Financial market developments

- *International bond issues fell in the fourth quarter, although the rally in prices continued in most major bond markets.*

- *In the second half of 1995 international dollar-denominated issuance rose by 41% compared with the first half of the year.*

- *Turnover on the major derivatives exchanges was generally lower in the fourth quarter, possibly reflecting lower volatility in the underlying markets.*

Background

Prices in most major bond markets rallied during the fourth quarter. This was despite potential risks to the outlook. In the United States, these were associated with delays in agreeing a new government budget and in Europe with questions about the progress towards EMU and the implications arising from it. In Japan, where yields rose sharply towards the end of the quarter, there were concerns about financial stability.

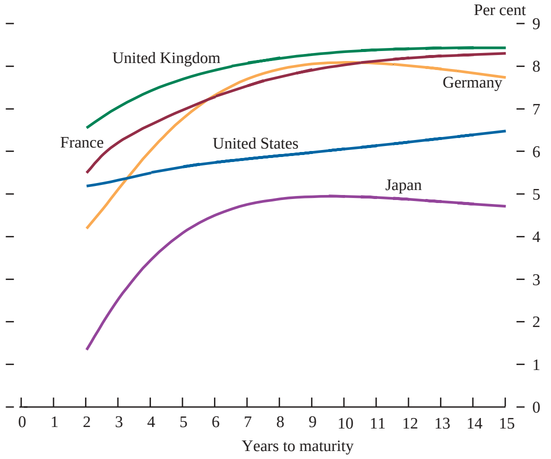
Optimism about the outlook for inflation dominated the US Treasury market in the fourth quarter: ten-year bond yields, which had peaked at 6.6% on 11 August, fell to a low of 5.6% on 4 December. The refusal by Congress to increase the debt ceiling—until agreement is reached on the budget—raised the possibility that the US government might fail to make interest payments on its debt and so might technically default. But the bond markets reacted calmly during the fourth quarter to this still fairly remote possibility.

Bond prices in the fourth quarter were comparable with the highs of 1993. But current economic circumstances are substantially different from those of the period preceding the bond market correction in 1994. In particular, rather weaker G7 growth expectations in the fourth quarter suggested the inflation outlook was now more benign. This view was supported by the Federal Reserve's 25 basis point cut on 19 December of its target intervention rate. Futures rates at the end of the quarter suggested the markets expected further cuts in US interest rates of around 25 basis points by the middle of 1996.

In September and October, some market commentators identified the possibility of a 'Japan risk premium' on certain assets, based on information suggesting a heightened risk of financial instability. Ten-year Japanese government bond yields rose from a low point of 2.7% on 4 October to reach 3.1% by the end of the fourth quarter. A number of measures to address financial fragility in Japan were announced towards the end of the year. Some markets in Europe were affected during the quarter by uncertainty about the currency into which bonds might be redeemed after 1999—the planned date for introducing a single European currency.

Official interest rates were cut in most EU economies in December. Over the fourth quarter, ten-year implied nominal forward interest rates fell in the United Kingdom, the United States, Germany and France, but rose in Japan (see Chart 1). In the United Kingdom and the United States, spreads in government bond yields against Germany were little changed during the quarter; while they fell in France and Italy by, respectively, 23 basis points and 35 basis points. Over the same period the spread between Swedish and German ten-year bonds narrowed by 29 basis points, while the Spanish/German spread narrowed by 65 basis points, continuing the declines observed in the third quarter.

Chart 1
Nominal implied forward interest rates
29 December 1995



Source: Bank of England.

The spreads between corporate and government debt have fallen in most eurobond sectors over the course of 1995. Corporate US dollar bond spreads tightened considerably over the year, with some large corporates trading below the equivalent Treasury security for short periods.

Euro-Deutsche Mark AAA spreads against the equivalent government bond, on the other hand, widened by 10 basis points in the fourth quarter compared with the third. In eurosterling, corporate spreads typically fell by 10 to 20 basis points against the equivalent government bond, although there was again evidence of widening spreads in the fourth quarter. Bank and financial bond spreads in particular tightened, but utility bonds performed poorly.

Primary bond markets

International issues

Total international bond issues fell 11.2% in value compared with the exceptionally strong third quarter, but remained 11.4% higher than the same period a year earlier (see Table A). Equity-related issuance fell in the fourth quarter, but was also higher than in the last quarter of 1994.

