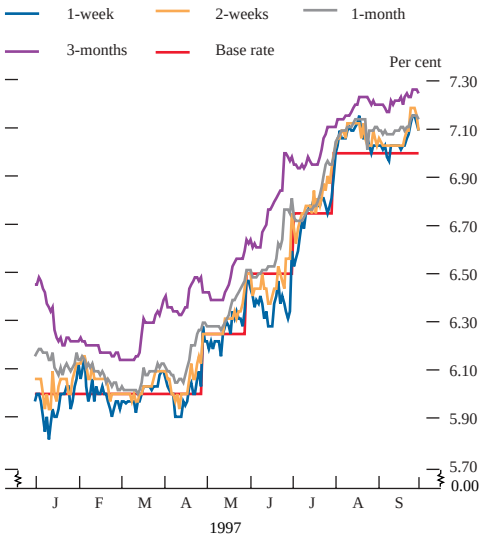
Monetary operations

- *UK official interest rates were increased twice in the third quarter: the Bank's Monetary Policy Committee raised the Bank's repo rate by 0.25 percentage points on 10 July and 7 August.*
- *The UK money and gilt markets have been active: short-term interest rate expectations and longer-term inflation expectations have fallen in the past quarter.*
- *The UK yield curve, which was upward sloping at the beginning of the quarter, moved to being downward sloping at the short end. Market views about the short-term interest rate outlook and, in the longer term, entry into EMU, and a reduced potential supply of gilts, were contributory factors.*
- *The sterling effective exchange rate depreciated by 1.7% in the quarter, with a larger fall against the dollar than against the Deutsche Mark.*
- *Gilt sales were £7.3 billion in the quarter. After six months of the financial year, gilt financing amounted to around 60% of the revised target for the year of £25.1 billion.*

Chart 1
Sterling interbank interest rates(a)



(a) Middle-market rates at 4.30 pm.

Overview

Official short-term interest rates in the United Kingdom were increased by 50 basis points in the third quarter, while rates in the rest of the major industrialised countries were unchanged. This partly reflected different cyclical positions. Longer-term interest rates converged during the quarter: at ten years, the gap between UK and US interest rates halved, and the gap between UK and German rates fell by a third. Within Europe, this narrowing reflected growing market confidence in EMU; outside Europe, yields may have narrowed as markets came to put more weight on the likelihood that global inflation pressures were likely to remain low. Against this background, global financial markets were generally buoyant during the quarter.

On the foreign exchanges, sterling rose in July to its highest for nine years, but then depreciated as markets reassessed the outlook for short-term interest rates. The dollar and Deutsche Mark appreciated during the quarter; the yen depreciated sharply as markets interpreted weaker-than-expected macroeconomic data as postponing any potential rise in Japanese interest rates. Some of the smaller Asian currencies and equity markets fell sharply during the quarter. Up to the end of the third quarter, those falls had had little effect on UK financial markets or institutions.

Market developments

Short-term interest rates

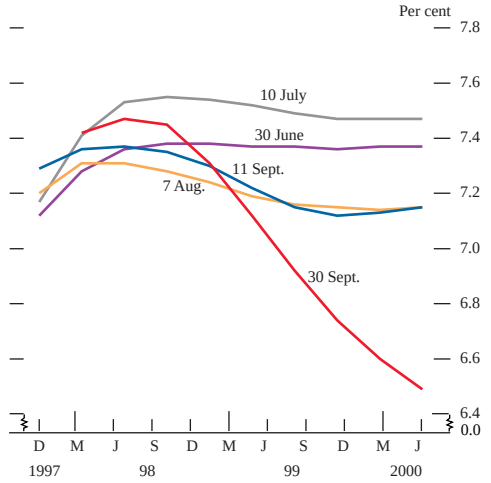
Chart 1 shows the path of short-term interest rates in the United Kingdom since the beginning of the year. The Bank's repo rate was increased twice—on each occasion by 0.25 percentage points—in the third quarter, at the July and August Monetary Policy Committee (MPC) meetings. The rise in August took the repo rate to 7% and was the fourth rise in official rates since May.

Table A
Interest rates, gilt yields and exchange rates[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			
1997	1 month	3 months	6 months	12 months	3 months	Short	Medium	Long	Long	ERI	$/£	DM/£
30 June	6 5/8	6 53/64	6 63/64	7 17/64	7.28	7.05	7.09	7.12	3.63	102.1	1.6636	2.8990
10 July	6 47/64	6 61/64	7 9/64	7 29/64	7.41	7.17	7.08	7.00	3.57	103.8	1.6875	2.9555
7 Aug.	6 63/64	7 7/64	7 7/32	7 3/8	7.31	6.92	6.99	6.95	3.54	102.8	1.5859	2.9707
11 Sept.	7 3/32	7 13/64	7 19/64	7 1/24	7.36	6.94	6.95	6.89	3.53	99.7	1.5880	2.8449
30 Sept.	7 7/64	7 1/4	7 3/8	7 33/64	7.42	6.47	6.43	6.54	3.32	100.4	1.6153	2.8525

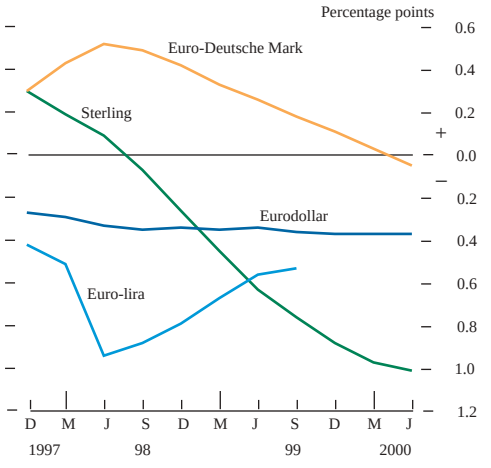
(a) Close-of-business rates in London.
(b) Gross redemption yield.
Representative stocks: short: 7% Treasury 2002; medium: 7 1/4% Treasury 2007; long: 8% Treasury 2021; index-linked: 2 1/2% Index-Linked Treasury 2016 (real yield assuming 5% inflation).
(c) Middle-market rates.
(d) Implied futures rate: December 1997 contract.

Chart 2
Short sterling futures[a]



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

Chart 3
Changes between end June and end September in three-month interest rates implied by futures contracts



Expectations about short-term interest rates changed markedly during the quarter, particularly after the August MPC meeting. The rise in the repo rate on 10 July was mostly anticipated by financial markets: the short sterling curve, for example, changed little on the day. The rise on 7 August, however, was less than fully anticipated. The MPC's accompanying press release led to a reassessment of market expectations for official interest rates. The August *Inflation Report*, published the following week, reinforced that assessment.

Chart 2 shows how the path of short-term interest rates implied by sterling futures prices changed during the quarter. At the end of June, three-month interest rates were expected to peak at a rate of around 7.4% in the middle of next year and to remain broadly flat in 1999. By the end of September, the implied peak in rates had moved nearer and was expected to be in March 1998, at a rate of around 7.45%; the futures curve for the second half of 1998 had inverted, as the chart shows, with futures prices implying three-month rates of 6.5% at the end of 1999.

Three-month sterling futures prices are used as a guide to market expectations of official interest rates, but the relationship between the two is neither direct nor simple, as the box on page 331 explains. With the Bank's repo rate at 7%, an implied three-month futures rate of 7.45% for December is likely to be consistent with an expectation of one more quarter-point rise in official interest rates, rather than two.

Expectations of short-term interest rates in the other major countries also changed markedly during the quarter. Chart 3 shows how the paths of implied futures rates changed between the end of June and the end of September. Markets ended the period anticipating a higher path than three months previously for German short-term interest rates. Toward the end of August, the Bundesbank announced that its repo rate would be set each week at its weekly repo operation on Tuesdays, rather than announced in advance at the fortnightly Council meetings; this led markets to expect an early rise in German interest rates. In early October, the Bundesbank increased its repo rate by 30 basis points to 3.3%, a larger-than-expected move. The move was quickly followed by a number of other continental European countries.

