BIS QUARTERLY REVIEW

February 2000

INTERNATIONAL BANKING AND FINANCIAL MARKET DEVELOPMENTS

BANK FOR INTERNATIONAL SETTLEMENTS
Monetary and Economic Department
Basel, Switzerland

Copies of publications are available from:

Bank for International Settlements
Information, Press & Library Services
CH-4002 Basel, Switzerland

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ISSN 1012-9979

Also published in French, German and Italian.

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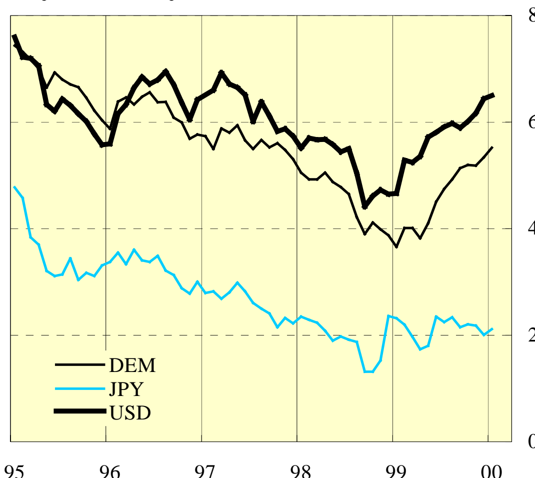
I. Overview of global financial developments: Are markets reassessing the soft landing?

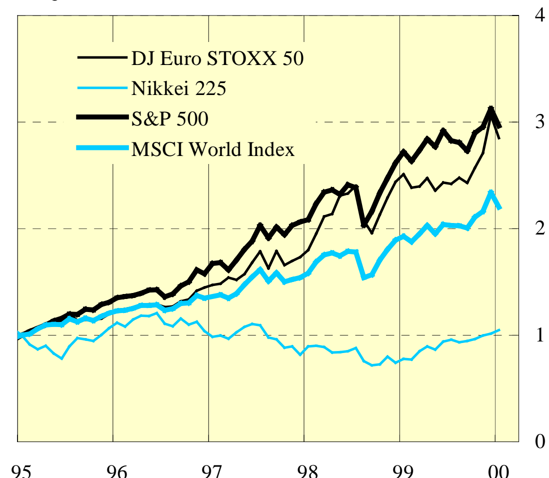
Regaining a measure of calm after an autumn of turmoil in 1998, international financial markets in 1999 turned their attention to prospects for the future. For much of the year, bond prices fell in Europe and the United States while equity prices rose in most of the world. This was in marked contrast with the pattern of most of the 1990s, in which rises in equity prices were generally supported by declining bond yields. The unusual market behaviour appears to have reflected new expectations about the global economy. Not only did market participants see improved growth prospects in most regions, they also seemed assured about the ability of central banks to keep inflation in check without pushing the economies into recession. Japan saw a significant stock market rally and flat bond yields, suggesting expectations of stable monetary policy in the context of an incipient recovery and some confidence in corporate and financial restructuring.

The weeks surrounding the turn of the year highlighted how quickly market sentiment can change. During the fourth quarter of 1999, stock and bond markets seemed to be brimming with confidence about the ability of monetary policy to engineer a soft landing in the United States and support non-inflationary growth in Europe. The month of January 2000 found the very same markets wavering in their views. European and US long-term yields climbed sharply on news of rising oil prices and evidence of continued tightness in the US labour market. The prospect that monetary tightening might be more forceful than initially anticipated led to a sell-off in the US stock market and increased volatility in other equity markets.

The fourth quarter was also marked by declining credit premia for both corporate and sovereign borrowers. The more favourable premia, however, did not prevent a slowing of international issuance of notes and bonds. An easing of spreads on interest rate swaps was especially notable, because

Global stock and bond markets





Sources: Datastream; Bloomberg.

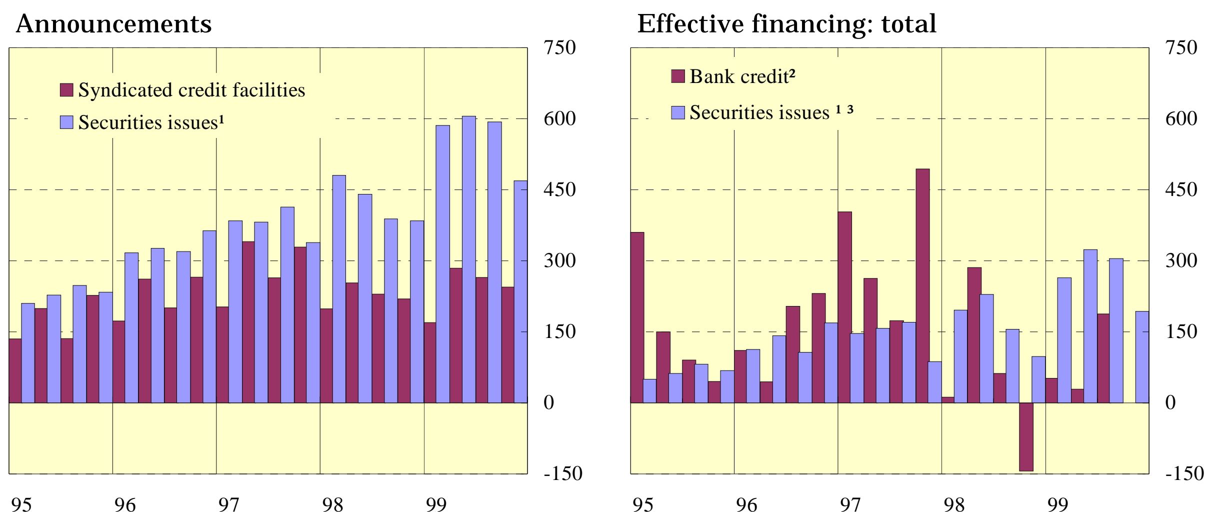
hedging activity associated with an earlier surge in fixed income securities issuance had served to inflate such spreads during the summer of 1999. These swaps had tended to displace government securities as hedging instruments, but the market did not seem to be ready to accommodate the additional demand. Part of the difficulty seemed to derive from a front-loading of issuance in the first three quarters of the year as borrowers tried to avoid possible problems around the turn of the millennium. Swap spreads resumed their declining trend in the fourth quarter as issuance slowed.

Concerns that the millennium date change might disrupt market functioning overshadowed market activity in the fourth quarter, leading to a broad decline in trading volumes and financing activity. Some borrowers had already accelerated their issuance schedules, thereby provoking the strains in the swaps market noted above, while others postponed issues to the coming year in spite of the improvement in credit spreads. Central banks generally responded by taking operational steps to ensure that sufficent liquidity would be available if and when required. In the event, the new millennium arrived without major disruption to markets or increased liquidity demands.

Despite the apparent fall-off in fourth quarter international fund raising, throughout 1999 global capital markets proved successful in channelling funds to countries with large current account deficits. Foreign direct investment, much of it related to mergers and acquisitions, was the most prominent source of such deficit financing, especially for the United States and Latin America. As illustrated in the graph below, the composition of international debt flows continued to shift from bank loans to securities. In spite of rising interest rates and the fall in fourth quarter activity, international issuance of bonds and notes set a record for the year, and the euro's weakness did not prevent net issuance in the currency from outpacing that in US dollars. With reduced supplies of US Treasury securities, debt inflows into the United States largely took the form of agency and corporate issues. Most emerging economies that needed financing found access to securities markets, albeit at high borrowing costs. In fact, many such countries tended to avoid bank debt as a matter of policy, a tendency that applied to Asian countries with large surpluses as well as to Latin American countries with deficits.

Activity in international bank credit and securities markets

In billions of US dollars

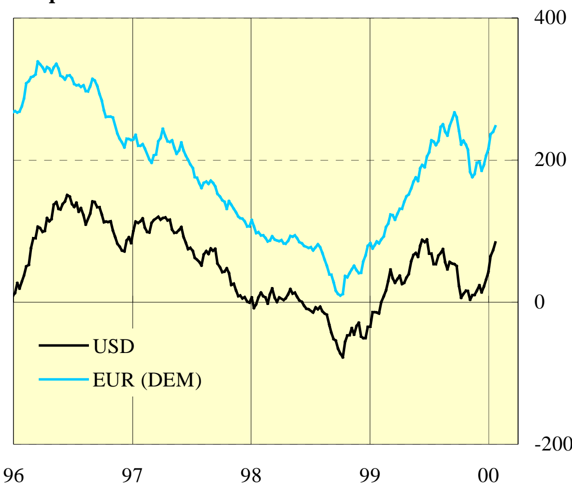


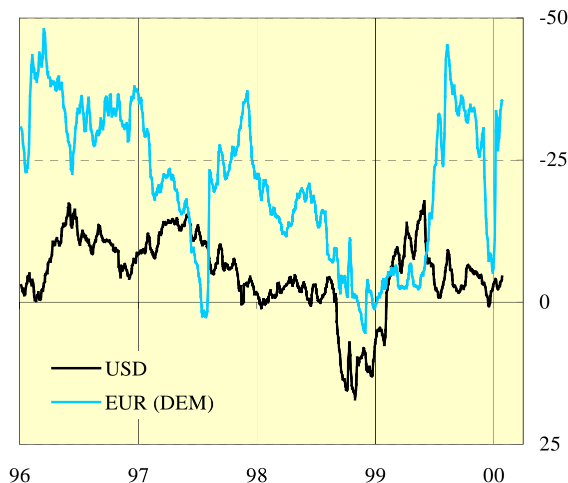
[1] Includes both money market instruments and long-term bonds and notes. [2] Exchange-rate-adjusted changes in gross international bank claims. Data for bank credit are available only up to 1999 Q3. [3] Gross issues minus repayments.

Sources: Bank of England; Capital DATA; Euroclear; International Securities Market Association (ISMA); Thomson Financial Securities Data; national data; BIS.

The yield curve

In basis points





[1] Ten-year bond yield less the three-month interest rate. [2] Calculated as the average yield on a two- and 10-year bond (weighted to equal the duration of a five-year note) less the yield on the five-year note.
Sources: Reuters; BIS calculations.

Currency, bond and stock markets: the new year brings a shift in sentiment

In the closing months of 1999, market participants saw evidence of accelerating growth in virtually every region of the world. The IMF projected global GDP expansion in 2000 to reach 3.5%, with 2.5% growth in industrial countries and 4.8% in emerging economies. The OECD increased its forecast for growth among member countries in 2000 from 2.5% to 2.9%. Most of this increase was attributed to the United States, where the economy's unrelenting strength reduced the jobless rate to 4.1%. In Europe, monthly indicators suggested that the German economy was catching up with the rest of the euro area. In Japan, a slowdown in industrial production in October initially raised concerns that the recovery might be stalling, but a rebound in November appeared to confirm a certain momentum for growth.