Table A
Total financing activity:(a) international markets by sector

$ billions

	1994			1995			
	Q2	Q3	Q4	Q1	Q2	Q3	Q4
International bond issues							
Straights	68.6	75.0	75.6	81.7	82.7	92.3	85.8
Equity-related	5.7	4.0	2.8	2.3	4.6	6.7	4.6
of which:							
Warrants	*0.8*	*0.7*	*1.1*	*0.9*	*0.5*	*1.2*	*3.2*
Convertibles	*4.9*	*3.3*	*1.7*	*1.4*	*4.1*	*5.5*	*1.4*
Floating-rate notes	17.8	17.9	18.3	14.2	16.6	22.2	17.3
Bonds with non-equity warrants	—	—	—	—	—	—	—
Total	**92.1**	**96.9**	**96.7**	**98.2**	**103.9**	**121.2**	**107.6**
Credit facilities (announcements)							
Euronote facilities (b)	46.0	40.2	71.4	54.9	62.8	75.9	78.7
of which:							
CP	*15.4*	*10.9*	*6.2*	*6.8*	*8.9*	*6.4*	*28.2*
MTNs	*30.6*	*29.3*	*65.2*	*48.1*	*53.9*	*69.5*	*50.5*
Syndicated credits	64.5	59.3	72.8	101.6	74.9	72.1	85.2
Total	**110.5**	**99.9**	**145.8**	**156.5**	**137.7**	**148.0**	**163.9**
Memo: amounts outstanding							
All international							
Bonds (c)	1,947.7	2,020.8	2,036.3	2,188.5	2,225.3	2,199.7	2,224.9
Euronotes (b)	330.3	378.7	406.1	461.6	517.1	555.8	595.2
of which, EMTNs	*216.5*	*259.4*	*292.0*	*347.1*	*397.5*	*426.4*	*461.0*

(a) Maturities of one year and over. The table includes euro and foreign issues and publicised placements. Issues which repackage existing bond issues are not included. Figures may not add to totals because of rounding. Bond total includes issues from MTN programes.
(b) Sourced directly from Euroclear.
(c) BIS-adjusted figures, including currency adjustment. Includes issues of fixed-rate bonds and floating-rate notes.

Warrants and convertibles together accounted for 4.3% of new international issues in the fourth quarter. Almost 74% of new eurobond issues were denominated in the G3 currencies in 1995, compared with an average of 60% since 1990 (see Table B).

During 1995, the ratio of floating-rate notes (FRNs) to fixed-rate bonds fell compared with the previous year. In the fourth quarter of 1995 the ratio was 0.20 compared to 0.23 in the same period a year earlier. International dollar-denominated issues rose in the second half of 1995 by 41% compared with the first half of the year. The mean maturity of all new international issues lengthened in 1995, giving an indication of market confidence over the year. It rose to 6.2 years in the fourth quarter compared with 5.2 years at the end of 1994, and an average of 7.2 years since 1980.

Table B
Currency composition of international bond issues

$ billions

Currency denomination	1993 Year	1994 Year	1994 Q3	Q4	1995 Q1	Q2	Q3	Q4
US dollar	175.6	147.3	30.6	37.3	30.6	32.8	46.4	43.1
Yen	58.7	77.8	23.9	22.1	13.6	25.4	23.5	17.6
Deutsche Mark	56.4	39.8	8.5	9.2	14.3	20.1	15.8	18.6
Sterling	42.6	29.5	5.3	4.1	6.5	4.5	4.9	4.8
French franc	42.3	28.7	3.1	3.5	4.8	3.2	2.5	2.8
Swiss franc	27.5	20.8	6.2	4.3	5.7	6.8	9.3	6.3
Italian lira	12.3	17.1	4.6	2.7	5.9	1.7	2.0	2.7
Ecu	11.4	7.6	1.5	0.9	2.9	0.2	2.7	0.2
Other	58.2	53.3	13.2	12.3	14.0	9.2	14.0	11.7
Total	**485.0**	**421.9**	**96.9**	**96.4**	**98.2**	**103.9**	**121.1**	**107.6**

Source: Bank of England ICMS database.

The banks' share of international borrowing increased sharply in the fourth quarter to 33.4%. The main counterparts to this were a decline in central governments' share to 9.8% and in that of financial institutions to 13.0%. At 26.8%, companies' share of borrowing rose slightly in the fourth quarter but remained well below the average of 36.1% over the past 15 years.

