Markets and operations

This article reviews developments in domestic and international financial markets and describes Bank of England market operations in the period 30 June to 8 October 1999.

- *Market interest rates rose in the United States, in response to stronger-than-expected economic growth and in anticipation of the Federal Open Market Committee's decision on 24 August to increase the Federal funds target rate by 25 basis points.*

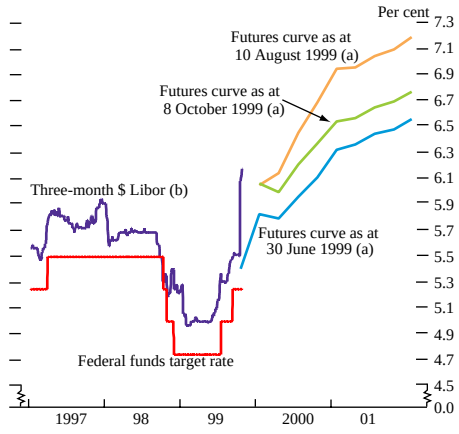
- *The United Kingdom's yield curve also shifted upwards in response to stronger-than-expected activity indicators and, on 8 September, the Bank of England's repo rate was increased by 25 basis points.*

- *In the euro area, official interest rates remained unchanged during the period. Nevertheless, market-based measures of interest expectations rose; three-month rates implied by euribor futures contracts increased by around 35–75 basis points. In contrast, market interest rates fell in Japan.*

- *Expectations of increases in official interest rates and concerns about equity valuations in some countries led to falls in equity indices in the United States, the euro area and the United Kingdom. Partly linked to these developments, the US dollar's exchange rate index depreciated by 5%, while that of the yen appreciated by 11%.*

- *On 31 August, the Bank of England permanently extended the range of securities eligible for use in its repo operations. And on 20 September, the Bank announced a new temporary longer-term repo facility. Both actions will help to promote orderly conditions in the sterling money markets over the period spanning the Millennium date change.*

Chart 1
US official and market interest rates



Source: Bloomberg.

(a) Interest rates implied by eurodollar futures contracts at the three dates specified. From September 1999, the x-axis relates to contract expiry dates.
(b) Three-month Libor increased at the end of September 1999 when the rate started to encompass the calendar year end.

International markets(1)

US developments

Concerns about further possible increases in US official interest rates were an important influence on world financial markets for much of the period, following the policy tightening announced on 30 June. By the time of the Federal Open Market Committee (FOMC) meeting on 24 August, most market participants had come to expect the announced 1/4 percentage point increase in the Federal funds target rate to 5.25%. Relief that there was no announcement of a bias towards tighter policy led market interest rates to fall. At its meeting on 5 October, the FOMC left the target rate unchanged but adopted 'a directive that was biased toward a possible firming of policy going forward', and this was followed by a modest rise in market interest rates.

By 8 October, the three-month interbank rate implied by eurodollar futures for March 2000 was 6.0%, around 20 basis points higher than at the end of June (see Chart 1). Federal funds futures, which provide a clearer indication of expected official interest rates, implied an average Federal funds rate of 5.6% for March 2000.(2)

(1) Further discussion of international economic developments can be found in 'The international environment' article on pages 344–52.
(2) Each month's Federal funds futures contract settles on the simple average of the effective overnight Federal funds rate for that month.

The short-term interest rate curve implied by eurodollar futures shifted up over the period: interest rates for March 2001 and March 2002 increased by 20 basis points. However, at the end of the period, the yield curve implied by eurodollar futures was as much as 40 basis points below the peak reached on 10 August.

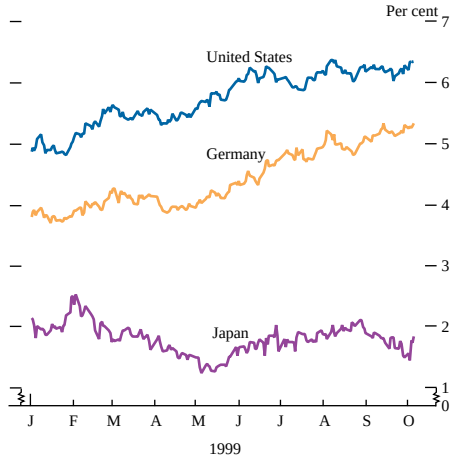
The December 1999 eurodollar futures contract has been affected by concerns that liquidity conditions may deteriorate around the year end because of potential Millennium-related IT problems. The interest rate implied by this contract fell by nearly 10 basis points following the Federal Reserve's announcement, on 8 September, of measures to address liquidity concerns over this period. These included: repos with extended maturities of up to 90 days; an expansion of eligible collateral to include *inter alia* some mortgage-backed securities; and auctions of options to participate in repo transactions with the Federal Reserve Bank of New York in the period around the Millennium date change.(1) Three-month dollar Libor increased by around 60 basis points when the rate began to encompass the year end, reflecting the interest rate premium on lending over that period (see Chart 1). However, Libor is an offshore lending rate, and may not accurately reflect the premium on lending in domestic dollar markets over the year end if lenders differentiate between US-based and overseas-based institutions.

US inflation outturns, as measured by the PPI and CPI, were below expectations in Q3; short-term market interest rates fell in response to these data releases. But other data led market interest rates to rise. Both the May and July trade figures (released on 20 June and 21 September respectively) triggered large increases in money-market rates, as did some of the monthly labour and retail sales releases. However, data announcements which precipitated substantial falls in equity prices also tended to diminish concerns that interest rates might need to rise—because of the anticipated negative effect of lower equity prices on personal sector wealth and corporate balance sheets, and thus on aggregate demand. Towards the end of the period in particular, implied future interest rates tended to fall on days when US equity prices fell. The main US equity market indices ended the period lower (see the box on pages 330–31).

Ten-year Treasury yields averaged slightly above 6.1% in Q3, around 40 basis points higher than the second-quarter average (see Chart 2), but moved in a narrower range than in the previous four quarters. The Treasury market responded to domestic economic data in much the same way as the eurodollar futures market. However, the spread between US swap rates and Treasury yields widened further in Q3, and exceeded the levels seen during the financial turbulence of autumn 1998, with the ten-year US swap spread reaching 110 basis points at times (see Chart 3).

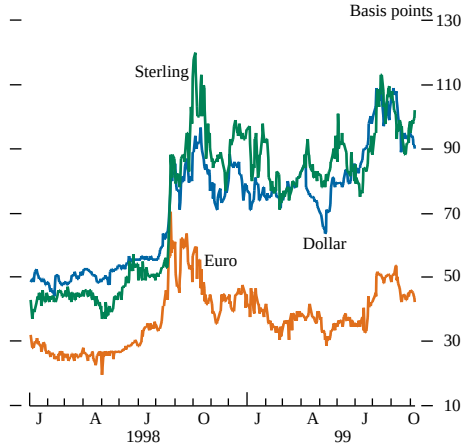
The widening of swap spreads is unlikely to have reflected perceptions of greater credit risk alone; US corporate bond spreads over US Treasuries rose by much less.(2) There are four possible explanations.

Chart 2
Nominal ten-year government bond yields(a)



(a) Derived from Svensson par yield curves.

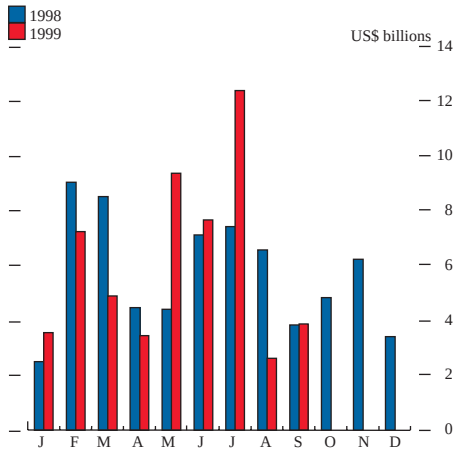
Chart 3
Ten-year swap spreads, by currency



Source: Bloomberg.

(1) For further details of the Federal Reserve's arrangements, and those of other central banks, see Issue 6 of the Bank of England's *Financial Sector Preparations for the Year 2000* series. On 21 October, the Federal Reserve made an additional Y2K announcement, expanding the collateral acceptable for discount window and payment system risk purposes.
(2) The ten-year US corporate bond spread for AA-rated corporate bonds widened from around 100 basis points at end June to 115 basis points on 8 October. Its peak was around 125 basis points, reached in early August.

Chart 4
US corporate dollar-denominated bond issuance[a]



Source: Capitaldata Bondware.

(a) Internationally targeted issuance by private sector banks, other financial institutions, utilities and other corporates.

First, US corporates are understood to have brought forward debt issuance from Q4 in order to avoid possible funding difficulties close to the Millennium date change. Chart 4 illustrates the sharp increase in US corporate bond issuance in July. Because of fears of an increase in short-term interest rates, corporate issuers may have been less inclined than usual to enter into swaps to pay floating and receive fixed interest. Such a fall in the demand to receive fixed interest would lead swap rates to rise in absolute terms, and perhaps also relative to US Treasury yields. At the same time, the increase in corporate issuance may have required underwriters to carry significant inventory. With liquidity in the Treasury market diminishing, and with market participants more aware of the basis risk involved in hedging a corporate issue by forward selling government paper, these transactions are being hedged increasingly by paying fixed interest in a swap transaction. A switch by underwriters towards hedging through swaps, rather than US Treasuries, increases the demand to pay fixed, putting upward pressure on swap rates and spreads.