Currency markets in the fourth quarter of 1999 seemed to respond selectively to news about cyclical shifts. While data about US growth lifted the dollar against the euro, market participants appeared to disregard positive macroeconomic releases about France and Germany, seeming to focus instead on signs that governments on the continent might be lacking determination in implementing structural policies. On 27 January 2000, the euro breached dollar parity, falling the next day to a level that would correspond to the exchange rate of DM 2.01 to the dollar last observed in 1989. This depreciation of the euro prompted a change in market sentiment. For the first time in months, risk reversals suggested concerns about further weakness in the euro. At the same time, the appreciation of the dollar coincided with the sell-off in the US equity market, defying the view that US stock prices drive the dollar.

The evidence of growth, as well as rising energy prices, apparently led monetary authorities in Europe and the United States to judge that the balance of risks lay on the side of inflationary pressures. In Europe, the European Central Bank (ECB) raised its policy rates by 50 basis points on 4 November in the light of the acceleration of M3 growth, strong credit expansion, rising oil prices and improved prospects for economic activity. In the United States, the Federal Reserve increased its target for the federal funds rate by 25 basis points on 16 November. As the third such increase since June, the action served to restore the target rate to the level prevailing before the eventful autumn of 1998. The US trade deficit and the continued strength of the labour market may have been important factors in the timing of this tightening. On 2 February, the Federal Reserve raised its target rate again by 25 basis points and indicated that the risks were weighted towards inflationary pressures. The following day,

rapid monetary growth and risks to price stability in the euro area led the ECB to raise interest rates by 25 basis points, and several other central banks also raised policy rates.

For much of 1999, market expectations of monetary moves such as these had driven up long-term yields in Europe and the United States. At the same time, the behaviour of yield curves suggested something new about expectations regarding the *timing* of monetary policy actions and their effectiveness. In particular, the slopes of the yield curves tended to be relatively steep near the short end and relatively flat towards the long end, thus producing a hump around the intermediate maturities. As indicated by the measure of curvature shown in the right-hand panel of the graph on page 3, this hump tended to be most pronounced for the United States during the spring of 1999 before the Federal Reserve started raising rates in June. The curvature suggested that bond market participants thought that rate increases would tend to be pre-emptive rather than heralding a prolonged period of further tightening. Moreover, markets appeared to regard these monetary actions as sufficiently adept to forestall inflation without an economic slowdown.

On balance, such benign expectations continued to prevail in the fourth quarter. In October, yield curves based on government debt might have been less informative than usual, because some market participants were apparently hesitant to take positions in US Treasuries to reflect their views. These positions would typically have involved borrowing Treasury securities through repurchase agreements, but there were concerns about the reliability of such transactions in the face of possible Y2K disruptions. By mid-November, however, those fears seem to have dissipated, and government yield curves fully priced in the consensus of market expectations. By year's end, the flatness of the curves in Europe and the United States suggested a fairly benign view of interest rate prospects. Bond market participants evidently felt that only modest further tightening would be needed in the coming quarter. In Japan, a sense of optimism led to the view that the policy of zero interest rates might not last much longer than a year.

The first few weeks of January 2000 marked a change in market sentiment. The release of the US employment report on 7 January was a turning point in the bond markets. The report revealed an addition of 315,000 jobs to the US economy in December, well in excess of analysts' predictions. In the US Treasury market, intermediate and long-term yields started to climb. When European markets

Stock market performance in selected countries

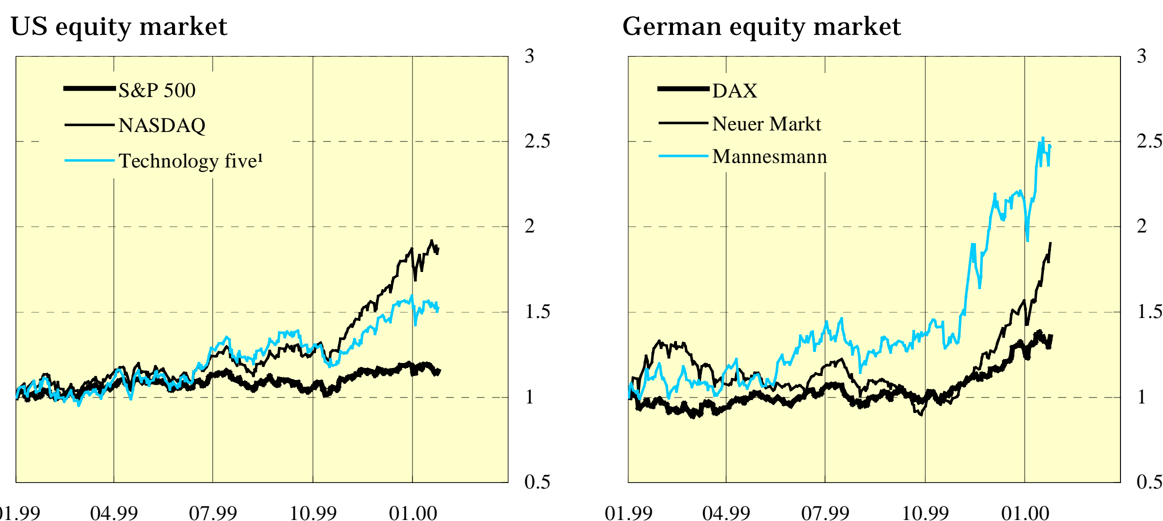
Percentage gain in US dollars and local currency

	In US dollars		In local currency	
	1999	**1999 Q4**	**1999**	**1999 Q4**
Turkey	126.6	72.6	183.8	86.8
Russia	96.2	55.6	123.2	62.9
Korea	72.3	26.3	67.9	18.8
Indonesia	66.8	25.8	55.5	17.1
Mexico	58.4	32.1	54.8	32.0
Japan	57.8	16.6	46.0	13.4
Singapore	54.9	18.5	55.9	16.5
Hong Kong	52.0	28.6	52.4	28.7
Brazil	51.2	49.8	95.9	40.9
Sweden	45.3	29.9	50.6	34.0
South Africa	44.5	17.7	49.1	20.3
France	25.9	20.1	41.3	26.1
United States	17.8	13.6	17.8	13.6
MSCI Emerging market	50.8	22.1	53.9	20.9
MSCI World	22.7	15.7	24.9	16.5
STOXX	18.3	20.7	33.3	26.7

Sources: International Finance Corporation; national data.

US and German stock markets

Index values (end-Jan 1999=1)



[1] Cisco, IBM, Intel, Lucent and Microsoft.

Source: Bloomberg.

opened on 10 January, rates on two-year to 10-year German bunds also rose. By the end of January, the US two-year and five-year yields had both increased by 30 basis points. Rising oil prices seemed to reinforce the upward trend. The US 30-year yield, however, initially rose sharply but eventually settled back to almost where it had started. This flattening of the yield curve at the long end may suggest that, while market participants expected more monetary tightening than before, they still saw the policy as pre-emptive and likely to be effective against inflation. However, a refunding announcement about the 30-year bond in the first week of February seemed to catch some market participants by surprise and inverted the long end of the curve.[1]

In contrast to bond investors, equity investors bid up stock prices strongly towards the end of the year. The two groups of market participants, however, shared essentially the same expectations of continued economic expansion. As shown in the table on page 4, rallies occurred in stock markets in a broad range of countries. The US stock market rose 14% during the last quarter alone and achieved an unusually lofty market-wide price-earnings multiple of 33. Yet in relative terms the US market was among the least buoyant major markets in 1999. The stock markets in continental Europe were stronger, and even larger gains were recorded by such emerging markets as Turkey, Russia, Brazil, Mexico, Hong Kong and Korea in the fourth quarter.

The strength of broad national indices hid marked differences in performance across industry sectors. Actually, slightly less than half of the companies in the S&P 500 index posted positive returns for the year, though the fourth quarter welcomed 271 advancing stocks. As shown in the graph above, the US rally was led by producers of computer and communications equipment and by firms perceived to have a head start in offering products and services over the internet. In Europe, rallies seemed to be more broadly based, though telecommunications and software firms that were the targets of takeovers tended to do especially well. In both cases, markets for smaller, newer companies performed much better, on average, than did the established ones.

Some of the best performing emerging markets served to reward governments that were taking decisive steps for economic reform and macroeconomic stability. In Turkey, the stock market surged

[1] The US Treasury announced that the amount to be auctioned the following week would be $5 billion less than anticipated and that there would be a further reduction in the August auction. The 30-year yield fell 14 basis points that day.

87% in local currency terms during the quarter, with investors encouraged by tax, banking and agricultural reforms that were instituted before an IMF agreement in December. In Brazil, the stock market gained 41%, as it became increasingly clear that the government would exceed its fiscal target for 1999 on the back of unexpectedly strong growth.

In the fourth quarter, the equity markets seemed to share the same sanguine expectations that prevailed in the bond markets. When the ECB and the US Federal Reserve raised policy rates in November, the equity markets welcomed the moves. However, subsequent data releases gave no sign of moderating growth. In the first weeks of 2000, these rallies stalled amid concerns about the sustainability of stock-price levels in the face of expectations of tighter monetary policy. The uncertainty led to large swings in prices, with the daily change in the S&P 500 index averaging 1.2% in absolute value, as compared with a 0.6% average over the 1990s.

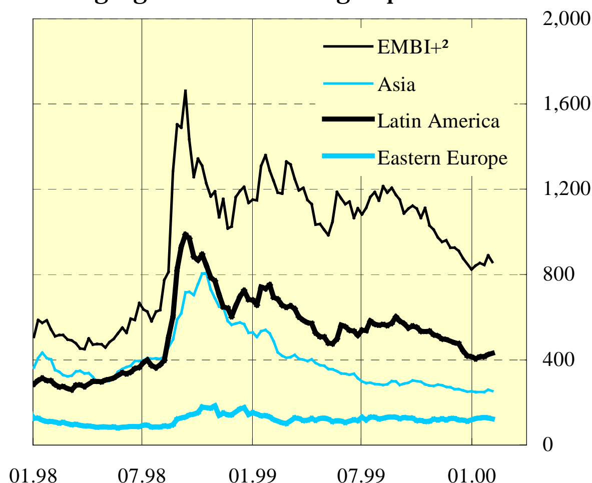
Credit premia and liquidity: pressures amid structural change

In line with the relatively sanguine expectations underpinning equity and bond markets in the fourth quarter of 1999, spreads on most long-term corporate debt instruments over relevant government benchmarks resumed their decline from the heights of 1998 after a pause during the summer of 1999. Nonetheless, investment grade issuers still faced rising borrowing costs, since base benchmark yields rose more than the spreads receded. As shown in the graph below, the narrowing of credit spreads was most pronounced for emerging market debt, reflecting a perception of markedly healthier repayment prospects. In the case of Latin American sovereign issuers, in particular, the improved spreads more than offset the rise in the base benchmark yields and thus reduced borrowing costs for those coming to the market. Spreads on Brady issues, too, improved in late 1999 relative to the summer, when perceived risks for the market had worsened amid concerns over Ecuador’s ability to meet its obligations.