Emerging markets

International emerging market issuance fell sharply after the Mexican peso crisis at the end of 1994. In the fourth quarter of 1994, total emerging market issuance amounted to $13.6 billion. By the first quarter of 1995, it had fallen to $5.3 billion. But sentiment about emerging markets reversed over the course of 1995 and, by the middle of the year, investors had again become receptive to emerging market debt, although international investors may now be differentiating more carefully between these diverse markets. The recovery since mid-1995 in emerging market international bond issuance continued into the fourth quarter, which saw $12.1 billion of new issues, compared to a record total of $22.9 billion in the final quarter of 1993. Sovereign Mexican debt returned to international markets and this is reflected in the Salomon Brothers Brady bond index which rose 9.3% in the fourth quarter, and 26.7% during 1995 as a whole. Mexican Brady bonds rose 26.2% over the year. Although Latin American debt remained the largest sector, there were notable issues by North African and East European borrowers, including the former Yugoslavian republics.

Issuance currencies

The proportion of international bond issues denominated in dollars increased over the year, from 31.1% in the first quarter of 1995 to 40.1% in the last. Concern about the possible 'debt ceiling' problems of the US government did not seem to affect the dollar bond markets. The first half of 1995 saw the same level of gross domestic issuance in the United States as in the first half of 1994.

The international yen-denominated sector continued to grow in the fourth quarter. The Samurai sector in particular saw a revival during 1995, with issuance reaching a record $5.4 billion in the fourth quarter.[1] This compares with an average level of quarterly issuance of $1.6 billion since 1980. International issues by Japanese banks fell to $642 million in the fourth quarter from $1.3 billion the quarter before. But issuance has been erratic since the start of 1994.

The French franc's share of international bond issuance has fallen sharply. In the first quarter of 1994, the French franc accounted for 9.9% of all issues, but by the end of 1995 for only 2.6% because of political and exchange rate uncertainties.

Sterling issues

Announcements of new sterling bond issues in the quarter totalled £3,980 million. £1,925 million of this issuance was in fixed-rate eurosterling form, with only £450 million of this issued by overseas companies. A further £250 million of fixed-rate paper was privately placed in the quarter. Unusually, longer-dated, fixed-rate eurosterling instruments dominated issuance, with three 25-year or 30-year corporate issues totalling £600 million, and a further £350 million of perpetual issues by banking institutions, compared with £575 million of issues around ten years and £400 million of issues of between five and seven years' maturity. One of the bank perpetuals is exchangeable into sterling preference shares at the issuer's option at a fixed premium over gilts; the other two perpetuals allow the issuer to call the bonds after ten years; or an alternative option of a coupon step-up to five year gilt yields plus 270 basis points. In the quarter, £817 million of floating-rate eurosterling issuance was announced, the bulk of this (£627 million) was to fund the acquisition of one of the regional electricity companies. The other floating-rate notes were issued by banks or building societies.

There were a number of asset-backed, floating-rate issues over the quarter, totalling £723 million. Two of these involved mortgage-backed securities; another was the first issue made in the United Kingdom that was secured on revolving personal credits originated by a UK bank. The last was a two-tranche issue with FRNs and inverse FRNs, which together were designed to provide effective fixed-rate funds. The issue was secured on a portfolio of pubs and the bonds are redeemed as the pub portfolio is sold.

The domestic market saw three small debenture issues totalling £85 million, although the main interest in the domestic bond market was the return of two local authorities. The City of Coventry raised £100 million and the City of Salford raised £80 million through issues with 30 and 35 years' maturity respectively. Salford's issue is partly-paid, the remainder due in July 1996, with 20% amortising in each of its last five years. The local authority bond market was relaunched in January 1994 by three separate councils, including Salford. Since then one council has issued and there has been a club deal involving several local authorities.

Total outstanding sterling commercial paper fell by £157 million over the fourth quarter to £6.8 billion. Outstanding sterling medium-term notes rose by £534 million over the quarter to stand at £16.0 billion at the end of December.

The fourth quarter saw a marked reversal of spreads, following the steady tightening in the first nine months of the year, with those beyond 15 years giving back most of the earlier gains. This reflected takeovers, regulatory risk and various ratings downgrades in the utilities sector, as credit risk factors again came to the fore. Shorter maturities also saw spreads fall back, although the earlier gains made from the anticipation of PEP demand for short and medium term issues remained substantially in place.

Ecu issues

In the United Kingdom, regular monthly tenders of ECU 1 billion of Ecu Treasury bills continued during the fourth quarter, comprising ECU 200 million of one-month, ECU 500 million of three-month and ECU 300 million of six-month bills. The tenders continued to be strongly oversubscribed, with issues being covered by an average of 2.7 times the amount on offer, compared with an average of 2.3 times during the first three quarters of the year. Bids were accepted at yields up to 20 basis points below the Ecu Libid rate of the appropriate maturity. There are currently ECU 3.5 billion of Treasury bills outstanding which have been sold to the public. Secondary market turnover in the fourth quarter averaged ECU 1.9 billion per month; turnover for 1995 as a whole averaged ECU 2.2 billion per month, which was very similar to the average levels in 1993 and 1994.