Second, there may also have been a similar change in hedging behaviour associated with mortgage-backed securities. When longer-term interest rates rise, the probability of early repayment of fixed-rate mortgages declines and so their effective duration lengthens.[1] The holders of mortgage-backed assets typically offset this increase in duration by selling longer-duration government bonds. However, this adjustment is also increasingly being accomplished by paying fixed income in the swap market. Increased demand to pay fixed will have put upward pressure on swap rates. At the same time, there will have been less upward pressure on Treasury yields, leading swap spreads to widen.

Third, on 4 August, the US Treasury announced proposals to buy back Treasury notes and bonds over the next ten years, as a result of its strong fiscal position. This may have increased the premium on Treasury securities over private sector assets.

Fourth, increasing concerns about market conditions over the Millennium date change may have strengthened the demand for Treasury securities, because they are eligible for use in the Federal Reserve's open market operations, thus widening swap spreads.

By 8 October, the ten-year dollar swap spread had narrowed to 90 basis points, still high by historical standards. Three factors may explain the narrowing. First, US corporate bond issuance is believed to have declined in August and September (see Chart 4), reducing underwriters' inventories and their recourse to hedging via swaps. Second, it is possible that hedging activity associated with the lengthening duration of mortgage-backed securities declined. Third, some of the narrowing in spreads coincided with the Federal Reserve's announcement of its year-end liquidity measures, which may have eased concerns about poor market conditions over the year end. The decision to expand the range of eligible collateral reduced the premium of Treasuries over private sector assets, including mortgage-backed securities in particular.

(1) Duration measures the average life of a bond, weighted by the size and frequency of a bond's coupon payments and the repayment of principal. If cash flows are postponed, the duration of the bond increases. The longer the duration of a bond, the greater the bond's price sensitivity to a given change in interest rates.

International equity market valuations

Equity prices fell during the third quarter in the United States, and the United Kingdom and were almost unchanged in Germany (see the table below). The September Merrill Lynch Fund Managers Survey indicated that a majority of fund managers continue to regard US equities as overvalued. However, the degree of perceived overvaluation has fallen (see Chart A).

International equity market performance

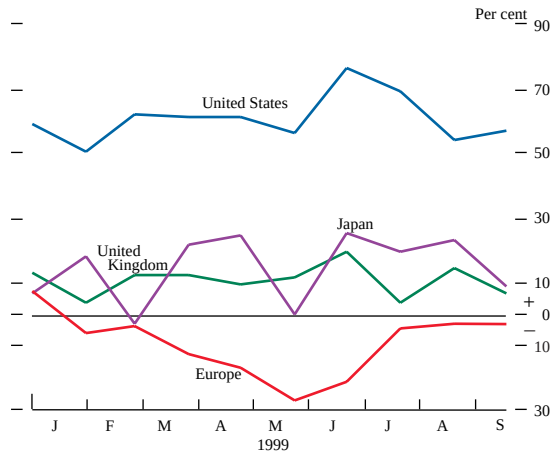
Percentage changes between ends of period, in local currencies

Index	1998 Year	1999 Q1	Q2	Q3 (a)
United States				
S&P 500	26.7	4.6	6.7	-2.7
Dow Jones 30	16.1	6.6	12.1	-2.9
Nasdaq	39.6	12.3	9.1	7.5
Europe				
FTSE 100	14.5	7.0	0.4	-1.9
Dow Jones Euro Stoxx 50	32.0	6.5	6.4	-0.1
Dax (Germany)	17.7	-2.4	10.1	0.8
CAC 40 (France)	31.5	6.5	8.1	4.1
Japan				
Nikkei 225	-9.3	14.4	10.7	3.0

Source: Bloomberg.

(a) 1 July–8 October 1999.

Chart A
Balance of fund managers saying that equity markets are overvalued



Source: Merrill Lynch.

One way to assess market valuations is to use the conventional equity valuation model: the dividend discount model. This states that the current equity price, P_t, is equal to the present value of future dividends expected at time t:

$$P_t = \sum_{i=1}^{\infty} \frac{D^e_{t+i}}{(1+\rho_t)^i} \qquad \textbf{(1)}$$

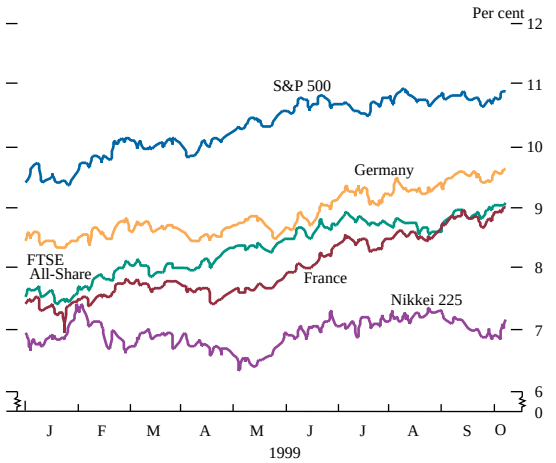
where ρ_t is the relevant discount rate. If dividends are expected to grow at a constant rate, g^e_t, then equation **(1)** can be simplified and rearranged as:

$$g^e_t = \frac{\rho_t - d_t}{1+d_t} \qquad \textbf{(2)}$$

where d_t is the prevailing dividend yield (D_t/P_t). The discount rate is assumed to consist of a risk-free component and a premium for the risk associated with the return on equities. If we assume that government bond yields are a good proxy for the risk-free rate and that the equity risk premium is constant, then we can use the formula above to trace out the expected growth rate of dividends implicit in market valuations. In what follows, the ten-year nominal bond yield is used as a proxy for the risk-free rate and an equity risk premium of 6% is assumed, consistent with historical evidence of the excess returns on equities relative to bonds.

It is interesting to see how these implicit expected dividend growth rates change over time in each market and how the levels compare across markets. Chart B shows that in all markets except Japan, implied future nominal dividend growth rates have increased since the beginning of the year. However, they have remained broadly constant in the United States in recent months. This finding is consistent with changes in the short-term outlook for growth in these economies: the United States is expected to slow as growth in Europe picks up. Implied future dividend growth in the United States appears high relative both to other countries and to historical experience. This perhaps explains fund managers' concerns about valuations. However, one qualification is that the above calculation assumed a constant equity risk premium of 6%. In practice, we do not know the current level of the equity risk premium, and historical experience may not be a good guide to its current size.

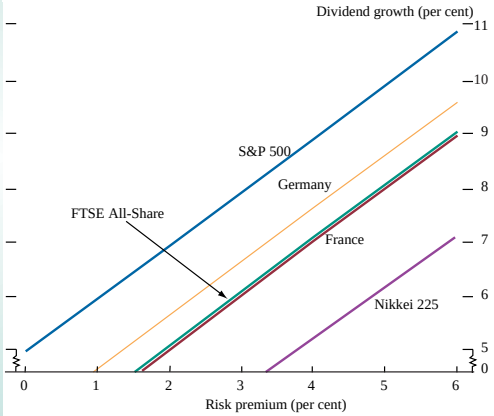
Chart B
Implied nominal dividend growth rates



Sources: Bank of England and Datastream.

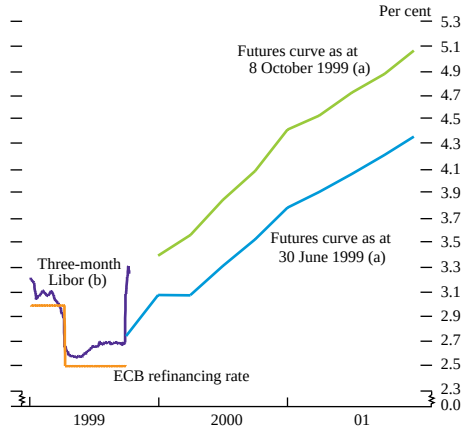
Chart C shows future dividend growth rates implicit in market valuations, based on different assumed values of the equity risk premium. It indicates that the equity risk premium would have to be close to zero for the 8 October valuation of the S&P 500 to be consistent with the historical growth rate of US nominal dividends of 5¼%. It is of course possible that recent changes in technology may have raised the trend growth rate of dividends, or that the volatility of business cycles and hence the equity risk premium has fallen. Hence, current valuations suggest either that the equity risk premium is lower than historical excess returns, or that dividend growth will be higher in the future than in the past. Chart C also indicates relatively high dividend growth expectations in Germany, France and the United Kingdom.

Chart C
Implied nominal dividend growth/risk premium trade-offs as at 8 October 1999



Sources: Bank of England and Datastream.

Chart 5
Euro-area official and market interest rates



Source: Bloomberg.

(a) Interest rates implied by euribor futures contracts at the two dates specified. From September 1999, the x-axis relates to contract expiry dates.
(b) Three-month Libor increased at the end of September 1999 when the rate started to encompass the calendar year end.

Euro-area developments

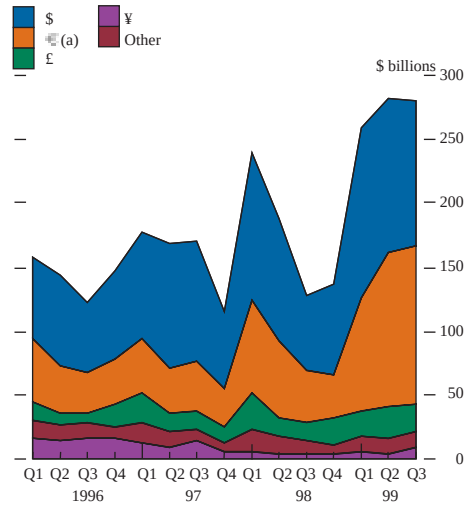
Euro-area official interest rates remained unchanged in Q3, but market expectations of a rise in the ECB's repo rate grew. Short-term interest rates implied by euribor futures increased over the quarter, by around 30 basis points for end 1999, 60 basis points for end 2000 and 70 basis points for end 2001 (see Chart 5). Similarly, business economists' rate expectations increased by around 40 basis points over the period.(1) Bund yields increased by some 50 to 80 basis points for all maturities (ten-year yields are shown in Chart 2).

