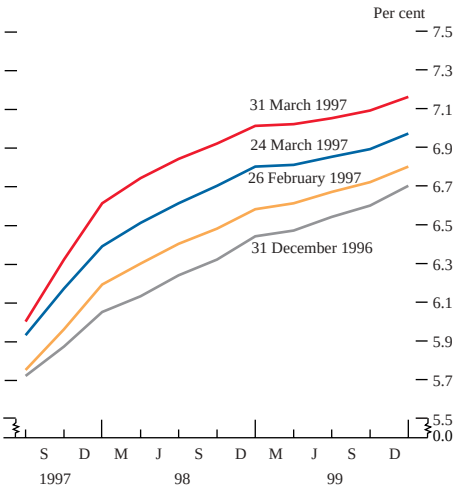


Chart 2
Eurodollar futures[a]



(a) 90-day eurodollar rates implied by futures contracts.

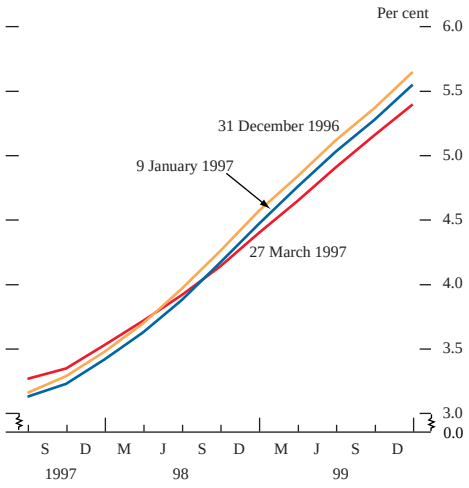
for over two years. By the time of its implementation, financial markets had largely discounted the move and reacted calmly. The Chairman of the Federal Reserve Board, in his Humphrey-Hawkins evidence to the Senate Banking Committee on 26 February, had highlighted the continued absence of excessive price pressure in the United States but had emphasised the increasing utilisation of capacity and the need for the authorities to ensure that they acted pre-emptively against inflation. Anticipation of the tightening was heightened by stronger-than-expected US data on activity, and helps to explain why yields in most major government bond markets, which had fallen in the first half of the period, began to rise from the end of February.

Foreign exchange markets

In the foreign exchange markets the appreciation of the US dollar was the most significant development in this period: the dollar rose by over 5½% in effective terms, and the appreciation was broadly based, with the dollar rising against all currencies in its exchange rate index (ERI) basket. The relative rise of US short-term and longer-term interest rates appears to have supported the dollar's rise. US short-term interest rates, as implied by three-month eurodollar deposit futures contracts, rose significantly, and the implied money-market term structure steepened. German short-term interest rates, as implied by three-month euromark deposit futures contracts, also rose over the quarter as a whole, but more modestly. Early in the period concerns about the economic impact of the prolonged weakness of the German labour market increased, and the German money-market curve flattened as expectations of a tightening of monetary policy were postponed. The yield differential between ten-year US Treasuries and German Bunds also rose and reached 110 basis points in early March (the highest level since 1989), which coincided with the dollar's peak for the quarter at just below DM 1.72 in early March. At around this time, the release of stronger-than-expected German fourth-quarter GDP figures and inflation data, and persistently high M3 growth, contributed to a rise in expected short-term interest rates in Germany. Bund yields rose further than those on US Treasuries in March, apparently as concerns rose about Germany's fiscal position and its prospects for satisfying the Maastricht criterion on fiscal deficits.

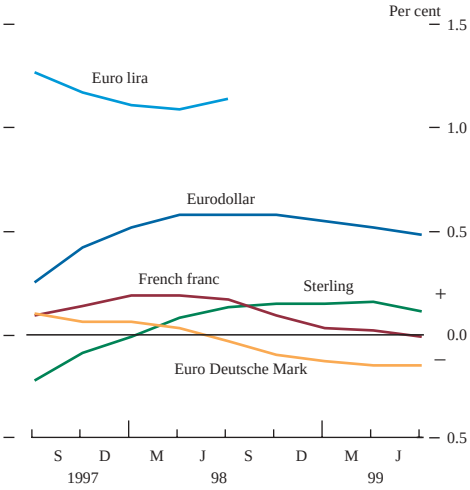
The dollar rose by 6% against the Japanese yen in this quarter, from ¥116 to ¥123½. It has now risen by over 50% from its all-time low at ¥79.9 on 19 April 1995 (see Chart 5). The dollar reached a high for the quarter of ¥124.67 on 7 February ahead of a meeting of the

Chart 3
Euromark futures(a)



(a) 90-day euromark rates implied by futures contracts.

Chart 4
Changes to three-month interest rates implied by future contracts(a)



(a) 31 December to 27 March.

Chart 5
US dollar/Japanese yen exchange rate

Group of Seven (G7) countries. The G7 communiqué said that misalignments in exchange markets noted in the April 1995 communiqué had been corrected. This appears to have influenced market expectations about the dollar's future value; it subsequently maintained a narrow range between ¥121 and ¥124.

The US dollar strengthened by around 9% against 'core' European Monetary System (EMS) currencies, but the depreciation of the latter in effective terms was only between ½% and 1½%. An effective exchange rate is a measure of the value of a currency against a trade-weighted basket of other currencies, and the US dollar's weighting in the baskets of 'core' EMS currencies is modest (the figures for Germany and France are 9% and 10% respectively, for example).(1)

Within the EMS, official interest rates were reduced in France, Italy, Portugal and Spain among others; the Netherlands raised its key interest rate in two stages from 2.5% to 2.9%. These rate changes appear to have had little impact on exchange markets. Fluctuating expectations about the prospects for EMU, and in particular a so-called 'wide' EMU with a relatively large number of initial participants, continued to be influential. For example, the Italian lira, which had continued to trade firmly against the Deutsche Mark following the reduction in Italian official interest rates on 23 January, fell by 2% from Lit 970 towards its central rate of Lit 990 between 28 January and 5 February, apparently triggered by concern that Italy would fail to meet the Maastricht fiscal criteria. Moreover, the decline seen in the last quarter of 1996 in the Italian three-month interest rate implied by the December 1997 eurolira futures contract was entirely reversed in this period. The lira finished the quarter at Lit 998, a fall of 1½% over the period as a whole.

Sterling rose by a further 2% in effective terms to 98.0 on the ERI in the first quarter. Its appreciation in this period, however, was less pronounced than in the final quarter of 1996, when it rose by 10.5% in effective terms, and was more variable. In the middle of March, for example, sterling was below its end-December level of 96.1 on the ERI, before rising in the second half of the month. Sterling fell in the first quarter against the generally stronger US dollar, by 4.8% to $1.6303, in contrast with its rise of 9.5% to a high point of $1.7120 at the end of the fourth quarter of 1996.

Sterling appears to have continued to be underpinned by generally robust data on the UK economy, and by positive interest rate differentials against most major EU countries and Japan. By comparing bond yields across countries, and assuming that uncovered interest parity holds in foreign currency markets, implied forecast paths for any number of sterling exchange rate bilaterals can be mapped out.(2) In practice these paths rarely materialise, because the exchange rate reacts to 'news' about the real economy and about monetary policy, both in the United Kingdom and elsewhere. Nevertheless, by focusing on how these paths shift over time, it is possible to estimate that part of the unexpected movement in the spot exchange rate that is consistent with movements in relative yields. In this period, around half of sterling's appreciation against the Deutsche Mark may reflect an

(1) See 'Revisions to the calculation of effective exchange rates', in the February 1995 edition of the *Quarterly Bulletin*, pages 43–48, for a discussion of the basket's composition.
(2) See the box on page 16 of the February 1997 *Inflation Report* for more detail.

Chart 6
Effective exchange rates: Germany, France and the Netherlands

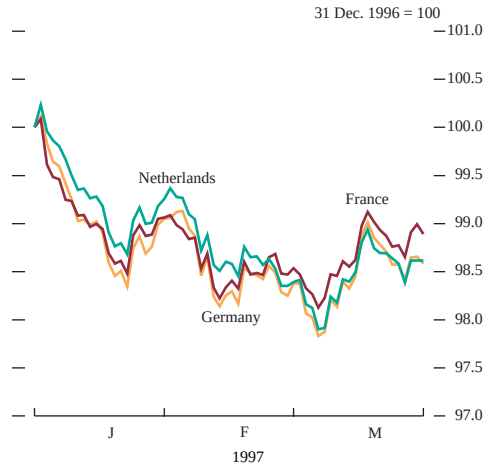


Table B
Sterling exchange rates

1990 = 100

	1996	1997			Percentage change since
	31 Dec.	31 Jan.	25 Mar.	27 Mar.	31 Dec.
£/DM	2.6373	2.6233	2.7365	2.7345	3.7
£/$	1.7120	1.6027	1.6183	1.6303	-4.8
£/¥	198.68	194.46	200.46	201.54	1.4
£ index	96.1	94.4	98.0	98.0	2.0

Chart 7
Sterling exchange rates

anticipated increase in UK interest rates relative to those in Germany. And perhaps as much as one third of sterling's depreciation against the dollar might be accounted for by an anticipated relative increase in US interest rates.