On 17 October, the Bank reopened the Ecu Treasury note maturing in 1998 with a further tender for ECU 250 million. This raised the amount outstanding with the public to ECU 2.0 billion, and thus exactly refinanced the Ecu note which had matured in January 1995. Under the UK note programme, the total notes held by the public thus rose from ECU 6.25 billion to ECU 6.5 billion over the quarter, returning to the level outstanding at the end of 1994. The October tender was heavily oversubscribed, with cover being 7.0 times the amount on offer. Accepted bids were all at a yield of 6.2%. Secondary market turnover in the notes continued to be higher than in 1994.

The French government issued ECU 0.5 billion of bonds and notes during the fourth quarter, taking its outstanding debt up from ECU 20.8 billion to ECU 21.2 billion (excluding stock bought back or held for repo purposes). The Italian government redeemed ECU 0.8 billion of notes in the quarter, and the total outstanding fell from ECU 23.4 billion to ECU 22.6 billion over the quarter. In

(1) A Samurai bond is a yen-denominated bond issued in the Japanese domestic market by a foreign issuer.

addition, the total of Italian government Ecu eurobonds outstanding was ECU 7.4 billion. There were few other Ecu issues in the fourth quarter.

International syndicated credits

International syndicated credit activity rose by 18.2% in the fourth quarter of 1995 to $85.2 billion. There is little evidence of the market becoming less attractive to borrowers: the maturity of credits is increasing and the spreads on them remain low. Loans as long as seven years are increasingly common, suggesting that lenders are taking on more so-called 'term risk'. Participation in the market by lenders is also broadening, with, for example, the IFC arm of the World Bank participating in 1995 in more than twice as many syndications than in the previous year.

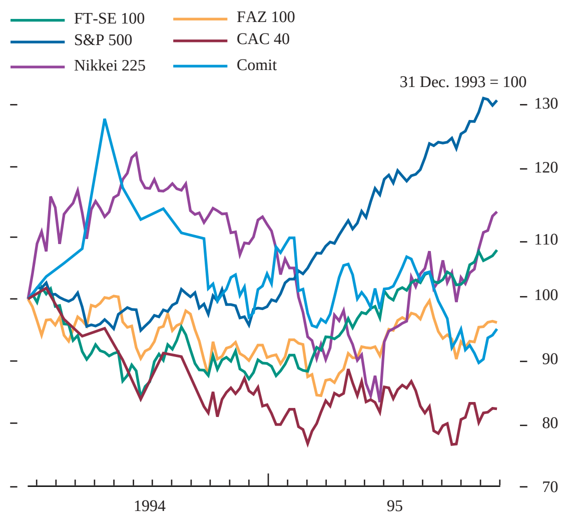
Although syndicated credit activity remains healthy, there is some evidence that borrowers are also setting up their own bilateral deals to raise funds. The strong capitalisation of banks worldwide has enhanced their ability to enter into larger bilateral lending agreements. This loan activity remains international though, as domestic markets do not generally have the capacity to lend the required funds. BIS figures provide some support for this view: cross-border bank loans (both syndicated and bilateral) increased by $99.4 billion in the second quarter of 1995, compared with a net repayment of $24 billion in the same period a year earlier.

Equity markets

Prices

Equity prices rose in the fourth quarter, with US and UK indices climbing to record highs. In the United States, the Standard & Poor's 500 index rose by 5.4% during the fourth quarter, bringing the year-on-year gain to over 34%. The index attained an all-time high of 621.69 on 13 December (see Chart 2). The United Kingdom saw the FT-SE 100 index rise by 5.2% over the quarter, giving a year-on-year rise of 20.4%. The high-point for the quarter—another all-time record—occurred on 29 December, when the index reached 3689.3. The price rises in the United Kingdom and the United States have been linked to changing interest rate expectations and takeover speculation in a variety of sectors. The UK budget on 28 November had little apparent impact on equity prices.

Chart 2
Equity indices(a)



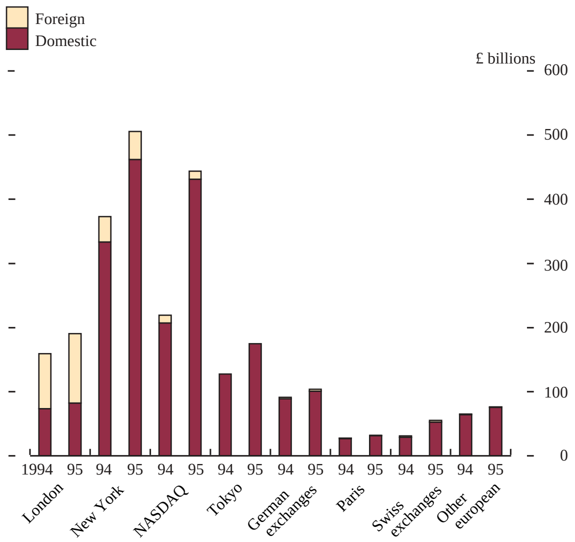
(a) End-week prices; data to 29 December 1995.