Market interest rates increased in response to signs of a strengthening economic outlook for the euro area, accompanied by perceptions in the market that a bias to tighten monetary policy was gradually creeping into the ECB Governing Council's discussions. PMI surveys for the largest euro-area economies and M3 data releases for the euro area as a whole were generally stronger than expected. In France, activity measures such as industrial production and consumer expenditure, as well as measures of business and consumer confidence, also exceeded expectations. Consequently, business economists revised their forecasts for French GDP growth upwards. In Germany, confidence indicators were strong, but activity measures were generally weaker than expected. News of higher German import prices (largely reflecting an increase in the price of oil) raised interest rate expectations, but there was little market reaction to euro-area PPI and CPI data. The euro exchange rate (see below) was also an important influence on interest rate sentiment, especially in July, when the euro fell to a new low against the dollar.

Although euro-denominated non-government international bond issuance remained high in Q3 (see Chart 6), euro swap spreads remained much narrower than in the United States and the United Kingdom (see Chart 3). This may have reflected the greater supply of government debt in the euro area. Nonetheless, euro swap spreads did widen over the quarter, influenced by some of the same factors that affected dollar swap spreads.

(1) A Reuters poll of business economists, conducted on 4–6 October, found the average forecast of the ECB repo rate to be 3.1% for July 2000, up from 2.7% three months earlier. The July 2000 forecast is interpolated for the 4–6 October poll (from forecasts for April 2000 and October 2000). The business economists polled differed between the two surveys.

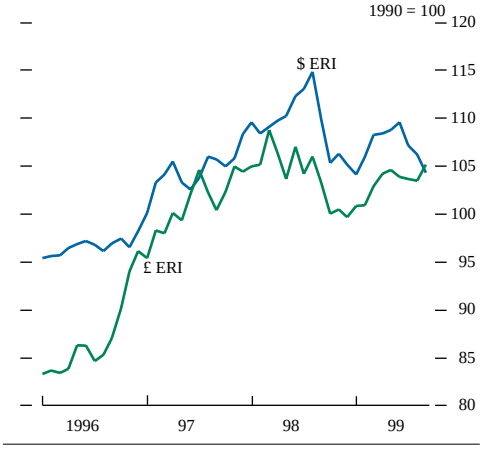
Chart 6
Non-government international bond issuance, by currency



Source: Capitaldata Bondware.

(a) Based on issuance in the eleven euro-area legacy currencies before 1 January 1999.

Chart 7
US dollar and sterling effective exchange rates



Japanese developments

Japanese market interest rates continued to fall over the period as the Bank of Japan (BoJ) maintained its policy of near-zero overnight call money rates and as the yen appreciated. By 8 October, three-month interest rates implied by euroyen futures were around 50 basis points lower than at the end of June, at around ½% for end 2000, rising to around 1% for end 2001. Data releases generally showed improving economic conditions in Japan. When stronger-than-expected data were released, interest rates implied by futures tended to increase. On balance, however, statements by the BoJ about its policy intentions tended to have a greater impact and short-term market rates fell. This contrasted with the rise in the Nikkei and the appreciation of the yen in response to the same data releases.

Yields on ten-year Japanese government bonds (JGBs) rose slightly in July and August, before falling back in September (see Chart 2). The principal stimulus for rising JGB yields was probably changing market sentiment about the likelihood of an increase in fiscal spending. Some market participants were concerned that the supply of JGBs would increase if greater reliance were placed on fiscal rather than monetary policy to promote economic growth. In September, the main factor behind the fall in ten-year yields was the strength of the yen. Falling bond yields were sometimes also associated with large falls in the Nikkei index. Speculation by market participants that the BoJ might increase money-market liquidity further by buying JGBs may also have been an influence.

Foreign exchange markets

The US dollar depreciated in the period under review, by 11.2% against the yen and by 4.6% and 2.9% against sterling and the euro respectively. Its exchange rate index fell by 5.0% (see Chart 7).

The dollar's depreciation occurred in spite of monetary policy tightening by the FOMC and a rise in the US yield curve over this period (see above).(1) To some extent, this reflected the fact that US market interest rates increased by less than in other currencies (including sterling and the euro). But, in addition, the dollar seemed more sensitive to the performance of the US stock market than to shifts in the yield curve. Falls in equity prices tended to be accompanied by falls in the dollar: the correlation coefficient for daily returns in the S&P 500 index and changes in the euro-dollar exchange rate was more than 0.5 during this period (compared with an average of around 0.25 in the first half of the year). One possible explanation is that the news that made a rise in interest rates seem more likely—such as stronger-than-expected economic data—made market participants more concerned about the outlook for US domestic demand and the prospect of a sharp correction in equity prices (see the box on pages 330–31). This news may also have increased concerns about the financing of the US current account deficit.(2) US equities and the dollar both fell after the FOMC announcement on 5 October that it had adopted a bias towards tightening monetary policy. Data from options markets suggest that, at the end of the period, investors had a preference for

(1) It is possible to decompose movements in exchange rates into those that result from changes in either domestic or overseas interest rate changes—so-called 'monetary news'—and those that result from other factors: see 'Decomposing exchange rate movements according to the uncovered interest rate parity condition' by Brigden, Martin and Salmon, *Bank of England Quarterly Bulletin*, November 1997, pages 377–89.

(2) The US current account deficit, currently some 3½% of GDP, was financed in 1998 by net foreign purchases of US bonds ($224 billion), net foreign purchases of US equities ($43 billion) and net foreign direct investment ($193 billion).

Chart 8
Dollar-euro exchange rate

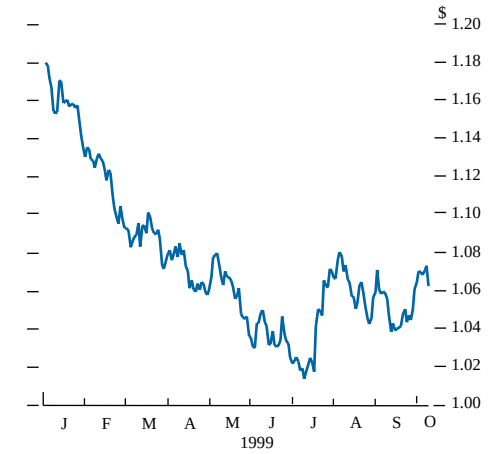


Chart 9
Yen exchange rates

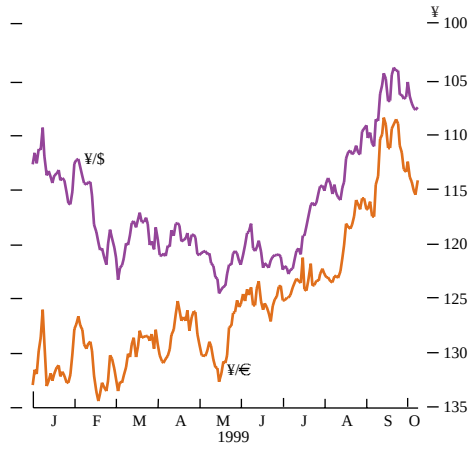
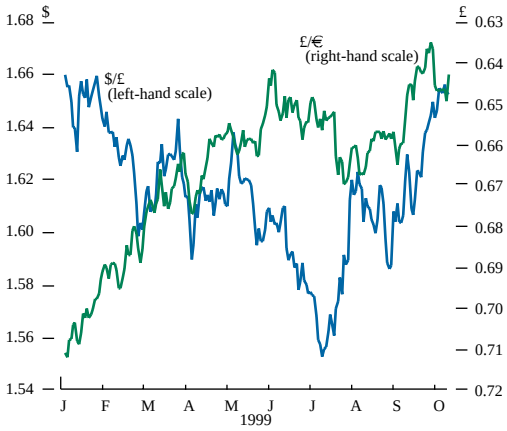


Chart 10
Sterling exchange rates



protection against dollar depreciation against the yen, the euro and to a lesser extent the pound, rather than protection against dollar appreciation.(1)

The exchange rate index of the euro fell by 1.0% between 30 June and 8 October. The euro appreciated by some 3% against the dollar, but depreciated by 8.6% against the yen and 1.8% against sterling (see Charts 8, 9 and 10).

The euro continued to depreciate against the dollar until mid July, reflecting ongoing concerns about the prospects for growth in the largest euro-area countries and amid increasing market speculation about the possibility of parity with the dollar being breached. On 14 July, the euro reached a low of just above $1.01¼. Thereafter it recovered, with the change in sentiment said to reflect both increasing optimism about the outlook for the euro-area economy, a perceived increase in the probability of a rise in official rates by the ECB, and concerns about possible weakness in US asset markets.

The Japanese yen appreciated against all major currencies during the period, and the yen exchange rate index rose by 11.1%. On 15 September, the yen reached a three-year high against the dollar, close to ¥103¼, and a record high against the euro of around ¥107 (see Chart 9). The appreciation of the yen partly reflected the unexpected strength of the Japanese economy. The prospect of stronger growth attracted capital inflows into Japan as foreign investors sought to increase their exposure to yen assets. Merrill Lynch's regular surveys of the asset allocation intentions of US fund managers suggested that the demand for Japanese equities continued to be strong. Japanese institutions are also thought to have sold loss-making foreign (particularly euro) assets and converted the proceeds into yen ahead of the half-year end on 30 September. So flows between euros and yen occasionally attracted more market attention than flows in the normally more active dollar-yen market.