Inflation and interest rate expectations in the United States both fell during the quarter, as US macroeconomic data were interpreted as

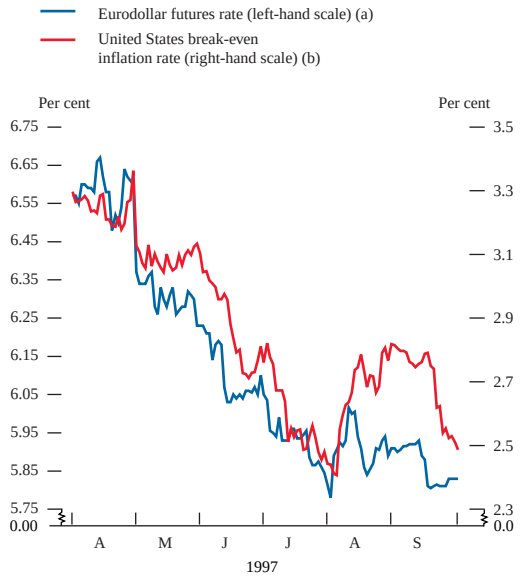
Comparing the short sterling future with the Bank's repo rate

Short sterling futures prices are often cited as the best guide to the market's view of short-term official interest rates. The short-term interest rate contract traded on the London International Financial Futures and Options exchange (LIFFE) is the future value of the British Bankers' Association three-month Libor setting.

How does this relate to the Bank's two-week official rate? We need to take account of technical differences between the two rates, which at the end of September were equivalent to about one fifth of a percentage point, with the components roughly as follows:

	Approximate size
The BBA three-month rate has persistently been above screen-quoted Libor rates. This partly reflects the fact that the BBA quote includes a wider spectrum of banks, and therefore credit risk, than is quoted in typical screen-quoted rates.	6 basis points
Interbank deposits, on which Libor is quoted, are not as marketable as gilt repo. Gilt repo can be traded and it is eligible for use in the Bank's open market operations.	3 basis points
Interbank interest rates include a credit risk premium: the credit risk on private sector banks is likely to be higher than the credit risk on gilt repo, a government credit risk. Interbank rates therefore trade at a premium to repo rates.	6 basis points
A two-week rate of 7% is, after compounding, equivalent to a three-month rate of around 7.05%.	5 basis points
	20 basis points

Chart 4
US inflation expectations and short-term interest rate expectations



(a) Interest rates implied for December 1997 from three-month eurodollar futures contracts traded on the Chicago Mercantile Exchange.
(b) Inflation expectations measured by the US break-even inflation rate, derived by comparing ten-year conventional and index-linked bond yields.

supporting the continuation of non-inflationary growth. Chart 4 shows how the three-month eurodollar futures rate implied for December has been reasonably well correlated with changes in long-term inflation expectations, derived by comparing conventional and index-linked US bonds. (But US index-linked bonds are much less liquid than conventional bonds, so comparisons of yields—and hence inflation expectations—should be interpreted cautiously.)

Long-term interest rates

Long-term interest rates were stable in the United Kingdom for most of the third quarter, but fell sharply toward the end of September, apparently reflecting three factors. First, lower-than-expected inflation data in the United States helped to stimulate a global bond market rally. Second, lower-than-expected UK PSBR data drew attention to the improving fiscal position. Third, there was increased market interest in the possibility of early UK entry into EMU. Chart 5 compares UK bond yields with yields in other major countries. Implied forward short-term interest rates moved sharply during the quarter, with falls at short maturities (consistent with the fall in rates implied by short sterling futures prices). Chart 6 shows how the term structure of implied forward rates moved from being broadly flat to upward-sloping. (That movement has subsequently proved to be temporary.)

International background

US financial markets generally performed strongly during the quarter: the yield on the ten-year benchmark US Treasury fell by 40 basis points and the S&P 500 index rose by more than 7%. But

Chart 5
International ten-year bond yields

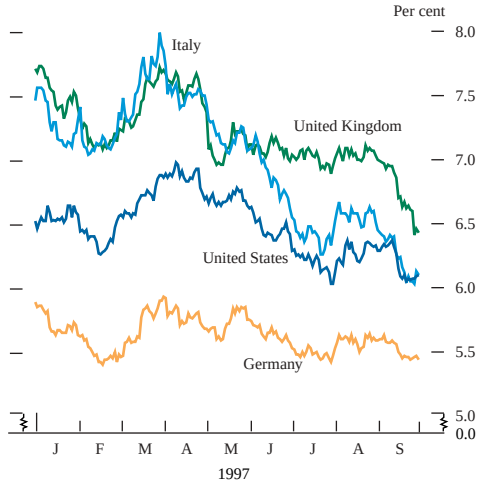
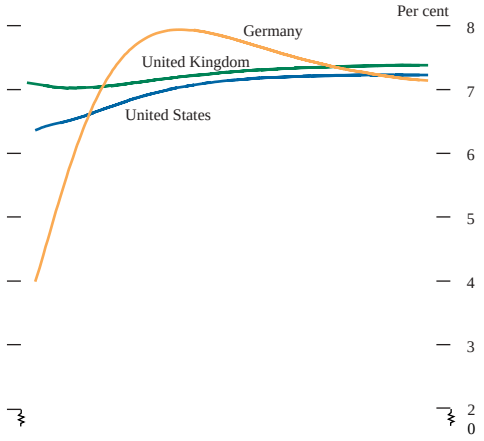
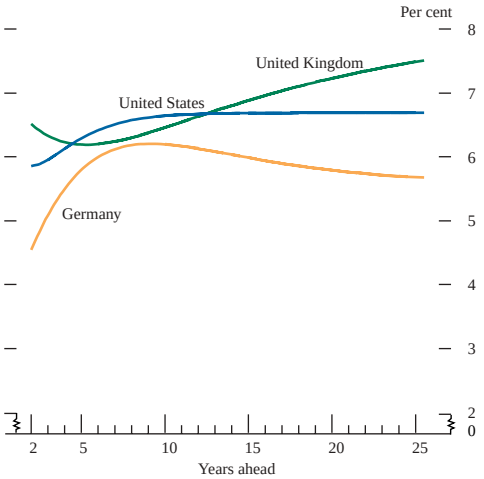


Chart 6
Term structure of six-month forward interest rates for Germany, the United Kingdom and the United States

30 June 1997(a)



30 September 1997(a)



Note: Beyond 15 years, data for Germany are indicative only, because there are fewer long-term bonds than in the United Kingdom or the United States.

(a) Implied six-month annualised rates derived from the zero coupon yield curve.

though US capital markets rose during the quarter, they were fairly volatile, because of changing expectations about US official interest rates. In July, economic data were interpreted by markets as generally supporting the Federal Open Market Committee's decision to leave interest rates unchanged at its meeting on 1–2 July, and Federal Reserve Chairman Greenspan's Humphrey Hawkins testimonies later in the month suggested that there were no excessive price pressures in the economy that would justify an increase in official rates. But market sentiment changed in early August, when the NAPM index and the non-farm employment data prompted one of the sharpest one-day falls in US long-bond prices for more than a year. In early September, bonds appreciated sharply and short-term interest rates fell, when price and retail sales data suggested that a tightening of US monetary policy was not needed as early as previously expected.

Global bond markets were also affected by market views about the immediate outlook for German official interest rates. Uncertainty about the future course of German monetary policy can be estimated by observing implied volatilities on 'at-the-money' options on the three-month euro-Deutsche Mark futures contract. So for example, the price of an option on the December contract (expressed in terms of implied volatility) increases with the level of uncertainty that financial market participants expect around the future level of interest rates in mid December. According to this measure, the level of uncertainty peaked at the beginning of August. This coincided with the peak in the dollar against the Deutsche Mark. The expected level of interest rates on three-month euro-Deutsche Mark deposits also peaked at around the same time.

The convergence in Italian and Spanish ten-year bond yields toward the equivalent yield on German bonds continued in the third quarter, albeit much more slowly than in previous quarters. Market commentators began to suggest that expectations of a wide EMU had strengthened. But there was also a growing recognition of emerging cyclical divergences in Spain and Italy, even though both countries were perceived as on track for meeting the criteria.(1)

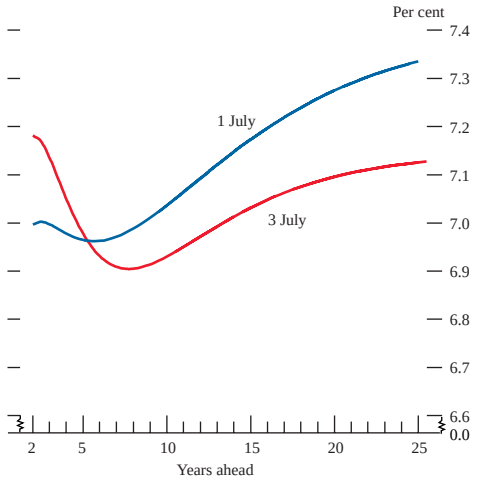
The gilt-edged market

At the beginning of the quarter, the gilt market—like other sterling markets—focused on the mix between monetary and fiscal policy ahead of the Budget on 2 July. In particular, attention was focused on the appropriate response to the strengthening of consumer demand. After the Budget, market expectations for official interest rates in the short term implied that further monetary tightening might be needed in the near term. But Chart 7 shows that expectations of short-term interest rates at longer maturities fell. This probably reflected the Budget's longer-term projections of an improving fiscal position.