The other main European markets experienced mixed fortunes. In Germany, the FAZ index gained only 1.5% during the quarter, with the continuing strength of the Deutsche Mark against the US dollar seen to be potentially damaging to companies' export margins. Political tension in France, a result of proposed budgetary reforms, restrained French equity prices for much of the quarter. But confidence in the government's resolve returned in the latter half of December and the CAC 40 index recorded a rise of 4.7% over the three months. With a backdrop of an uncertain political environment, the Italian equity market, as measured by the Comit index, fell by 4.5% over the quarter; as a result, the index was down 6.8% over the year as a whole. The Nikkei 225 index rose 10.9% over the quarter. After falling from 19,700 early in 1995 to 14,500 mid-year—a decline of 26%—the Japanese index recovered strongly in the second half to pass 20,000 on 27 December. Although some uncertainty regarding Japanese financial stability remained in the fourth quarter, the strong market on Wall Street and foreign investors' demand for Japanese stocks supported Japanese equity prices.

Turnover

Equity turnover on all the major exchanges in the third quarter of 1995 was higher than in the corresponding quarter of 1994 (see Chart 3). Volumes reported to the London Stock Exchange were 20% higher, with foreign equity business in London showing a particularly strong rise of 26%. The increase in turnover was even more striking in the United States: compared to the same period a year

Chart 3
Turnover of domestic and foreign equities on major stock exchanges(a)

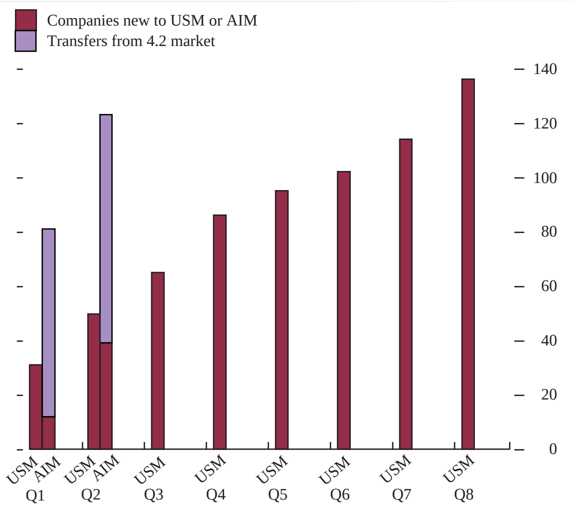


(a) Turnover in the third quarter of the year indicated.

The Alternative Investment Market (AIM): a comparison with the Unlisted Securities Market (USM)

In the six months since the Alternative Investment Market (AIM) went live, on 19 June last year, the number of companies traded on it has increased from 10 to 121. Its predecessor, the Unlisted Securities Market (USM) was launched with 12 companies quoted, but had achieved only 50 quotations by the end of its second quarter and did not—as AIM has done—achieve a critical mass of quoted companies for nearly two years (see the chart). At least two thirds of these AIM companies were previously traded on Rule 4.2—the Stock Exchange's occasional deal facility, which was closed in September 1995—and the USM did not enjoy this advantage of a ready-made pool of potential companies. But the high proportion of transfers from the occasional dealing facility has meant that, initially, AIM entrants tended to be non-capital raising introductions. There is, though, some evidence that in the run-up to AIM, the number of Rule 4.2 companies increased significantly in anticipation of transferring to AIM. So some of the companies transferring from Rule 4.2 were young, start-ups as well as more established companies.

Comparison of companies trading on USM and AIM



Since AIM was established, 17 companies have raised capital of £69.5 million on entry: £18.6 million in the first quarter of trading and £50.9 million in the second quarter. Although this is somewhat less than the £81 million (adjusted for inflation since 1980) raised on the USM in its first six months, a significant amount of the capital raised on AIM—£34.1 million—was raised in December, suggesting that capital-raising activity on the market is increasing. In terms of secondary market activity, between October and December the value of turnover on AIM increased by 110%, compared to an increase in market capitalisation of 55%.

