
Financial market developments⁽¹⁾

- *Equity and bond issuance levels were high in most major markets in 1996.*
- *Equity prices rose strongly in the United States and Europe over the year.*
- *Speculation over the timing of, and participants in, the planned European Monetary Union continued to be an important influence on bond, equity and derivatives markets.*

Background

The fourth quarter completed a buoyant 1996 for most bond, equity and derivatives markets. This was reflected in a high level of new issues in the bond and equity markets and growing turnover volumes on exchanges.

Continuing the trend of earlier months, most European government bond yields continued to fall during the fourth quarter. One of the major features of the quarter was the fall in Italian government bond yields in anticipation of, and following, the return of the lira to the exchange rate mechanism on 25 November. Italian government bond yields fell towards those of Germany; and on several days in November and December, yields on Italian ten-year government bonds fell slightly below those of UK ten-year government bonds. The fall in Italian bond yields could reflect a decline in longer-term inflation expectations and also the cyclical slowdown in the Italian economy. These explanations are discussed in the article ‘Recent yield curve behaviour—an analysis’ on pages 43–8.

US and European equity prices rose throughout the year, held back only briefly in the summer by concerns that stronger economic growth in the United States might be accompanied by a tightening of monetary policy. As prices continued to rise in the US equity market, there was some comment on whether the market might be overvalued. But the higher equity valuations have been sustained: the fourth quarter was strong in both the United States and continental Europe, though equity prices in the United Kingdom rose less strongly. Turnover volumes, too, were strong in those markets. Activity in Japanese equities, by contrast, was sluggish and prices fell over the year.

There were a number of important structural developments during the year.

- CREST, the United Kingdom’s new electronic book entry equity settlement system which is replacing Talisman, began operations in July and, by April 1997,

all UK equities should be settled using the new system.

- In August, the London Stock Exchange introduced Sequence 6, a development to its trading platform which enables electronic trade reporting and increases access to its SEATS PLUS automated order book for less liquid shares. A further development to the trading system is planned for late 1997, involving the replacement of the existing market-making system with an electronic order book for the most liquid shares; shares outside the top 100 will continue to be traded using market-makers.
- A new pan-European market for the trading of the shares of small to medium-sized companies, EASDAQ, opened in October and was trading the shares of four companies by the end of 1996.
- The London Commodities Exchange (LCE) merged with LIFFE in September.
- The ownership of the London Clearing House—which clears for most of London’s derivatives exchanges—was transferred from its six share-holder banks to the exchanges and its clearing members in October.

Bonds

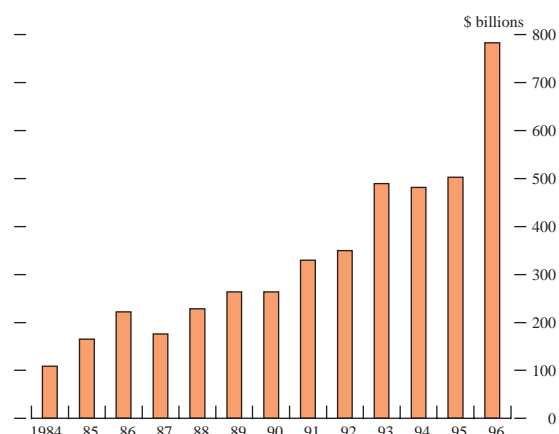
International issues

Gross issuance of international bonds was at record levels—\$783 billion—in 1996, a 56% increase in issuance on 1995. However, redemptions in 1996 were also much higher than in 1995 and refinancing of redeemed debt partly accounts for this high gross issuance. A key influence on issuance in 1996 was favourable macroeconomic conditions.

Issuance was particularly high in the first quarter of 1996, 78% up on the first quarter of 1995. It remained high for the rest of the year, with the fourth quarter 60% higher than

(1) We propose to discontinue quarterly publication of this review article. Relevant markets developments will continue to be reported in the *the operation of monetary policy and the international environment*, and we intend also to address important structural issues in special *Bulletin* articles from time to time. We would welcome feedback from readers about this proposal. Any correspondence should be addressed to the Publications Editor, Monetary Analysis, Bank of England, Threadneedle Street, London, EC2R 8AH.

Chart 1
Gross international bond issuance



Sources: Bank of England ICMS database and IFR Omnibase.

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

\$ billions; by announcement date

	1995		1996				
	Year	Q4	Year	Q1	Q2	Q3	Q4
International bond issues							
Straights	378.4	97.7	548.9	147.9	130.4	126.5	144.1
Equity-related	24.1	5.8	52.3	14.7	15.1	10.6	11.8
of which:							
Warrants	6.7	3.2	11.7	4.2	3.6	2.6	1.3
Convertible	17.4	2.6	40.6	10.5	11.5	8.0	10.5
Floating-rate notes	100.1	25.2	181.8	38.7	46.4	46.1	50.5
Total	502.6	128.7	782.9	201.4	191.9	183.3	206.4
Credit facilities (announcements)							
Euronote facilities	293.3	70.9	364.0	101.1	95.2	65.6	102.1
of which:							
CP (b)	50.3	18.6	72.2	23.3	30.6	16.9	1.4
MTNs	243.0	52.3	291.8	77.8	64.6	48.7	100.7
Syndicated credits	785.0	220.1	792.3	171.9	232.5	191.4	196.5
Total	1,078.3	291.0	1,156.3	273.0	327.7	257.0	298.6
Memo: amounts outstanding							
All international							
Bonds (c)	2,224.9	2,224.9	2,365.6	2,230.4	2,251.0	2,305.1	2,365.6
Euronotes (b)	595.2	595.2	829.3	647.5	710.9	758.2	829.3
of which, EMTNs	461.0	461.0	664.0	504.6	555.0	607.2	664.0

Source: IFR, Euroclear, BIS.

(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 programmes.

(b) Euroclear figures.

(c) BIS-adjusted figures, including currency adjustment. Includes issues of fixed-rate bonds and floating-rate notes.

the fourth quarter of 1995. The increase was reflected across all sectors of the economy. The average maturity of international bonds issued in 1996 was eight years, with five years the most frequent maturity issued.