As often in the past, the dollar's rise was also a supportive factor for sterling. In January and February, for example, a rally in the sterling money market saw the three-month interest rates implied by short sterling futures contracts fall by more than similar rates implied by eurodollar, euromark and Pibor (the French interest rate futures) contracts. Despite this, sterling rose to DM 2.7740 on 7 March, marginally below its former ERM floor of DM 2.7780, at the same time as the dollar rose to its high for the period against the mark of DM 1.7210; sterling had, however, fallen to $1.6125 from $1.7120 at the end of December.

In the following two weeks sterling retreated from these levels because of a combination of factors. Financial markets' concerns around this time that Germany might fail to meet the Maastricht fiscal deficit criterion, and hence that EMU might be delayed, had the effect of strengthening the Deutsche Mark against a wide range of currencies, including sterling and the dollar. Sterling fell against both the Mark and the dollar following the announcement on 17 March that the United Kingdom's General Election would be held on 1 May, apparently as financial markets focused on the potentially unsettling effects of a long election campaign. However, interest rate differentials moved sharply in favour of sterling on 19 March as a result of the release of UK labour market and retail sales data: between 18 March and 27 March, sterling rose by 2½% against both the dollar and the Mark from $1.5869 and DM 2.6643 to end the quarter at $1.6303 and DM 2.7345.

Sterling money markets

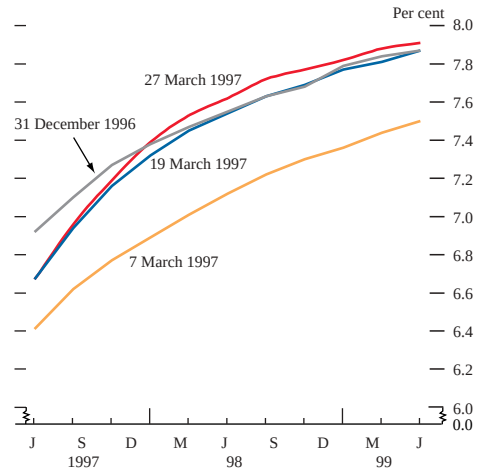
UK official interest rates remained unchanged at 6% in the first quarter of 1997. Within the period, however, there were significant shifts in market expectations of the future path of short-term interest rates as evidenced by the three-month forward rate curve implied by short sterling futures contracts.

In the final quarter of 1996 market expectations of the path of short-term interest rates had been revised up, both in the immediate aftermath of the 25 basis point increase in official rates to 6% on 30 October and, subsequently, in the wake of stronger-than-expected data on prices and activity. At the beginning of 1997, there was therefore some expectation in the market that official interest rates might soon be raised further, either as a result of the Monetary Meeting scheduled for 15 January or that on 5 February. However, the money market began to rally in advance of the January Meeting, influenced in part by similar moves in the US and German money markets, but also by domestic producer price data and a retailers' survey which were interpreted by the market as being less strong than it had expected. The rally continued after the January Monetary Meeting, when it became clear that official interest rates had not been increased. The market was influenced in this period by domestic data releases which it interpreted as being less suggestive of a build-up in inflationary pressure than it had earlier thought: it appears to have focused in particular on the retail price and the retail sales data for December, which were released on 16 and 22 January respectively. The rally

Chart 8
Sterling interbank interest rates(a)

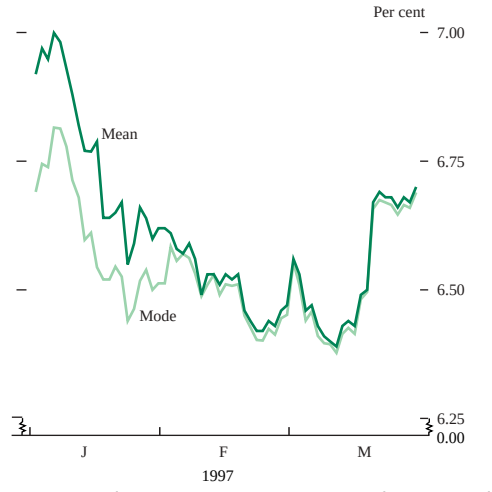
(a) Middle-market rates at 4.30 pm.

Chart 9
Short sterling futures(a)



(a) Three-month Libor rates implied by short sterling futures contracts.

Chart 10
Mean and mode of the implied distribution for three-month sterling interbank rates at June 1997(a)



(a) As derived from options on the LIFFE short sterling futures contract for June 1997.

in the money market also seems to have been influenced by the appreciation of sterling (the lowest rates implied by short sterling contracts coincided with sterling's peaks in early March), apparently in reaction to official comments and to the minutes of Monetary Meetings which suggested that the effects of the appreciation of sterling were a factor in the authorities' current assessment of monetary conditions.

The rally in the money market began to reverse from the beginning of March, influenced in part by the retreat of sterling from its peak levels, and also by the general international rise in implied short-term interest rates after the Chairman of the Federal Reserve Board's Humphrey-Hawkins evidence. There was a sharp change in UK market sentiment on 19 March, when labour market and retail sales data for February were released, both of which were stronger than the market had expected; it seems to have taken the view that inflationary pressure in the UK economy was greater than it had thought for much of the quarter. This resulted in a significant rise in implied yields on the day: the rate implied by the June short sterling contract rose by 17 basis points, and the contracts beyond this rose in a broadly parallel fashion by around 20 basis points.

By the end of the quarter the three-month forward rates implied by short sterling contracts from the start of 1998 and beyond were a little higher, but not significantly so, than they were at the end of December. This suggested that over the period as a whole, the market had not fundamentally revised its view on how far monetary policy would be tightened over the next two to three years. On 27 March, the June 1997 contract implied a rate of 6.67%, which was consistent with an expectation of a moderate tightening of policy in the spring or early summer, although anecdotal comment suggested that the market did not expect an increase in official interest rates until after the General Election.

Using the prices of options on short sterling futures contracts it is possible to construct the market's implied probability distribution for future interest rates.(1) Chart 10 shows the evolution of the mean and the mode of the distribution for the June 1997 short sterling futures contract. Intuitively, if the mean (the expected interest rate, which should equal the rate implied by the price of the futures contract) is above the mode (the most likely outcome) of the distribution, it suggests that the market attaches a higher probability to interest rates being much higher than the mean than they do to rates being a corresponding amount lower. For both June and September 1997 contracts, the positive differential between the mean and the mode of the distributions narrowed towards the end of January. This reduction was sustained when, from the middle of March, the expected interest rate implied by the price of these contracts rose. This suggests that the market continued to perceive the balance of risks as being fairly symmetrical around the mean.

Gilt yields and inflation expectations

The yield on ten-year gilts rose over the quarter from 7.51% to 7.63%. The ten-year yield spread of gilts over German Bunds and French OATs was little changed at around 180 and 190 basis points respectively (the spread between ten-year nominal forward rates is not nearly so great—see below); but gilts, like Bunds and OATs,

(1) For a discussion of this, see the box 'Estimating market expectations of short-term interest rates' on pages 10–11 of the February 1997 *Quarterly Bulletin*.

Auctions of US Treasury Inflation Indexed Notes

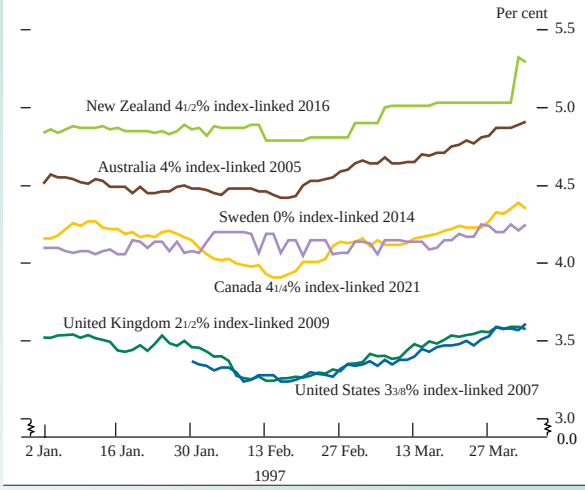
Inflation indexed government bonds have been issued in the United Kingdom since 1981. After considering the issue of such bonds for a number of years, the US Treasury began issuance of its Inflation Indexed Notes in January 1997. The Treasury believes that the new notes will enable it to reduce its borrowing costs, as well as provide information on the market's expectations of inflation. The design of the notes is based on that of Canada's Real Return Bonds, with indexation to CPI-U (the US City Average All Items Consumer Price Index for All Urban Consumers). Both principal and interest payments are adjusted for inflation; indexation has a three-month lag to allow for the compilation and publication of the index. A shorter lag is possible than for index-linked gilts since it is not necessary to know the next dividend to compute the accrued interest. Instead, accrued interest for a given date is based on cumulative movements in the CPI running from the last coupon date, lagged by three months.

Inflation Indexed Notes are issued quarterly by single price auction on a real yield basis. The initial offering of $7 billion of a ten-year note was followed in April by an $8 billion reopening of the same issue. The coupon rate of 3⅜% was set at the inaugural auction by rounding the clearing yield of 3.449% down to the nearest eighth. Bids at the first auction totalled more than $37 billion, producing a cover statistic of 5.31, more than double the demand of a typical conventional Treasury auction. The large cover statistic was partly attributed to strong client demand for the issue. Investor demand at the second auction was much more subdued; the note cleared at a yield of 3.650%, 3 basis points higher than expected by the market. Cover at the auction was 2.26, which, although considerably lower than in the first auction, is broadly in line with the typical cover at conventional auctions. No decisions have been made about whether the January issue will be reopened at the third auction, scheduled for July. Treasury officials have, however, indicated that they intend to issue a new maturity at some stage this year and another in 1998.