Gilt yields were relatively stable until September and there were no significant changes in the shape of the yield curve up to then. UK economic data were generally stronger than the market expected, but any negative implications of such news for the gilt market may have been offset by expectations that the MPC would take action. Supporting this view, longer-term inflation expectations were broadly stable.

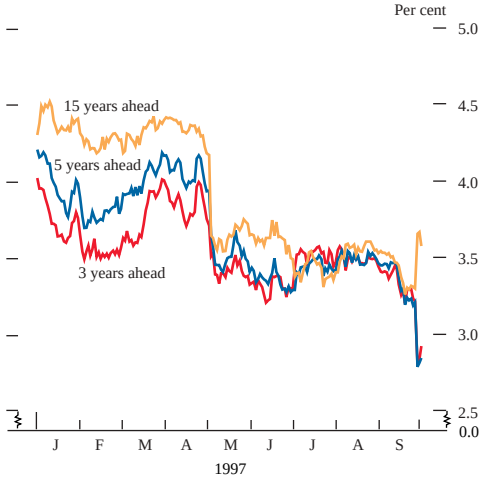
(1) This was underlined by EU official forecasts, published in early October, indicating that most countries would satisfy the deficit criterion.

Chart 7
UK six-month forward interest rates(a)



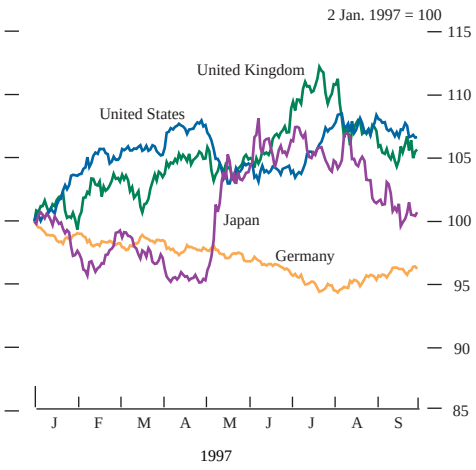
(a) Derived from the zero coupon yield curve.

Chart 8
Implied forward inflation expectations(a)



(a) The implied forward inflation rates are annualised six-month rates derived from the yields on conventional and index-linked gilts.

Chart 9
Effective exchange rate indices: Germany, Japan, the United Kingdom and the United States(a)



(a) Indices rebased to 100 at 2 January 1997.

Gilt yields then fell sharply in September. Three factors probably lie behind this fall: a global bond market rally, sparked by low inflationary pressures in the United States; increased market interest in the possibility of an early date for UK entry into EMU; and forecasts of low gilts supply as government finances appeared to be improving.

Gilt yields fell particularly sharply in the last week of September. A report on 26 September in the *Financial Times*, suggesting that the UK Government would soon make an announcement outlining its conditions for UK entry to EMU, was partly the trigger. The short end of the gilt yield curve rallied, with the long end little affected. The yield on ten-year gilts fell by more than 20 basis points, and that on five-year and two-year gilts fell by 32 basis points and 7 basis points respectively. The spread against Bunds narrowed by 33 basis points to 150 basis points at five years, and by 20 basis points to 95 basis points at ten years.

EMU-related convergence seems a likely explanation for the narrowing of the gilt-Bund yield gap, but Chart 6 shows that though UK and German forward rates converged closely in the short term, they were expected to diverge in the longer term. The term structure of inflation expectations also moved in a similarly puzzling way: Chart 8 shows that implied forward inflation rates fell at 3 and 5 years, but rose at 15 years. Why did short-term yields and implied inflation expectations fall by more than those at longer maturities at the end of September? Put another way, why did EMU-related convergence not affect all parts of the gilt yield curve similarly?

Part of the explanation may be to do with liquidity and institutional factors. Much of the shift occurred on 26 September, the day after the auction of £1.5 billion of 8% Treasury Stock 2021. On this day, gilt-edged market makers were, taken together, long of that stock and short of shorter-maturities and gilt futures contracts. The shift perhaps affected the short and medium part of the curve most because this coincided with potential likely EMU entry dates; it was the most liquid part of the curve (corresponding with the duration of highly liquid gilt futures); and it was the point in the curve where yields were most divergent because of the relative cyclical position of the United Kingdom. So market makers had to unwind their long positions in the longer maturities and buy the shorter part of the yield curve, where UK and other EU bond yields diverged most. This reinforced the momentum and led to a steepening of the yield curve as the short end of the curve rallied, with longer bonds, largely the domain of UK institutions, left broadly unaffected. Since the end of September, this ‘twisting’ of the yield curve has largely unwound.

Foreign exchange

International background

Chart 9 shows the sterling effective exchange rate and the major three international currencies—the Deutsche Mark, the US dollar, and the Japanese yen. During the third quarter, the yen fell as the likelihood of a tightening of monetary policy, which arose during the second quarter, decreased. The Deutsche Mark and US dollar appreciated modestly. In July, sterling reached its highest level for nine years, but ended the quarter 6% below its peak and 1.7% lower than at the start of the quarter.

Chart 10
Deutsche Mark/dollar exchange rate

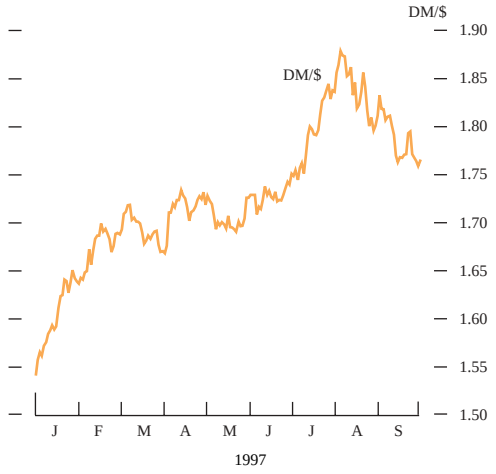


Chart 11
Indonesian rupiah/US dollar exchange rate

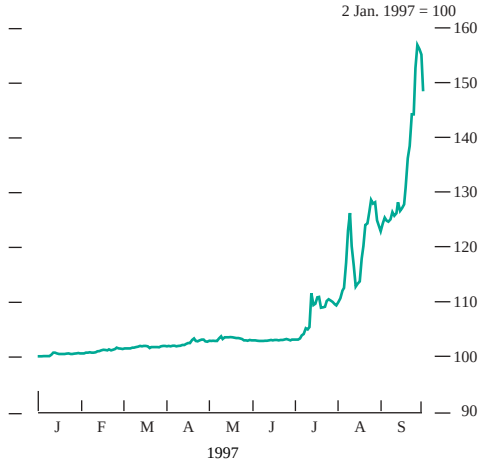


Table B
Selected emerging market currencies against the US dollar

	1 July	30 Sept.	Percentage change
Thai baht	24.4	36.2	-33
Indonesian rupiah	2432	3269	-26
Malaysian ringgit	2.53	3.43	-26
Philippine peso	26.4	34.0	-22
Singapore dollar	1.43	1.53	-6
Korean won	888	911	-3

Table C
Exchange rates

	15 Sept. 1992	1 Aug. 1996	31 Dec. 1996	30 June 1997	30 Sept. 1997
Sterling ERI	99.5	84.7	96.1	102.1	100.4
DM/£	2.7812	2.2946	2.6373	2.8990	2.8525
$/£	1.8875	1.5568	1.712	1.6636	1.6153
DM/$	1.4735	1.4739	1.5405	1.7426	1.7659
Yen/$	123.80	106.75	116.05	114.49	120.71

Chart 10 shows that the US dollar finished the third quarter unchanged against the Deutsche Mark, at DM 1.76. But it strengthened initially, peaking at DM 1.89 in August, which was a little surprising since interest rates implied by euro-Deutsche Mark contracts rose relative to eurodollar futures rates. The Deutsche Mark was eventually underpinned by the belief that a policy response would be triggered by further depreciation beyond DM 1.90. The Bundesbank's decision to return to setting its key official interest rate on a weekly basis on 21 August was regarded by some as indicative that official interest rates might rise (see section on short-term interest rates). During September, German economic data indicated that activity was strengthening, providing further support for the Deutsche Mark. Against the yen, the US dollar strengthened by more than 5% from ¥114½ to ¥121 during the third quarter. Earlier optimism about the prospects for the Japanese economy fell as consumer spending slowed in response to April's fiscal tightening, and the Bank of Japan's Tankan Survey underlined continuing weakness in manufacturing industry. The Japanese yen was supported to some extent by 'safe-haven' flows from neighbouring countries' currencies during July. But these proved short-lived as the markets focused on the likely consequences of the Asian currency crisis for Japanese financial institutions and exporters.