Table B
Industry classifications of international bond issues

Industry	1995		1996				
	Year	Q4	Year	Q1	Q2	Q3	Q4
Banks	36.8	32.9	38.0	39.9	38.2	37.7	36.2
International and commercial companies	29.0	33.3	30.7	27.4	33.0	27.1	35.1
Central governments	12.0	10.2	10.7	11.1	9.4	14.8	7.9
International agencies	7.7	7.1	7.7	8.2	6.4	7.2	9.0
Other	14.5	16.3	12.9	13.4	13.0	13.2	11.8
Total (US \$ billions)	502.6	128.7	782.9	201.4	191.9	183.3	206.4

Source: IFR Omnibase.

Table C
Currency composition of international bond issues

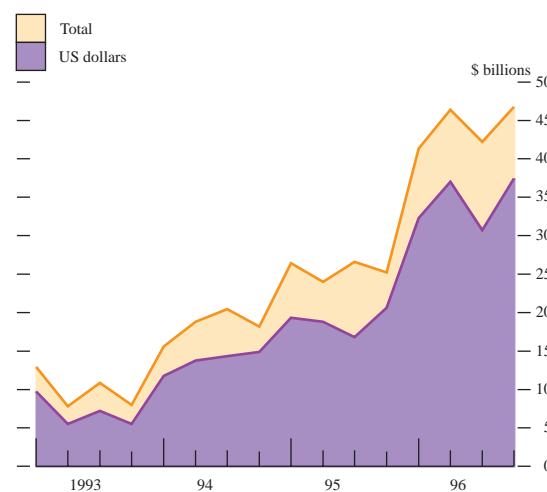
Currency denomination	1995		1996				
	Year	Q4	Year	Q1	Q2	Q3	Q4
US dollar	39.2	42.1	46.2	40.4	49.4	47.4	47.9
Yen	18.4	17.2	13.4	11.9	13.4	15.7	12.8
Deutsche Mark	13.9	15.0	10.6	15.9	8.8	10.6	7.1
Sterling	4.3	4.3	6.8	7.4	5.8	4.4	9.4
French franc	2.7	2.3	5.4	5.6	6.1	4.3	5.6
Swiss franc	6.1	5.3	3.3	4.3	3.2	4.0	1.8
Italian lira	2.4	1.7	4.6	2.8	4.2	3.3	8.0
Ecu	1.8	0.2	0.6	0.8	0.2	0.9	0.5
Other	11.2	12.1	8.9	10.8	8.9	9.2	6.7
Total (US \$ billions)	482.0	502.6	782.9	201.4	191.9	183.3	206.4

Source: IFR Omnibase.

The proportions of new issues denominated in the yen and Deutsche Mark in the international bond market fell in 1996, with sterling and US dollar issues taking a greater share of the market.

The increase in international issuance denominated in US dollars reflected a pick-up in issues by US-domiciled corporates of 72% between 1995 and 1996, continuing the rapid growth of this market over the past four years.

Chart 2
International bond issuance by US companies



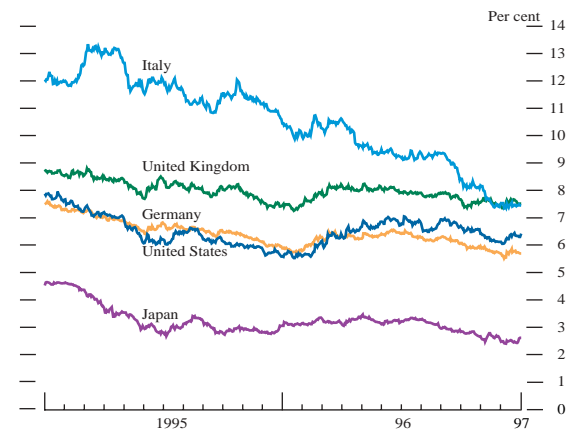
Source: IFR Omnibase.

Historically low nominal interest rates in the United States may have encouraged US corporate borrowers to bring forward their financing needs to lock in to current interest rates.

European convergence

Trades connected with the likely timing of participation in European Monetary Union continued to affect bond yields. In particular, the falling spread between German Bunds and Italian BTPs may have, in part, reflected an expectation that Italy would take part in the first wave of EU membership in 1999; economic conditions in Italy may also have contributed to the fall in Italian yields. Also, the actual and proposed fiscal tightening linked to the single currency preparations in Europe may have helped to improve liquidity in the euro markets.

Chart 3
Ten-year government bond yields



Source: Bloomberg.

Emerging markets

Emerging market issuance was particularly strong in 1996. Investors were reported to be searching for higher yields, which continued to fuel demand for emerging market debt. Several other factors contributed to higher levels of emerging market issuance, including: better economic fundamentals in emerging market countries; efforts by countries such as Mexico, the Philippines and Argentina to lengthen the maturities of their debt; and economic liberalisation in Eastern Europe and South America, which has given companies improved access to international capital markets.

Argentina, for example, made its first international offer of peso-denominated debt. The \$250 million offer helped to double the average maturity of Argentinean debt from four years in 1995 to eight years in 1996. The Argentinean Government plans to build a peso-yield curve up to ten years.

In August, the Russian central bank permitted foreigners to access the market in short-term rouble-denominated state bonds, known as GKO, in an effort to make rouble bonds internationally traded instruments. (Previously, foreign investors could buy GKO only through designated Russian banks.) The central bank raised \$1 billion in its first international bond issue since 1917, which was more than two times oversubscribed. It was reported that 44% of the issue was placed with investors in the United States, 30% in Asia, and 26% in Europe. Following that success, Russia's municipal authorities and large corporates may be encouraged to issue international bonds.

There is some concern that investors may underestimate the higher risks that come with high yields in emerging markets: for example, there is little experience of finding solutions to debt servicing difficulties in emerging markets. Previous financial crises have involved banks and official institutions, rather than widely dispersed bond investors, which has made work-outs easier to co-ordinate.