The Bank of Japan was reported to have intervened on three occasions in July and twice in September, selling yen and buying dollars, in order to moderate the yen's appreciation. Although the yen continued to appreciate, the market remained nervous about the possibility of further intervention. As already noted, data from options markets suggested that, at the end of the period, investors continued to have a preference for protection against further yen appreciation against the dollar; and implied volatilities remained above their historical average levels.

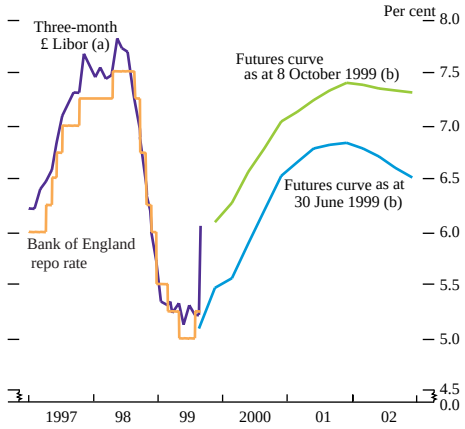
Sterling

Sterling appreciated over the period by 1.8% against the euro and by 4.9% against the dollar (see Chart 10), but depreciated by 6.9% against the yen. Its exchange rate index (in which the euro has a 65% weight) rose by 1.7%. Relative interest rate movements help to explain sterling's rise against the dollar and the euro.

In July and August, sterling continued to receive support from actual and anticipated mergers and acquisitions activity, with inward takeovers of UK companies generating demand for sterling in excess of the supply generated by outward takeovers by UK

(1) Risk reversals showed dollar puts to be more expensive than dollar calls.

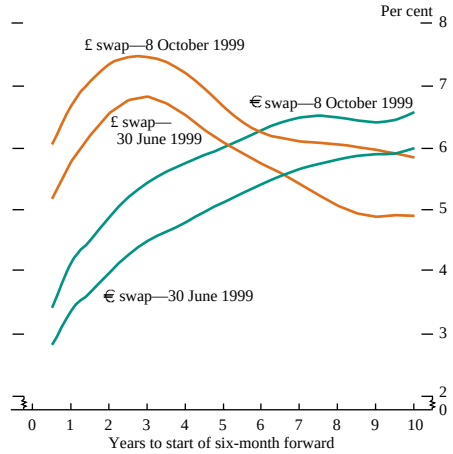
Chart 11
UK official and market interest rates



Sources: Bank of England and Bloomberg.

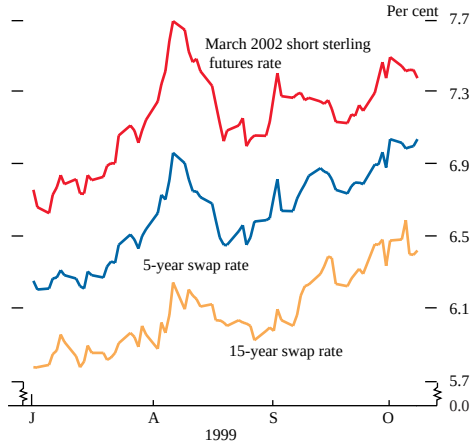
(a) Three-month Libor increased on 1 October 1999 when the rate started to encompass the calendar year end.
(b) Interest rates implied by short sterling futures contracts on the dates specified. From September 1999, the x-axis relates to contract expiry dates.

Chart 12
Sterling and euro six-month forward swap rates



Sources: Bank of England and Bloomberg.

Chart 13
UK futures and swap rates



Source: Bloomberg.

companies. However, sterling was influenced primarily by sentiment towards other currencies, rather than by UK-specific factors. Sterling more than reversed its Q2 decline against the dollar in this period, and reacted little to UK data releases, even those that differed substantially from market expectations. Likewise, sterling's depreciation against the euro in August seemed mainly to reflect the euro's recovery.

Following the MPC's decision to increase UK interest rates on 8 September, sterling appreciated sharply. Towards the end of the period it reached an eight-month high against the dollar of around $1.66 and a record high of £0.632 against the euro (equivalent to just under DM3.10). Sterling's exchange rate also appeared to be boosted by continuing demand related to the inward takeover of UK companies. The MPC's decision to leave official interest rates unchanged on 7 October was accompanied by a small appreciation of sterling.

Sterling markets

Interest rates

The MPC left the Bank's repo rate unchanged at 5.00% at its July and August meetings. Although both of these outcomes were widely expected, a sharp market reaction followed the August announcement (see below). On 8 September, the MPC voted to raise the repo rate by 25 basis points to 5.25% (see Chart 11). This was the first increase since June 1998, and its timing came as a surprise to most market participants; the interest rate implied by the December 1999 short sterling futures contract immediately increased by roughly the full amount of the policy change. The Bank's repo rate was left unchanged at the October MPC meeting, as the market had expected.

Reflecting the rise in the Bank's repo rate in September and increasing evidence of the strength of domestic activity, future interest rates implied by futures and swap markets rose during the period. The six-month forward interest rate curve derived from the swap market shifted up by around 60 basis points at five years and 95 basis points at ten years, and the implied peak in interest rates moved forward slightly, suggesting that it would be reached sooner (see Chart 12).

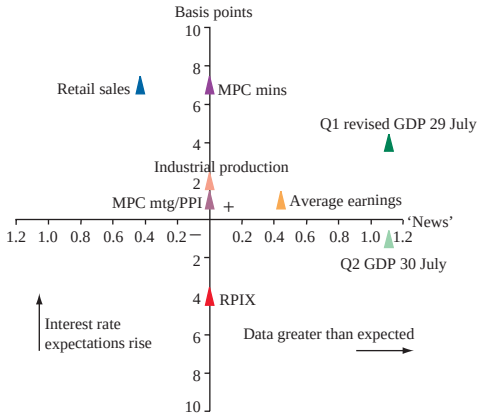
Much of the rise in sterling interest rates occurred during the second half of July and the first week in August (see Chart 13). In early July, many market participants thought that a further lowering of the Bank's repo rate was possible, but talk of a 5% 'floor' emerged as the month progressed. The MPC minutes published on 21 July reinforced this view; market commentary noted the Committee's discussion of the possible need to reverse June's repo rate reduction. Implied future interest rates also rose in response to stronger-than-anticipated data released in July for average earnings, Q1 GDP and retail sales (see Chart 14).(1) Oil prices continued to rise and there were indications that UK house price inflation was gathering pace. Reflecting these developments, most private sector economists revised their projections for UK growth upwards during the third quarter—the mean forecast for growth in 1999 derived from Consensus Economics' early October survey rose to 1.7%, from 0.9% in mid June. Rising interest rate expectations in the

(1) Although the monthly change in June retail sales was weaker than expected, the rise in the annual growth rate, which reflected revisions to back data, came as a surprise.

CONNECT

On 6 September, the London International Financial Futures and Options Exchange (LIFFE) listed three-month short sterling futures contracts for intra-day trading on LIFFE CONNECT, the electronic screen-based trading system. CONNECT is being run in tandem with the open outcry system until 19 November. The percentage of trade transacted on CONNECT was steady in the first month, averaging 24% of total trading in these contracts. Intra-day electronic trading was extended to LIFFE's euribor and eurolibor three-month futures contracts on 20 September.

Chart 14
Effect of July data releases on interest rate expectations(a)



Sources: Bank of England and Bloomberg.

(a) 'News' is measured as the data outturn minus the median survey-based market expectation, divided by the standard deviation of past surprises. Interest rate expectations are measured by the change in the interest rate implied by the September 1999 short sterling futures contract between close of business the day before the data release and close of business on the day of the data release.

Table A
Interest rate expectations for December 2000

Per cent

	14–16 July	2 September	30 September
Short sterling futures (a)	6.36	7.03	6.96
Reuters survey (b)	5.38	5.77	6.03
Difference	*0.98*	*1.26*	*0.93*

Sources: Bloomberg and Reuters.

(a) Adjusted to remove year-end effects by interpolating interest rates implied by September 2000 and March 2001 contracts. Contracts settle on three-month Libor.
(b) Economists' forecasts relate to the Bank's repo rate at end December 2000.

United States and the euro area added to the upward pressure on UK money-market interest rates.

In addition, market anecdote continued to identify the unwinding of EMU convergence positions as an influence on futures and swap rates. These positions were initially established in the expectation that UK and euro interest rates would converge over the next few years, with short-dated UK rates falling and long-dated UK forward rates rising to euro-area levels (see Chart 12). Following the European Parliament elections, markets became less confident of early UK participation in the single currency, and there were sales of longer-dated UK sterling futures contracts and operations in the swap and bond markets to receive forward fixed interest. These position-closing transactions may help to explain the sharp rise in interest rates implied by short sterling futures and the continuing downward pressure on the long end of the yield curve in late July and early August (see Chart 13).