Swap spreads declined from unusual levels during the summer but remained high by historical standards. The previous high levels were a symptom of one of the more interesting developments in

Credit spreads

In basis points

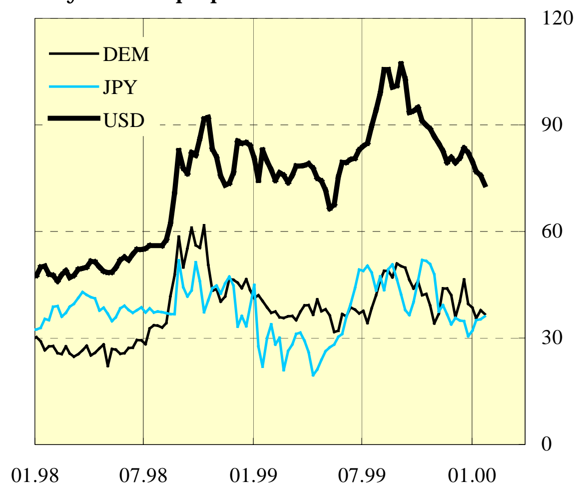


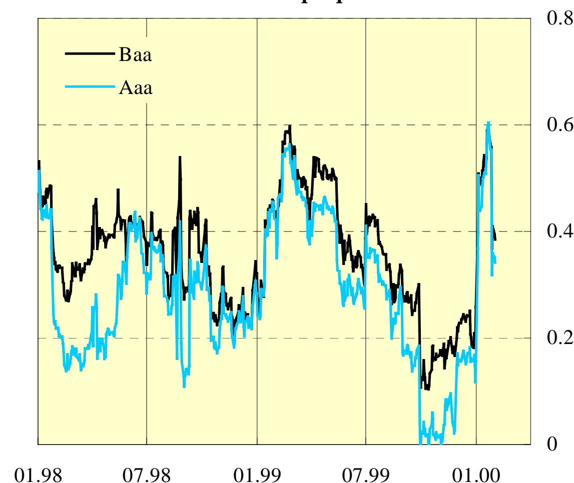
[1] Average of actively traded international bond spreads (one per country). [2] Emerging Markets Bond Index.

Sources: Datastream; Bloomberg.

Swap spreads and correlations

In percentage points





* Rolling 90-day correlation of daily changes in 10-year swap spreads versus daily changes in 10-year Baa and Aaa spreads.

Sources: Datastream; BIS calculations.

1999, namely the emergence of a liquidity premium as an important market factor. As shown in the left-hand panel of the graph above, spreads on US dollar interest rate swaps rose sharply during the summer to levels exceeding those reached during the financial turmoil of 1998.

This time, however, there was no apparent credit event explaining the widening. In the corporate bond market, premia on Aaa and Baa issues did widen somewhat during the period, but without revealing any clear tiering of credit risk. Specifically, spreads on relatively low-grade debt failed to rise significantly more than did those on high-grade debt, as is usually the case when market participants change their attitudes towards credit risk. Indeed a broad measure of risk attitude based on the relationship between realised returns and historical volatilities of various assets would suggest an increased willingness by investors to take risk during the period (see the box at the end of this section).

As discussed in the November 1999 issue of the *Quarterly Review*, the inflated swap spreads during the summer apparently reflected liquidity pressures. A record volume of corporate bond issuance sent dealers to the swaps market in a one-sided effort to hedge unusual amounts of inventory. The swaps market was new to such hedging activity and did not seem to possess the market-making capacity to easily accommodate these demands. At the same time, one of the lasting effects of the events of autumn 1998 was the heightened recognition of basis risk in the traditional use of *on-the-run* US Treasury securities for hedging positions in private sector debt.[2] In spite of an unwieldiness in unwinding positions in over-the-counter derivatives, dealers turned to swaps because the correlations between swaps and corporate debt tended to be superior to those between on-the-run Treasury securities and corporate debt (see the graph above).[3] The upsurge in corporate bond issuance might also explain the unusual width of credit spreads, which reflected the difficulty of placing so much new debt with investors. These indicators of credit risk and liquidity tended to improve towards the end of

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[2] "On-the-run" securities are the most recently auctioned ones, and these tend to be much more liquid than "off-the-run" securities.

[3] As shown in the right-hand panel of the graph, the correlations between swap spreads and corporate spreads shifted considerably during recent periods. Nonetheless, since these are *spreads over Treasury yields*, the fact that the correlations remained positive indicates a hedging advantage of swaps.

1999 and in the first few weeks of 2000. Swap and credit spreads narrowed as issuance of corporate debt slowed down.

The available evidence also points to a decline in the liquidity of some government bond markets, probably reflecting a combination of the effects of structural changes in the supply of government securities and the lasting effects of the "flight to quality" episode of 1998. As shown in the graph below, despite a broad improvement in these liquidity indicators in 1999, various premia remained significantly above the levels prevailing before August of the year before. One important structural factor has been fiscal consolidation in most of the major industrial countries, with the notable exception of Japan. In an effort to maintain market liquidity, government issuers of domestic debt have increasingly focused on a few large benchmark issues, accompanied by the selective repurchase of non-benchmark securities. While the buyback programmes may have initially reduced the yield premia on off-the-run issues, the ultimately lower liquidity for these issues seems to have caused their premia to rise again.

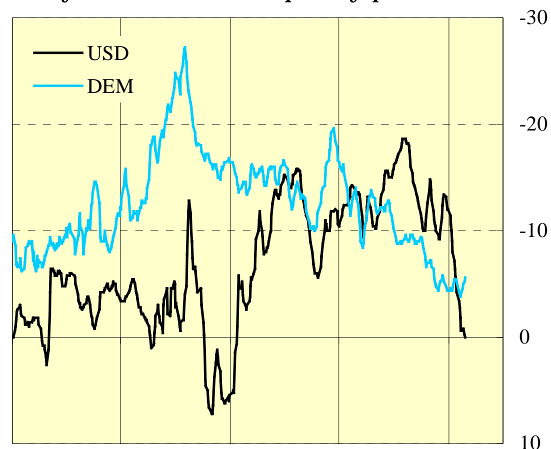
At the same time, investment funds and proprietary trading desks at large financial institutions apparently became increasingly reluctant to engage in relative value arbitrage in government bond markets, a hesitation stemming from the events of autumn 1998. The right-hand panel in the graph below shows the average of squared deviations of yields on individual securities from a fitted yield curve. Pricing anomalies that previously tended to disappear quickly now seem to last longer. Moreover, the phenomenon seems to have worsened over time, as reduced supplies of certain securities made arbitrage activity less and less rewarding. The resulting idiosyncratic risk in on-the-run US Treasury securities has apparently made them less attractive for hedging purposes. It is in part for this reason that corporate bond dealers turned to the swaps market.

The unusual behaviour of swap spreads and liquidity indicators raises broader issues of how markets will adjust to the new recognition of liquidity risks and the changing relative supplies of tradable government and private debt. In the short run, the question is whether a lack of market-making and arbitrage capital would allow unexpected movements in securities issuance to unduly affect various yields and spreads. In the long run, the issue is how markets will function in the face of the declining

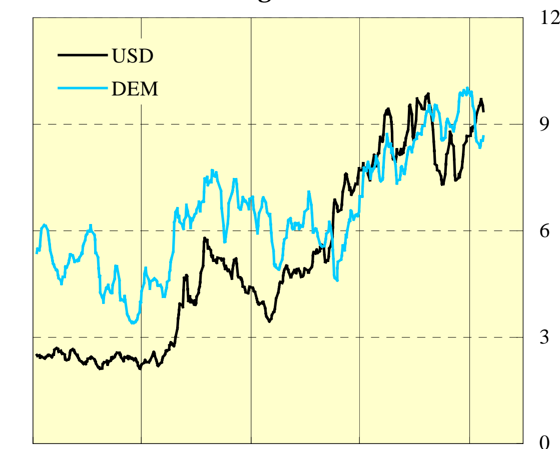
Liquidity in government bond markets

In basis points

Ten-year on-the-run liquidity premia[1]



Yield curve arbitrage indicator[2]



[1] Shown as the spread for the 10-year on-the-run note based on evaluating its cash flows against a fitted zero coupon government yield curve.
[2] Measured as the standard deviation of static spreads for all bonds as valued using a zero coupon yield curve (excluding callable bonds). Shown as a five-day moving average.

Sources: Datastream; BIS calculations.

Estimated debt financing in international markets

In billions of US dollars

	1997	1998		1999				Stocks at end-Sept. 1999
	Year	Year	Q4	Q1	Q2	Q3	Q4	
By instrument								
Interbank loans	911.4	– 4.3	–122.3	–151.0	–158.5	88.5	..	6,499.4
Loans to non-banks	222.9	– 55.0	– 81.1	– 22.6	89.0	17.5	..	2,516.9
Money market paper	14.8	9.8	– 11.5	35.1	– 8.0	22.8	18.7	243.6
Bonds and notes	545.6	668.7	109.3	228.6	331.9	282.0	174.2	4,869.0
Gross issuance	1,005.7	1,137.4	253.0	379.9	443.2	400.5	355.9	
Redemptions and repurchases	460.1	468.7	143.7	151.3	111.3	118.5	181.7	
By location of borrowers								
Developed countries	1,313.0	839.0	1.9	164.6	280.0	466.3	..	11,169.5
Offshore centres	208.5	– 201.8	– 82.6	– 63.6	– 49.1	– 32.0	..	1,242.3
Developing countries	152.9	– 36.6	– 22.4	– 1.2	11.9	– 29.4	..	1,189.2
Other	20.5	18.6	– 2.5	– 9.5	11.6	5.8	..	528.0
Total debt financing	**1,694.8**	**619.2**	**–105.6**	**90.2**	**254.3**	**410.8**	..	**14,128.9**

Sources: Bank of England; Capital DATA; Euroclear; IMF; ISMA; Thomson Financial Securities Data; national data; BIS.

availability of certain government securities. One question, in particular, is how markets will replicate the convenience of government securities in the posting of collateral, in price discovery about future interest rates, and in their use as benchmarks for the pricing of other instruments.