Since the first auction, turnover in the secondary market has been a fraction of that for the comparable conventional Treasury note. In an active day for the indexed note, $100 million of stock might trade, compared with perhaps $5 billion of the ten-year conventional Treasury. The Chicago Board of Trade has filed for government permission to trade futures and options contracts on the US indexed notes. These will allow traders to take a position on moves in real yields or the CPI, and could enhance liquidity in both the US and other index-linked bond markets. However, it is not clear at this stage when these contracts are likely to be available.

Chart A shows that the introduction of the US indexed notes has had little impact on the real yield differentials between the different index-linked bond markets, with only the convergence between UK and US yields standing out (differences in the method of calculation of real rates mean, however, that they are not strictly comparable).

Chart A
Real yields on index-linked bonds



Comparing the real yield on the indexed note with the nominal yield on a ten-year conventional note allows calculation of the break-even inflation rate (for a tax-exempt institution). The break-even rate gives an indication of US average market expectations of CPI-U inflation over the next ten years, though the derived measure will also reflect the inflation risk premium and any other premia that may exist such as an index risk premium or liquidity premium. Chart B compares the break-even inflation rate for the US note with that for the twelve-year index-linked gilt for a tax-exempt investor. Once indexed securities have been established at other maturities it should be possible to construct a term structure of inflation expectations, as can be done for the UK market.

Chart B
Break-even inflation rates

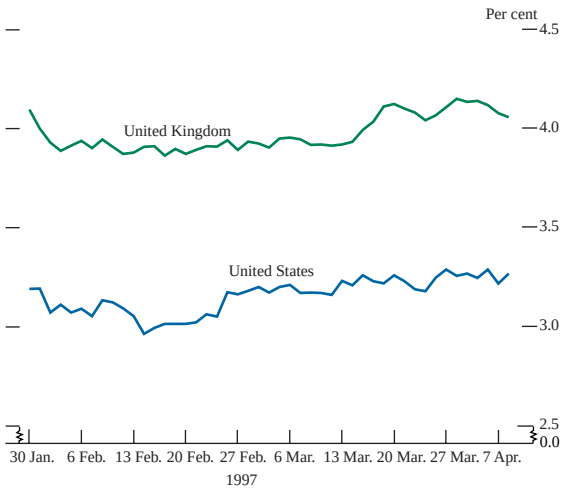
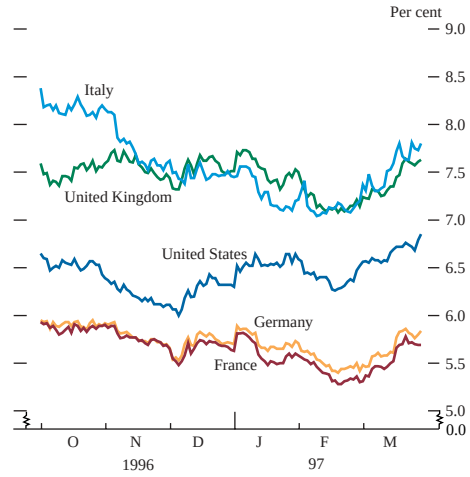


Chart 11
Ten-year benchmark yields(a)



(a) Gross redemption yields on a semi-annual basis.

Chart 12
Gilt par yield curves

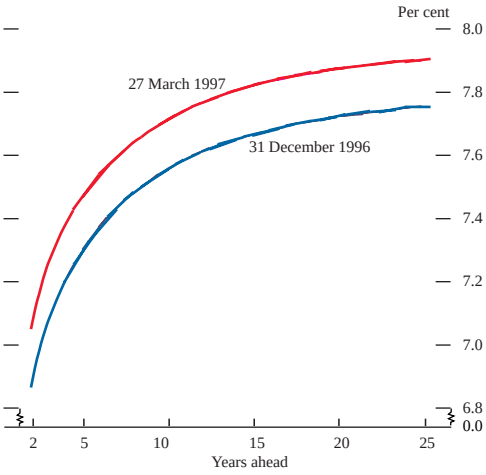
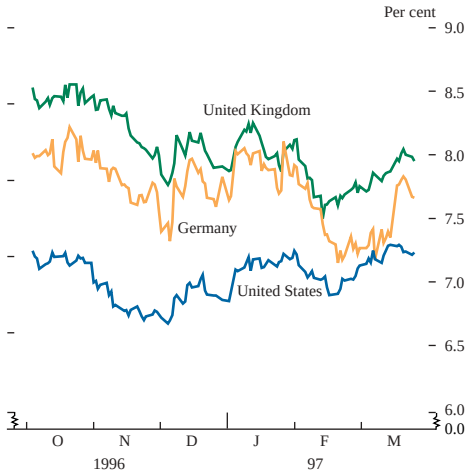


Chart 13
Six-month forward rates at ten years(a)



(a) Implied six-month annualised rates.

outperformed US Treasuries, with the ten-year yield spread narrowing by almost 60 basis points to end the period at 78 basis points.

In the first half of the period, the same influences that were bringing about a rally in the money market—falling yields in continental European markets, weaker domestic data releases than the market had expected, and sterling's appreciation—also helped gilt yields to fall. Sentiment in the gilt market began to turn at the end of February, when yields began to rise in common with those in government bond markets internationally on a strengthening expectation that US official interest rates would soon rise. Gilt yields rose further, and yield spreads against Treasuries and the major European government bond markets widened, when domestic labour market and retail sales data were released on 19 March, which initiated the significant shift in market expectations of the path of UK short-term interest rates described above: the yield on ten-year gilts rose 12 basis points to 7.59%, and the spread over Treasuries and Bunds widened by 12 and 11 basis points respectively.

UK implied six-month annualised forward interest rates derived from the gilt yield curve fell in the first half of the quarter, before rising again to end the quarter higher. The rise was greater at the shorter maturities, and the term structure flattened. Chart 13 shows six-month annualised forward interest rates at ten years for the United Kingdom, Germany and the United States. In the last quarter of 1996 there had been a narrowing of the market's expectation of the extent to which UK short-term interest rates would be above those of the United States and Germany in ten years time. In the first quarter of 1997 there was on balance little further change in the differentials between these implied forward rates.

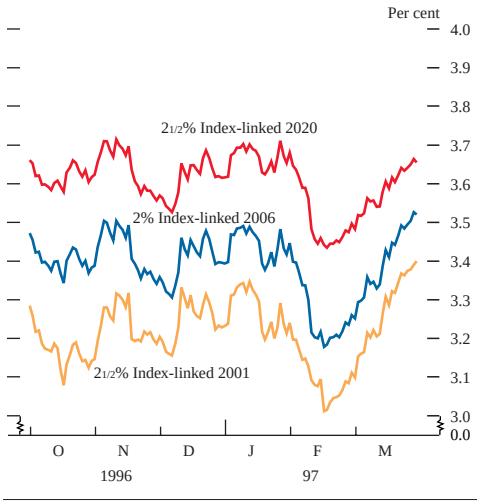
The increase in UK forward rates is consistent with higher forward inflation expectations, which are derived from the yields on conventional and index-linked gilts. There was a small rise in the real yield on index-linked gilts at all maturities in this period.(1) The trend in longer and shorter-term inflation expectations was downward between the second half of August 1996 and the end of the year. Inflation expectations at all maturities rose in early January, which coincided with the brief period of bearish sentiment in domestic markets described above, before resuming a downward trend. Towards the end of the quarter, however, as expectations grew of an early tightening of US monetary policy, and particularly following the sharp increase in UK interest rate expectations in the middle of March, inflation expectations increased. The rise was particularly marked in short and medium-term inflation expectations (at three and five years), with the effect more muted further along the maturity spectrum.

Other UK capital markets

The UK equity market, in common with most other major equity markets, rose over the period as a whole, and reached new highs in the second week of March before partly falling back. The FT-SE 100 index rose by 4.7% between the end of December and the end of March, from 4,118 to 4,313, and peaked at 4,444 on

(1) The box which accompanies this article describes the launch of US Treasury Inflation Indexed Notes, and the convergence of UK and US real yields.