Increased activity in emerging market debt has led to plans to form a new clearing house, specialising in emerging

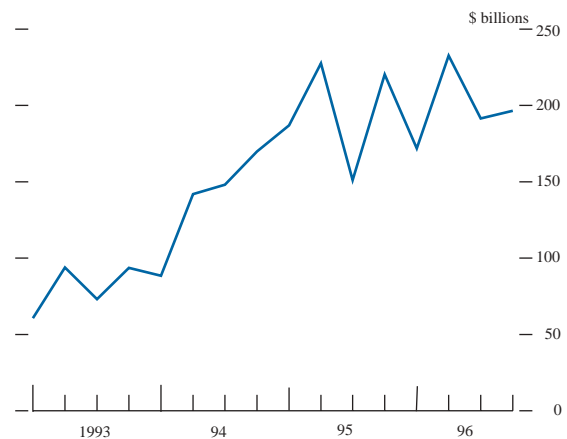
markets. The Emerging Market Traders Association and the International Securities Clearing Corporation have signed a memorandum of understanding to set up the Emerging Market Clearing Corporation (EMCC). The new clearing house will manage counterparty risk with the aim of increasing market efficiency and will be limited initially to clearing trades in Brady bonds, currently the most liquid emerging market securities.

International syndicated credits

Announcements of international syndicated credits in 1996 were slightly higher than in 1995. Some of the major UK deals involved the financing of take-overs, such as the \$800 million five-year dual-currency facility used by Great Universal Stores in its acquisition of Experian.

In the fourth quarter of 1996, average syndicated credit spreads widened to around 75 basis points. The first three quarters of 1996 had seen credit spreads of around 20–40 basis points.

Chart 4
International syndicated credit announcements



Source: IFR Omnibase.

Sterling issues

With sterling continuing to appreciate and UK bond yields remaining high relative to other markets, overseas demand for sterling assets encouraged further substantial issuance of sterling bonds in the fourth quarter. Total fixed-rate issuance was £6.8 billion, taking it to a total for 1996 of £21 billion, double that in 1995 and the largest annual total since 1993. There were four domestic debenture issues within this total, raising £228 million, but the bulk of fixed-rate issuance was in the form of eurosterling.

Fixed-rate issuance in the quarter included £2.7 billion of shorter-dated bonds and £2.1 billion of mediums (of which £1.2 billion was for seven-year maturities). Most of the £3.8 billion of up to seven-year bonds were issued by overseas issuers, notably continental financial institutions looking to take advantage of attractive swap rates. There was also substantial longer-dated issuance, totalling £2.8 billion. This included £740 million from five issues which, although perpetuals, all incorporated a call or yield step-up option after ten (or in one case 25) years.

European high-yield bonds

Since the 1980s, the market in high-yield, and higher risk, bonds has been concentrated in the United States. Recently, however, there has been some suggestion that a similar market could develop in Europe.

Some commentators have suggested that there are key differences between Europe and the United States which may make it less easy to develop a high-yield bond market along the lines of that in the United States:

- investors within the United States may have a greater appetite for credit risk: US corporates generally have higher gearing levels than their European counterparts and leveraged buyouts are far more common in the United States than they are in Europe. There are also significant differences in attitudes towards corporate financing. For example, banks still play a dominant role in the financing of businesses in Germany; and
- in Europe, the development of a high-yield bond market might become more concentrated in sovereign emerging market debt which is an attractive alternative to high-yield domestic corporate debt. Sovereign bonds tend to have low credit risk, but provide high yields due to their currency risk.

Although the above differences may have impeded a high-yield market in Europe, there are signs that the economic conditions could now be right for a market to develop:

- the trend towards disintermediation could encourage medium-sized companies to issue bonds rather than borrow from banks;
- a stable economic environment and historically low interest rates could encourage European investors to look for higher yields in domestic markets;
- the introduction of Economic and Monetary Union (EMU) and the subsequent elimination of currency risk within the EMU area could lead securities houses in Europe to concentrate their business more on taking credit risk; and
- an increase in mergers and acquisitions in the United Kingdom has already led to more leveraged buyouts.

Although the conditions for a high-yield bond market in Europe are favourable, there are currently no clear signs of one developing. However, if there is a reverse in economic conditions in the emerging markets or if yields in Europe begin to rise, investors may begin to look at domestic high-yield corporate bonds more seriously.

There was significant growth in the UK asset-backed securities market over the quarter, with eleven issues raising over £5 billion. Structured deals were used to finance acquisitions: a three tranche deal—£550 million fixed-rate and £354 million floating-rate—financed the purchase of army personnel properties previously owned by the Ministry of Defence (MoD), the bonds secured against rental income guaranteed by the MoD until 2021; Stagecoach's acquisition of train rolling stock leasing company Porterbrook was refinanced by the issue of bonds secured against the company's future leasing payments from train operating companies, which are 80% government guaranteed. These deals helped to boost FRN issuance—indeed, all but £450 million of the £5.1 billion FRNs issued in the quarter were asset-backed securities. This took the amount raised in FRNs during 1996 to £12.5 billion, substantially more than any previous year.

Despite the high level of issuance in the quarter, high levels of demand for sterling paper caused spreads to remain narrow.

Total outstanding sterling commercial paper rose to £7.3 billion by the end of the fourth quarter, £0.2 billion higher than at the end of September. Outstanding sterling medium-term notes rose by £1.4 billion to £20.8 billion at end-December.

Other developments

German minimum reserve requirements on Bund repos of less than one year were lifted in December 1996, reducing

the cost of this type of transaction in Germany. It is estimated that around 60% of current Bund repo business is done in London, mainly by large US investment banks. German banks are likely to repatriate some of their business.

Japan is considering a change to its rules on withholding tax that would allow holders of Japanese eurobonds to receive their interest gross of tax only if they registered their name. Any change would affect mainly Japanese residents, since they hold over 95% of Japanese eurobonds; but currently all overseas investors in Japanese eurobonds also receive interest gross.