Towards the end of 1999, concerns about the millennium changeover led to a slowdown in certain types of market activity, including the use of the US Treasury market for taking positions on interest rate movements. These concerns seem to have dissipated by mid-November as central banks around the world instituted measures to ensure the availability of liquidity if and when circumstances called for it. These measures included broadening eligible collateral, enlarging the set of counterparties and instituting new credit facilities. A particularly interesting case was the Standby Financing Facility offered by the Federal Reserve Bank of New York, through which dealers could purchase options on overnight repurchase agreements that would allow them to borrow at 150 basis points over the target federal funds rate. Dealers submitted bids for option strips, each of which consisted of a set of options for overnight borrowing for five consecutive days. The clearing price for the 30 December strip fell from 16 basis points at the 3 November auction to 8 basis points at the 10 November auction, indicating an abatement of apprehension. In the event, the turn of the year came and went without significant incident in the markets, and the options were not exercised.

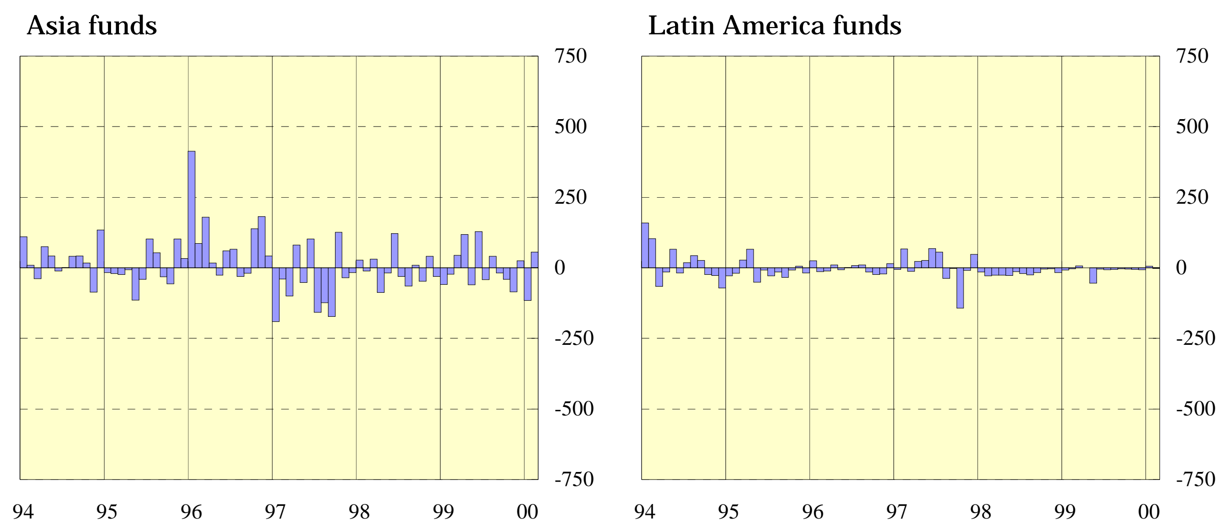
International financing flows: strong activity in 1999 despite a fourth quarter slowdown

Against the backdrop of buoyant stock markets, the world relied heavily on equity flows to reconcile large current account imbalances. These imbalances were characterised primarily by deficits in the United States and Latin America and surpluses in Asia. In 1999 the dominant form of deficit financing was foreign direct investment, much of it related to cross-border mergers and acquisitions. As shown in the table above, international bank lending had contracted in 1998 and recovered only in the third quarter of 1999. Given the reduced supplies of US Treasury securities, debt inflows into the United States increasingly took the form of agency and corporate securities. Emerging market economies tended to avoid bank debt as a matter of policy, a tendency that applied equally to Latin American countries with deficits and to Asian countries with surpluses. Borrowers from emerging markets seemed to favour debt securities, often issuing bonds to repay bank loans.

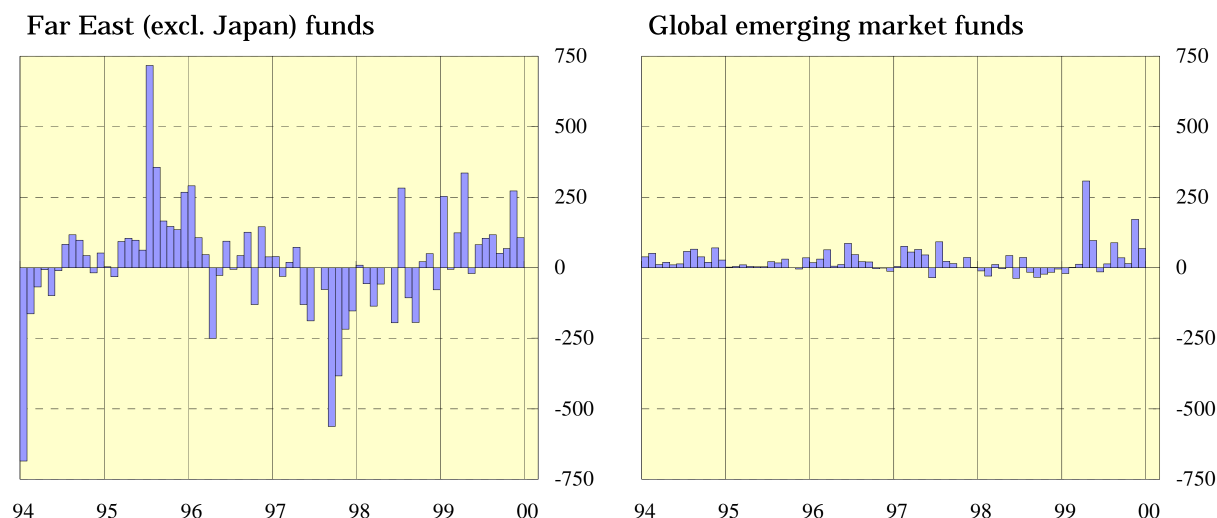
Portfolio flows to emerging markets by institutional investors

In millions of US dollars

Cash flows into US international equity mutual funds



Cash flows into UK international equity mutual funds



Sources: AMG Data Services; Association of Unit Trusts and Investment Funds; BIS calculations.

Net issuance of bonds and notes on international markets slowed significantly in the fourth quarter but still set an annual record of $1 trillion in 1999 as a whole. Concerns about the millennium turn apparently led to some front-loading that caused activity to peak in the second quarter. The appeal of the euro as a currency for international financial transactions – despite its weakness against the US dollar – was evident in the fact that gross international issuance of euro-denominated bonds and notes rivalled dollar-denominated activity. Reflecting the strong performance of equity markets worldwide, issuance of equities on international markets grew even more strongly than did international bond and note issuance in 1999, albeit from a smaller base. Even as international banking flows dwindled, the syndicated loan segment of the market continued to expand for the year as a whole, drawing support from merger and acquisition deals. Announcements of international syndicated loans reached $964 billion in 1999, a 7% rise from 1998. After the second quarter, however, activity began to decline. Nonetheless, mergers and acquisitions accounted for an unusually large share of the market in the fourth quarter.

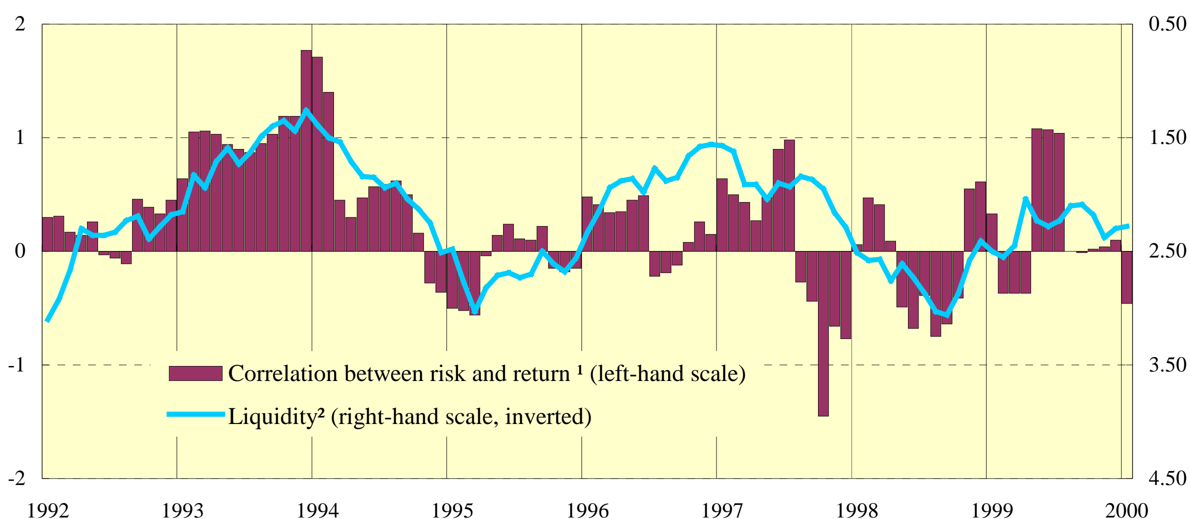
While emerging economies continued their return to international capital markets in 1999, fund-raising remained significantly below levels seen before the 1997–98 crises. In particular, syndicated lending to these borrowers remained subdued in the fourth quarter, making it likely that the slowdown in overall banking flows that occurred in the third quarter of 1999 continued to year-end. However, detailed data now available for the third quarter suggest that this slowdown took different forms in Asia, Latin America and eastern Europe. In Asia, large current-account surpluses in 1999 precluded the need for fresh bank credit. The region also received significant equity inflows, including portfolio flows through US and UK mutual funds (see the graph on page 10). Hence, a $22 billion cutback in bank claims on this region during the third quarter represented largely the repayment of existing debt. The main feature of an $11 billion decline in lending to Latin America in the third quarter was a reduction in lending from creditor banks in the United States and US branch offices operating in offshore centres to the non-bank sector.

An indicator of investors' attitude towards risk

Kostas Tsatsaronis

Market commentary often refers to a non-quantified investor sentiment factor as one of the determinants of financial market conditions. The idea is that market participants' attitude towards risk frequently swings between tolerance and aversion. During periods of relative risk tolerance, investors find it hard to resist the attraction of higher expected returns offered by securities that are also characterised by greater risk. Conversely, in periods of heightened risk aversion, market participants seek cover in asset classes that are traditionally considered as safer, if less rewarding, investments. While gradual shifts in investors' attitude towards risk can be accommodated without a perceptible rise in asset price volatility, episodes of market turmoil have often been associated with abrupt swings from a state of risk tolerance to one of risk avoidance.