Asian currency markets were turbulent in the third quarter. On 2 July, the Bank of Thailand announced that the Thai baht's currency basket would be abandoned and that it would be allowed to float, subject to certain provisions. The Indonesian rupiah's fluctuation margins were widened on 11 July and they were suspended on 14 August (see Chart 11). The Philippine peso was floated on 11 July. All three currencies depreciated, as did the Malaysian ringgit and the Singapore dollar (see Table B and Chart 12).

In the ERM, currencies moved closer to their ERM central rates, as Chart 13 shows. Uncertainty faded about a possible realignment that might involve an upward revaluation of the central rates of the Irish pound and Finnish markka. The informal ECOFIN meeting on 13/14 September, which concluded that EMU entrants and bilateral conversion rates would be announced simultaneously in spring 1998, was influential in this regard. The divergence between the strongest and weakest currencies in the ERM (the Irish pound and French franc respectively), which reached 12% in July, narrowed to 6½% by the end of the third quarter (see Chart 13).

Sterling

Sterling fell by 1.7% to 100.4 on the effective exchange rate index (ERI) between the end of the second and third quarters. It weakened against the Deutsche Mark and US dollar from DM 2.90 to DM 2.85 and from $1.66 to $1.62 respectively (see Table C and Chart 14). Initially it strengthened during the quarter, to peaks of 106.7 on the ERI and DM 3.08¾ by 23 July, its highest since 1989 (see Chart 15). Sterling peaked against the US dollar at $1.6986 on 11 July, its highest since January 1997.

Early in July ahead of the MPC meeting, the interest rate implied by the December 1997 short sterling contract rose as markets began to expect a rise in the repo rate on 10 July. Following the Budget

Chart 12
Malaysian ringgit/US dollar exchange rate

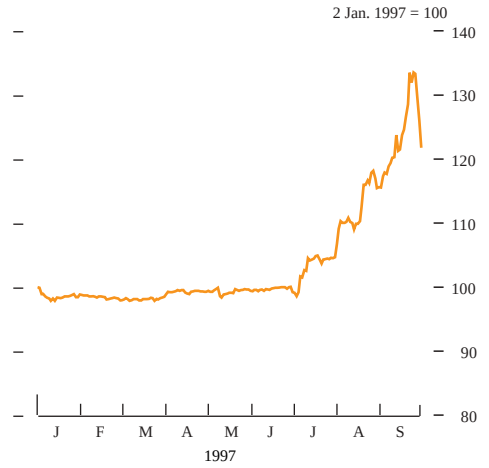


Chart 13
ERM exchange rates: divergence from the Deutsche Mark central rate

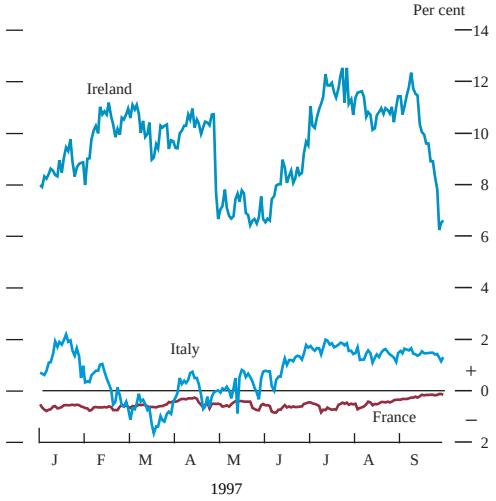
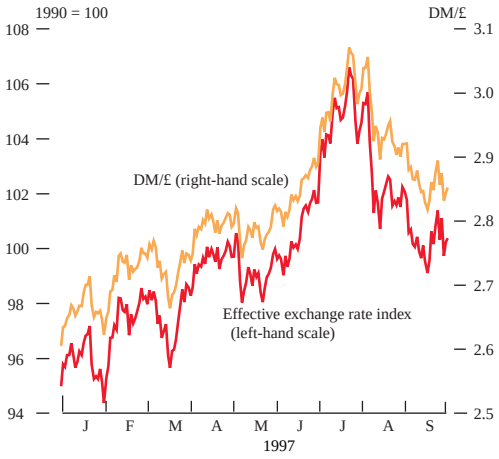


Chart 14
Sterling exchange rates



on 2 July, sterling strengthened by 2¼% to 104 on the ERI and from DM 2.88 to DM 2.96 between 2 July and 4 July. The exchange rate reacted little to the announcement that the Bank's repo rate was raised from 6½% to 6¾%: it closed at 103.8 on the ERI and DM 2.96½ on 10 July.

Sterling's subsequent rally during July to its third-quarter peaks was driven by a combination of news on EMU and strong UK economic data. On 11 July, the German government published its forecasts for the 1997 fiscal deficit. The Deutsche Mark fell sharply because of the belief that a wider EMU was more likely, and the Italian lira strengthened slightly to Lit 970, its highest against the Deutsche Mark since January 1997. Diversification flows from countries likely to participate in EMU appeared to boost sterling, which rose from DM 2.95 to DM 3. Further EMU optimism occurred after 21 July when the French authorities announced measures to reduce its deficit towards Maastricht's fiscal deficit criterion. Sterling reached DM 3.04 on 22 July and peaked at DM 3.08¾ on 23 July, following the publication of robust UK retail sales data.

Sterling subsequently traded in a narrow range between DM 2.98 and DM 3.06 ahead of the MPC meeting on 7 August. Sterling rallied briefly on the announcement that the Bank's repo rate was raised from 6¾% to 7%. The accompanying press release had a significant impact on sterling, which fell sharply from DM 3.02 to reach a low of DM 2.96½. It closed at DM 2.97 and ERI 102.8 on 7 August.

Sterling fell further following the publication of the *Inflation Report* on 13 August. The *Report's* conclusion was interpreted as confirming that monetary policy was unlikely to be tightened at the MPC's next meeting on 11 September. The exchange rate closed down 1% at 100.7 on the ERI. The foreign exchange market viewed UK monetary policy as 'on hold' for the time being, leaving sterling largely on the sidelines between the publication of the *Report* and the next MPC meeting. Sterling was broadly unchanged against the US dollar during this period, but it weakened by more than 4% against the Deutsche Mark, falling from DM 2.97 to DM 2.84½. The MPC's announcement on 11 September that interest rates were to be left unchanged had been widely anticipated and had no impact on the exchange rate. But the subsequent release of stronger-than-expected labour market and retail sales data supported sterling, which recovered to DM 2.87½ and ERI 101.1 by 25 September.

The *Financial Times* report on 26 September, referred to on page 333, suggested that sterling was likely to enter EMU at a lower exchange rate. Sterling fell sharply from DM 2.87½ to a low at DM 2.81 until reports that HM Treasury had described the story as speculation helped it to recover to DM 2.83¼. The expected future volatility of the sterling Deutsche Mark exchange rate, as derived from currency options, fell. This is consistent with a greater probability being placed on the United Kingdom joining EMU.(1)

(1) See the article 'Implied exchange rate correlations and market perceptions of European Monetary Union', by Creon Butler and Neil Cooper on page 413.