A Canadian high-yield bond market has developed over the past year. Retail demand is likely to have been a driving force: five high-yield bond mutual funds have started up in Canada over the past year, with total assets of around C\$200 million. Canadian issuers are currently the largest issuers of Yankee debt and are among the largest issuers of high-yield debt.

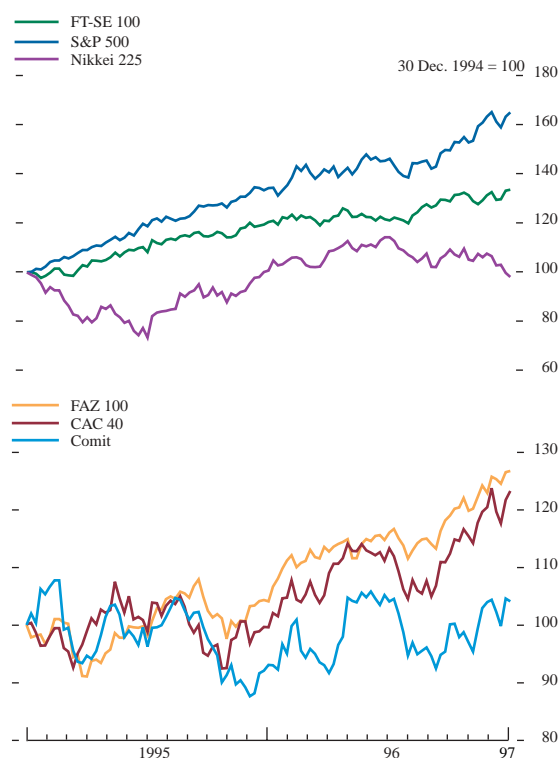
Equity markets

Prices

Equity prices on most of the major exchanges increased in 1996 and, following some price falls in the summer, the fourth quarter was strong.

The US equity market continued to rise, with the S&P 500 index 7.8% higher over the quarter, bringing its increase for the whole of 1996 to 20.3%. These high levels prompted

Chart 5
Equity indices^(a)



Source: Individual exchanges.

(a) End-week prices; data to 27 December 1996.

concern that the market might be overvalued, but productivity gains by listed companies, underpinned by steady economic growth, would seem to justify higher share valuations. Much also depends on the method of valuation: dividend yields, for example, were at an historic low; but dividend return is only part of the explanation, especially considering the recent spate of share buybacks. Other valuation measures, based on total share-holder earnings, might be more relevant, and these point less strongly to overvaluation.

Considerable uncertainty was evident, however, with prices reacting adversely to any suggestion that interest rates might have to be raised. Liquidity in the US market was, nonetheless, strong, with evidence of sustained demand from domestic investors. Over the longer term, market analysts expect a switch from publicly funded into privately funded pension funds which would underpin demand on a sustained basis. In addition, institutional inflows from Japan were reported to be strong. There was little expectation among commentators that the US equity market would fall sharply in 1997, though most felt that there could be a 'correction' should inflation rise more than expected.

Canadian equity markets were even stronger than those in the United States, with the TSE 300 index rising 12% over the quarter and 25.7% over the year.

Continental European equity markets were buoyant. The strength of the US market was partly responsible, but the

efforts of European governments to meet the Maastricht criteria were also seen by investors as positive for equities. Prices in core equity markets continued the steady growth seen earlier in the year, with the German FAZ index rising 7%, 21.6% on the year, and the French CAC index rising 8.6%, 23.7% on the year. Rising equity prices were underpinned by falling bond yields, particularly in those countries where risk premia have historically been considered high: Spanish equities were particularly strong, rising 20.8% over the quarter, 39% over the year; Italian equities rose 4.8% over the quarter to record a gain of 13% over the year. Scandinavian equity markets outperformed the rest of Europe, with Finnish equities the strongest in Scandinavia over the year, gaining 46.5%; strong inflows from foreign investors were reported to be an important factor during 1996.

The UK equity market rose by less than its US and continental European counterparts during 1996, but still hit record highs: the FT-SE 100 index reached a new high, of 4,118, on 31 December. Over the fourth quarter, the index gained 4.2%, 11.6% over the year. Differing interest rate expectations are likely to have been a major reason for the UK market's relative underperformance, especially following the rise in official interest rates in late October, when UK rates were perceived to be more likely to rise than those of continental European countries. Some investors became concerned, too, that the strength of sterling, if it continued into 1997, could hit the earnings of exporting companies and thus would lead to a fall in dividends.

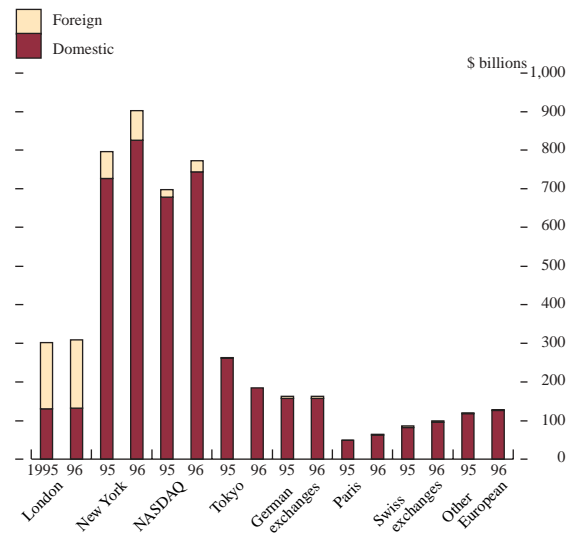
Most of the major equity markets in Asia were, by contrast, weak. In Japan, a slower-than-expected economic recovery and continued concerns over the fragility of the financial sector contributed to a fall of 10.2% in the Nikkei index over the quarter and of 2.5% over the year. Singaporean equities, although recording a small gain in the fourth quarter, declined by 2.2% over 1996 as a whole. The Hong Kong market was an exception, boosted by reduced expectations of higher US interest rates (to which Hong Kong interest rates are directly related), with the Hang Seng index gaining 13% over the quarter and 33.5% over the year.