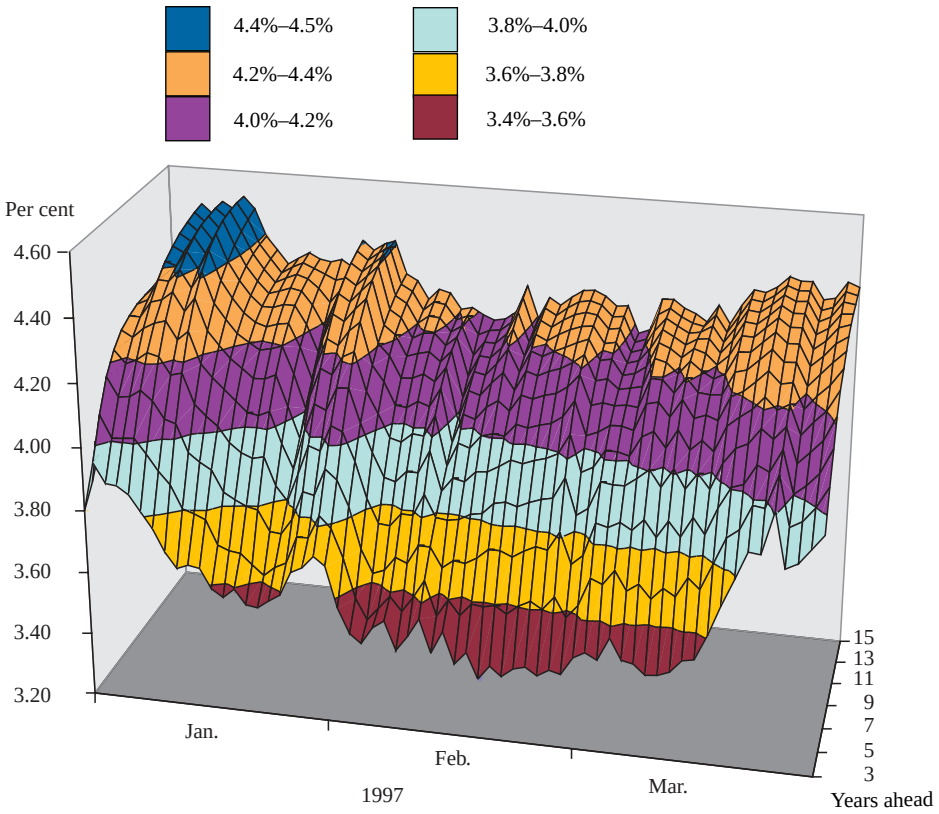
Chart 14
Yields on index-linked government stock



11 March. Lower market interest rates and strong reported corporate profits helped support the rise in the first two months of the quarter. The subsequent retracement was influenced by the same factors that brought about the change in sentiment in other domestic markets: firming expectations of a rise in US interest rates and stronger-than-expected UK data releases in the middle of March. Equity markets' immediate reaction to the announcement on 25 March of the tightening of US monetary policy was muted, which suggested that the move had been discounted in the previous few weeks. UK and most continental European markets were closed for the Easter holidays in the last few days of March, during which the US equity market fell sharply as investors began to consider the possibility of further rises in US official interest rates. The UK and most other European markets fell on reopening after the Easter break on 1 April: the FT-SE 100 ended the day 65 points lower than its closing level on 27 March, at 4,248.

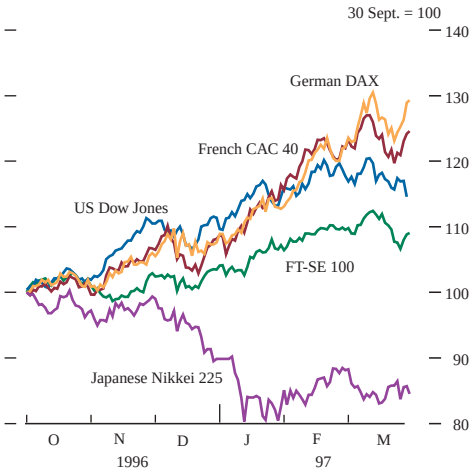
Total fixed-rate sterling bond issuance was particularly high at £13.8 billion in the first quarter of 1997. The reinvestment of proceeds from a large number of redemptions and buy-backs in late 1996, together with significant interest from investment funds, boosted demand for sterling paper in the first few weeks of the year. Subsequently, however, the most significant source of demand appears to have been continental European and Japanese retail investors. Such investors were purchasers of a large number of smaller denomination sterling bonds, as well as several dual yen/sterling currency issues that gave exposure both to sterling and

Chart 15
Implied inflation expectations



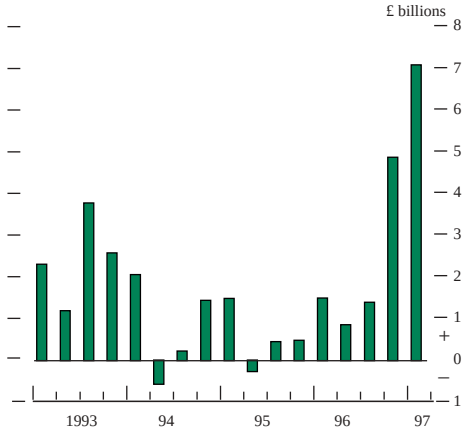
This 3D surface illustrates how the implied forward inflation expectations curve has evolved day by day. The shading emphasises the level of implied forward inflation rates at any given point on the surface. The implied forward inflation rates are annualised six-month rates derived from the yields on conventional and index-linked gilts.

Chart 16
Major equity indices(a)



(a) In national currencies.

Chart 17
Net total issues of sterling debt instruments by overseas institutions



to higher UK interest rates. A large proportion of issues (£8.7 billion) in the quarter was for maturities under seven years, as attractive interest rate swap rates meant that it was relatively advantageous for issuers to raise fixed-rate debt and swap into floating-rate liabilities. Issuers of such bonds were primarily overseas financial institutions but also included overseas corporates, overseas public bodies and supranationals. Total net issuance by overseas institutions in this period was particularly high, at £7 billion (Chart 17).

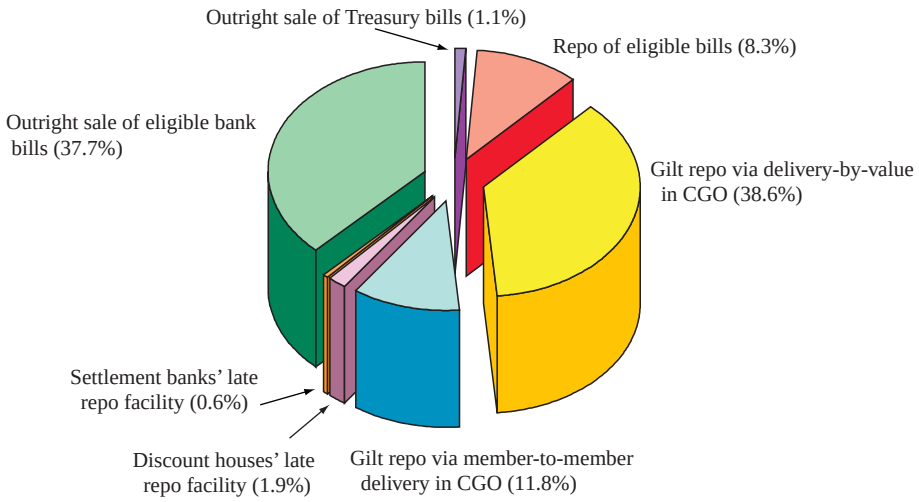
The US government agency, Federal National Mortgage Association (FNMA), brought the inaugural sterling global issue which, unlike a normal eurobond, is listed outside as well as within Europe, notably in Japan and the United States. Around 47% was sold in the United Kingdom, 20% in Asia, 18% in continental Europe and 15% in the United States. The original £1 billion five-year issue was heavily oversubscribed and the 10-basis-point issue spread over the 2002 gilt narrowed to under 7 basis points in secondary trading. The bond was subsequently reopened and a further £250 million issued, although the spread over the gilt then widened to 15 basis points. Another US government agency, Federal Home Loans Board, issued a second, though smaller, sterling global soon after FNMA's initial offering.

Floating-rate note issuance amounted to £2.2 billion, and was predominantly by financial institutions, both United Kingdom and overseas. Of these, £600 million had legal maturities of over 15 years but with step-up and call options at ten years.

The Bank's operations in the sterling money markets

On 3 March the Bank introduced reforms to its daily operations in the sterling money markets, which had been outlined in a paper published on 4 February.(1) The main elements are that the Bank has extended the range of instruments used in its daily operations

Chart 18
How the Bank's daily refinancing was provided, March 1997



(1) Reform of the Bank of England's operations in the sterling money markets, known as the 'Pink paper'. The reforms are outlined on page 12 of the February *Quarterly Bulletin*, and an article, 'The Bank of England's operations in the sterling money markets', in this edition of the *Bulletin* describes the new arrangements for the Bank's operations in the money market, see pages 204–7.

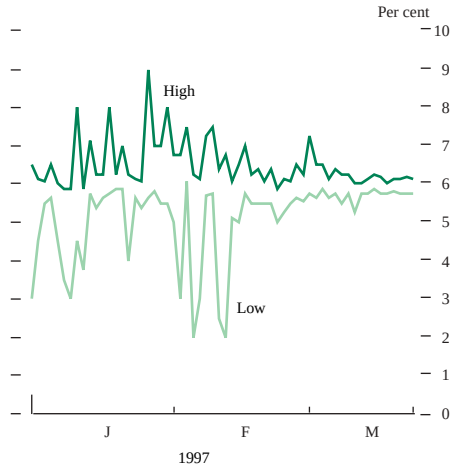
to include gilt repo; broadened the range of counterparties to include active participants in either or both of the gilt repo and eligible bill markets; and made some technical changes to the arrangements by which it may operate in the market at the end of the day to adjust for any late imbalance that may have arisen.