Chart 15
Sterling exchange rates

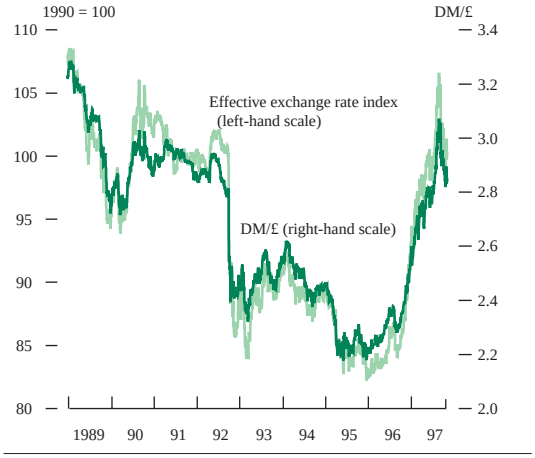
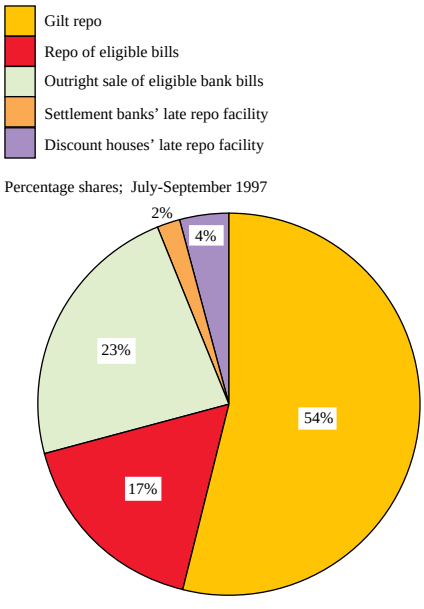


Chart 16
Equity indices

Chart 17
OMOs—instrument overview



Equity markets

UK and US equity markets continued to perform strongly in the third quarter, appearing unaffected by the turbulence in Asian equity markets. The FT-SE 100 index rose by nearly 14%, outperforming the S&P 500 index, which rose by 7% (see Chart 16). By comparison, the German DAX index rose by 10%. Price gains in the third quarter brought cumulative returns since the beginning of 1997 to 31% for the S&P 500 index, and to 27% for the FT-SE 100 index.

South East Asian equity markets, by contrast, fell sharply in the third quarter. The Malaysian and Indonesian stock market indices fell by more than 25%, and the Thai stock exchange index fell by about 10%. It is difficult to establish a causal link between equity market revaluation and the sharp falls in the value of some of these currencies against the US dollar. Two major concerns for both markets have been the extent of unhedged US dollar borrowing by domestic companies and the effect of rising domestic interest rates on national economies. There has also been uncertainty about the way national governments might tackle structural economic problems.

Open market operations and gilt repo

Operations in the sterling money market

This was the second quarter of the Bank's new arrangements for money-market operations.(1) Chart 17 shows how the Bank's daily refinancing with the market was provided during the quarter. About 70% of refinancing was by repo of gilts and eligible bills and most of the rest was provided by outright purchases of bills. The use of late facilities—through which the discount houses and settlement banks may obtain liquidity late in the day—was little changed compared with the previous quarter, despite a number of days at the end of September when there were late swings against the market. Table D shows the main influences on the cash position of the money market during the quarter.

The average daily shortage from July to September was £1.2 billion, compared with £1.1 billion in the same period last year. The new system seems to have coped well with large daily shortages; some large late swings in the money market position during September, however, occasionally put pressure on the overnight rate. For example, on 30 September, the overnight rate peaked at 9½% after the 2.30 pm round of open market operations (OMOs). The discount houses' late repo facility also failed to clear the shortage. The settlement banks' late repo facility was opened at 3.50 pm, as there was a further swing against the market, probably because of higher-than-expected corporation tax receipts.

In recent months, a relative shortage of eligible collateral for use in OMOs may have added to pressure on the overnight rate, particularly when shortages were large and occasionally revised up. The market for eligible bank bills—bills that may be sold to the Bank as part of the daily OMOs—increased during the quarter from £17.7 billion to £19.9 billion. The amount of outstanding gilt repo reported to the Bank fell between May and August, to £72 billion. Together, these probably indicate little change in the amount of

(1) For a fuller description of the changes to the money-market operations, see pages 204–7 of the May *Quarterly Bulletin*.

Table D
Influences on the cash position of the money market

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

	1997/98 Apr.-June	1997/98 July	Aug.	Sept.
CGBR (+)	9.1	-3.7	2.1	2.6
Net official sales of gilts (-) (a)	-8.6	-2.5	2.0	0.5
National Savings (-)	-0.3	-0.1	-0.1	-0.2
Currency circulation (-)	1.5	-0.5	-1.5	1.7
Other	-2.7	1.1	-0.6	-0.1
Total	**-1.1**	**-5.7**	**1.8**	**4.5**
Outright purchases of Treasury bills and Bank bills	0.4	-0.1	0.6	-1.3
Repos of Treasury bills, Bank bills, and British Government stock and non-sterling debt	-1.5	6.3	-1.3	-4.6
Late facilities (b)	0.5	-0.3	-0.2	0.3
Total refinancing	-0.7	5.8	-0.9	-5.5
Treasury bills: Market issues and redemptions (c)	-1.3	0.0	0.9	-0.8
Total offsetting operations	**0.6**	**5.9**	**-1.8**	**-4.8**
Settlement banks' operational balances at the Bank	-0.5	0.2	0.0	-0.2

(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.
(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.

potential collateral that money-market counterparties could use in OMOs during the quarter. At the same time, the demand for eligible collateral remained high—both for use in OMOs and also as part of the sterling stock liquidity requirement for banks. (In the past year, the conversion of some building societies into retail banks has increased the number of institutions required to hold sterling stock liquidity.) As a result, some in the market have commented about a relative shortage of eligible collateral.

At the beginning of September, the money market coped well with a gilt maturity that generated a large cashflow to the market: the redemption of some £5½ billion of 8¾% Treasury Loan 1997 on 1 September. In anticipation of this, the Bank began issuing £300 million a week of one-month Treasury bills from 25 July, alongside the existing programme of £200 million a week of three-month bills. The use of one-month bills allowed the Bank to drain additional liquidity from the money market for a short, more closely targeted period. The market coped easily with the issuance of two maturities of bills simultaneously (the last time two different maturities were issued was in 1993, when three-month and six-month bills were issued). The one-month bills were in demand, with average cover of 5.5. Once the period of low refinancing was over, the one-month bill tender was withdrawn (on 19 September).

In addition to the introduction of the one-month Treasury bill programme, the Bank also adapted its regular money-market operations to help deal with the redemption. On 13 August, the Bank announced that it would adapt its operations in two ways from the following day:

- On appropriate days, the Bank would include invitations of repo to 1 September in its daily operations, in addition to its normal invitations of repos of approximately two weeks.

- From 14–20 August, the Bank would include holdings in CGO of 8¾% Treasury Loan 1997 in the instruments it was prepared to buy outright in its daily operations.

As a result of these adaptations, the Bank bought £240 million of the redeeming stock as part of its OMOs. This was in addition to buying £526 million through the normal facility, by which the Bank is ready to buy in stocks in the three months before they mature, at a price it posts each day on its gilts screens.

Interest rates quoted in the interbank market continued to trade above repo rates: the gap between two-week interbank and general collateral repo averaged 16 basis points during the quarter, for example. The gap between the two partly reflects the unsecured nature of interbank transactions relative to (collateralised) repo, but it could also reflect a continuing demand for eligible collateral. Any comparison of interbank and repo rates also raises a wider question about the potentially changing role of the interbank market in the past few years. Gilt repo was introduced at the beginning of 1996 and has grown into an important source of secured liquidity at the short end of the sterling money markets. The introduction of the Capital Adequacy Directive at the beginning of 1996 has meant that gilt repo receives more favourable capital treatment than traditional interbank lending. Both developments may mean that some of the liquidity and volume that would have occurred in the interbank market has been directed to the repo market.

Table E
Maturity breakdown of repo and reverse repo outstandings over time[a]

		On call and next day	2–8 days	9 days to 1 month	1–3 months	3–6 months	Over 6 months	Total Per cent	Total £ billions
Per cent									
Repos									
1996	May	20	34	23	15	7	1	100	*35*
	Aug.	19	33	33	11	4	1	100	*56*
	Nov.	19	36	22	19	2	2	100	*68*
1997	Feb.	20	29	33	15	3	0	100	*71*
	May	27	23	27	18	4	1	100	*79*
	Aug.	24	21	23	25	4	1	100	*71*
Reverse repos									
1996	May	20	30	20	23	6	2	100	*34*
	Aug.	22	29	29	14	5	1	100	*54*
	Nov.	21	34	21	20	3	2	100	*60*
1997	Feb.	18	32	26	21	3	0	100	*67*
	May	23	21	30	20	6	1	100	*71*
	Aug.	17	21	27	27	6	1	100	*67*

Note: rows may not sum to totals because of rounding.