Turnover

Equity turnover volumes continued to rise in the third quarter (the most recent data available). Compared with the third quarter of 1995, turnover on the New York Stock Exchange increased by 13% and on NASDAQ by 11%. Of the major European exchanges, Paris showed the biggest proportional increase in volumes, up by 28% on the third quarter of 1995. Turnover volumes in Japan declined by a third compared with the third quarter of 1995. The increases in turnover volumes in European exchanges did not appear to represent repatriation of business from London, where volumes for both domestic and foreign shares remained steady.

Turnover on Tradepoint, the UK-based electronic exchange competing with the London Stock Exchange, grew strongly

Chart 6
Turnover of domestic and foreign equities on major stock exchanges^(a)

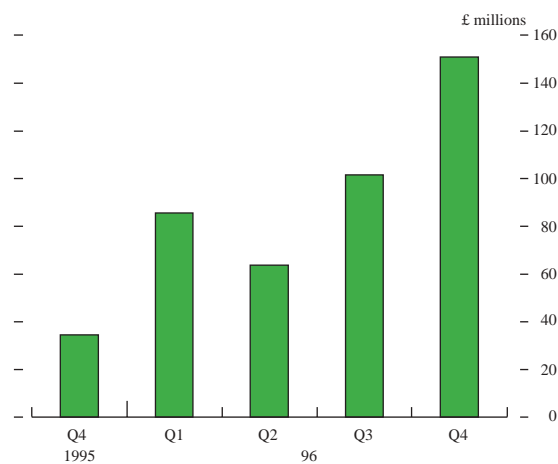


Source: Individual exchanges.

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

in the fourth quarter, to £151 million, compared with £102 million in the third. December was particularly active, with volumes on one day (18 December) greater than those for November as a whole. But Tradepoint's share of the UK equity market remains very small.

Chart 7
Tradepoint turnover



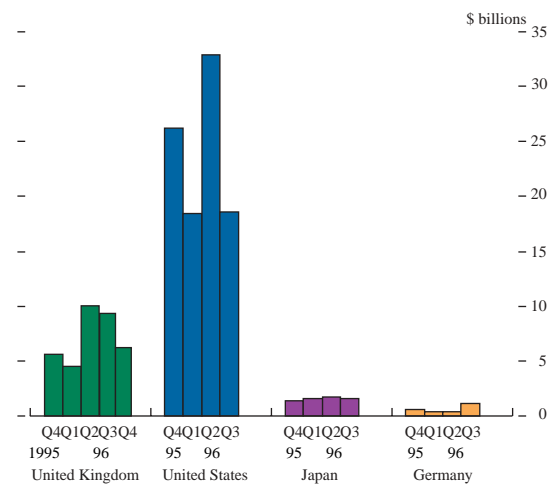
Source: Financial Times.

Equity issuance

New equity issuance in 1996 was very strong, particularly in the United States and Europe. After reaching record levels of \$32.9 billion in the second quarter, new issuance activity in the United States fell back in the third quarter to \$18.6 billion, perhaps related to an increased expectation of a rise in interest rates. Seasonal factors and uncertainty over the future direction of the equity market may also have been responsible. Initial figures indicate that issuance is likely to have rebounded in the fourth quarter, with a record 106 initial public offers launched in October alone—more than in the third quarter as a whole.

At least four major European companies made large issues during 1996, each of at least \$1 billion. Capital issuance in Germany more than doubled in the third quarter, compared with the second, with \$1.2 billion raised; this may have reflected increased interest in the equity market shown by German investors ahead of the Deutsche Telekom flotation in November 1996. In Europe, privatisations continued to boost issuance levels in the fourth quarter. These included the Italian government's offering of \$5 billion of shares in ENI. In Japan, new issuance remained subdued, with \$1.6 billion raised during the third quarter, compared with \$1.8 billion in the second.

Chart 8
Equity capital raised in major stock exchanges



Source: Individual exchanges.

New equity issuance in the United Kingdom in the fourth quarter totalled £1.5 billion. The total of new issues for 1996 as a whole was £9.9 billion, boosted by privatisation issues from Railtrack in May (£1.9 billion) and British Energy in July (£1.4 billion).

Chart 9
New issues on the London Stock Exchange 1984–96



Source: London Stock Exchange.

Issuance by companies on the Alternative Investment Market (AIM) was strong for most of the fourth quarter, although it fell back towards the end of the year.

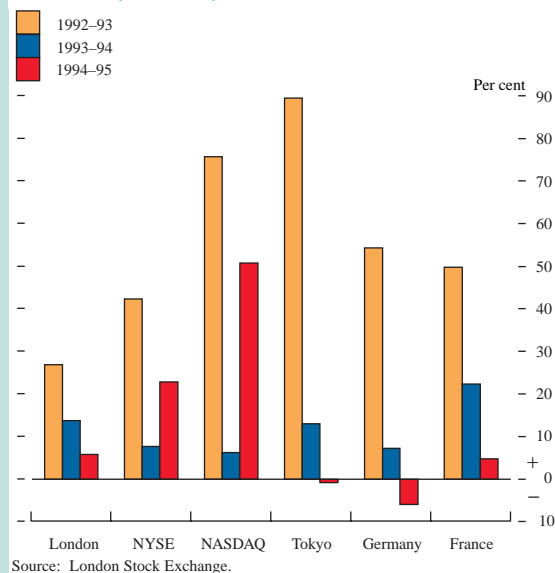
Foreign equity turnover in London

London is one of the major equity markets in the world, alongside the New York Stock Exchange, NASDAQ and the Tokyo Stock Exchange. In recent years, exchanges elsewhere—particularly in Europe—have been attempting to increase their share of trading volumes.

Exchanges measure turnover in a variety of different ways, and variations in the way shares are traded mean that direct comparisons between exchanges are difficult. Furthermore, some transactions might be reported to more than one exchange, and others are not reported at all. So aggregation across markets can be misleading.