An additional factor relevant to the comparison of these markets is that the USM and AIM were launched at different stages in the economic cycle. Although there were other relevant factors, for example regulatory changes, the fortunes of the USM were very clearly linked to the cycle, with the market reaching its peak (in terms of new entrants, companies trading and money raised) when GDP growth peaked in 1988/89, but declining from 1990 onwards as GDP growth slowed. It is too early to say with certainty that AIM is any better equipped to deal with a downturn in the economy, or a bear run in the market, than was the USM.

AIM's first six months therefore look promising, but these comparisons suggest that it is too early to say whether it will be a long-term success. In its early stages, the high level of transfers from the Rule 4.2 facility may disguise the true level of new activity generated by the market; but they have given it a valuable momentum that looks likely to continue. The next twelve months will be a truer test of the market—particularly if growth in the economy continues to slow. It should then become clearer whether AIM is to be more successful than USM at attracting start-ups and whether it is a suitable mechanism for such companies to raise equity capital.

earlier 35% more equities were traded on the New York Stock Exchange in the third quarter of 1995. And, turnover on the NASDAQ market more than doubled. In both cases, the intervening quarters have shown a steady rise. Turnover on the Tokyo Stock Exchange was 37% up on the corresponding period of 1994, in line with the strong recovery in prices and foreign investor demand. Turnover of equities in Europe increased strongly, particularly in Switzerland, which saw a rise of 78% compared with the third quarter of 1994.

Equity issues

In the UK equity market, £831 million was raised in rights issues by UK and Irish companies in the fourth quarter. This compares with £2 billion issued in the third quarter, although the third-quarter data were erratically high—more than two thirds of the total was accounted for by two issues: North West Water Group and RMC Group. Equity issuance by new companies recovered in the final quarter of the year: 38 companies joined the Official List, of which 29 raised capital of £909 million. The balance were non-capital raising introductions.

Issues of equity with an international tranche increased by approximately 25% from the second quarter to the third quarter of 1995. At $22.4 billion, however, international equity issues in the first three quarters of 1995 were lower than expected, particularly in comparison with the

$35.2 billion issued in the same period in 1994. This decline is linked to privatisations, which almost halved in value; equity offerings by firms in developing countries were also much lower. This trend may have continued into the fourth quarter after shares in the largest deal of the year—ENI, the Italian oil, gas and chemicals group—began trading at only just above the issue price. The performance of this $3.96 billion (Lit 6,300 billion) issue may determine the timetable for the remainder of the Italian government's privatisation programme.

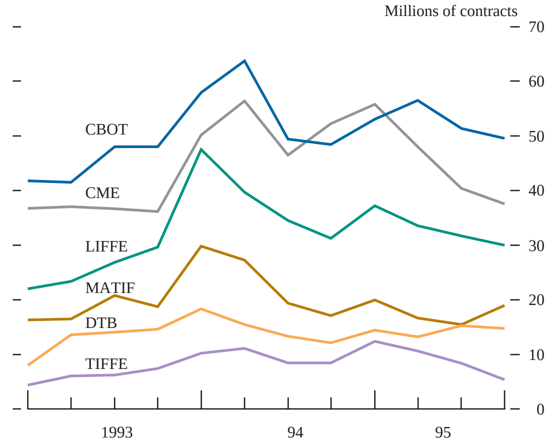
In December, shares in Pechiney, the French aluminium and packing group, started trading at 6% below their issue price. The timing of the sale had been questioned, given the weak French stock market and the disappointment of investors in the performance of Usinor Sacilor, the steel firm privatised last summer. The French government also pointed to the 2% fall in the CAC on the day of the issue and the uncertainty created by the public sector strikes.

New issues in the international equity market are expected to be dominated by Europe in 1996 because of large privatisations—most notably of Deutsche Telekom, which is set to be the world's largest initial public offering. It is scheduled for the end of the year.

Derivatives markets

Turnover on the major derivatives exchanges in the final quarter of 1995 was generally lower than in the previous quarter. On some exchanges, notably the London International Financial Futures and Options Exchange (LIFFE) and the Chicago Mercantile Exchange (CME), it was lower than in the same period in 1994—in part reflecting lower volatility in the underlying markets. However, 1994 was an exceptionally active year and business in the fourth quarter of 1995 was still higher than 1993 levels. For example, LIFFE's total volume in the fourth quarter amounted to 30.0 million contracts, lower than the quarterly average of 38.3 million contracts in 1994, but higher than the 25.4 million contracts in 1993. A similar picture emerges on other leading exchanges (see Chart 4).