Investors' attitude towards risk and liquidity



[1] Slope coefficient of a cross-sectional regression of realised returns on historical volatility for a number of asset classes. [2] GDP-weighted average of overnight real rates in the eurocurrency market for the US dollar, yen, euro and sterling.

Sources: Datastream; national data; BIS estimates.

To track investors' changing attitude towards risk, the graph above illustrates an indicator based on observed relationships between the ex ante perceived risk and ex post realised return for an array of financial asset classes. The indicator is based on the notion that short-term movements in asset prices are demand-driven and that investors' interest in a particular asset is determined by a subjective expectation of future cash flows as well as their mutable degree of tolerance for the volatility associated with this expected cash flow. During periods of investor exuberance, an appetite for higher yield easily overcomes tempered concerns about risk. In such periods an increased demand for relatively risky assets tends to support a disproportionate, if only temporary, increase in these assets' prices, and hence their realised returns in relation to less risky asset classes. It should be noted that this increase in price (and consequently short-term returns) does not necessarily reflect an improved outlook on future cash flows but is mainly driven by a more relaxed attitude towards the uncertainty associated with this cash flow. Conversely, realised returns on asset classes that entail greater risk suffer the most when market participants' apprehensions drive them to safety.

More concretely, for each month the value of the indicator corresponds to the slope coefficient in a cross-sectional regression of one-month realised returns on the two-year historical volatility of those returns, which is used as a proxy for risk. The cross section of asset classes includes representative price indices for equity and

fixed income securities in both industrial and emerging markets.* All returns are calculated from the corresponding price index expressed in US dollars in excess of the one-month US dollar eurodeposit rate prevailing at the beginning of the month. Volatility is calculated as the standard deviation of past excess returns. The graph depicts a three-month moving average of the coefficient of the monthly cross-sectional regression between realised return and historical volatility.

The graph shows that periods of market strain have often coincided with precipitous declines in the value of the computed indicator of market sentiment, following a build-up in the value of the indicator. For instance, the bond market turmoil during 1994 and, most notably, the Asian crisis in mid-1997 interrupted extended periods of an increasingly relaxed market attitude towards risk. The severity of the strains experienced by financial markets in the aftermath of the Russian default and the near-failure of LTCM was also related to the fact that these events took place against a background of a prolonged period characterised by a cautious investor attitude.

Clearly, this indicator is by construction descriptive in nature, and as such it cannot fully characterise factors that contribute to the build-up of market confidence or to the dynamics that lead to sharp reversals of investors' attitude towards risk. The apparent co-movement of the indicator with a measure of money market liquidity in major money centres provides some circumstantial evidence that market participants' appetite for higher yield is often whetted by inexpensive leverage opportunities and is frequently reversed when these opportunities disappear. A low interest rate environment is also likely to encourage market participants' discounting of financial risk by its generally flattering effect on portfolio valuations.

* The asset classes used in this graph are:
Equities: G10 countries, Spain, Portugal, Denmark, Finland, Austria, Ireland, Norway, Greece, Turkey, South Africa, Australia, New Zealand, Hong Kong, Korea, Malaysia, Indonesia, Taiwan, Mexico, Argentina, Brazil and Colombia.
Government bonds: G10 countries, Spain, Denmark, Finland, Austria, Ireland, Norway, Australia and New Zealand.
Money market: G10 countries, Spain, Denmark, Finland and Norway.

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II. Highlights of international financing

1. The international banking market

Newly released comprehensive BIS data on the international banking market for the *third quarter of 1999* show the largest net lending flows since the second quarter of 1998. For the market as a whole, these flows surged to $188 billion, more than four times the average of the two subdued quarters before. The rise was more than accounted for by an expansion of activity in industrial countries to $238 billion, as claims on offshore centres fell by $26 billion and another $31 billion was repaid by emerging market borrowers (including eastern Europe). The rebound in the market as a whole was driven largely by activity in the *interbank* market among developed countries, where lending flows amounted to $150 billion after three quarters of large cutbacks in claims. By contrast, net international lending to *non-bank* customers dwindled to $18 billion after an unusually strong second

Main features of international claims of BIS reporting banks[1]

In billions of US dollars

	1997	1998			1999			Stocks at end-Sept. 1999
	Year	Year	Q3	Q4	Q1	Q2	Q3	
Claims on developed countries	**1,056.5**	**524.9**	**196.8**	**– 28.2**	**126.7**	**72.5**	**237.7**	**8,666.4**
Interbank loans	733.4	276.5	179.5	– 75.0	– 59.7	– 92.1	149.5	5,089.4
Loans to non-banks	142.1	– 10.5	– 18.5	– 9.1	– 16.4	76.5	20.6	1,821.3
Other[2]	181.1	258.9	35.8	55.9	202.7	88.0	67.7	1,755.6
Claims on offshore centres	**199.5**	**– 191.0**	**– 43.3**	**– 79.9**	**– 65.1**	**– 44.8**	**– 25.8**	**1,283.7**
Interbank loans	166.5	– 191.7	– 58.2	– 32.5	– 74.1	– 53.0	– 48.0	911.3
Loans to non-banks	27.9	– 20.3	7.4	– 49.7	2.8	2.0	13.7	259.7
Other[2]	5.1	21.0	7.5	2.2	6.1	6.2	8.5	112.8
Claims on developing countries[3]	**76.7**	**– 83.6**	**– 47.2**	**– 25.8**	**– 4.2**	**– 6.6**	**– 30.9**	**890.5**
Interbank loans	16.0	– 64.0	– 28.4	– 8.6	– 8.4	– 13.3	– 20.8	376.5
Loans to non-banks	48.3	– 12.8	– 12.4	– 12.3	4.2	4.2	– 10.4	412.5
Other[2]	12.3	– 6.8	– 6.5	– 4.9	0.1	2.5	0.3	101.5
Unallocated	**1.1**	**– 34.0**	**– 44.0**	**– 10.2**	**– 5.5**	**7.8**	**6.7**	**226.4**
Total	**1,333.8**	**216.3**	**62.3**	**– 144.2**	**51.9**	**28.9**	**187.7**	**11,067.0**
Interbank loans	911.4	– 4.3	66.6	– 122.3	– 151.0	– 158.5	88.5	6,499.4
Loans to non-banks	222.9	– 55.0	– 27.9	– 81.1	– 22.6	89.0	17.5	2,516.9
Other[2]	199.5	275.6	23.6	59.2	225.5	98.5	81.6	2,050.7
Memorandum item: *Syndicated credits[4]*	*1,136.3*	*902.0*	*229.9*	*219.8*	*169.3*	*284.5*	*264.8*	

[1] Changes in amounts outstanding excluding exchange rate valuation effects. [2] Mainly changes in holdings of international debt securities. [3] Including eastern European countries. [4] Announced new facilities.

Currency composition of external bank lending of industrial reporting countries[1]

In billions of US dollars

	1997	1998			1999			Stocks at end-Sept. 1999
	Year	Year	Q3	Q4	Q1	Q2	Q3	
US dollar	456.2	129.1	87.6	44.8	–122.7	21.1	11.9	3,223.1
Euro[2]	248.0	288.9	31.6	– 64.7	292.6	51.3	143.0	2,853.6
of which: intra-euro 11	*22.6*	*88.4*	*– 5.7*	*51.1*	*206.8*	*51.0*	*71.4*	*1,283.5*
Japanese yen	172.5	– 29.4	10.1	58.3	–133.0	– 75.4	– 25.3	817.8
Pound sterling	78.0	41.1	16.8	7.8	16.2	2.0	24.2	450.8
Swiss franc	30.0	4.2	– 5.8	– 9.9	14.9	– 1.4	5.3	253.7
Other and unallocated	30.0	24.3	16.8	– 44.8	..	– 0.8	9.5	389.0
Total	**1,014.7**	**458.2**	**157.0**	**– 8.6**	**68.1**	**– 3.3**	**168.6**	**7,988.1**

[1] Changes in amounts outstanding excluding exchange rate valuation effects. [2] For 1997 and 1998, data relate to five euro legacy currencies (BEF, DEM, FRF, ITL and NLG) and the ECU, which were reported separately. Changes for 1999 Q1 are adjusted on an estimated basis to exclude the shift from “Other and unallocated” to “Euro area currencies” of data for six euro legacy currencies which were previously not reported separately under foreign currency positions (ATS, ESP, FIM, IEP, LUF and PTE).

quarter.[4] Announcements of new facilities in the international syndicated loan market indicate that a further decline in lending to non-bank borrowers is likely to have occurred in the fourth quarter.

The interbank market: resurgence due to a combination of factors

Three factors contributed to the major turnaround in interbank transactions in the third quarter. First, Japanese banks reduced the withdrawal of funds from overseas subsidiaries to $39 billion. These inter-office transfers to home offices had been a previous dampening factor for the interbank market as measured by BIS locational data. Japanese subsidiaries abroad had also been able to return yen funds to home offices in Japan because the Japan premium in international interbank money markets had virtually disappeared by the end of the first quarter, allowing them to fund themselves internationally again. Secondly, the resurgence of the interbank market seems to have resulted in part from the difficulty of finding enough new non-bank borrowers for recycling unusually large repayments from existing borrowers. In the third quarter, large repayments came from emerging market borrowers and non-bank borrowers in the United States, and the absorption of these funds by the interbank market involved passing them through a chain of banks in a portfolio adjustment process that resulted in a temporary expansion of interbank balance sheets. A third factor was a $61 billion surge in cross-border business in euros between banks located mainly in the London market but involving mostly banks with head offices outside the euro-11 countries, particularly Swiss ($36 billion) and UK institutions ($11 billion).

Currency composition: the rise in cross-border business in the euro

The third quarter saw a surge in cross-border business involving the euro. Altogether $72 billion of total euro-denominated flows were due to transactions with residents outside the euro area. The interbank market accounted for the bulk of such transactions. Demand for the euro might have been partly related to carry trade strategies, because conditions were consistent with a switching of cheap euro funds into higher-yielding currencies such as the dollar and sterling. The other half of total reported euro lending was due to the expansion of intra-EMU cross-border domestic currency

[4] International lending is defined as cross-border (i.e. external) lending in all (foreign and domestic) currencies and lending to residents in foreign currencies. See Annex Table 1.

transactions (see the table on page 15). While the figures shown for the first quarter of 1999 may suggest even larger cross-border flows in the euro, these numbers are not readily comparable to those of subsequent quarters because of a one-time adjustment for currencies that had been classified under “other and unallocated” but are now reported as euro area currencies.