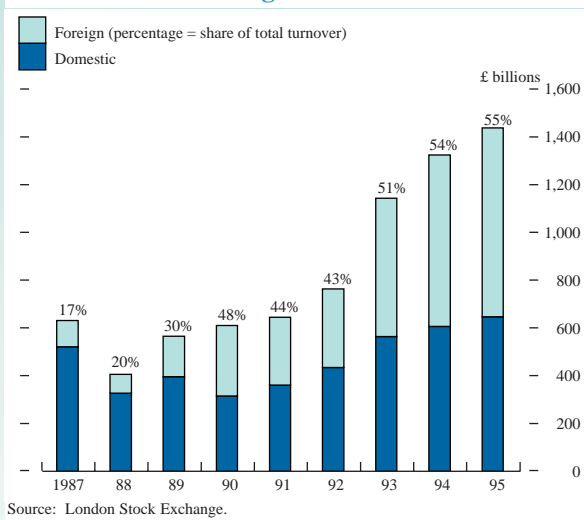
It is possible, however, to compare the *growth rates* of different markets. Chart A suggests that equity turnover has increased worldwide, in recent years, in the relatively deep US markets as well as in German and French markets. The growth of turnover in London has been steady.

Chart A
Percentage change in annual domestic equity turnover year on year



One aspect of the London equity market which makes it unique is the proportion of foreign equities traded through it—far more than any other exchange. As Chart B shows, more than half of turnover reported by London Stock Exchange intermediaries is for non-UK shares,

Chart B
Turnover in domestic and foreign equities on the London Stock Exchange



and this proportion has grown over the past decade.

When these data are further sub-divided according to the nationality of shares traded, there is no indication of a diminution of the market share of London's intermediaries (see the table).

Turnover of non-UK shares in London

£ billions; percentages in italics

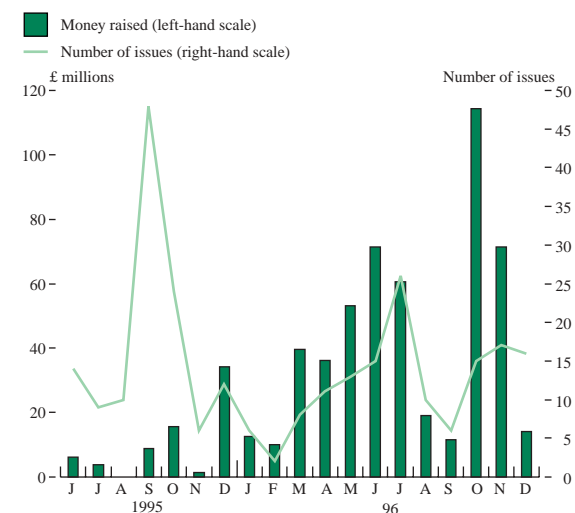
Domicile	1993	1994	1995	
Japan	57	83	85	21
France	52	51	63	16
Germany	43	40	40	10
Scandinavia	19	29	38	10
Netherlands	22	27	36	9
Switzerland	23	26	27	7
United States	17	24	26	6
Italy	15	25	24	6
Other Europe	15	16	19	5
Other	27	38	39	10

SEAQ-International, the Stock Exchange's bulletin board for foreign stocks, seems to be being used less frequently than in the past, with deals more often carried out on local, especially European, exchanges. However, it is clear from the data that London Stock Exchange intermediaries are still participating in this business.

London remains a leader in the trading of foreign equities. The continuing presence of international financial firms in London suggests that London's position as a major equity market will remain for the foreseeable future.

Forty-eight new companies came to the market during the fourth quarter, raising £200 million; on both counts, it was the best quarter yet for AIM. The total raised through new issues on the AIM market over the year as a whole was £514 million, compared with only £76 million raised on AIM and its predecessor, the USM, in 1995.

Chart 10
New issues on the Alternative Investment Market



Source: London Stock Exchange.

Structural developments

The London Stock Exchange announced that it planned to introduce its new electronic order book for FT-SE 100 stocks on 20 October 1997, but would confirm this date during the summer, subject to the achievement of key development milestones by member firms. The Exchange proposes that, when the new system is introduced, normal deals in the most liquid stocks would be carried out through an electronic order book; but member firms would be able to carry out large trades, of six times normal market size (NMS) or more, outside the order book. Market-making in these stocks would cease but it would continue to be used for less liquid stocks.

The new regime for stamp duty, which extends relief from market-makers to all exchange intermediaries, is also to be introduced during 1997.

The transition from Talisman to CREST, the new, dematerialised, electronic equity clearing and settlement system, continued largely as planned during the quarter, although the transition of some stocks was delayed to allow users more time to adapt to the new settlement regime. The transition is scheduled to be completed by April 1997.

Changes to the rules of AIM were announced in December, as part of the ongoing review of the Stock Exchange's market for small and growing companies. Since January 1997, companies have been required to announce their intention to join the market ten days beforehand and to

include more detail on minority shareholdings and working capital. They are also now required to include prominent warnings on their admission documents about the risks of investing in AIM shares.

EASDAQ, the new pan-European equity market for small companies, opened for business in October and four companies joined the market before the end of the year, raising \$233 million.

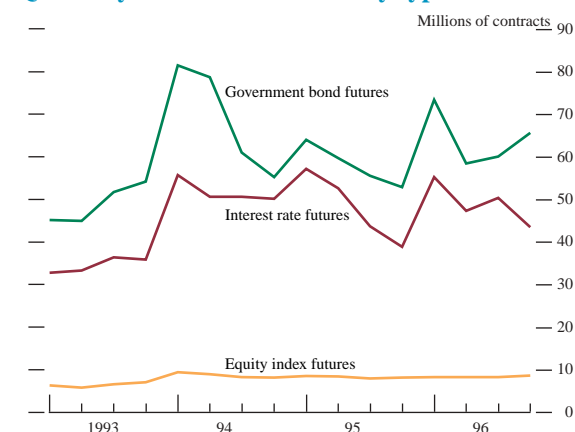
Derivatives markets

Derivatives exchanges

Turnover

Turnover on all the major derivatives exchanges except the *Marché à Terme International de France (MATIF)* was higher in the fourth quarter of 1996 than in the corresponding quarter in 1995. Turnover on the major European derivative exchanges grew most strongly in the second half of the year. This probably reflected position-taking and the hedging of OTC trades driven by EMU convergence and more pro-active EMU strategies by exchanges. In contrast, turnover on the major exchanges outside Europe was lower in the fourth quarter than in the third.