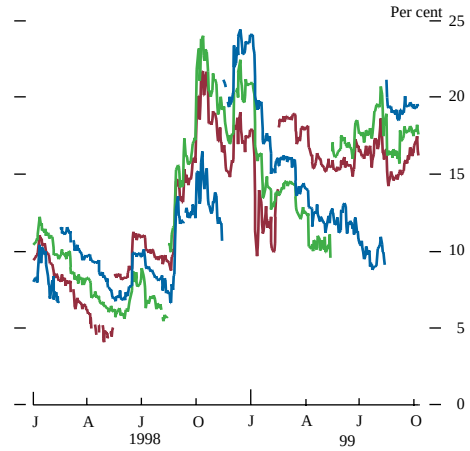
At times, short-term market positioning may also have exaggerated these interest rate movements. For example, although the market was not surprised when the Bank's repo rate was left unchanged at the August MPC meeting, some traders had expected a 'relief' rally (a rise in the price of the futures contracts) to follow. When this failed to materialise, these traders sold their loss-making futures contracts, pushing implied rates higher.

Over the summer, future short-term interest rates implied by the short sterling futures market diverged from those forecast by private sector economists (polled by Reuters). On 14–16 July, the difference between these two measures of interest rate expectations for the December 2000 period was nearly 100 basis points (see Table A). This gap widened to around 125 basis points in early September. The two measures of expectations are not directly comparable, however. The futures contracts relate to three-month Libor, and this is usually higher than the Bank's official two-week repo rate, to which the polls refer.(1) Furthermore, the size of this difference will be greater when interest rates are expected to rise. Nevertheless, even allowing for these considerations and for the possibility of genuine differences in rate expectations between economists and traders, the gap still appears unusually large. Two factors may help to explain it. First, increased risk-aversion (associated with a desire for lower leverage among some fund managers) may have inhibited market participants from pushing the rates implied by futures markets closer into line with economists' expectations. And second, the rapid change in market participants' views about the likely date of the turning-point in the interest rate cycle may have prompted significant position-closing sales of futures contracts. This, combined with the closing of EMU convergence trades described above, could have pushed interest rates implied by futures markets to levels which exceeded actual interest rate expectations.

Implied volatilities derived from options on short sterling futures contracts were high by recent historical standards in Q3 and in some cases rose during the period (see Chart 15). Volatilities did not return to the levels seen at the height of the Russian and Long Term Capital Management crises last year, but were much higher than in the first half of 1998. The high volatility measures may be

(1) For a fuller discussion of the relationship between Libor and the Bank's repo rate, see the November 1997 *Quarterly Bulletin*, page 331.

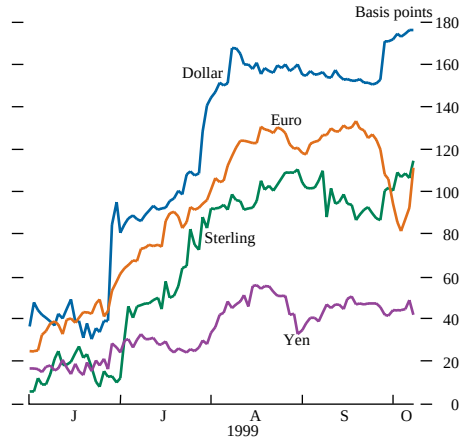
Chart 15
Implied volatility of front three short sterling contracts(a)



Sources: Bank of England and Bloomberg.

(a) Contracts switched one month prior to expiry date.

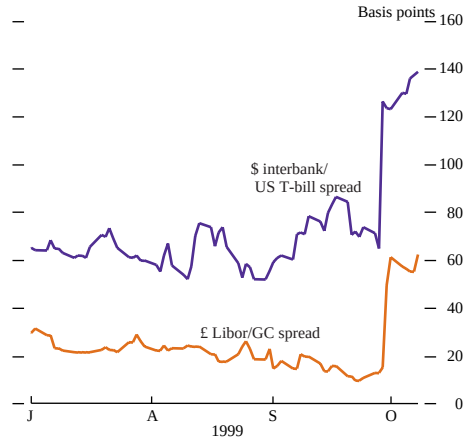
Chart 16
December interest rate premium(a)



Sources: Bank of England, Bloomberg and BBA.

(a) Measured as the difference between the December one-month forward interbank rate and the average of the November and January one-month forward interbank rates.

Chart 17
Spreads between unsecured and secured three-month lending rates(a)



Sources: Bank of England and Bloomberg.

(a) For the United Kingdom, £ Libor rate minus GC repo rate. For the United States, $ interbank rate minus Treasury bill yield.

further evidence of increased risk-aversion, but they could also have been influenced by rapid portfolio adjustments as interest rates appeared to reach a turning-point.

Unsecured deposit rates continued to be affected by year-end factors. Chart 16 plots the interest rate spread between the interbank one-month forward rate implied for December and the average of the forward rates implied for November and January in the United Kingdom, United States, Japan and the euro area. In the United Kingdom, this spread rose from around 20 basis points in June to around 100 basis points by the second half of August, and has maintained this level since. Also, as from 1 October, when the repayment date of three-month interbank deposits moved into the year 2000, the spread of three-month sterling Libor against the three-month general collateral (GC) repo rate widened sharply to around 60 basis points, from around 15 basis points (see Chart 17). US money markets experienced similar developments.

Other influences on short-term interest rates were the Bank's permanent extension of the range of collateral eligible for use in open market operations (described on page 341) and its announcement on 20 September of a temporary longer-term repo facility over the year end, enabling counterparties to repo eligible securities to the Bank for a longer term than in its usual market operations. Following the latter announcement, the implied interest rate for the December short sterling futures contract fell slightly relative to the interest rates implied by 2000 contracts, suggesting a reduced premium for lending over the year end.

Conventional gilts

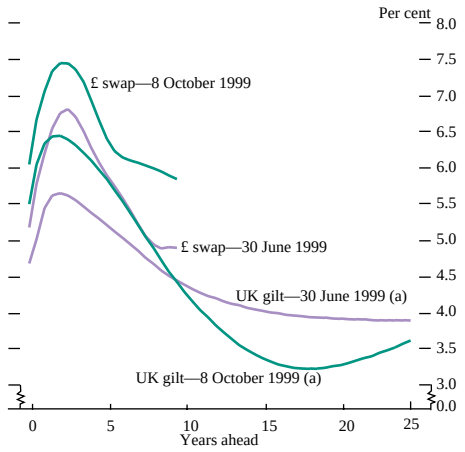
Nominal par gilt yields rose during the period under review, by around 90, 60 and 10 basis points for 2, 10 and 25-year maturities respectively.(1) Thus the gilt curve inverted further during the period. Movements in short-dated gilt yields and swap rates were broadly similar, but at the ten-year maturity and beyond swap spreads widened. Six-month forward rates derived from gilts also increased by around 90 basis points at two years but were unchanged at the ten-year horizon, and fell further out along the curve (see Chart 18).

Following the Bank's announcement on 30 July of its plans to extend the range of collateral eligible for use in its daily repo operations, the yield on short-dated gilts (notably 8% Treasury 2000 and 10% Treasury 2001) rose. This reflected lower demand to hold gilts for use in repo operations since UK banks would in future have a much wider choice of assets to hold to meet their liquidity needs.

The rise in longer-dated gilt yields was dampened by the ongoing and relatively price-insensitive demand from UK insurance companies and pension funds for such assets. Many funds buy long-dated fixed interest debt to hedge guaranteed minimum annuity rates. In addition, the Minimum Funding Requirement, applied under the Pensions Act 1995, continues to be cited as encouraging the holding of long-dated conventional and index-linked gilts; demographic change will tend to increase this demand.

(1) Derived from the VRP fitted curve. For an explanation of this fitting technique, see the article on pages 384–92.

Chart 18
UK gilt and swap six-month forward rates(a)



(a) Derived using the VRP curve fitting technique.

Table B
Gilt market turnover

£ billions nominal value

	1998			1999		
	Q2	Q3	Q4	Q1	Q2	Q3
Gilts						
Conventional	406	411	347	368	357	233
Index-linked	11	7	7	7	7	3
Total	**417**	**418**	**354**	**375**	**364**	**236**
Futures						
Long gilt futures contract (a)	316	419	241	262	231	211

Sources: London Stock Exchange and Bloomberg.

(a) Relates to the front two contracts traded in the quarter.

Two other developments during the period moderated institutional demand for longer-dated gilts. First, on 6 July the Inland Revenue announced new options to make tax-approved occupational pension schemes more flexible. The changes related to the rules governing the payment of additional voluntary contributions (AVCs), and were interpreted by markets as suggesting that pension fund demand for long-dated gilts would be lower. And second, on 9 September, the High Court ruled that the Equitable Life Assurance Society had discretion on granting guaranteed rates of annuity. The ruling was interpreted by market participants as indicating that there could be less demand from life assurance companies to hold and purchase long-dated gilt-edged stocks; as a result, yields in this part of the curve edged higher following the ruling.

Participants talked of poor liquidity conditions in the gilt market during Q3, particularly for longer maturities. Turnover in the gilt market fell sharply in Q3 to £236 billion, from £364 billion in Q2 (see Table B). Furthermore, the total volume traded by the front two long gilt futures contracts also declined during the quarter. This deterioration in liquidity seems to be largely related to the limited supply of gilts and the continuing strength of price-insensitive demand, mentioned above. In an attempt to help liquidity at the long end of the yield curve, the UK Debt Management Office (DMO) issued a nominal £400 million tap of 6% Treasury 2028 at the beginning of August.