(a) From the data reported under the voluntary quarterly arrangements.

Table F
Financing arithmetic 1997/98: progress to end September

£ billions	
CGBR forecast	12.4
Assumed increase in net official reserves	0.0
Gilt redemptions	19.6
Plus gilt sales residual from 1996/97	-3.9
Financing requirement	**28.1**
Less: expected net inflow from National Savings	3.0
expected net sales of Certificates of Tax Deposit (a)	-0.1
Gilt sales required	**25.1**
Less: gilt sales already made (to end Sept. 1997)	16.0
Further gilt sales required Oct. 1997–Mar. 1998	**9.1**

Note: figures may not sum to totals because of rounding.

(a) Certificates of tax deposit 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.

Gilt repo market

The amount of gilt repo outstanding fell slightly between May and August from £79 billion to £71 billion, according to the Bank's quarterly survey. This follows rapid growth in 1996, the first year of the market. This consolidation in the market is also reflected in the gilt repo data reported to the Bank as part of the monetary statistics (gilt repo is in M4 and reverse repo in M4 lending).

The market was generally quiet during the summer period, both in general collateral and specials activity, with only a few of the well-known stocks, for example 6% Treasury 1999, trading special to any significant extent. But turnover in the quarter increased, averaging around £18 billion a day. Most turnover remained at the short end: 69% was on call or next day. The maturity of repo and reverse repo outstandings, shown in Table E, may be increasing. The percentage of outstanding transactions up to one month fell, compared with May, and the share at one to three months increased. This may be evidence that the market is maturing.

Conduct in the gilt repo market is guided by the *Gilt Repo Code of Best Practice*, which was finalised in November 1995. The *Code* has contributed to the smooth and orderly development of the market. When the repo market began, it was envisaged that the *Code* would be reviewed periodically in the light of market and other developments. A working party is now looking at all aspects of the *Code*, including areas such as penalties for failure to deliver, partial deliveries and the effect of the new CGOII system on the market.

Gilt financing

Gilt sales to the end of September amounted to £16 billion, about 60% of the revised sales target announced following the Budget (see Table F). About £12.7 billion was raised by conventional gilt sales, the rest by index-linked. Within conventionals, the distribution of sales has been skewed towards short and long-dated gilts, which account for about 40% each of total conventional issues, compared with 20% for mediums, against remit targets for the financial year as a whole of 35% each for shorts and longs and 30% for mediums. This reflects the fact that in the first six months of the financial year, three auctions each of shorts and longs were held, compared with only a single auction so far of a medium stock. Taps of conventional stocks are becoming increasingly rare and are only used for market-management purposes; there were no conventional taps during the quarter. Table G reports gilt issuance by auctions and taps.

Auctions

There were only two auctions during the second quarter of the financial year, a long auction in July and a dual short and long auction in September. The auction originally planned for August was cancelled in the alterations to the 1997/98 auction calendar following the Budget. The auction schedule for the second quarter was announced on 11 July, following the usual consultation with market participants.

The auction of £2 billion of 8% Treasury Stock 2021 in July was in line with the advice of market participants given at the Bank's quarterly meetings. This reflected strong demand for stock at the

Table G
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										
23.4.97	7% Treasury Stock 2002	2,000	98.9688	7.24	n.a.	n.a.	n.a.	3.49	1	23.4.97
20.5.97	7% Treasury Stock 2002	1,500	100.2500	6.94	n.a.	n.a.	n.a.	3.03	0	20.5.97
22.5.97	8% Treasury Stock 2021	1,500	108.6250	7.24	n.a.	n.a.	n.a.	1.29	4	22.5.97
25.6.97	7¼% Treasury Stock 2007	2,000	100.8125	7.13	n.a.	n.a.	n.a.	2.71	1	25.6.97
23.7.97	8% Treasury Stock 2021	2,000	113.2813	6.86	n.a.	n.a.	n.a.	2.32	1	23.7.97
23.9.97	7% Treasury Stock 2002	1,500	101.1250	6.71	n.a.	n.a.	n.a.	2.30	1	23.9.97
25.9.97	8% Treasury Stock 2021	1,500	117.0313	6.57	n.a.	n.a.	n.a.	2.33	1	25.9.97
Tap Issues of Index-Linked Stock										
17.4.97	2½% Index-linked 2013	200	146.5625	n.a.	3.61	3.61	3.60	n.a.	n.a.	30.4.97
3.6.97	2½% Index-linked 2016	325	156.5000	n.a.	3.67	3.67	3.67	n.a.	n.a.	3.6.97
3.6.97	2½% Index-linked 2009	125	172.2500	n.a.	3.62	3.62	3.62	n.a.	n.a.	3.6.97
16.6.97	2½% Index-linked 2024	150	125.3750	n.a.	3.65	3.65	3.65	n.a.	n.a.	16.6.97
16.6.97	2½% Index-linked 2013	150	147.8750	n.a.	3.61	3.62	3.62	n.a.	n.a.	27.6.97
4.7.97	2½% Index-linked 2011	150	181.2500	n.a.	3.55	3.55	3.55	n.a.	n.a.	17.7.97
4.7.97	2½% Index-linked 2020	150	153.5625	n.a.	3.57	3.57	3.57	n.a.	n.a.	4.7.97
14.8.97	2½% Index-linked 2003	100	183.5625	n.a.	3.56	3.56	3.56	n.a.	n.a.	15.8.97
14.8.97	2½% Index-linked 2024	200	128.3125	n.a.	3.55	3.54	3.55	n.a.	n.a.	14.8.97
3.9.97	2½% Index-linked 2009	100	175.6875	n.a.	3.52	3.53	3.53	n.a.	n.a.	5.9.97
3.9.97	2½% Index-linked 2020	200	154.8125	n.a.	3.55	3.55	3.55	n.a.	n.a.	3.9.97
16.9.97	2½% Index-linked 2016	100	163.3750	n.a.	3.47	3.46	3.47	n.a.	n.a.	16.9.97
16.9.97	2½% Index-linked 2024	100	130.7500	n.a.	3.48	3.48	3.48	n.a.	n.a.	16.9.97

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.

long end (yields had just dipped below 7% for the first time since late 1993) and the desire to build up the outstanding amount of strippable long stock ahead of the start of the strips market later in the year. Expectations immediately ahead of the auction were that, despite prevailing strong demand, there might be a long tail—recalling the modest cover of the previous long auction in May—with some regarding long gilt yields below 7% as dear. But the result—2.3 times cover and a one-basis-point tail, with an average price (yielding 6.86%) only three ticks below the (10.30 am) when-issued price—was seen as good and the market rallied following the announcement.

Market participants' views on stocks for the September dual auction differed more, but many recognised that a combination of short and long would most readily achieve the remit targets for each maturity band, as well as appealing to a wide investor base and providing protection against any shift in the yield curve. Once again, the main factor in determining the choice of stocks was the aim of building up the amount outstanding of strippable stocks, and it was decided that the first leg should be the five-year benchmark, 7% Treasury Stock 2002, with the second leg a further tranche of 8% 2021. The identity of the short stock and the amounts to be auctioned—£1.5 billion in each leg, the minimum allowed under the remit—were both generally expected by the market (the long stock had already been specified in the quarterly auction announcement in July). Though retail interest in both stocks ahead of the dual auction appeared limited, both auctions went smoothly. Both stocks were covered 2.3 times, with a one-basis-point tail, the short stock from an average yield of 6.71% and the long from an average yield of 6.57%.

At the end of September, the quarterly announcement of the maturity ranges for the following quarter confirmed that the October auction would be a medium, the current ten-year

benchmark, 7¼% Treasury Stock 2007; and the November auction would be a new short conventional stock in the range 2003–4. The option to choose 2003 or 2004 for the maturity allows the authorities the opportunity to get further market feedback on the best choice of a new five-year benchmark, in an environment when the financing requirement is low. It was announced that the date of the November auction would be reviewed in light of the date of the Green Budget, and the auction was subsequently postponed to 10 December.

Outright sales of conventionals in the previous quarter had reduced the amount of stock in the Bank's shop window and, following further sales of £58 million as the market continued to rise, there was no stock available for sale or switching by the end of September. As a result, turnover in switches dropped sharply in the quarter, with nominal monthly turnover averaging only £30 million, compared with £547 million in the previous quarter.