Chart 11
Quarterly turnover of futures by type^(a)



Sources: FIA and individual exchanges.

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

Government bond futures activity rose in the fourth quarter compared to the third, with growth in most major bond contracts; but interest rate futures volumes fell, reflecting a reduction in turnover of the Chicago Mercantile Exchange's (CME) eurodollar contract, MATIF's PIBOR Contract and the Tokyo International Financial Futures Exchange's (TIFFE) euroyen contracts. Eurodollar futures volumes remain, however, by far the largest among interest rate futures contracts.

Turnover on the London International Financial Futures and Options Exchange (LIFFE) increased by 14% from the third quarter to the fourth, and was 51% up on the fourth quarter of 1995.⁽¹⁾ The long gilt contract grew most strongly of

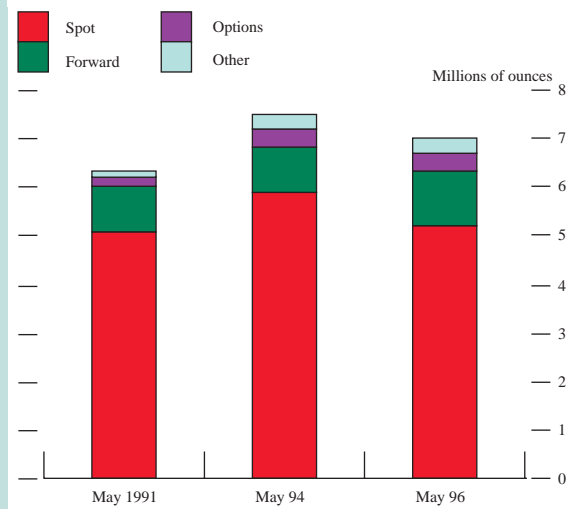
(1) LIFFE merged with the London Commodities Exchange on 16 September 1996. From October 1996, LIFFE volumes include those of the LCE. (LCE business accounts for some 2%–3% of LIFFE volume.)

London bullion market: a survey of turnover

The Bank conducted a survey of turnover in the London bullion market in May 1996. This was the fourth to be conducted since 1990. It provides a useful indicator of the size and structure of the London market and the trading patterns that are emerging. Data were obtained on a range of 'over-the-counter' gold and silver products including spot transactions, forwards and options. The institutional coverage of the survey was limited, however, to the market-making members of the London Bullion Market Association (14 in May 1996), so the survey is not representative of total activity in the London market.⁽¹⁾

The profile of the London gold market that emerged was very similar to that obtained in the previous survey in May 1994. Average daily turnover in gold reached approximately 7 million ounces, compared with 7½ million ounces reported in 1994 (see Chart A). A higher gold price in May 1996 meant that the value of

Chart A
Average daily gold turnover

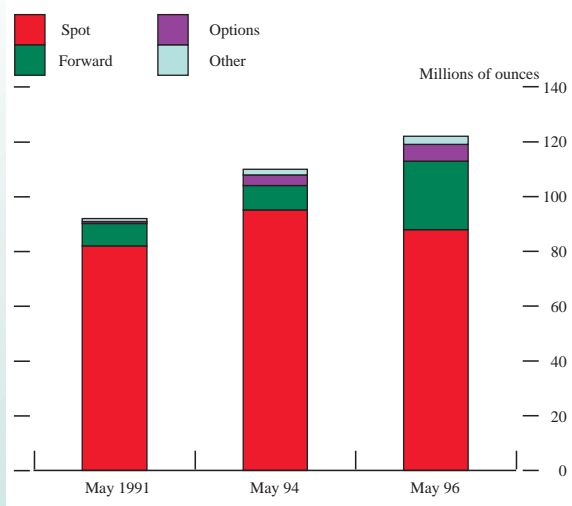


these transactions—almost \$3 billion each day—remained largely unchanged. There was also little

change in product composition, with spot transactions continuing to account for around three quarters of total turnover. There was, however, a small rise in the share of activity (15%) accounted for by forward transactions.

In contrast, there have been some significant changes in the size and structure of the silver market. Activity continued to expand, with average daily turnover exceeding 120 million ounces in May 1996, an increase of more than 10% on May 1994 (see Chart B). In value terms, this represented approximately \$650 million of silver traded each day. Significantly, the most recent survey revealed a greater concentration of business in the forwards: more than 20% of silver trades were forward transactions, almost three times that recorded in 1994. There was a corresponding decrease in the share of activity accounted for by spot transactions.

Chart B
Average daily silver turnover



Taken together, the combined value (in US dollar terms) of gold and silver activity just exceeded that recorded two years ago, providing evidence of the depth and liquidity available in the London bullion market.

(1) The significant amount of business undertaken by the 50 or so ordinary members of the LBMA falls outside the scope of this survey, as does the large amount of business that is conducted outside the United Kingdom but on a loco-London basis. The survey encompasses trading undertaken by the market-makers in both an agency and principal capacity.

products at LIFFE, followed by short sterling, the Italian BTP and German Bund contracts.