At the same time, net repayments in yen continued, albeit at a slower pace, while lending flows in sterling rose significantly. Improved Japanese growth prospects and the strong rise in the yen vis-à-vis the dollar may have encouraged banks in the United Kingdom to lend $14 billion in yen to entities in Japan, which was, however, more than compensated for by further Japanese bank retrenchment from yen lending. Swiss banks providing funds largely to UK non-banks more than accounted for the $24 billion rise in total sterling assets.

Role of offshore centres: Caribbean centres see inflows while others shoulder outflows

Reporting banks’ international claims on offshore centres fell in the third quarter (–$25.8 billion). However, the overall figure masked a divergent pattern between the Caribbean and Asia. Cross-border flows to Caribbean centres, excluding the Cayman Islands, rose by $32 billion during this period. The bulk of the rise ($30 billion) was denominated in US dollars, and was split almost evenly between bank and non-bank entities. In contrast, the $20 billion decline in claims vis-à-vis the Cayman Islands was due to a cutback in dollar-denominated interbank credit stemming from banks located in the United States.

Meanwhile, claims on Asian offshore centres fell sharply, with total claims on Hong Kong and Singapore declining by $19 billion and $18 billion respectively. With respect to Hong Kong, over half of the decline was due to yen interbank repayments to Japan, a decline linked to the retrenchment of Japanese banks from international lending. As explained in the box on page 19 and in the June 1999 edition of the *BIS Quarterly Review*, prior to the outbreak of the Asian crisis in mid-1997, Hong Kong functioned as an extension of the domestic intermediation of the Japanese banking system. Funds flowed from Japanese to Hong Kong banks and back to Japan in the form of loans to non-banks. However, since then the drive to clean up Japanese bank balance sheets coupled with weak loan demand has led to a repayment of liabilities by banks in Hong Kong (and correspondingly, a decline in Japanese claims on Hong Kong). Similarly, the decline in interbank claims vis-à-vis Singapore is largely due to repayments in yen to Japan.

Lending to emerging markets: bank claims decline sharply as borrowers shift to securities

Data for the third quarter of 1999 show the largest decline in claims outstanding on emerging markets since the sharp cutback in the wake of the Russian debt moratorium in the third quarter of 1998. As shown in the table opposite, claims on emerging economies fell by $31 billion during the quarter, nearly six times the average of the two preceding quarters. Such an acceleration of repayments to banks so late after the credit squeeze of 1998 suggests a demand-driven move away from bank loans to securities issuance.

As noted in the overview section, emerging Asia’s shift from current account deficits to large surpluses in 1999 obviated a need for fresh bank credit. In addition to the surpluses, the region has also received equity inflows. The third quarter saw a $22 billion reduction in bank claims on this region which represented largely the continued repayment of existing debt.[5] The steady

[5] It should be noted that the quarterly banking flows are calculated on an exchange-rate-adjusted basis. In other words, the published flow figures are net of currency fluctuations and thus attempt to measure the actual flows during the period. Due to the 13% appreciation of the yen in the third quarter, and the large role it plays in capital flows to emerging Asia, the exchange-rate-adjusted decline of $22 billion is much larger than the absolute decline of $8 billion, and should be considered in this context.

Banks' claims on transition and developing countries*

In billions of US dollars

	1997	1998			1999			Stocks at end-Sept. 1999
	Year	Year	Q3	Q4	Q1	Q2	Q3	
Total claims	**76.7**	**– 83.6**	**– 47.2**	**– 25.8**	**– 4.2**	**– 6.6**	**– 30.9**	**890.5**
Eastern Europe	18.7	– 0.1	– 10.6	– 0.5	– 2.0	– 1.9	– 1.0	100.9
Russia	9.9	– 6.1	– 10.7	– 1.7	– 3.6	– 1.4	– 1.7	46.1
Africa	10.0	– 1.6	– 0.5	– 0.5	2.0	– 0.1	– 0.9	57.8
Asia	4.9	– 96.4	– 28.9	– 22.4	– 0.2	– 5.4	– 21.6	339.2
China	10.5	– 10.6	– 7.3	– 2.1	– 1.8	– 0.4	– 7.3	72.8
Indonesia	7.2	– 14.1	– 2.8	– 3.8	1.3	– 1.5	– 3.2	49.3
Korea	– 4.0	– 32.9	– 5.5	– 7.5	2.2	0.0	– 1.0	75.7
Malaysia	3.5	– 6.6	– 1.3	– 1.6	– 0.2	– 0.7	– 1.5	21.8
Philippines	3.2	– 0.8	– 2.2	1.2	0.0	1.0	– 1.8	15.8
Thailand	– 19.6	– 28.9	– 6.6	– 8.7	– 5.0	– 2.5	– 5.5	39.3
Latin America	30.9	– 8.8	– 13.8	– 12.3	– 0.2	3.0	– 10.6	289.5
Argentina	7.5	0.7	1.5	– 2.2	1.1	0.7	– 2.0	47.8
Brazil	13.8	– 10.8	– 11.5	– 8.4	– 4.9	0.1	– 3.4	86.2
Mexico	– 7.2	0.2	– 2.8	– 0.2	1.4	3.3	– 1.1	69.0
Middle East	12.2	23.3	6.6	9.8	– 3.7	– 2.2	3.1	103.1

* Changes in amounts outstanding excluding exchange rate valuation effects.

decline in Asian sovereign spreads from a peak in the third quarter of 1998 seems consistent with an improved financial position of Asian borrowers. International bank lending to Thailand fell by $5.5 billion, to Indonesia by $3.2 billion, and to the Philippines by $1.8 billion. A $7.3 billion decrease in China's international bank borrowing reflected repayments to Asian banking centres and the unwinding of a large repo transaction with banks in the United States. At the same time, banks in China increased their deposits with Asian and EU banks by $5.5 billion.

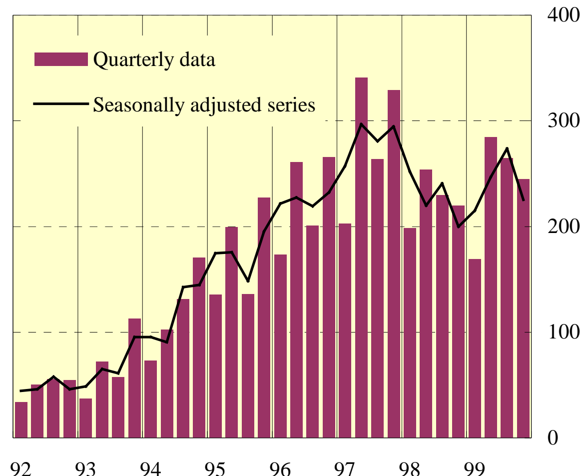
While Latin American countries needed funds to finance their current account deficits, they relied more on securities than on bank credit. Indeed, bank claims on the region declined by $10.6 billion, largely involving creditor banks in the United States and US branch offices operating in offshore centres. All major Latin American borrowers were affected, including Brazil (–$3.4 billion), Argentina (–$2.0 billion) and Mexico (–$1.1 billion). About half of the overall decline in the headline figure represented a reduction in loans to the non-bank sector. At the same time, borrowers in the region issued a net amount of $4.6 billion in bonds and notes.

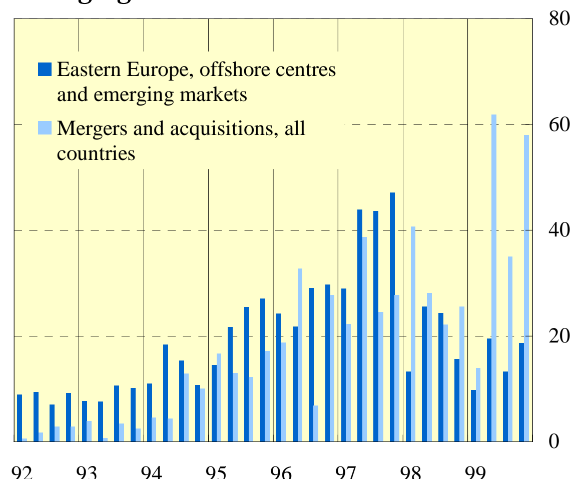
Bank lending to eastern Europe fell by $1 billion in the fifth consecutive quarter of contraction since the Russian crisis. At the same time, securities held by banks rose by $1.4 billion. Once again, a cutback in exposure to Russia more than accounted for the decline in overall lending to the region. Lending to Russia's banking system fell by $1.7 billion, owing to the withdrawal of credit to the country by a large European bank. In contrast, loans to Poland increased by $1.1 billion.[6] Concealed in the headline borrowing figure for the region is the fact that eastern European non-banks, including Russia's private sector, succeeded in obtaining $0.7 billion in new loans from the international banking market after a large cutback in the previous quarter.

6 Total claims on Poland, however, rose by $2.1 billion because of a $1.0 billion equity investment in a Polish bank by another European bank.

Announced facilities in the international syndicated credit market

In billions of US dollars





Sources: Capital DATA; BIS.

Outlook for the fourth quarter of 1999: likely slowdown in lending to non-banks

Comprehensive BIS data on international bank lending in the *fourth quarter of 1999* will become available in three months' time. Some advance indication of lending to non-banks, especially to emerging market borrowers, is provided by new facilities in the syndicated loan market (Annex Table 10), although these refer to commitments rather than disbursements.

Aggregate activity in international syndicated loans declined in the fourth quarter in spite of a rebound in merger and acquisition deals. As shown in the graph above, announced facilities for the market as a whole amounted to $245 billion, a decrease of 8% from the previous quarter. The decline is especially significant because the fourth quarter has historically been more active than the third.[7] A few very large deals boosted merger-related transactions to $58 billion. One of the largest deals consisted of £8 billion ($13 billion) in two tranches arranged to finance the purchase by Mannesmann AG in Germany of Orange Plc in the United Kingdom. This particular deal helped to make the year as a whole a record one for merger-related business, with $169 billion in announced facilities of that type. In contrast to the buoyancy of acquisition financing, syndicated lending for emerging market borrowers remained subdued, with $13 billion in facilities in the fourth quarter and $43 billion for the year.

[7] On a seasonally adjusted basis, the quarterly decline would be 21%.

An update on developments in Hong Kong's international banking business

Robert McCauley and Y K Mo

Last June's *BIS Quarterly Review* (pp. 13–14) analysed developments in Hong Kong's banking balance sheet from mid-1997 to the end of 1998. In those six quarters, the reversal of the round-tripping of funds from Japanese banks in Japan to Hong Kong and back to non-banks in Japan explained much of the contraction in Hong Kong's international balance sheet. Despite the onset of the Asian crisis in mid-1997, the reduction of advances to the five emerging Asian economies most affected by the crisis and China was relatively modest. This box updates the analysis for the first three quarters of 1999, showing that the forces identified in the earlier period continued.