During the period, the DMO held one auction of conventional gilts, one auction of index-linked gilts, and completed a conversion operation (see Table C). On 13 September, the DMO published its response to the consultation document of 7 July on switch auctions and 'cash-plus' conversion offers.(1) Respondents generally welcomed the concept of switch auctions as a portfolio and market management tool, and the DMO decided to proceed broadly along the lines outlined in the original consultation document. Also, at the end of September, the DMO made the Q4 funding announcement: 2½% Index-linked Treasury 2016 and 6% Treasury 2028 were to be auctioned on 27 October and 24 November respectively. A switch auction from 8% Treasury 2003 into 5% Treasury 2004 was scheduled for 21 October.

Other sterling bond issues

Total fixed-rate issuance (other than gilts) was £11.6 billion in Q3, slightly less than in the previous three quarters but substantially

Table C
DMO operations

Auctions

Date	Stock	Amount issued (£ millions)	Cover	Yield at common accepted price	Lowest accepted price
28.07.99	2½% Index-linked Treasury Stock 2011	375	1.93	2.19%	£225.50
06.08.99	6% Treasury Stock 2028 (a)	400	n.a.	4.45% (b)	£125.30 (b)
28.09.99	5¾% Treasury Stock 2009	2,750	2.54	5.71% (c)	£100.30

Conversion

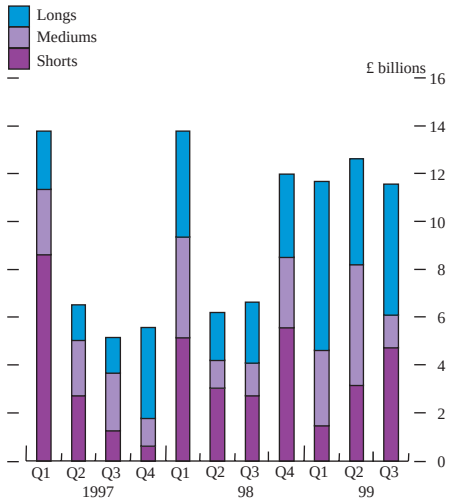
Date	Source stock	Nominal converted (£ millions)	Destination cover	Nominal converted into (£ millions)
22.07.99	9½% Treasury Stock 2004	3,100	5% Treasury Stock 2004	3,800

Notes: n.a. = not available.
Real yields are calculated assuming 3% inflation.

(a) For sale by tap.
(b) Yield and price when exhausted.
(c) Yield at lowest accepted price.

(1) See 'Response to DMO consultation document on switch auctions and cash-plus conversion offers' available on the DMO's web site at: www.dmo.gov.uk.

Chart 19
Sterling non-government bond issuance(a)



(a) By maturity: shorts <7 years, mediums 7–15 years and longs >15 years.

Table D
Sterling bond issuance in Q3

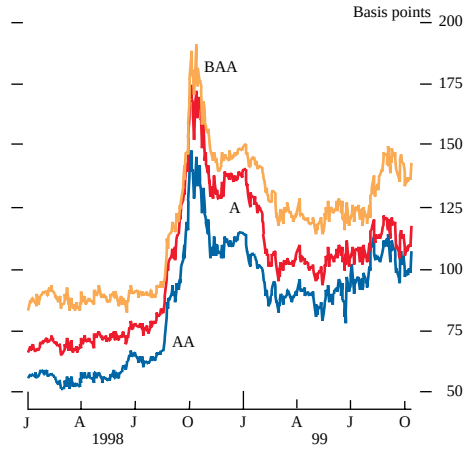
	Number of companies	Amount (£ billions) Total	By credit rating: AAA	AA/A	BBB and below
Fixed-rate issues					
UK corporates	9	1.6	0.0	0.5	1.1
UK financials	14	3.4	0.1	2.9	0.4
Overseas corporates	4	1.5	0.9	0.6	0.0
Overseas financials	17	4.6	3.4	1.1	0.1
Overseas public sector	3	0.5	0.3	0.2	0.0
Total (a)	**47**	**11.6**	**4.7**	**5.3**	**1.6**
	51	*12.6*	*5.0*	*4.7*	*2.9*
Floating-rate issues					
UK financials	10	2.3	0.4	1.1	0.8
Overseas financials	2	0.4	0.2	0.2	0.0
Total (a)	**12**	**2.7**	**0.6**	**1.3**	**0.8**
	20	*5.2*	*1.9*	*1.9*	*1.4*

Note: Credit-rating figures may not sum to sector totals because of rounding.

Sources: Bank of England, credit ratings from Moody's, and Standard and Poor's.

(a) Q2 figures shown in italics.

Chart 20
UK corporate bond spreads by Moody's credit ratings(a)



Sources: Bank of England and Bloomberg.

(a) Derived from five-year corporate bonds, and comparable duration-matched gilts.

more than in 1998 Q3 (see Chart 19). More than half the issues (£6.3 billion) were announced in July.

Redemption flows, from the maturity of the 6% 1999 gilt (on 10 August) and several large eurobonds, generated demand for shorter-dated stock; £4.8 billion of bonds with maturities of less than seven years were issued in the quarter. There was less appetite for medium-dated stock, with just £1.3 billion issued. However, a wide variety of UK and overseas borrowers targeted the ongoing institutional demand for long-dated sterling bonds to take advantage of the inverted yield curve. Consequently, total issuance of long-dated bonds (more than 15 years) reached £5.5 billion.

Mergers and acquisitions were again a significant motivation for corporate bond issuance, with bonds increasingly being used in preference to bank lending. Lloyds TSB's takeover of Scottish Widows and National Westminster's bid for Legal & General were both financed through bonds in the form of subordinated, callable perpetuals, totalling £880 million and £525 million respectively. There were also several securitised issues enabling firms to refinance acquisitions or finance new investments.

Non-financial UK corporates raised £1.6 billion in fixed-rate issues, rather less than in previous quarters. The market had expected corporate borrowers to bring forward funding plans from Q4 out of concern that market liquidity might deteriorate ahead of the year end and also to lock in funding ahead of the expected rise in UK interest rates. But this effect appears to have been smaller than expected.

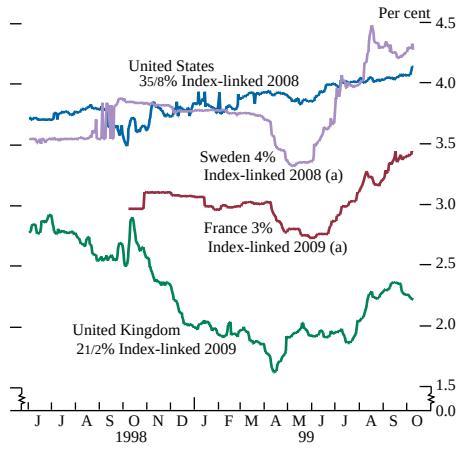
There were two UK corporate index-linked issues during the quarter, possibly reflecting the low real yields on index-linked gilts. In August there was a £137 million issue for a PFI-led hospital project and, in late September, British Gas announced that it would include a £500 million index-linked bond in its £1.5 billion financial restructuring package scheduled for December. The British Gas bonds will become the largest UK corporate index-linked issue, equivalent to around a half of the total of such bonds currently outstanding.

There were fewer borrowers at investment grade BBB and below during this quarter (see Table D). However, widening swap spreads and the appreciation of sterling continued to provide incentives for AAA-rated international borrowers and overseas financial institutions to use interest rate or currency swaps to raise relatively cheap floating-rate dollar or euro finance from fixed-rate sterling bond issuance. Although swap opportunities did motivate several long-dated capital issues for overseas borrowers, a lack of liquidity in the longer-dated swaps market meant that swap-driven issuance was concentrated at shorter maturities.

Some £2.7 billion of floating-rate notes were issued during the quarter. Of these, £1.5 billion were short-dated, primarily for UK banks and building societies, with the remainder almost exclusively long-dated notes or mortgage-backed securitisations.

Corporate bond spreads over gilts widened following heavy issuance in July and in anticipation of further heavy corporate supply. However, they narrowed again in September, as issuance was not as heavy as had been expected and investor demand remained strong (see Chart 20).

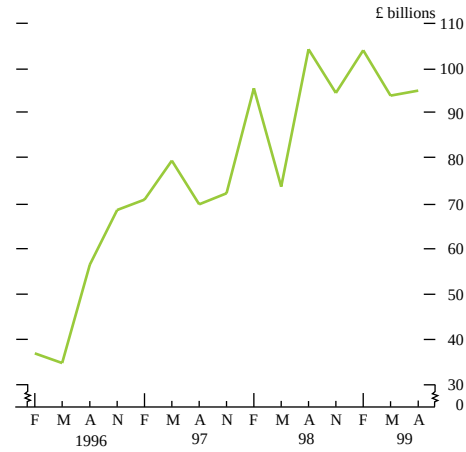
Chart 21
Real yields on index-linked government bonds



Source: Bloomberg.

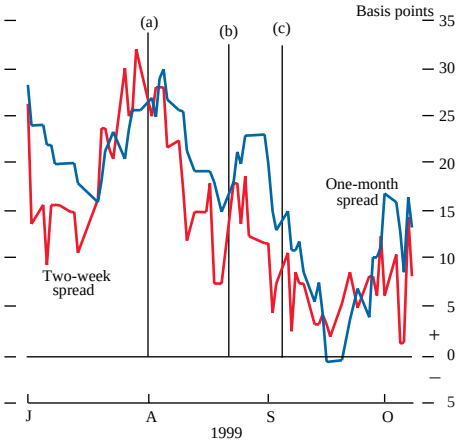
(a) Some data interpolated.

Chart 22
Gilt repo outstanding



Source: Bloomberg.

Chart 23
Interbank versus GC repo, spreads by maturity



Sources: Bank of England and Bloomberg.