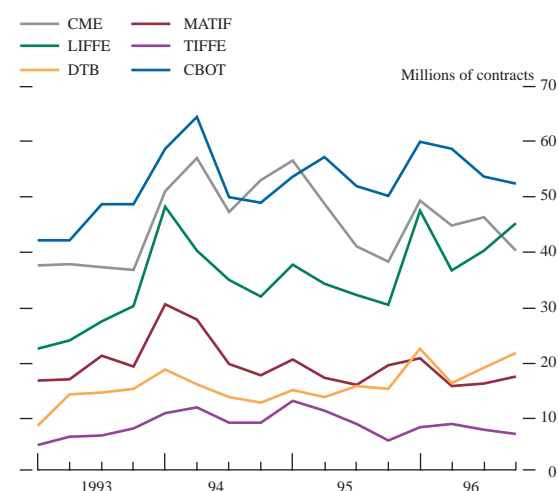
Turnover on the Deutsche Terminborse (DTB) also increased strongly: by 24% compared with the previous quarter and by 43% compared with the same quarter in 1995, reflecting growing volumes in the Bund contract. Indeed, the DTB's share of Bund futures—which are also traded on LIFFE—rose to 32% in the fourth quarter, from 28% in the fourth quarter of 1995. Volumes on MATIF rose by 6% in the fourth quarter, mainly due to increased

turnover in the Notional contract during the quarter. However, MATIF's overall volumes appear to be on a downward trend, with 1996 volumes 4% lower than those of 1995. This is largely accounted for by a continued reduction in activity on the PIBOR short-term interest rates contract.

In the United States, turnover on the Chicago Board of Trade (CBOT) decreased by 3% compared with the third quarter and increased by 4% compared with the fourth quarter of 1995. Turnover on the CME declined

by 13% compared with the third quarter and increased by 6% over the year. The reduction in activity is largely accounted for by lower turnover in the CME's Eurodollar contract. Turnover on TIFFE declined by 11% on the previous quarter but was 23% higher than the fourth quarter of 1995.

Chart 12
Quarterly turnover on major derivatives exchanges



Sources: FIA and individual exchanges.

Other developments

European exchanges have adopted more pro-active strategies ahead of Economic and Monetary Union (EMU). For example, LIFFE, the DTB and MATIF have all amended their contract specifications so that, from 1999, contracts will be denominated in euros if the relevant currency is part of EMU; LIFFE and the DTB have also introduced one-month euromark contracts.

Exchanges are also increasing their reach: the DTB has made its screens available in the United States, is reducing the cost of its trading, and plans to amend its membership requirements to make it easier for foreign firms to participate directly. LIFFE plans to activate linkages with the CBOT and CME for 1997. MATIF has planned a similar link with the CME.

The launch of the International Petroleum Exchange's first natural gas futures contract took place on 31 January 1997. The contract was developed in response to liberalisation of the UK gas market and the consequent increase in spot trading, and allows trading in gas already within the United Kingdom's National Transmission System. The monthly contract is based on daily deliveries of gas at the National Balancing Point. The contract is traded exclusively on the IPE's new Electronic Trading System.

The Securities and Investments Board published a report on the London Metal Exchange (LME) in December, following a review of the metals markets. The review began in June—at the LME's request—following problems associated with trading losses at Sumitomo Corporation, and was based on

responses to a global consultation exercise (see the August and November 1996 *Quarterly Bulletins*). A number of recommendations for changes were made to strengthen and develop the LME's regulatory structure and to reflect changes in the market.

OTC derivatives markets

Although there are few statistics on the most recent activity in the OTC derivatives markets, the available data suggest that worldwide volumes continued to grow throughout 1996. Data produced by the International Swaps and Derivatives Association (ISDA) show that notional outstandings on OTC derivative contracts continued to grow, from £8.8 trillion at the end of June 1995 to £13.6 trillion at the end of June 1996. (The ISDA reporting population is, however, variable, and these data cannot be compared easily with those from other sources.) UK banks' notional outstandings also show a broadly increasing trend, from £5.4 trillion at end-June 1995 to £6.4 trillion at end-June 1996.

Table D
OTC derivatives

UK banks' activity and credit exposures at end-period (£ billions)

	1993		1994		1995		1996
	H1	H2	H1	H2	H1	H2	H1
Notional principal outstanding	2,990	3,399	4,747	4,756	5,355	5,187	6,354
Of which:							
Interest rate-related	1,849	2,333	3,300	3,356	3,927	3,783	4,575
Foreign exchange related (a)	1,141	1,066	1,447	1,400	1,428	1,404	1,698
Equities-related							71
Commodities-related							8
Precious metals-related							2
Replacement cost		65	67	76	65	90	93
Of which:							
Interest rate-related		34	44	37	38	51	61
As a percentage of NP		1.8	1.9	1.1	1.1	1.3	1.6
Foreign exchange related (a)		31	23	39	27	39	32
As a percentage of NP		2.7	2.2	2.7	1.9	2.7	2.3
Equities-related							4
Commodities-related							
Precious metals-related							
Credit equivalent exposure	87	89	108	97	125	127	121
Credit risk	22	23	26	24	31	31	26
Credit risk as a percentage of risk-weighted assets	5.2	5.4	5.9	5.4	7.3	7.4	n.a.

n.a. = not available.

Note: Due to changes to the basis of reporting, 1996 H1 data are not comparable with earlier periods.

(a) Foreign exchange data include equities, commodities, and precious metals prior to 1996 H1.

Activity in 1996 was boosted by two particular factors. First, yield curve convergence trades based on the likelihood of EMU were very popular (see article in August 1996 *Quarterly Bulletin*). Initially, such trades tended to focus on the convergence of interest rates in Germany and France, although by the latter part of the year peseta and lira activity was also boosted. Second, the high level of bond issuance referred to earlier in this article will have provided added impetus to swap business, much of which is directly linked to it and enables borrowers to tap a wider range of capital markets.

Spreads remained narrow, especially in plain vanilla products, partly reflecting increased competition from new entrants to the markets—in particular European banks.

The use of collateral continued to grow in the OTC derivatives markets as firms looked for ways to manage their growing credit exposures more effectively. Firms that have set up in-house collateral management systems may have developed a competitive advantage over those that have not, with the number of counterparties able—and wishing—to trade on a collateralised basis increasing

steadily. Cedel introduced a collateral management arrangement at the end of September and the CME announced in October that eleven banks and financial institutions had agreed to become charter members of its depository for swaps collateral; the depository will standardise and automate the process of managing collateral used to guarantee OTC swaps transactions.