Chart 4
Quarterly turnover on major derivatives exchanges



Turnover on LIFFE fell by 5.3% in the fourth quarter, while open interest fell by 2.5%. The fall in LIFFE turnover in 1995 should be seen in the context of the sharp rise observed in 1994, 50% up on the previous year. This was the sharpest rise in total turnover on the three leading exchanges—Chicago Board of Trade (CBOT), CME and LIFFE—and was linked to the exceptional levels of volatility observed in bond markets at that time. The implied volatility of LIFFE's long-gilt contract increased by as much as 126% during 1994, while that of the comparable CBOT contract on the US Treasury bond increased by 81.3%. But in 1995, volatility of the LIFFE contract fell by proportionately more that of the CBOT contract. This may go some way to explain the larger decline in LIFFE's total 1995 turnover of 13.3%, compared with 11.4% on CME and 4.0% on CBOT.

Against this background of lower levels of activity, one noteworthy development in the futures markets has been the continued moves to forge contract linkages with other exchanges. For example, in November, LIFFE, the London Clearing House and the Tokyo International Financial Futures Exchange (TIFFE) signed a formal 'Link Agreement' that will permit LIFFE to list a three-month euroyen futures contract identical to TIFFE's existing contract. It is envisaged that the link will come into effect in April 1996.

Elsewhere, turnover on the Deutsche Terminborse (DTB) fell 3.1% during the quarter, whilst volumes on Marché à Terme International de France (MATIF) rose by 22.8%. However, over 1995 as a whole, volumes on MATIF fell by 23.9% with the number of contracts traded marginally lower than in 1993. In November, a letter of intent was signed by MATIF, MONEP (the French equity options exchange), Deutsche Borse AG (the umbrella organisation for the DTB and the Frankfurt Borse) and Société de Bourses Françaises in a bid to take forward the co-operation of the French and German markets. The participants have agreed to come to a final decision on the creation of a Franco-German trading platform by 31 March 1996. This is the deadline by which two MATIF contracts are to be chosen to be transferred to the Tradeus electronic trading link with the DTB.

In the United States over the quarter, volumes on CME and the CBOT fell by 7.3% and 3.4% respectively. On both of these exchanges the performance of non-financial contracts was stronger than that of financial contracts. In the Far East, volumes on TIFFE, Japan's largest derivatives exchange, were down 36.9%.

Turnover in the CBOT's US Treasury bond future fell 7.0% during the quarter, but it became the world's most actively traded contract, as the CME's eurodollar futures contract saw a larger decline. Following the CME's decision to list contracts based on Brady Bonds, the CBOT submitted three Brady Bond futures and options to the Commodity Futures Trading Commission (CFTC) for approval. The introduction of new contracts on this exchange and elsewhere may partly

UK asset price volatility over the last 50 years

Over the last few years, policy-makers and market commentators around the world have increasingly focused on the issue of asset price volatility. This increase in interest has not only given the impression that asset price volatility is a problem but also that it has increased recently. However, as Charts A and B show, volatility in both the bond and equity markets in the United Kingdom has over the last 15 years or so been on a generally declining trend, barring some extreme events like the 1987 stock market crash. There is a similar pattern in Treasury bill returns and the sterling-dollar exchange rate.

However, the charts(1) also show that despite recent declines, asset price volatility is still generally higher than it was in the 1950s and 1960s. What accounts for its dramatic rise in the 1970s? Unfortunately, the determinants of asset price volatility are not clearly understood and so it is not possible to make definitive statements about its causes. Instead a simple statistical analysis was undertaken to look at variables that might be related to trends in volatility.(2) This analysis indicated a strong relationship between measures of macroeconomic volatility (volatility of inflation and output) and asset price volatility. This suggests that asset price volatility in the 1970s was related to high and variable inflation and sharp swings in output—principally because of the two oil price shocks. Since then both the macroeconomic environment and asset prices have become more stable. Interestingly, the statistical analysis could find no relationship between measures to liberalise or restrict financial markets and asset price volatility. Also, it found that the introduction of derivatives contracts has, if anything, been associated with reductions in price volatility of the corresponding asset.