(a) Announcement of extension of eligible collateral—30 July 1999.
(b) Announcement of details—18 August 1999.
(c) Implementation—31 August 1999.

Index-linked gilts

Real yields on index-linked gilts (IGs) rose by 50 and 30 basis points at the two and ten-year maturities, respectively, between July and early October, less than the rise in nominal yields on conventional gilts. By the end of the period, the yield curve derived from IGs had become more inverted.

IG yields rose both before and after the DMO's 28 July auction of 2½% Index-linked Treasury 2011. Although less stock was offered for sale than the market had expected, the lowest accepted price was below that prevailing in the market at the close of bidding. Market participants indicated that retail demand had been weak, possibly reflecting a reluctance to participate in the auction at a time when real yields were still low by historical standards. Liquidity conditions continued to be relatively poor.

During the period, some overseas index-linked government bond yields rose by more than those in the United Kingdom (see Chart 21). In France the yield on 3% Index-linked 2009 rose by nearly 60 basis points to 3.45% on 8 October,(1) though in the United States, the yield on 3⅝% Index-linked 2008 rose only slightly to 4.1%.

Gilt repo

The outstanding amounts of gilt repo and reverse repo were little changed in the three months to end August, at £96 billion and £93 billion respectively.(2) This compares with an increase of nearly £30 billion in the repo market in the same period of 1998 (see Chart 22). The steady level of outstandings this year is likely to have reflected three considerations. First, market participants' risk appetite may have decreased, following the financial turbulence of autumn 1998. This will have reduced the size of the market, since repo is used by financial firms as a means of gearing. Second, this risk-aversion effect may have been heightened by concern about trading conditions over the year end; in general, firms say that they do not wish to carry large short or long positions on their balance sheets over the year-end period. Third, the stock of refinancing (the amount of private assets which the Bank holds as a result of its open market operations, OMOs) fell between May and August 1999, while it rose slightly in the same period in 1998. The size of the stock of refinancing and the amount of repo outstanding are usually positively correlated—increases in the stock of refinancing tend to raise the size of money-market shortages which, in turn, gives the Bank's OMO counterparties an incentive to acquire more collateral to use with the Bank.

On 31 August, the Bank implemented a major and permanent extension to the range of collateral eligible for use in its repo operations. This helped ease market fears of a collateral shortage over the turn of the year and may have contributed to the decline in the spread between the interbank offer rate and the market general collateral repo rate in August and September (see Chart 23). However, it is likely that the lower stock of refinancing also contributed to the reduced premium on gilt collateral, since the lower stock of refinancing would have reduced the demand for gilt collateral to be used in the Bank's OMOs.

(1) A new 3.4% Index-linked 2029 was issued by the French authorities on 21 September.
(2) The reverse repo statistics have been revised upwards owing to the inclusion of transactions by the Issue and Banking Departments of the Bank of England.

Table E
Correlations between equity market movements(a)

1998 Q1 to 1999 Q2

	FTSE	S&P	Dax	Nikkei
FTSE 100	1	0.39	0.696	0.329
S&P 500		1	0.359	0.113
Dax			1	0.309
Nikkei 225				1

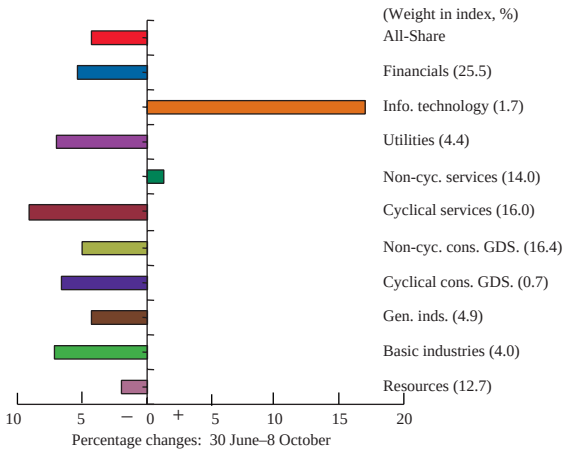
1999 Q3

	FTSE	S&P	Dax	Nikkei
FTSE 100	1	0.557	0.806	0.182
S&P 500		1	0.591	0.176
Dax			1	0.232
Nikkei 225				1

Sources: Bank of England and Datastream.

(a) Figures show correlation coefficients between daily percentage changes in the respective stock market indices.

Chart 24
FTSE All-Share sectoral indices



Source: Datastream.

Table F
Average daily money-market shortages

£ millions

1996	Year	900
1997	Year	1,200
1998	Year	1,400
1999	Q1	1,700
	Q2	1,200
	July	1,200
	August	1,000
	September	700

Table G
Size of weekly Treasury bill tenders

	Amount (£ millions)	
Period beginning	One-month tender	Three-month tender
25 June	500	200
9 July	300	200
13 August	500	200
20 August	700	200
27 August	900	200
17 September	600	200
1 October	300	100

Development of clearing and netting systems for the gilt repo market is continuing. One system, Repoclear, has already been put in place for bund repo, and preparations are being made for the system to go live for gilts and several euro-area government bonds by the summer of next year. Netting of repo offers participating banks the opportunity to reduce risk exposures and to use their balance sheets more efficiently.

Equities

Movements in the major equity markets were unusually highly correlated in Q3 (see Table E). Growing expectations of increases in official interest rates in the United States, the euro area and the United Kingdom were accompanied by declines in equity prices in all of these markets. In Q3, the S&P 500 index fell by 6.6%, the Dax index fell by 4.3% and the FTSE 100 index fell by 4.6%. However, some of these losses were reversed in early October following decisions by the FOMC, ECB, and the Bank of England's MPC to leave their respective official interest rates unchanged. On 8 October, the FTSE 100 index stood at 6,199, 1.9% below its level at the end of June; the FTSE 250 index fell by 1.6%, while the SmallCap rose by 1.4% over the same period.

Each of the sectors in the FTSE All-Share index fell in Q3, apart from IT and non-cyclical services (see Chart 24). Equity prices for companies in the cyclical services sector have suffered from recent disappointing retail trade results. Similarly, several other sectors have also been adversely affected by concerns that increased competition may reduce profit margins. The weak performance of the cyclical consumer goods and basic industries sectors may partly have been related to sterling's appreciation. However, merger and acquisition activity had a positive influence on share prices over the summer. Deutsche Telekom's acquisition of One2One helped to increase prices in the telecommunications sector and there have been growing expectations of M&A activity in the banking sector, following Bank of Scotland's bid for NatWest. The relative performance of the resources sector has been aided by the continued strength of the oil price following OPEC's agreement to renew production quotas.

Market operations

Open market operations and sterling Treasury bill issuance

Daily money-market shortages in Q3 were, on average, smaller than earlier in the year (see Table F). This largely reflected the redemption of 6% Treasury Stock 1999 on 10 August which resulted in a £7 billion cash flow to the market.

The stock of money-market refinancing held by the Bank averaged £9 billion in July and August. Daily money-market shortages averaged £1.2 billion in July and £1.0 billion in August, compared with £0.9 billion in June. In anticipation of this period of slightly larger shortages, the Bank reduced the size of the one-month Treasury bill tender from 9 July (see Table G).

Daily money-market shortages were smaller in September, reflecting both the gilt redemption and the seasonal pattern of government revenue and expenditure (see Table H). Accordingly, the Bank increased the size of the one-month Treasury bill tender

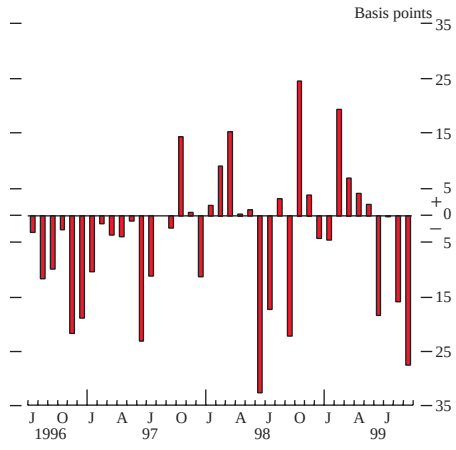
Table H
Influences on the cash position of the money market

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

	1999 Apr.–June	1999 July	Aug.	Sept.
CGNCR (+)	5.2	-4.9	1.2	1.6
Net official sales of gilts (-) (a)	-4.9	0.0	5.2	-2.7
National Savings (-)	0.3	0.0	0.1	0.2
Currency circulation (-)	-0.1	-2.2	1.2	0.3
Other	0.0	0.6	-1.0	-0.6
Total	**0.5**	**-6.5**	**6.7**	**-1.1**
Outright purchases of Treasury bills and Bank bills	0.1	0.2	0.1	-0.9
Repos of Treasury bills, Bank bills, EEA bonds, and British Government stock and non-sterling debt	2.5	2.6	-3.5	0.3
Late facilities	0.0	0.1	-0.1	-0.2
Total refinancing	2.6	2.9	-3.4	-0.8
Foreign exchange swaps	-1.0	1.7	-2.0	2.2
Treasury bills: Market issues and redemptions (b)	2.1	-1.8	1.1	0.5
Total offsetting operations	**-0.5**	**6.4**	**-6.6**	**1.0**
Settlement banks' operational balances at the Bank	0.0	-0.1	0.2	-0.2

(a) Excluding repurchase transactions with the Bank.
(b) 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).