Index-linked gilts

Index-linked gilts (IGs) generally performed strongly during the quarter, with yields falling sharply, especially at the long end, probably reflecting switching out of equities associated with the abolition of ACT tax credits in the Budget, as well as nervousness at signs of increasing volatility in equity markets. Index-linked real yields fell by 33 basis points during the quarter, with break-even inflation rates—the inflation rate needed to make holding index-linked bonds 'break even' with the equivalent conventional bonds—falling to around 3.2%, from around 3.4% in early July.(1) With demand generally buoyant during the quarter, especially in September, the Bank was able to tap the index-linked sector four times, with eight separate issues with a nominal value of between £100 million and £200 million each. Sales of index-linked gilts during the quarter raised £1.8 billion in cash terms, bringing the cumulative total for the first half of the financial year to £3.2 billion—nearly two thirds of the remit target. The box on page 341 reports briefly on recent developments in the US index-linked market and contrasts the fall in UK real yields with little change in US real yields.

Demand for longer-dated stock following the Budget prompted a tap package comprising £150 million each of 2½% 2011 and 2½% 2020. The latter was sold at a 1/16 premium in the initial tender. Small sales of the 2011s were made during the next fortnight, as GEMMs covered retail buying in the longer end by bidding for the outstanding tap, which was finally exhausted on 17 July.

With no supply for almost a month, and following a period of underperformance against conventionals and a stronger equity market, interest in index-linked stocks re-emerged, perhaps because some UK fund managers wanted to switch out of equities into longer-dated gilts. Short-dated index-linked stocks had also been performing strongly as the nominal and real yield curves disinverted, after the rise in UK interest rates on 7 August, and perhaps in anticipation of sales of the 1998 stock when it lost its index-linking, as it moved to having less than eight months to maturity. The Bank issued a tap package in response to this

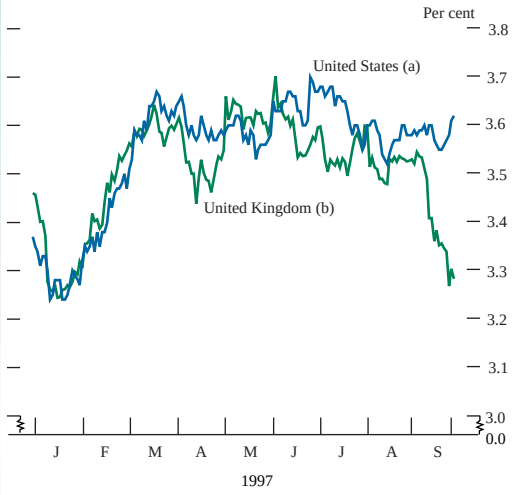
(1) IG yields were below equity dividend yields throughout the quarter, which is a reversal of their usual relationship.

United States: index-linked market and real interest rates

Global interest in inflation-indexed bonds has increased significantly during the year, following the US Treasury's introduction of inflation-indexed securities in January. Since the US launch, indexed bond markets have also been established in the Czech Republic and Greece. Issuance of the US securities is by quarterly single-price auction. The first two auctions were of a ten-year indexed note, and the July and October auctions were of a five-year note. Demand at the first auction was high; cover was lower at subsequent auctions, reflecting the combination of a favourable inflation outlook in the United States and uncertainty about possible revisions to the US CPI. Despite this, at $31 billion, the US indexed-bond market is already the second-largest such market in the world (after the United Kingdom) and is set to develop further in 1998 with the introduction of a new 30-year inflation-indexed bond. Liquidity of the market may be enhanced by the Chicago Board of Trade's introduction in July of futures and options on both the five and ten-year indexed notes, though so far few contracts have traded.

The chart compares the real yields on the US ten-year indexed note and the UK twelve-year index-linked gilt since the start of the US market. The levels of real yields are not directly comparable because of different tax regimes and the treatment of indexation lags. But the trends in yields are comparable, and the chart shows how UK real rates fell relative to US rates during September. Both UK and US-specific factors help to explain that. Three factors have underpinned demand for IGs. First, the structural influence of the Minimum Funding Requirement from April has boosted demand by UK pension funds. Second, the strength of equities has made IGs—often compared to equities as an inflation hedge—look 'cheap'. Third, there has reportedly been some demand for IGs from pension and insurance fund managers looking to buy longer-duration assets.

Real yields on index-linked bonds



(a) Real yields on 3 3/8% index-linked 2007.
(b) Real yields on 2 1/2% index-linked 2009.

In the United States, demand for index-linked bonds has been low. This may be because inflation has, on the whole, continued to be lower than expected, despite the strong labour market. Comments about a 'new economic paradigm' associated with high-technology sectors and implying a higher rate of non-inflationary growth have supported that view. With little perceived inflationary threat, conventional bonds may be preferred by US investors.

demand. The £200 million 2 1/2% index-linked 2024s were exhausted on the day of issue, and sales of the £100 million 2 1/2% index-linked 2003 were completed the following morning.

In response to continuing investor demand, a package of £300 million index-linked taps was issued on 3 September. The £200 million 2020s was immediately exhausted, but with demand concentrated at the longer end, only £10 million of the £100 million 2009s was sold at the initial tender. Following a strong market rally on the release of weaker-than-expected US employment data, the tap was exhausted on 5 September.

Following a further rally in the sector, a £200 million package was issued on 16 September and almost immediately exhausted: £100 million of 2 1/2% 2024 was sold at a 3/16 premium in the initial tender, and £100 million of 2 1/2% 2016 was exhausted shortly afterwards.

Sectoral investment activity

The latest ONS data, covering the period from April to June, show total net institutional investment in gilts, at £5.8 billion, returning

Table H
Official transactions in gilt-edged stocks

£ billions; *not seasonally adjusted*

	1997/98 Apr.-June	1997/98 July	Aug.	Sept.
Gross official sales (+) (a)	8.6	2.8	0.4	4.1
Redemptions and net official purchases of stock within a year of maturity (-)	0.0	-0.3	-2.4	-4.6
Net official sales (b)	8.6	2.5	-2.0	-0.5
of which net purchases by:				
Banks (b)	0.4	3.4	-1.2	-1.8
Building societies (b)	0.8	-0.1	0.1	-0.4
M4 Private sector (b)	7.3	0.4	-4.2	3.1
Overseas sector	0.2	-1.3	3.3	-1.5
LAs & PCs (c)	0.0	0.2	0.1	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.

to a level similar to those seen in each of the four quarters in 1996, after falling back to £2.3 billion in the first quarter of 1997 (probably reflecting the relatively large level of gilt redemptions—nearly £5 billion—falling in this period). Net investment in gilts by pension funds was a record £3.2 billion, an increase of £1.7 billion from the previous quarter, probably driven mainly by the effect of the Minimum Funding Requirement introduced in April under the Pensions Act 1995. It may also have reflected speculation about the likely Budget changes to ACT tax credits. Net investment in gilts by long-term insurers recovered in the second quarter, after an unusually low level in the first quarter, up from £0.3 billion to £2.5 billion.

Data compiled by the Bank for the most recent quarter, July to September, showed that net sectoral investment in gilts fell back to a virtually flat position, largely as a result of two large redemptions—totalling £7.5 billion—falling during the quarter (see Table H). The domestic non-monetary sector—which includes pension funds and life assurance companies—sharply reduced its net holdings of gilts in August, but made net purchases of £3.1 billion in September, with buoyant demand generally reflected in the sharp fall in yields during the second half of the month, and specific demand stimulated by the September dual gilt auction. The overseas sector made net purchases of £3.3 billion in August, but this was offset by equivalent net sales in July and September, perhaps reflecting profit-taking as gilt yield differentials against overseas bonds narrowed.

Technical developments

Gross payment of all gilt dividends from April 1998

It was announced on 2 July that with effect from 6 April 1998, all gilt interest will be payable without deduction of withholding tax, though investors who wish to continue to receive net dividends will be able to do so. The quarterly accounting arrangements for gross gilt interest received by UK taxable companies will remain in place for interest on those gilts to which quarterly accounting at present applies; but quarterly accounting will not apply to interest on future new gilt issues unless HM Treasury directs this at the time of issue.

This major simplification will enable the abolition of existing arrangements under which gilt interest is paid gross, such as the Central Gilts Office Star Account scheme, the CGO Gross scheme, the CGO Double Taxation Agreement scheme and the E arrangement. It will thus substantially reduce the tax compliance burdens of custodians and others, making the gilt market more accessible and attractive to investors, which will help to reduce the cost of future public borrowing.