Chart A
Asset price volatility since 1946
Bonds

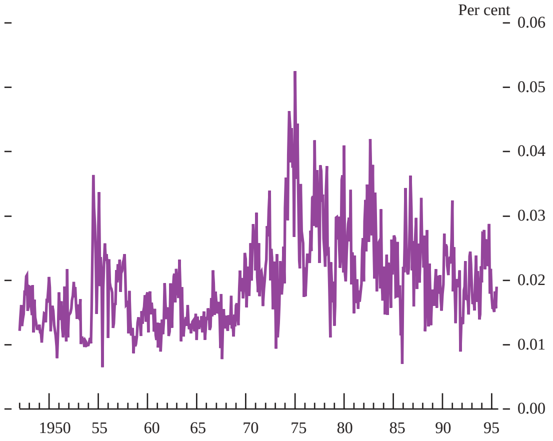
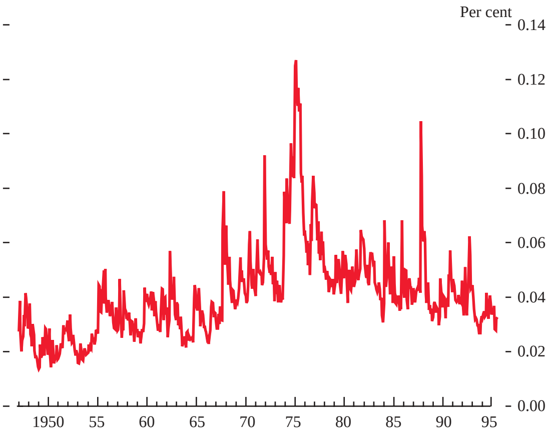


Chart B
Asset price volatility since 1946
Stocks



(1) In the charts, asset price volatility is measured as the monthly conditional volatility of holding period returns on the FT ordinary share index for stocks and on ten-year gilts for bonds. Estimates of conditional volatility were derived as the fitted values, $\tilde{\sigma}_t$, from the following regression equation:

$$\hat{\sigma}_t = \sum_{i=1}^{12} \beta_i \hat{\sigma}_{t-i} + v_t$$

where $\hat{\sigma}_t$ is the unconditional volatility in month t. For stocks the unconditional volatility was estimated using daily data as

$$\hat{\sigma}_t^2 = \sum_{i=1}^{N_t} \left(r_{it} - \bar{r}_t\right)^2$$

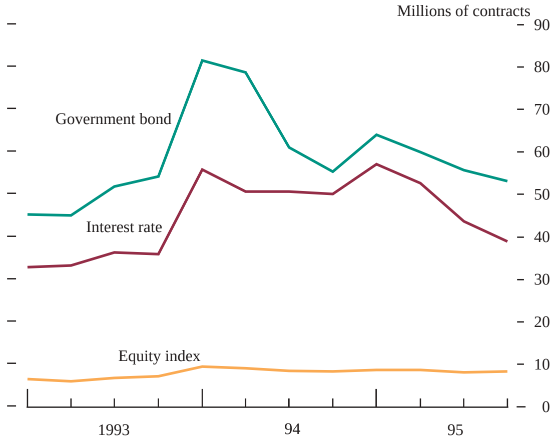
where N_t is the number of days in the month and $\bar{r}_t$ is the average holding period return in the month. For bonds daily data back to 1946 were not available so an estimate using monthly data was used. Full details are in the BIS paper quoted below.

(2) Based on 'UK asset price volatility over the last 50 years', by N Anderson and F Breedon given at the BIS economists' meeting, autumn 1995.

be linked to the decline in volumes observed in 1995 compared with 1994 and possibly to the lack of growth potential in some existing contracts.

Turnover in the CME's eurodollar futures contract fell by 11.4% during the fourth quarter, although its open interest ended the quarter up 6.1%. The exchange membership voted to create a new division, entitled the Growth and Emerging Markets Division, to trade futures contracts on the currencies, debt, and stock markets of emerging market currencies. The CME has launched futures and options on the Brazilian real.

Chart 5
Quarterly turnover of futures by type[a]



(a) Turnover in the major futures contracts listed on the CME, CBOT, LIFFE, DTB, MATIF and TIFFE.

In the over-the-counter (OTC) markets, the International Swaps and Derivatives Association (ISDA) reported an increase of 8.7% in the volume of new business in swaps and other privately negotiated derivatives, from $3,919 billion in the first half of 1994 to $4,258 billion in the first half of 1995. Earlier this year, the Bank of England surveyed the UK OTC market as part of the first comprehensive central bank survey of derivatives markets. It was co-ordinated by the Bank for International Settlements. An analysis of the results of the survey may be found on pages 30–38 of this *Bulletin*.

Other exchange developments

The Boards of LIFFE and the London Commodity Exchange (LCE) reached agreement in November to enter into detailed negotiations to merge the two exchanges. By merging they hope to maximise the opportunities created by pooling resources. LIFFE's name will be retained for the new exchange. It is hoped that the transition will be concluded by mid-1996.

In November, LIFFE launched APT Plus, a new system that will allow its members to trade options electronically. It was expected that the system would be available for dealing in LIFFE's Bund option contract from February 1996.