Chart 25
Monthly average of SONIA minus the Bank's repo rate



during August (see Table G); this supported the money-market shortages in September at a daily average of £0.7 billion. In anticipation of larger shortages, the one-month tender was then reduced from 17 September. The three-month Treasury bill tender remained unchanged throughout the period, at £200 million a week, until 1 October, when it was reduced to £100 million a week. Demand for Treasury bills continued to be strong: cover at the tenders averaged around five times the amount of bills on offer and the average yields were around 20 basis points below Libid.

Short-dated interest rates (as measured by two-week interbank rates and the sterling overnight index average, SONIA) generally traded below the Bank's repo rate during the period of smaller shortages in August and September (as in previous years, see Chart 25). On three days in the quarter, there were money-market surpluses—once in August and twice in September. The Bank's operations on these days involved absorbing the surplus by the sale of short-dated ('mop') Treasury bills to the market (the first time this operation had been undertaken since June 1994). There was little evidence from the structure of short-term interest rates on those days that the Bank's influence on rates was materially diminished; the largest liquidity surplus, £725 million on 27 September, resulted in the firmest profile of short-term rates. On each occasion, the maturity date of the Treasury bills (which ranged from 2 to 15 days) was chosen to coincide with a day when a large shortage was otherwise expected (therefore partly offsetting it). The short-dated Treasury bills were sold at an average of 20 basis points below the Bank's repo rate.

Foreign exchange swaps are also used by the Bank to supply liquidity to the sterling money market (mostly when the money-market shortages are large). Limited use was made of foreign exchange swaps in July, August and September, given the smaller daily money-market shortages relative to previous quarters. A daily average of £0.3 billion was outstanding during the quarter, compared with £0.4 billion in Q2 and £1.6 billion in Q1 (see Chart 26).

Extension of eligible collateral

From 31 August, the Bank extended the range of securities eligible as collateral in its repo operations to include approximately £2 trillion of securities denominated in euro issued by the central governments and central banks of the countries in the European Economic Area (EEA).(1) The Bank accepts these issuers' euro-denominated securities where they are eligible as Tier 1 collateral in ESCB monetary policy operations and where the relevant central bank of a country participating in EMU has agreed to act as the Bank's custodian under the Correspondent Central Banking Model (CCBM).(2) This major extension to the Bank's eligible collateral was a further step in the process first announced on 15 October last year. The Bank's counterparties began using the new eligible securities as collateral immediately.

(1) A list of the new eligible securities ('CCBM securities') is available on the Bank's web site: www.bankofengland.co.uk/eligsec.htm. These new eligible securities are also eligible as sterling stock liquidity under the FSA sterling stock liquidity regime.
(2) The CCBM was set up by the EU Member States to facilitate the cross-border use of collateral, and is already used for ESCB and TARGET operations. Under CCBM arrangements, EU central banks have agreed to act as one another's custodians.

Money-market instrument review

On 4 November, the Bank of England issued a consultation document on the future of money-market instruments (MMIs). This follows the Securities Settlement Priorities Review, which indicated strong support for the integration of the settlement arrangements for MMIs into CREST.(1) MMIs are currently largely settled in the Central Moneymarkets Office system.

Against this background, a working group, chaired by the Bank and including CRESTCo and market participants, considered the options for the integration of MMI settlement arrangements into CREST. The working group also considered the changes to MMIs that would be necessary to allow such integration, and identified areas for further work.

Consideration focused on the four main types of MMIs—certificates of deposit, Treasury bills, bills of exchange and commercial paper. These are currently bearer-negotiable instruments, mainly in paper form (although most certificates of deposit are already dematerialised). Unlike gilts or equities, they are not registered and are not fungible (ie divisible and interchangeable within an issue).

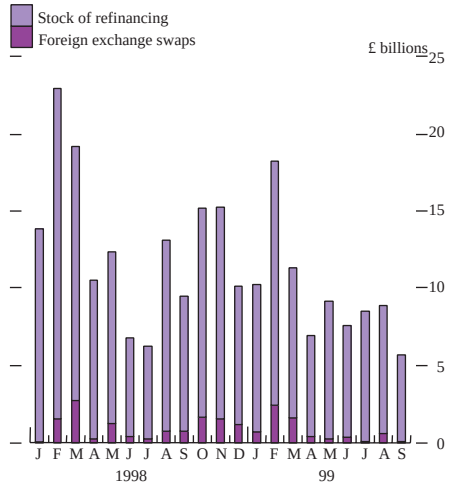
Subject to the consultation, it is envisaged that MMIs would be issued in dematerialised form and settled in the CREST system by means of secondary legalisation under the Companies Act 1989. CREST records would serve as the definitive record of ownership of MMIs. There would be no paper interface. They would cease to be bearer or negotiable instruments, but the CREST arrangements would ensure at least as good certainty of title and transfer. Also, MMIs would become fungible instruments, and so MMIs with the same economic characteristics would become interchangeable. This would enable MMIs to be issued as 'issues' where they have the same features. MMIs would be identifiable by ISINs (International Securities Identification Numbers, the standard numerical identifier for securities) and would serve as collateral for the CREST assured payments system.

Bills of exchange would be simplified. It is proposed to abolish endorsement as a feature of the settlement system, and to abolish the underlying transaction and associated clausing requirements, which only allow bills eligible for use in the Bank's open market operations to be drawn to finance short-term and 'self-liquidating' transactions.

These changes should achieve considerable cost savings and efficiency gains, both for front and back offices, and should assist the development of deeper and more liquid markets in MMIs. Decisions on the changes will be taken next year, and the timing of implementation will depend on the timetable for secondary legislation and on other CREST-related priorities, including the introduction of electronic transfer of title and full Delivery Versus Payment.

(1) CREST is the UK system for the electronic transfer and settlement of dematerialised (ie non-paper) equities and (from later in 2000) gilts.

Chart 26
Stock of money-market refinancing and foreign exchange swaps outstanding (average balance)



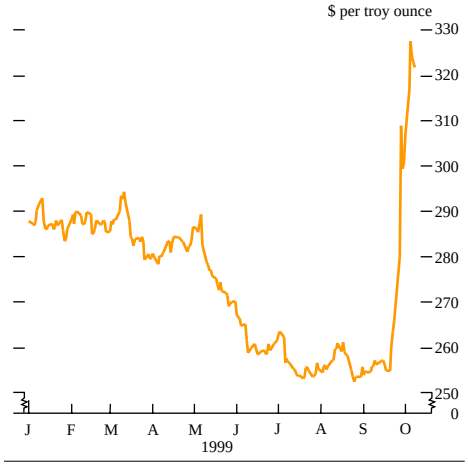
Exchequer cash management

On 29 July, the Debt Management Office issued an Operational Notice on its Exchequer cash management operations, which it expects to implement during the early part of 2000. The transfer will occur gradually: processing of the weekly Treasury bill tenders will transfer in January 2000; from February, the DMO intends to undertake a limited range of bilateral transactions with counterparties with the intention of smoothing part of the Exchequer component of the Bank's money-market forecast; and from around the end of March, the DMO intends to assume full responsibility for Exchequer cash management.

HM Treasury and Bank of England euro issues

In Q3, the Bank of England completed the process of taking over from HM Treasury as the issuer of euro bills, as had been announced on 5 January. Each monthly auction comprised €200 million of one-month bills, €500 million of three-month bills and €300 million of six-month bills. The three and six-month auctions consisted entirely of Bank of England bills, while the one-month auctions were of Treasury bills in July and August but Bank of England bills in September. The auctions continued to be

Chart 27
Gold price



oversubscribed, with issues being covered by an average of 3.8 times the amount on offer. By end September, all remaining euro Treasury bills had matured, and the programme consisted entirely of Bank of England euro bills, with €3.5 billion outstanding with the public.

On 20 July, the Bank reopened the UK Government euro Treasury Note maturing on 28 January 2002 with a further auction for €500 million, raising the amount of this note outstanding with the public to €1.5 billion. The amount on offer at the auction was covered 2.8 times and bids were accepted at an average yield of 3.55%. The total of notes outstanding with the public under the UK euro note programme thus rose from €5.0 billion at the end of June to €5.5 billion at the end of September.

UK gold auctions

Gold

In Q3, the Bank of England conducted two gold auctions on behalf of HM Treasury (on 7 July and 21 September). Each auction of 25 tonnes of gold was well covered at an allotment price close to the auction day's morning London gold fixing. Three further auctions of 25 tonnes each will be conducted by the Bank during the financial year 1999/2000.

On 26 September, 15 European central banks, including the Bank of England (acting on behalf of HM Treasury), issued a joint statement on gold (see the box below). The gold price rose sharply following the announcement (see Chart 27). Gold lending rates also increased initially, but subsequently fell back towards preannouncement levels.

Statement on gold

Österreichische Nationalbank
Banque de France
Banca d'Italia
Banco do Portugal
Schweizerische Nationalbank

Banque Nationale de Belgique
Deutsche Bundesbank
Banque centrale du Luxembourg
Banco de Espana
Bank of England

Suomen Pankki
Central Bank of Ireland
De Nederlandsche Bank
Sveriges Riksbank
European Central Bank

Press communiqué

26 September 1999

In the interest of clarifying their intentions with respect to their gold holdings, the above institutions make the following statement:

1 Gold will remain an important element of global monetary reserves.

2 The above institutions will not enter the market as sellers, with the exception of already decided sales.

3 The gold sales already decided will be achieved through a concerted programme of sales over the next five years. Annual sales will not exceed approximately 400 tonnes and total sales over this period will not exceed 2,000 tonnes.

4 The signatories to this agreement have agreed not to expand their gold leasings and their use of gold futures and options over this period.

5 This agreement will be reviewed after five years.