The transition to the new operating arrangements has been smooth. The Bank now has more counterparties in its daily money-market operations, comprising banks (including a number of discount houses), building societies and securities firms that have satisfied the Bank that they meet the functional criteria for counterparties. Chart 18 shows a breakdown of the instruments used in the daily refinancing operations in March, and shows that gilt repo quickly established a major role. Gilt repo via open market operations (OMOs), either in the form of delivery-by-value or member-to-member deliveries through the Bank's Central Gilts Office (CGO), comprised just over 50% of refinancing. The continuing importance of eligible bills, which may either be repoed or sold outright, is attested by their total share of a little over 47% of refinancing. Outright sales of eligible bills offer counterparties additional flexibility in the maturity at which they take refinancing, as bills may be offered for sale with any maturity up to the maturity of the longest-dated repo offered in that day's OMOs. In this context it is interesting to note the share of outright sales of eligible bank and Treasury bills in the OMOs: together they accounted for almost 39% of refinancing in March.

The inclusion of gilt repo and new counterparties active in gilt repo in the daily operations has increased the capacity of the market to clear shortages, and also appears to have given the market as a whole greater depth. The gilt repo market is most active in the morning, and proportionately more of the refinancing applied for at the Bank's 9.45 am round of OMOs is in the form of gilt repo than of repo or outright sale of eligible bills. For the 12 noon round of OMOs the relative proportions are more even, and at the final daily round of OMOs, at 2.30 pm, offers of outright sale of eligible bills predominate. In recognition of the greater liquidity of the gilt repo market in the morning, the Bank has been prepared to provide proportionately more of the day's refinancing need through its 9.45 am round of OMOs, and to offer a 9.45 am round on slightly smaller shortages, than under the previous operating system. The further reduction of volatility in short-term market interest rates, which coincided with the introduction of the new operating arrangements, provided a stable background for this adaptation of the pace at which the Bank supplies liquidity to the market through the day.

The discount houses' end-of-day repo facility was used on eight days in March, and the settlement banks' repo facility was opened just once, on Wednesday 5 March. On this occasion, the Bank's counterparties had not applied for sufficient refinancing to clear that day's official estimate of the daily shortage by the time of the Bank's final round of OMOs at 2.30 pm or via the discount houses' repo facility. This would not normally of itself be sufficient reason for the Bank to make the settlement banks' repo facility available, but other factors on that day that led the Bank to judge that it would be appropriate on this occasion. There were reports of difficulties in the equity settlement system, which made it possible that market participants were only learning their true liquidity positions relatively late in the day. There was also an element of

Chart 19
Sterling interbank overnight rate, high and low, January to March 1997(a)



(a) Middle-market rates.

Table C
Influences on the cash position of the money market

£ billions; *not seasonally adjusted*
Increase in settlement banks' operational balances (+)

	1996/97 Apr.-Dec.	1996/97 Jan.	Feb.	Mar.
CGBR (+)	17.8	-5.5	5.4	7.3
Net official sales of gilts (-) (a)	-21.6	-3.1	0.8	-2.4
National Savings (-)	-4.3	-0.4	-0.1	0.0
Currency circulation (-)	-1.6	0.8	-0.2	-1.3
Other	-0.4	0.2	-1.5	2.0
Total	**-10.1**	**-7.9**	**4.3**	**5.7**
Outright purchases of Treasury bills and Bank bills	-0.1	2.9	-3.1	-2.0
Repos of Treasury bills, Bank bills, and British Government stocks and non-sterling debt	3.6	3.8	-0.2	-2.3
Late facilities (b)	-0.4	0.2	-0.2	-0.1
Total refinancing	3.2	7.0	-3.5	-4.4
Treasury bills: market issues and redemptions (c)	-7.4	-0.4	0.8	0.8
Total offsetting operations	**10.5**	**7.4**	**-4.3**	**-5.2**
Settlement banks' operational balances at the Bank	0.4	-0.5	0.0	0.5

(a) Excluding repurchase transactions with the Bank.
(b) Since 3 March 1997, when the Bank introduced reforms to its daily money-market operations, discount houses and settlement banks have been eligible to apply to use the late facilities. Prior to this, late facilities were available to the discount houses and the gilt-edged market makers.
(c) Issues at weekly tenders plus redemptions in market hands. Excludes repurchase transactions with the Bank (market holdings include Treasury bills sold to the Bank in repurchase transactions) and tap Treasury bills.

uncertainty surrounding the official forecast of the daily shortage that day, which led the Bank to believe that the market might in fact be more short than the forecast suggested—as indeed proved in the event to be the case. Against this background, and taking into account that this was only the third day of the new arrangements, the Bank decided to make the facility available. In the event, £150 million was provided by way of the facility, enough to meet the best estimate of the residual shortage at 3.50 pm.

At the rollover of the twice-monthly gilt repo facility on 19 March, the Bank announced that the facility, which it had previously used as a supplementary refinancing mechanism alongside its daily operations, would be withdrawn after the maturity of the final repo offered on that date. The Bank had indicated that this was its intention in the February 'Pink paper', on the basis that the successful introduction of the reformed daily operations would mean that the facility would not need to be used on a regular basis. The facility is, however, retained for future reintroduction if ever necessary.

The market had in practice reduced its participation in the twice-monthly gilt repo facility, taking advantage of the greater flexibility available under the new arrangements by holding gilts to use in the daily OMOs. The effect of this was to increase the amount of refinancing provided through the daily operations in March: the average size of the daily shortages published at 9.45 am in March was £1,270 million, more than £350 million greater than for February and January. These relatively larger shortages were comfortably relieved.

With just one month's experience of the new operating arrangements it would be premature to draw definitive conclusions on their impact, but there are already signs that the broadening of the range of counterparties able to participate directly in OMOs, and the extension of the instruments that may be used, have brought about a reduction in the friction that occasionally arose in the previous system. Chart 19 shows the high and low of the overnight rate for the first quarter of 1997. Volatility in very short-term rates was greatly reduced following the introduction on a formal basis of the twice-monthly gilt repo facility in January 1994; Chart 19 suggests that (despite the withdrawal of the facility) the introduction of the new daily money-market arrangements has contributed to a further reduction in the volatility of the overnight rate. This is consistent with market comment that volatility in very short-term rates more generally is much lower, which should benefit end-users of sterling markets.

The Bank continues to use the weekly Treasury bill tender to drain liquidity from the market, and so ensure that there is a steady demand for liquidity in its daily money-market operations. The size of the Treasury bill tender varies depending on the Bank's forecast of the other influences on the prospective position of the money market over the period ahead.(1) The Bank increased the size of the weekly Treasury bill tender on 31 January, from £200 million to £400 million, to drain more liquidity from the market. On 27 March a reduction in the size of the tender, back to £200 million, was announced, to take effect from 4 April. Cover at the weekly tender remains strong. As part of its new operating

(1) These are described in the accompanying article describing the Bank's money-market operations in this *Quarterly Bulletin*, pages 204–7.

Table D
The 1996/97 CGBR financing requirement

£ billions

	Original remit	Summer forecast	Budget forecast	Provisional outturn
CGBR forecast	24.1	28.1	27.9	25.1
Expected net change in official reserves	0.0	0.0	0.0	-0.3
Expected gilt redemptions	11.5	11.5	12.5	12.4
Under/overfund from 1995/96 (a)	n.a.	2.2	2.2	2.2
Financing requirement	35.6	41.8	42.6	39.4
Financed by:				
Assumed net National Savings contribution	3.0	3.0	4.5	4.8
Net sales of certificates of tax deposit	0.0	-0.1	-0.3	-0.4
Gilt sales required for full financing	32.6	38.9	38.4	34.9
Memo: Actual gross gilt sales				*38.8*

n.a. = not available.

(a) Underfund outturn only known after the original remit was published.

arrangements, the Bank has ended the formal underwriting obligation previously undertaken by the discount houses, but it expects all of its money-market counterparties to participate actively over time in the weekly tenders.

Gilt financing

Gross sales of gilts during the final quarter of 1996/97 totalled £9.7 billion, bringing the total for the financial year to £38.8 billion. As can be seen from Table D, this represented a small overshoot of the target for gilt sales for the 1996/97 fiscal year. Table D also shows the provisional outturn for gilt sales, in the light of the end-year outturns for the CGBR, reserves, and sales of National Savings products. The result is a provisionally estimated gilt sales residual of +£3.9 billion carried into the 1997/98 fiscal year, of which the principal element is the lower-than-forecast CGBR for the year.

Auctions were held in each month of the quarter, with a 'double-headed' auction in January. The two previous 'double-headers'—auctions of two different stocks in the same week—had both combined an existing short and an existing long stock, with the weighting in volume terms on the short auction (the less risky part in duration terms), and with an overall amount of £3.5 billion. The January dual auction departed from this pattern in a number of ways. The remit's requirement for conventional funding for the year to be roughly evenly distributed between shorts, mediums and longs meant that the preponderance of funding in the final quarter had to be in the medium-dated area. Comments from market participants in the December quarterly consultations had also indicated demand for a new ten-year stock early in the quarter. The authorities decided to issue the new medium in the dual auction, and to issue £2.5 billion of it, the maximum possible size for one leg of a dual auction, to give it as much initial liquidity as possible; the opportunity was available to reopen the stock in March. Combined with £1.5 billion, the minimum possible, of the accompanying short stock (a reopening of the 7% 2002 created in December), this resulted in a £4 billion dual auction.