CGO upgrade and Strips

On 1 August, the Bank announced the results of three dress rehearsals in July that trialled the upgraded Central Gilts Office system. The rehearsals demonstrated that the physical infrastructure of the upgraded system could handle the volumes likely to be experienced in live running, and that the system had the necessary settlement capability in place and was operating substantially as intended. There were, however, some areas where trialling had indicated the need for adjustments to the system; these

were being made, but it was important that they were rigorously trialled. It was therefore decided to hold a further dress rehearsal in September.

That rehearsal was conducted during the weekend of 27 and 28 September, and showed that the criteria for a successful implementation of the upgrade had been met. The Bank announced on 3 October that the upgraded CGO system would be inaugurated on 10 November 1997.

On the same day, the Bank announced that the planned start of the official gilt strips facility would be on 8 December, with trading in strips on a when-issued basis permitted from 1 December. On 8 October, the Bank issued a paper listing the decisions the authorities have made about the introduction of the strips market, following extensive consultation with gilt market participants and other parties.

Other issues

HM Government Ecu issues

The United Kingdom continued to hold regular monthly tenders of ECU 1 billion of Treasury bills during the third quarter, comprising ECU 200 million of one-month bills, ECU 500 million of three-month bills and ECU 300 million of six-month bills each month. The tenders continued to be several times oversubscribed, with issues covered by an average 3.4 times the amount on offer, compared with the average cover of slightly under 3.0 times during 1996 and the first half of 1997. During the quarter, bids were accepted at average yields of up to 5 basis points below the Ecu Libid rate of the appropriate maturity. By the end of the third quarter, there were ECU 3.5 billion of UK Government Treasury bills outstanding. Secondary market turnover in the third quarter averaged ECU 1.9 billion a month, slightly higher than in the first two quarters of 1997.

On 15 July, at the regular quarterly auction under the UK Government's three-year Ecu note programme, the Bank reopened the Ecu Treasury note maturing in January 2000 with a further tender for ECU 500 million, raising the amount outstanding with the public of this note to ECU 1.5 billion. There was good cover at the auction, of 2.4 times the amount on offer, and accepted bids were in a tight range of 4.40%–4.42%. The total of notes outstanding with the public under the UK note programme thus rose from ECU 5.0 billion to ECU 5.5 billion.

Sterling bond issues

With sterling continuing to appreciate because of expectations of higher short-term UK interest rates, and with the UK yield curve inverting, demand for sterling assets among overseas investors remained strong. As a result, there was heavy issuance in July and early August before the holiday season slowed the pace of new issues.

Fixed-rate issues in the quarter totalled £5.1 billion, with £1.2 billion in shorts, £2.4 billion in mediums and £1.5 billion in longs. Though lower than in the previous quarter, issuance was higher than in the same period for the previous three years and took

The single monetary policy in Stage 3 of EMU

In September the EMI published its 'General documentation on ESCB monetary policy instruments and procedures.'[1] The documentation is intended as a draft handbook for money-market counterparties of the European System of Central Banks (ESCB) in monetary union. Final decisions on the instruments and procedures will of course be taken by the European Central Bank (ECB) when it is established.

The proposed instruments and procedures are designed to allow the ECB to steer short-term interest rates in the euro money market, in pursuit of its ultimate aim—price stability in the euro area. Monetary policy decisions will be centralised in the ECB (but governors of national central banks will fill more than half of the seats on the ECB's Governing Council). Monetary policy implementation will be largely decentralised among the national central banks.

Each national central bank will deal with counterparties in its own country. The set of eligible counterparties is likely to be large. Though some details are yet to be settled, it is likely to include virtually all 'credit institutions' (in the United Kingdom, this would mean virtually all banks and building societies, including local branches of banks from outside the euro area).

The general shape of the instruments proposed for Stage 3 was published in January of this year[2] and is not much changed, but the General Documentation now gives details of the procedures and timetables, with worked examples of operations. The ESCB's main instrument will be two-week repo[3] operations, conducted every week. These operations will be conducted by tender, with bids submitted to local national central banks amalgamated at the ECB, where the allotment decisions will be taken.

The ESCB will also provide a limited amount of finance by three-month repos,[3] undertaken once a month. Two-week repos may be at fixed or variable rates, whereas the three-month repos will normally be at variable rates, because the ESCB will not attempt to set rates at the three-month maturity. All counterparties will be eligible to take part in two-week and three-month operations.

All counterparties will also have access to two standing facilities at their national central banks, allowing them to borrow against eligible assets or to place funds (in either case overnight), at rates that will normally form the upper and lower limits of a 'corridor' in which the market overnight rate will move. The ESCB will have a wide range of other instruments at its disposal. It may undertake fine-tuning operations between weekly repos, with a smaller group of counterparties; fine-tuning could take the form of repos, short fixed-term deposits with the national central banks or foreign exchange swaps. It may issue its own debt certificates to absorb liquidity and it may undertake outright transactions. The ESCB may also impose reserve requirements. The General Documentation gives some additional detail on the institutions that would be subject to reserve requirements, and liabilities that might be included in the calculation of these requirements.

The General Documentation breaks most new ground in the area of eligible paper. It indicates that in assessing paper, the ECB will take into account ratings by market agencies; it defines the links[4] between a counterparty and the issuer or guarantor of paper that would render the paper ineligible for use in operations; it sets out the characteristics[5] of mortgage bonds that would render them eligible, and it sets out special requirements that other bonds issued by credit institutions will have to meet to be eligible.

The General Documentation also contains new material on margining. For paper included on 'Tier 1'—the central list of eligible paper compiled by the ECB—initial margins will be set according to the maturity of the operation, with one margin for intraday and overnight operations and another for operations with a maturity of longer than one day. In addition, initial margins may be applied to individual debt instruments, according to their residual maturity. Depending on the law and operational systems in each country, paper provided by each counterparty to its national central bank may be pooled or may be earmarked against particular operations. Pooled assets will be revalued daily, and earmarked assets at least once a week. On valuation days, the national central banks will make margin calls, or return excess assets to counterparties, as necessary.

Counterparties will obtain liquidity from the national central bank of the country in which they are operating, but they will be able to make use of eligible paper located in other countries (usually within the euro area). The General Documentation sets out the ways in which eligible paper can be used across borders. The basic mechanism is the 'Correspondent Central Banking Model': the eligible paper, which is provided by the counterparty taking the liquidity, is delivered to the central bank of the country where the eligible paper is located, which will act as a securities custodian for the central bank that is providing liquidity.

(1) Copies are available from the Bank or the EMI.
(2) In *The single monetary policy in Stage Three: specification of the operational framework*.
(3) Strictly speaking a 'reverse transaction', which could take the form either of a repo or of a secured loan, depending on the legal system of the country where the transaction is undertaken.
(4) Taken from the First Banking Directive.
(5) Taken from the UCITS Directive (Undertakings for Collective Investment in Transferable Securities).

fixed-rate issues so far in 1997 to more than £26 billion, higher than the total for the whole of 1996.

Much of the issuance remained swap market driven, particularly at the ten-year maturity, though the fall in long yields and the curve inversion encouraged several UK financial companies (including Equitable Life, Lloyds, National Westminster and Robert Fleming) to raise longer-term capital. There were also three long-dated debentures for property companies.

Following the removal of certain tax credits on dividend payments in the July Budget, several large companies have announced share buy-backs as an alternative way of returning surplus cash to shareholders. With longer yields falling, gilt issuance declining and sterling bond markets becoming more liquid, there have been suggestions that companies may also be preparing to increase gearing, swapping equity for debt by refinancing share buy-backs in the debt market. But though there were a few UK corporate issuers in the quarter (including ICI, Tesco and Thorn), the expected increase in corporate issuance has not yet materialised.

The United Kingdom's EMU entry option generated some interest. Brazil became the second issuer, after the European Investment Bank, to incorporate a clause allowing the issuer to re-denominate sterling debt into euros if the United Kingdom joins EMU during the life of the bond. General Motors also issued Deutsche Mark and sterling issues together, allowing investors to switch easily between the two, either to benefit from convergence or to use the sterling bond as a safe haven should the euro prove weak and the United Kingdom remain outside EMU.

Floating-rate note issuance amounted to £3.4 billion in the quarter, mainly by UK and overseas financial issuers. The asset-backed market continues to grow, with more than £1 billion FRNs issued against credit card receivables, mortgages or other assets. These included the first securitisation of the Bank of Scotland's shared appreciation mortgages, in which homeowners surrender a share of any appreciation in the value of their property in return for a reduced borrowing rate.