Banks in Hong Kong continued to repay their international interbank liabilities in 1999, albeit at a somewhat slower rate than in the previous six quarters. Again, the bulk of the interbank advances repaid were to banks in Japan. And once again, a large share of the decrease in funding from Japan was associated with a decline in claims on Japan: $33 billion on the non-bank sector and $5 billion on the bank sector. Thus, much of the shrinkage in Hong Kong's international balance sheet reflected a continued reversal of the round-tripping of funds from Japan to Hong Kong and back. In other words, Hong Kong's international balance sheet shrank because an offshore extension of Japanese bank intermediation either shrank or was repatriated.

In contrast, the decline in claims booked in Hong Kong on banks in Indonesia, Korea, Malaysia, the Philippines and Thailand decelerated substantially, while that in claims on banks and non-banks in China accelerated. Thus the shrinkage of Hong Kong's balance sheet continues to reflect events in Japan more than the Asian crisis and its aftermath.

The Hong Kong banking data also offer a perspective on the $77 billion drop in BIS reporting banks' net claims on Hong Kong in the first nine months of 1999. After stripping out the reduced funding of loans to Japanese companies ($33 billion) and reduced claims on the five Asian crisis countries and China ($14 billion), there remains a substantial decline in net claims. From Hong Kong's perspective, this outflow is

External assets and liabilities of banks in Hong Kong

In billions of US dollars

		Assets			Liabilities		
		Total	**Bank**	**Non-bank**	**Total**	**Bank**	**Non-bank**
World	end-1998	501	319	182	447	367	80
	Oct. 1999	465	324	141	372	290	82
	Change	**– 36**	**5**	**– 41**	**– 75**	**– 77**	**2**
Japan	end-1998	225	104	121	203	199	4
	Oct. 1999	187	99	88	154	150	4
	Change	**– 38**	**– 5**	**– 33**	**– 49**	**– 49**	**0**
Indonesia, Korea, Malaysia, Philippines and Thailand	end-1998	33	22	11	21	16	5
	Oct. 1999	28	20	8	20	15	5
	Change	**– 5**	**– 2**	**– 3**	**– 1**	**– 1**	**0**
China	end-1998	42	35	7	37	35	2
	Oct. 1999	33	29	5	36	33	3
	Change	**– 9**	**– 7**	**– 2**	**– 1**	**– 2**	**1**
Memorandum items		***BIS reporting banks' positions vis-à-vis Hong Kong***					
	end-1998	*321*	*299*	*22*	*286*	*238*	*48*
	Sept. 1999	*254*	*231*	*23*	*296*	*256*	*40*
	Change	***– 67***	***– 68***	***1***	***10***	***18***	***– 8***

Sources: Hong Kong Monetary Authority, *Monthly Statistical Bulletin*; BIS.

related to a declining stock of foreign currency debt of Hong Kong firms. Local banking data show a decline in outstanding foreign currency loans extended by Hong Kong banks of $12 billion in the first 10 months of 1999.* Repayment of foreign currency loans was part of a general reduction in corporate bank debt in Hong Kong, reflecting weak investment (including construction) and also a shift in financing by large firms from bank borrowing to bond issues. But foreign currency loans fell faster than Hong Kong dollar corporate loans, perhaps owing to relative cost: three-month dollar Libor was 256 basis points lower than Hibor in 1998 but only 48 basis points lower in 1999.

To summarise, funds flowed into the international interbank market from Hong Kong first and foremost because of developments in Japan. In addition, the flow of funds reflects reduced foreign currency funding of banks in East Asia and China and repayments of foreign currency loans by companies in Hong Kong.

* One source of the funds to repay foreign currency loans was offshore deposits by Hong Kong non-banks, which the BIS data show fell by $8 billion in the first nine months.

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2. The international debt securities market

Both gross and net issuance of international securities declined in the fourth quarter of 1999 after three quarters of record activity. Although an increase in the amount of debt needing to be refinanced supported gross activity, announcements of bonds and notes still declined by 25% (to $310 billion). Meanwhile, net issuance fell by 37% (to $193 billion). The slowdown in the fourth quarter may have reflected the earlier acceleration or postponement of planned issues because of concerns about possible market disruptions related to the millennium changeover. However, net issuance was nearly double the $98 billion of the fourth quarter of 1998, when activity had slowed amid generally unfavourable market conditions and in anticipation of the introduction of the euro. For the year as a whole, gross and net activity in bonds and notes reached record levels, at $1.6 trillion and $1.0 trillion respectively (see the tables below). Issuing activity by emerging markets remained subdued, however, contributing about 3% to the total, far below the 11–15% share of 1993–97.

Although fixed rate issuance exceeded floating rate activity by a margin of two to one in gross terms, this was partly due to substantial refinancing of maturing fixed rate bonds and notes ($136 billion). In

Main features of net issuance in international debt securities markets[1]

In billions of US dollars

	1998	1999	1998	1999				Stocks at end-Dec. 1999
	Year	Year	Q4	Q1	Q2	Q3	Q4	
Total net issues	**678.5**	**1,085.4**	**97.8**	**263.8**	**323.9**	**304.8**	**192.9**	**5,226.1**
Money market instruments[2]	9.8	68.6	– 11.5	35.1	– 8.0	22.8	18.7	260.0
Bonds and notes[2]	668.7	1,016.8	109.3	228.6	331.9	282.0	174.2	4,966.2
Developed countries	573.0	1,014.6	86.0	240.6	295.5	296.3	182.2	4,371.4
Euro area	*211.7*	*438.1*	*28.6*	*97.3*	*126.5*	*129.0*	*85.3*	*1,696.8*
Japan	*– 18.1*	*– 2.0*	*– 1.2*	*– 0.8*	*1.8*	*2.8*	*– 5.8*	*330.9*
United States	*284.3*	*423.6*	*60.6*	*109.8*	*123.3*	*111.8*	*78.6*	*1,255.2*
Offshore centres	10.2	16.6	– 0.4	7.7	1.9	2.3	4.7	75.9
Other countries	40.2	32.2	– 1.6	3.0	21.0	1.8	6.5	404.5
International institutions	55.1	21.9	13.7	12.6	5.5	4.3	– 0.5	374.3
US dollar	409.4	470.1	55.3	138.1	151.3	113.8	66.9	2,433.4
Yen	– 27.2	– 12.0	– 6.3	– 12.7	– 3.1	6.4	– 2.6	528.0
Euro area currencies	221.3	522.3	29.6	114.9	135.8	159.0	112.6	1,512.1
Other currencies	74.9	104.9	19.2	23.5	39.8	25.6	16.0	752.7
Financial institutions[3]	370.0	584.4	37.8	153.8	145.0	179.5	106.1	2,511.0
Public sector[4]	181.8	199.1	39.0	50.7	78.1	29.1	41.2	1,428.0
Corporate issuers	126.7	301.8	21.0	59.3	100.8	96.2	45.6	1,287.1

[1] Flow data for international bonds; for money market instruments and notes, changes in amounts outstanding excluding exchange rate valuation effects. [2] Excluding notes issued by non-residents in the domestic market. [3] Commercial banks and other financial institutions. [4] Governments, state agencies and international institutions.

Sources: Bank of England; Capital DATA; Euroclear; ISMA; Thomson Financial Securities Data; BIS.

Gross issuance in the international bond and note markets

In billions of US dollars

	1998	1999	1998	1999			
	Year	**Year**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
Total announced issues	**1,142.2**	**1,574.9**	**252.4**	**408.2**	**445.6**	**410.9**	**310.2**
Floating rate issues	284.9	444.2	56.0	100.6	136.4	114.7	92.6
Straight fixed rate issues	810.1	1,088.0	185.6	295.7	294.5	289.3	208.6
Equity-related issues[1]	47.2	42.6	10.8	11.9	14.7	6.9	9.0
US dollar	587.8	674.2	124.8	197.4	193.9	171.0	111.9
Yen	72.8	111.9	19.7	17.5	24.9	35.0	34.5
Euro area currencies	319.3	609.6	65.9	147.6	175.1	159.7	127.2
Other currencies	162.4	179.2	42.0	45.6	51.7	45.3	36.6
Financial institutions[2]	571.1	812.1	112.9	211.3	217.1	219.9	163.8
Public sector[3]	321.9	347.3	82.5	99.2	104.5	71.6	72.0
Corporate issuers	249.3	415.5	57.0	97.7	124.0	119.5	74.4
Completed issues	**1,137.4**	**1,579.5**	**253.0**	**379.9**	**443.2**	**400.5**	**355.9**
Repayments	**468.7**	**562.7**	**143.7**	**151.3**	**111.3**	**118.5**	**181.7**

[1] Convertible bonds and bonds with equity warrants. [2] Commercial banks and other financial institutions. [3] Governments, state agencies and international institutions.

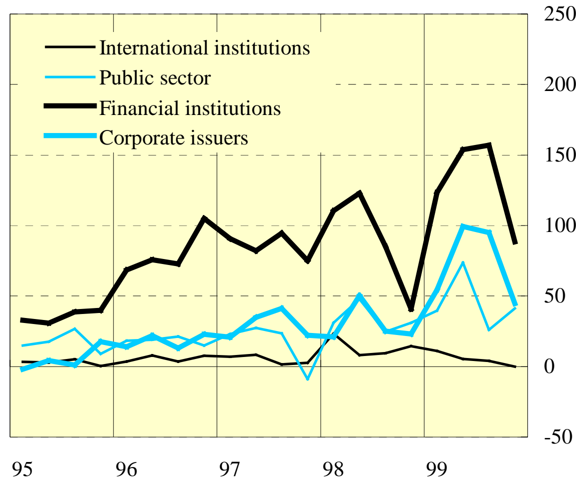
Sources: Bank of England; Capital DATA; Euroclear; ISMA; Thomson Financial Securities Data; BIS.

net terms, floating rate issuance rose to 63% of fixed issues, the highest proportion recorded since end-1997, when fixed rate issuance had collapsed during the Asian crisis. The sustained rise in long-term bond yields during 1999 seems to have induced the European private sector to turn to floating rate issuance continuously over the year, and in the fourth quarter this exceeded fixed issuance by a substantial margin. Other issues, however, seemed less affected by the rise in yields. North American private sector issuers, in particular, reduced the ratio of net floating/fixed rate debt from a high of 186% in the first quarter of 1998 to a low of 17% in the current quarter.