The January auction of the new ten-year benchmark produced considerably stronger demand, as evidenced by cover and tail, than the previous December auction of the new short-dated benchmark. Demand was even better for the small second auction; the stock had at times traded 'special' in the gilt repo market, and the quarterly announcement of auction ranges at the end of December made clear that no further short-dated supply was scheduled for the quarter.

For the February auction the authorities issued a further £2.5 billion of the longest-dated conventional, the 8% 2021. It had been clear from comments at December's quarterly consultations that most market participants favoured building up liquidity in this stock prior to the advent of the gilt strips market rather than introducing a new ultra-long stock. The auction produced cover of 1.93—lower than the 1996/97 average for all stocks, but not significantly different from the average for long stocks—and a tail of 1 basis point (in line with the 1996/97 average).

In March, after market consultations, the authorities set the closing time for bidding at future gilt auctions at 10.30 am instead of

Table E
Auctions of Conventional stock 1996/97 fiscal year

Date of auction	Stock	Amount issued (£ millions)	Price at issue (per £100 stock) (a)	Yield at non-competitive allotment price (b)	Cover (c) at auctions	Tail (d) at auctions (basis points on yield)
24.4.96	7 1/2% Treasury 2006	3,000	95.9062	8.08	2.65	2
29.5.96	8% Treasury 2021	3,000	96.5000	8.33	2.04	2
26.6.96	Floating Rate Treasury 2001	3,000	99.7100	n.a.	4.51	1
23.7.96	8% Treasury 2000	2,000	102.9375	7.20	4.81	0
25.7.96	8% Treasury 2015	1,500	97.9063	8.21	1.88	2
28.8.96	7 1/2% Treasury Stock 2006	2,500	97.1563	7.90	2.69	1
25.9.96	8% Treasury Stock 2021	3,000	98.4375	8.14	1.73	2
22.10.96	7% Treasury Stock 2001	2,000	99.5313	7.10	3.57	0
24.10.96	8% Treasury Stock 2015	1,500	101.3438	7.86	2.66	0
4.12.96	7% Treasury Stock 2002	2,500	99.4063	7.13	1.70	2
28.1.97	7 1/4% Treasury Stock 2007	2,500	97.6875	7.57	2.17	1
30.1.97	7% Treasury Stock 2002	1,500	99.4063	7.13	3.82	0
26.2.97	8% Treasury Stock 2021	2,500	106.9685	7.38	1.93	1
26.3.97	7 1/4% Treasury Stock 2007	2,500	97.1875	7.64	3.09	1

n.a. = not applicable.

(a) Non-competitive allotment price.
(b) Gross redemption yield per cent based on the weighted average price of successful competitive bids.
(c) Total of bids divided by the amount on offer.
(d) Difference in gross redemption yield between the weighted average of successful competitive bids and the lowest accepted competitive bids.

10 am. This change was made because many of the Bank's new money-market counterparties are also active participants in the gilt market, and so there was some potential for a clash between the timing of gilt auctions and a 9:45 am open market operation in the money market. The March auction was a reopening of the new ten-year stock created in January. Though the gilt sales requirement would have allowed an auction at the bottom of the remit range, the small size of the outstanding stock made it desirable to auction £2.5 billion to increase liquidity. The result, particularly in terms of cover, was very strong and lent support to gilts despite the general global environment of rising yields.

The results of auctions for the year as a whole are summarised in Table E. £33 billion nominal was issued at auction in 1996/97 compared with £25 billion the previous year, but with a smaller average auction size (£2.4 billion compared with £2.8 billion). Cover has been higher this year—on average 2.80 times compared with 1.75 times in 1995/96. The increase has come from increased competitive bidding by GEMMs (accounting for 42% of the total increase in cover), increased non-competitive bidding by GEMMs (use of the new expanded non-competitive bidding facility), and most markedly, increased competitive bidding on behalf of the GEMMs' clients (accounting for 52% of the total increase in cover). Various factors may have contributed to this: increased willingness by both GEMMs and clients to submit low bids following the uncovered auction of September 1995, which heightened the perception that this might on occasion be worthwhile; growing awareness of the authorities' transparent auction programme and procedures as a result of the annual remits and quarterly announcements; the smaller size of auctions not being fully reflected in downsizing of bids; development of the gilt repo market, which has facilitated taking short positions; and perhaps, at the margin, more opportunity for last-minute client bids to be transmitted following the relaxation of telephone bidding limits for GEMMs at the beginning of 1996/97.

The introduction of dual auctions may have helped, as these resulted in higher average cover and smaller average tails and discounts to the secondary market price. As can be seen from Table E, however, the short-dated part of the auctions was largely responsible for the favourable results, so this may be in part a reflection of greater market appetite at the short end.

No conventional stocks were tapped in the January-March quarter. Two packages of index-linked gilts were issued, which are described in the following section. Overall for the fiscal year, the distribution of gilt sales was 85% in conventionals and 15% in index-linked—in line with the remit targets for the year. The distribution of conventional funding also conformed to the remit targets of roughly one third in each maturity band, ending up 34.1% in shorts, 31.5% in mediums and 34.5% in longs. Auctions accounted for the bulk of issuance; conventional tap sales amounted to only 1.5% of total issuance, well below the indicative ceiling in the remit of 10%.

Turnover increased in the Bank's shop window for gilts in the first quarter of 1997. Turnover averaged £570 million (nominal value) per month in this period, compared to £203 million per month in the last quarter of 1996; turnover in February was nearly £900 million. All of the turnover represented switches of stocks, and was restricted to stocks with a residual maturity of between three and fifteen years. Participation by the GEMMs widened as the number of stocks available increased, partly owing to some sales of stock by public funds managed by the Commissioners for the Reduction of the National Debt.

On 12 March the Treasury published the *Debt Management Report, 1997/98*. This included a financing remit to the Bank which is reproduced in the box overleaf. It continues the broad themes and framework of the previous year's remit, while aiming at gradual development of the market in some areas. In particular:

- the target for index-linked sales has been increased to 20% from 15% in the two previous years, reflecting the authorities' assessment that indexed gilts have cost and risk advantages for the government. Conventional sales are still to be broadly evenly spread across the short, medium and long-dated maturity bands, but with a slight skew to the short and long ends. The target distribution of 35%/30%/35% takes into account the pattern of refinancing in the near future, and is broadly consistent with a stable portfolio mix in the medium term. It also reflects the greater likelihood of demand for gilt strips in the short and long maturity areas, and the stock maturities that fit more readily into the dual auction format;

- it has been announced that the UK authorities see positive merit in moving to an index-linked auction programme as soon as is feasible, with the aim of further improving the transparency of the borrowing programme. Consultations regarding the form of these auctions will begin as soon as there is sufficient experience of the US indexed bond programme later this year;

- all new benchmark conventional stocks will be strippable when the strips market begins (expected in the autumn of 1997). Dividends on all existing and future issues of strippable gilts will be paid gross of withholding tax from 7 June 1997 onwards. Holders of these stocks will also be exempt from requirements to account for withholding tax on a quarterly basis from this date;

- the dual auction mechanism is to be continued with four dual auctions—one per quarter—planned for 1997/98. The

Table F
Gilt issuance

Date	Stock	Amount issued (£ millions)	Price at issue (per £100 stock) (a)	Yield at non-competitive allotment price (b)	Yield at issue	Yield when exhausted (c)	Average yield (d)	Cover (e) at auctions	Tail (f) at auctions (basis points on yield)	Date exhausted
Auctions of Conventional stock										
28.01.97	7¼% Treasury Stock 2007	2,500	97.6875	7.57	n.a.	n.a.	n.a.	2.17	1	28.01.97
30.01.97	7% Treasury Stock 2002	1,500	99.4063	7.13	n.a.	n.a.	n.a.	3.82	0	30.01.97
26.02.97	8% Treasury Stock 2021	2,500	106.9688	7.38	n.a.	n.a.	n.a.	1.93	1	26.02.97
26.03.97	7¼% Treasury Stock 2007	2,500	97.1875	7.64	n.a.	n.a.	n.a.	3.09	1	26.03.97
Tap Issues of Index-Linked Stock										
17.01.97	2½% Index-linked 2003	150	182.1875	n.a.	3.27	3.27	3.27	n.a.	n.a.	17.01.97
17.01.97	2½% Index-linked 2011	100	178.5000	n.a.	3.49	3.49	3.49	n.a.	n.a.	17.01.97
10.02.97	2% Index-linked 2006	100	195.7500	n.a.	3.19	n.a.	n.a.	n.a.	n.a.	(g)
10.02.97	2½% Index-linked 2024	150	128.5000	n.a.	3.44	3.42	3.43	n.a.	n.a.	14.02.97

n.a. = not applicable.

(a) Non-competitive allotment price.
(b) Gross redemption yield per cent based on the weighted average price of successful competitive bids.
(c) Gross redemption yield or real rate of return (assuming 5% inflation) based on the price when the issue ceased to operate as a tap.
(d) Weighted average gross redemption yield or real rate of return (assuming 5% inflation), based on actual price at which issues were made.
(e) Total of bids divided by the amount on offer.
(f) Difference in gross redemption yield between the weighted average of successful competitive bids and the lowest accepted competitive bid.
(g) Exhausted on 16.04.97.

Table G
Official transactions in gilt-edged stocks

£ billions; *not seasonally adjusted*

	1996/97 Apr.-Dec.	1996/97 Jan.	Feb.	Mar.
Gross official sales (+) (a)	29.1	4.4	3.0	2.4
Redemptions and net official purchases of stock within a year of maturity (-)	-7.5	-1.3	-3.7	0.0
Net official sales (b)	21.6	3.1	-0.7	2.4
of which net purchases by:				
Banks (b)	0.5	-1.4	-1.4	-0.1
Building societies (b)	0.3	0.5	-0.9	0.4
M4 Private sector (b)	13.3	3.6	2.6	2.2
Overseas sector	6.9	0.4	-1.1	-0.1
LAs & PCs (c)	0.7	0.0	0.0	0.0

(a) Gross official sales of gilt-edged stocks are defined as official sales of stock with over one year to maturity net of official purchases of stock with over one year to maturity apart from transactions under purchase and resale agreements.
(b) Excluding repurchase transactions with the Bank.
(c) Local authorities and public corporations.

precise month of the dual auction is to be announced at the end of the preceding quarter, allowing this to be factored into the quarterly consultations with the market; and

- the end-quarter announcements of auction details for the following quarter will now specify precise stocks rather than only maturity ranges, except where further feedback from the market closer to the auction is needed. This further increases the transparency of the gilt issuance process.

The remit was subject to confirmation following the General Election.

Index-linked gilts

In the first nine months of the fiscal year £5.1 billion was raised through index-linked sales, which met 88% of the 1996/97 funding target for the sector (ie that 15% of total gilt sales should comprise index-linked); this meant that only £0.7 billion of index-linked sales were required in this final quarter of the fiscal year in order to meet the target. Over half of this residual requirement was achieved following the exhaustion of a £250 million nominal tap package issued on 17 January (see Table F for details). With the sector untapped since mid-October, demand for index-linked stock had built up and both stocks were exhausted on the day of issue. The successful first auction of US Inflation Indexed Notes (see the accompanying box in this article) stimulated further interest in the sector and, with bond markets continuing to rally, a further tap package was issued on 10 February (see Table F for details). Sales of both taps were made but the subsequent publication of stronger-than-expected UK employment and inflation data saw the market fall back from the Bank's selling levels. The longer-dated tap was exhausted on 14 February after weaker-than-expected US producer prices data resulted in a rally in bond markets, and further sales of the shorter tap were made during the following week. However, towards the end of this period, as financial markets again revised up their expectations of the path of monetary policy in the United States and United Kingdom, real as well as nominal bond yields rose and the price of the outstanding index-linked tap fell significantly below the Bank's selling price. As a result £36 million nominal remained unsold at the end of the financial year. Nevertheless total annual index-linked sales of £5.8 billion

The Government's financing requirement and remit to the Bank of England for 1997/98

Published as part of HM Treasury's *Debt Management Report 1997/98*.

The 1997/98 Borrowing Requirement

The Government will aim to issue debt to finance the Central Government Borrowing Requirement (CGBR) plus maturing debt and any net increase in the foreign exchange reserves.

Any under or overshoot of the gilt sales target for 1996/97 will be carried forward and offset in the target for sales of gilts in 1997/98.

The CGBR for 1997/98 is forecast to be £20.0 billion. Some £19.6 billion of gilts are expected to mature in market hands and need to be refinanced. It is not possible to forecast net changes over the year in the foreign currency reserves and so these are assumed to remain unchanged.

The financing requirement for 1997/98 is therefore currently forecast to be around £39.5 billion, subject to any under or overshoot of gilts sales carried forward from 1996/97 and to any change in the foreign exchange reserves. Table 7 (of the *Debt Management Review 1997/98*, see below) gives full details of all the financing instruments the Government intends to use to achieve this in 1997/98. The Government does not intend to use marketable debt instruments of less than three years maturity to finance the 1997/98 CGBR.

The 1997/98 financing requirement

(Table 7 in the *Debt Management Report 1997/98*)

£ billions (a)

	March 1997	
CGBR forecast	20.0	
Expected net change in official reserves	0.0	
Gilt redemptions	19.6	
Gilt sales residual from 1996/97	n.a.	(b)
Financing requirement	**39.5**	
Less net financing from:		
National Savings	3.0	
Certificates of tax deposit (c)	0.0	
Remaining debt sales required	36.5	
Made up by net sales of:		
Treasury Bills and other short-term debt (d)	0.0	
And gross gilt sales of:		
Ultra-short conventionals (1–3 years)	0.0	
Short conventionals (3–7 years)	10.2	
Medium conventionals (7–15 years)	8.8	
Long conventionals (15+ years)	10.2	
Index-linked gilts	7.3	

n.a. not available.

(a) Figures may not sum due to rounding
(b) Since the remit was published, the gilt sales residual for the 1996/97 fiscal year has been estimated as an overshoot £3.9 billion.
(c) Certificates of tax deposits (CTDs) are deposits made by taxpayers with the Inland Revenue in advance of potential tax liabilities. Changes in the level of CTDs act as a financing item for central government. The working assumption at the beginning of each year is that the level of CTDs remains unchanged.
(d) The level of net Treasury Bill issuance may fluctuate in year as a result of money-market operations.

National Savings

The net contribution of National Savings to financing (including accrued interest) is assumed to be around £3.0 billion (with gross sales of around £12.0 billion). This is not a target, but an estimate based on experience in previous years and forecasts for 1997/98.

Other debt sales

Net sales of central government debt instruments other than gilts and National Savings are expected to make a negligible contribution to financing. In particular, the intention is that net Treasury bill issuance will not contribute to financing the CGBR, although the stock of Treasury bills and the pattern of issuance will fluctuate in the light of the needs of money-market management.(1)

Quantity of gilt sales

The Bank of England, on behalf of the Government, will aim to meet the remainder of the financing requirement by selling gilts to the private sector. On the basis of the 1996 Budget CGBR forecast, this means gilts sales of approximately £36.5 billion, plus or minus any under or overshoot of the gilt sales target carried forward from 1996/97, and any net change in the foreign currency reserves.

Nature of stocks

The Government will continue to have available the full range of financing instruments. Within conventional stocks, the Government will aim for liquid benchmark issues in the five-year, ten-year and long-dated maturity areas. There may also be floating-rate gilt issuance. The aim will be to issue index-linked gilts across the maturity spectrum.

In order to build up the liquidity of the gilt strips market further, the Government intends that all new issues of benchmark stocks in 1997/98 will be strippable from the beginning of the market.

Pace of gilt sales

The Bank will aim to sell gilts at a broadly even pace through the year. Within year seasonal fluctuations in the pattern of Central Government expenditure and revenue will be met by other financing means, including changes to the weekly Treasury bill tender and the Ways & Means advances.

Maturity structure of gilt issues

Over the year as a whole, the Bank of England will aim to make approximately 20% of its gilt sales in

(1) Treasury bill issuance is used to drain the money market so as to provide a basis for the Bank of England's open market operations.

index-linked stocks with the remainder in conventional stocks spread across the maturity ranges, with approximately 35% of issues in both the short (3–7 years) and long-dated (15 years and over) bands and 30% in the medium (7–15 years) band. For 1997/98, there are no plans to meet the financing requirement with marketable instruments of a maturity of less than three years.

Auctions

Auctions will constitute the primary means of conventional gilt sales. The authorities plan to hold auctions on a monthly basis, toward the end of each month on the calendar set out below. Four dual auctions are planned, instead of single auctions, one in each quarter. The actual month in the quarter will be announced in the quarterly calendar announcement. In the case of dual auctions the two stocks will be offered in successive auctions on the Tuesday and Thursday of the week indicated. Single auctions will be held on the day indicated.

Auction calendar 1997/98 (a)

Wednesday 23 April 1997 (b)
Wednesday 21 May 1997
Wednesday 25 June 1997
Wednesday 23 July 1997
Wednesday 27 August 1997
Wednesday 24 September 1997
Wednesday 29 October 1997
Late November/December 1997 (c)
Wednesday 28 January 1998
Wednesday 25 February 1998
Wednesday 25 March 1998

(a) If a dual auction is held instead of a single auction, it will be on the adjacent Tuesday and Thursday.
(b) In the event of the General Election being called for after 21 April, this auction will be reviewed.
(c) This auction date will depend on the timing of the Budget. It will be published in the relevant quarterly auction announcement (see below).

These auction dates may be altered to avoid data releases or monetary policy meetings between the Chancellor and the Governor of the Bank of England.

Each single auction is planned to be for between £2 billion and £3 billion of stock. A dual stock auction will be for between £3 billion and £4½ billion of stock in total, with individual auctions between £1½ billion and £2½ billion.

At the end of each calendar quarter, the Bank of England will announce plans for the auctions scheduled for the coming quarter. For each auction, this will indicate either the stock (where relevant indicating a new stock) or, where further market feedback on the choice of stock would be valuable, the intended maturity range of stock. The announcement will also set out the month of the dual auction to be held that quarter (as noted above). Towards the end of each quarter the Bank will publish details of progress to date with the gilt issuance programme, any changes to the Government's financing requirement and any changes to the gilts auction programme.

The Bank will announce at 3:30 pm on Thursday 27 March 1997, the plans for auctions in the first quarter of 1997/98.

Full details of these, and subsequent, auctions will be announced at 3.30 pm on Tuesday of the week preceding the auction.

Index-linked gilts

To increase transparency in the gilts supply process further, the authorities see positive merit in moving to an index-linked gilt auction programme as soon as is feasible. The market needs to be consulted further on the form of an auction programme (eg format, timing, size). It is the Governments intention that the Bank initiates these consultations as soon as there is sufficient experience of the US indexed bond programme later this year.

Reviews to the issuance programme

The issuance programme, and in particular the timing and nature of auctions (ie single or dual) and the allocation between maturity bands and index-linked, may be varied during the year in the light of substantial changes in the following:

— the Government's forecast of the gilt sales requirement;
— the level and shape of the gilt yield curve;
— market expectations of future interest and inflation rates;
— market volatility.

Any revisions will be announced. This remit will be subject to confirmation following the General Election.

Tap sales

The programme of conventional gilt auctions may be supplemented by official sales of stock by the Bank of England 'on tap'. Taps of conventional stocks will be used only as a market management instrument in conditions of temporary excess demand in a particular stock or sector or when there is an exceptionally sharp general rise in the market. In 1997/98, it is envisaged that conventional tap issuance will not constitute more than about 10% of expected total issuance.

In 1997/98, it is envisaged that index-linked gilts sales will principally be made through tap sales, even if an auction programme is initiated (see above).

After an auction, the Bank will generally refrain from issuing stocks of a similar type or maturity to the auction stock for a reasonable period. Such stock will only be issued if there is a clear market management case.

Coupons

As far as possible, coupons on new issues of gilts will be around gross redemption yields at the relevant maturity, at the time of issue.

Conversions

In order to build up the pool of strippable stocks further, the authorities envisage the Bank of England making offers for the conversion of unstrippable stocks into strippable ones of similar maturity during 1997/98. The programme of conversion offers is unlikely to be extensive. Details of any such offers will be announced in due course, in the light of market conditions.

had been achieved, and the 15% target for index-linked funding was exactly met.

Sectoral investment activity

At £4.8 billion, net investment in gilts in the first quarter of 1997 was low relative to previous quarters, reflecting the weight of redemptions which totalled nearly £5 billion. Within sectors, there were substantial net purchases by the domestic non-monetary sector, of nearly £8.5 billion. The robust buying of gilts by the overseas sector in 1996 was reversed and it was probably a net seller in the quarter. This may be evidence of profit-taking following the initial appreciation of sterling. It is unlikely that the redeemed stocks, the larger of which was non-FOTRA, were significantly held by the overseas sector. The reduction in the holdings of the monetary sector, on the other hand, may largely reflect holdings by banks of the ultra-short stocks redeemed during the year.

Office for National Statistics data, which are as yet only available to end-December, may shed some light on the strong net purchases by the domestic non-monetary sector. These show a picture of high overall institutional investment and, within this, significant net inflows into gilts. Pension funds directed about 50% of their total investment into gilts in 1996, well above the end-1995 portfolio share of around 10%. This may have been motivated by the maturing of funds and the approach of the Minimum Funding Requirement from April 1997. Long-term insurers similarly directed about one third of their net investment into gilts, well above the end-1995 portfolio share of 16%. These trends may have continued into the first quarter of 1997. In addition, the two auctions of the new 7¼% Treasury 2007, expected to be the new ten-year benchmark, and the auction of a further amount of the long 8% Treasury 2021 in the quarter may have been particularly attractive to the large domestic investing institutions.

Technical developments

The Bank's consultative paper on money-market reform, issued in December 1996, proposed ending the requirement for the gilt-edged market makers (GEMMs) to be separately capitalised, reflecting the changing structure of the sterling markets and the fact that the Bank proposed to deal with a wider group of counterparties in the money markets. The proposal was well received, and was adopted with effect from 3 March, the date of the start of the Bank's new money-market operating arrangements. The removal of separate capitalisation enables GEMMs to assimilate their specialist market-making subsidiary into their group-wide securities trading entity. For GEMMs that take this route, existing prudential supervision requirements under the 'Blue book'(1) regime are discontinued, and the business is regulated under Securities and Futures Authority (SFA) rules or, where the GEMM has merged into a bank, under the Banking Act. There is a six-month transitional period (to September 1997) for GEMMs to implement any restructuring plans, after which any remaining separately capitalised entities will transfer to SFA supervision. The Bank's revised 'Blue book', which reflects the end of the separate capitalisation requirement for the GEMMs, is reproduced separately on pages 198–203 of this *Quarterly Bulletin*. It sets out, among

(1) *The future structure of the gilt-edged market*, April 1985.

other things, the Bank's dealing relationship with the GEMMs, and the facilities available to, and obligations of, market makers, and the continuing supervisory arrangements for inter-dealer brokers. On 3 February the Bank published three consultative papers, on: changes to ex-dividend arrangements; decimal and daycount conventions in the gilt market; and conventions for calculating gilt strips prices from yields. The results of the consultation on these papers will be published in due course.

The upgraded Central Gilts Office (CGO) system, due to be inaugurated in August, will in time allow the possibility for dividend and redemption payments to be made direct to CGO members' cash memorandum accounts, rather than outside the system as at present. This possibility was one of the factors behind the Bank's consultative paper on possible changes to the ex-dividend period for gilts. Payment through cash memorandum accounts, combined with the much shorter registration cycle in the upgraded CGO, opens up the possibility of various changes to dividend payment arrangements. The paper sought views on whether to abolish the ex-dividend period for gilts held in CGO, and whether the ex-dividend period for gilts held outside CGO should be reduced from seven working days to five. The paper also asked for views on whether the special ex and special cum-dividend facilities should be amended or dropped.

The decimals and daycounts consultation paper sought views on possible changes to two gilt market conventions: the quotation of price movements in decimals (£0.01 per £100 nominal) rather than fractions (£$^{1}/_{32}$ per £100 nominal), and the use of Actual/Actual rather than an Actual/365 daycount for the calculation of accrued interest. The paper took forward the recommendations relating to gilt market conventions made in the report of the Working Group on the gilt market after EMU.(1) One argument in favour of change was to bring about greater harmonisation between conventions in the gilt market and those in other government bond markets in Europe and the rest of the world.

The consultative paper on conventions for calculating strips prices from yields followed from a round of consultations with the GEMMs on the introduction of the strips market, at which the issue of whether strips should trade on a price or a yield basis was discussed. Of the market makers consulted, the overwhelming majority favoured a yield approach; those indicating a preference for quoting strips on a price basis cited the potential difficulty of agreeing a formula for converting yields into prices as their main reason. Since the market needs to be able to agree a price/yield formula to make the idea of trading strips on a yield basis workable, the Bank published its paper offering the more obvious alternatives for discussion. Once a consensus has been reached, the formula could then be added to the Stock Exchange Rules.

Gilt documentation was issued in a new simplified form from 1 April 1997. From that date, press notices, prospectuses and notices in lieu of prospectus only incorporated information specific to the stock being issued, which made them shorter, clearer and more user-friendly. Other general information and terms relating to

(1) The group, which comprised experts on gilt and EMU issues, including representatives from investors, the Gilt-Edged Market Makers Association, other relevant industry associations, the Stock Exchange, LIFFE, HM Treasury and the Bank of England, published its report on 16 December 1996 as part of the third issue of the Bank's quarterly publication, *Practical issues arising from the introduction of the Euro*.

gilt issuance is now published in an Information Memorandum,[1] a stand-alone document that should be read in conjunction with the prospectus, but which will also be of more general interest. The introduction of shortened documentation does not affect the terms of issue of existing stocks.

UK Government Ecu issuance

The United Kingdom continued to hold regular monthly tenders of ECU 1 billion Ecu Treasury bills during the first quarter of 1997, comprising ECU 200 million of one-month, ECU 500 million of three-month and ECU 300 million of six-month bills. The tenders continued to be over-subscribed, with issues being covered by an average of 2.5 times the amount on offer, the same as the average cover during 1996 as a whole. During the first quarter, bids were accepted at average yields up to 16 basis points below the Ecu Libid rate of the appropriate maturity, with bidding particularly strong in the January tender. There are currently ECU 3.5 billion of UK Government Treasury bills outstanding. Secondary market turnover in the first quarter averaged just over ECU 1 billion per month, slightly lower than the average turnover during 1996.

ECU 500 million of a new three-year Ecu Treasury Note, the sixth in the programme of annual new issues, was auctioned on 21 January. Cover at the auction was three times the amount on offer and accepted bids were in a tight range of 4.16%–4.19%. The settlement date for the new issue coincided with the redemption of the third Ecu Treasury Note, which had ECU 2.5 billion outstanding with the public. The total of Notes outstanding with the public under the UK Note programme thus fell from ECU 6.5 billion to ECU 4.5 billion in January 1997.

(1) Copies of the Information Memorandum are available from the Bank of England Registrar's Department, Southgate House, Southgate Street, Gloucester, GL1 1UW, and it is accessible on the Bank of England's web site, BANKOFENGLAND.CO.UK.