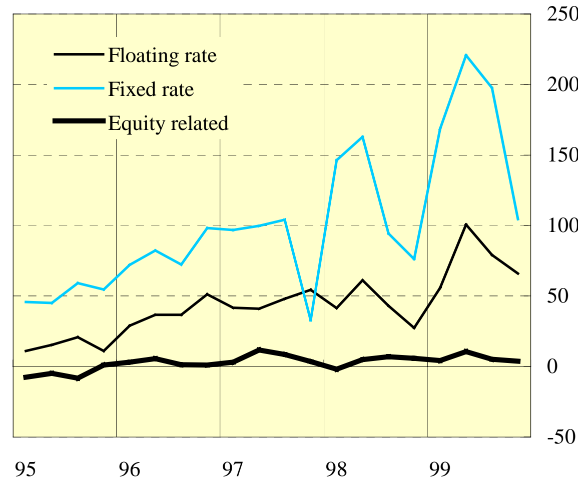
Net issues of international bonds and notes by sector and type

In billions of US dollars

By sector



By type



Sources: Bank of England; Capital DATA; Euroclear; ISMA; Thomson Financial Securities Data; BIS.

Net issuance of international debt securities by currency and residence region*

In billions of US dollars

		1998	1999	1998	1999
		Year	Year	Q4	Q4
Europe	US dollar	68.6	32.8	– 3.8	– 2.6
	Euro	156.5	425.8	24.8	93.6
	Total	254.0	536.1	21.3	99.6
North America	US dollar	257.2	383.8	59.0	71.5
	Euro	24.8	34.8	2.5	4.9
	Total	296.9	425.8	66.0	78.9
Others	US dollar	83.7	53.5	0.1	– 2.0
	Euro	39.9	61.8	2.2	14.0
	Total	127.6	123.5	10.5	14.3
Total	US dollar	409.4	470.1	55.3	66.9
	Euro	221.3	522.3	29.6	112.6
	All currencies	678.5	1,085.4	97.8	192.9

* Flow data for international bonds; for money market instruments and notes, changes in amounts outstanding excluding exchange rate valuation effects.

Sources: Bank of England; Capital DATA; Euroclear; ISMA; Thomson Financial Securities Data; BIS.

Industrial countries: the euro is ahead as the market in Europe grows faster

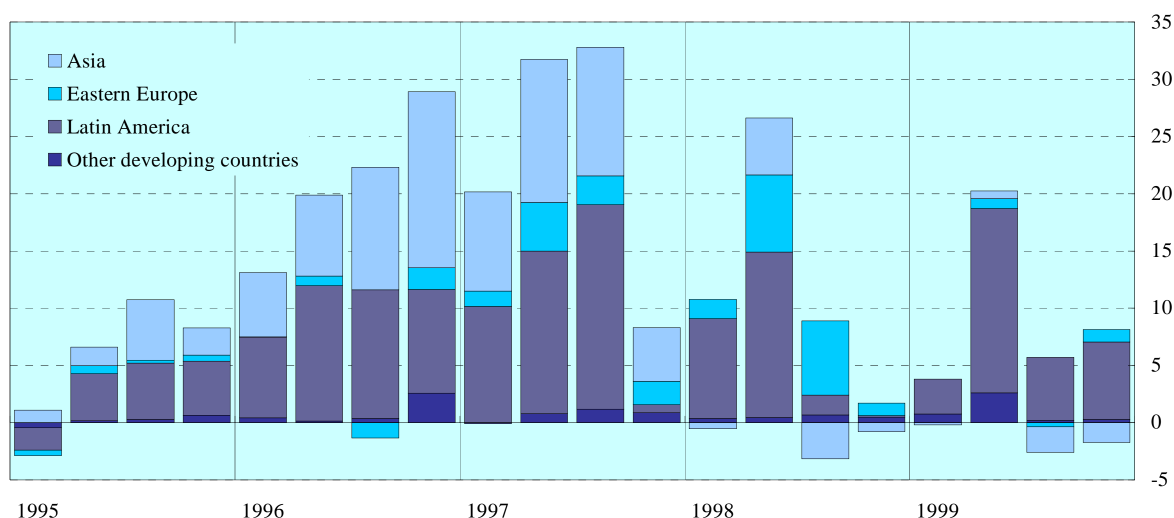
Looking at 1999 as a whole, a major theme was the introduction of the euro and its increasing acceptance as a currency of denomination for new issues. *Net* new issuance of international securities denominated in euros was $522 billion, compared with $470 billion in US dollars. The ratio of net financing in euros relative to that in US dollars grew steadily during the year, from 0.83 in the first quarter to 1.68 in the fourth. Since a larger stock of US dollar bonds had to be refinanced, *gross* issuance of US dollar bonds still outpaced that of euro-denominated bonds over the year, implying that issuers coming to the market for the first time and those expanding their net issuance were more likely to issue in euros.

The shift towards the euro can largely be attributed to European issuers. In comparison with 1998, entities resident in Europe increased their overall net issuance from $254 billion to $536 billion. European financial institutions led the move towards euro-denominated international securities, with commercial banks increasing their issuance in euros from $81 billion for the predecessor currencies in 1998 to $233 billion in 1999. By contrast, partly due to competition to establish benchmark status among US agency issuers, almost 40% of North American issuance was by government-sponsored enterprises (such as Fannie Mae), which issue virtually exclusively in the home currency. The largest issues in euros in the fourth quarter of 1999 were from Mannesmann Finance ($2.5 billion), the European Investment Bank ($2 billion) and a number of financial institutions in Germany, France and Italy. Compagnie de Financement Foncier of France issued the largest overall amount in euros ($5.6 billion).

Borrowers resident outside the euro area were less interested in issuing in euros. North American entities increased their overall net issuance by a smaller amount (from $297 billion to $426 billion), with the ratio of euro to dollar issues remaining at around 10%. In the fourth quarter, the only announcement by a non-euro area entity to exceed €1 billion was a €1.5 billion seven-year note issued by Vodafone AirTouch PLC. In the case of other entities as a group (including those from emerging markets and international institutions), the ratio of euro to dollar net issues rose from 0.5 to 1.2, but the small amounts involved meant this shift had a relatively limited quantitative significance (see the table above).

International bond and note net issuance by emerging market borrowers*

In billions of US dollars



* Net issues based on the nationality of the borrower.

Sources: Bank of England; Capital DATA; Euroclear; ISMA; Thomson Financial Securities Data; BIS.

The shift towards new issuance in euros should not obscure the dollar's continued dominance in the stock of outstanding debt. At year-end, around 47% of outstanding international debt securities were denominated in US dollars and 29% in the euro and its predecessors, compared with 46% and 27% respectively at end-1998. Both gained "market share" from other international currencies, the yen in particular. The $122 billion of yen-denominated issues in 1999 fell short of the $134 billion in repayments, though the amount of outstanding yen securities rose in dollar terms because of the yen's appreciation. Its 14% July-August surge against the dollar provided investors with attractive overall return expectations. As a result, net yen issues were positive in the third quarter, after seven quarters of net repayments. This trend petered out towards year-end, however, as market expectations concerning the future course of the currency became unstable.

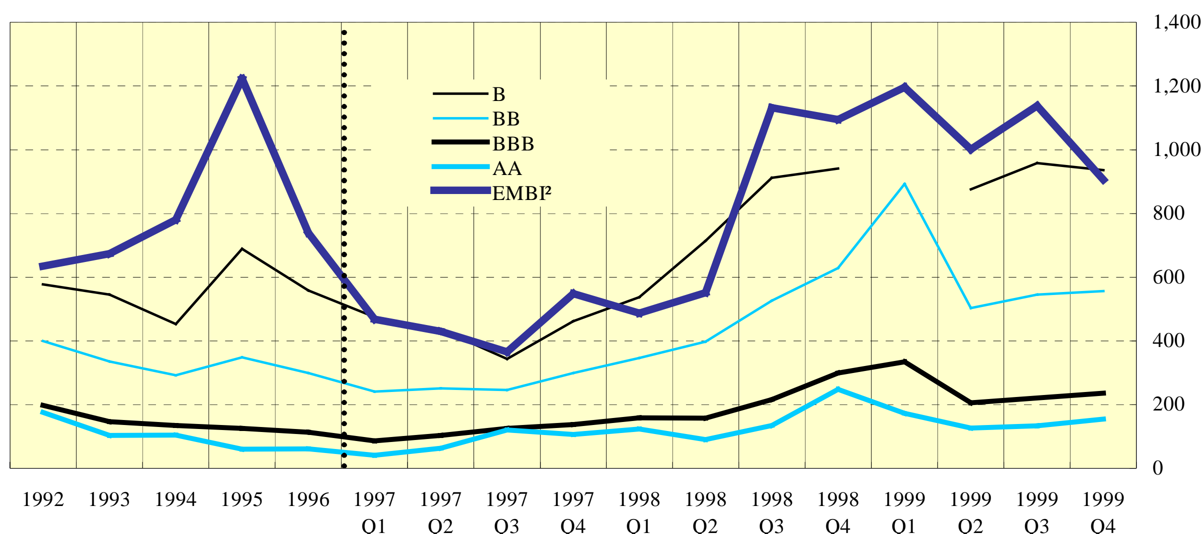
Emerging markets: spreads and early repayments limit net financing

Net 1999 securities flows to emerging markets, at $32 billon, remained below those recorded in the previous year, when issuance had been hit by the Russian debt moratorium towards year-end. Most new issues had to be postponed again in the first quarter of 1999, as investors waited to see how Latin American economies would cope with the devaluation of the Brazilian real in January. This resulted in a surge of net issuance ($21 billion) in the second quarter. Issuance fell to relatively subdued levels for the remainder of the year, as the possibility of some issuers defaulting on eurobonds was raised and Y2K concerns limited activity. Despite these uncertainties, a steady stream of *refinancing* was available to replace the $12–15 billion of securities maturing each quarter during 1999.

As in previous quarters, flows to Asia and Latin America diverged sharply in the fourth quarter of 1999. In *Latin America*, issuance was dominated by central governments ($5.5 billion) and private financial institutions ($1.5 billion), while repayments exceeded new issues among non-financial corporates. For the year as a whole, however, central governments were important net issuers, selling $22 billion. Argentina maintained its position as the largest net emerging market borrower in the last quarter ($2.6 billion), despite adverse external conditions and a recession in the domestic economy. A substantial part of net issuance by Brazil ($2.5 billion) and Mexico ($1.2 billion) reflected central government issues of $1.4 billion and $0.6 billion, respectively, partly to finance Brady buyback operations (see below).

Spreads of rated bond issues in emerging markets, by credit rating[1]

In terms of US dollars, 10-year maturity, in basis points



[1] Estimated credit spread on a 10-year rated bonds issued by emerging market economies over the benchmark industrial country government bond. No data available for B-rated issues in 1999 Q1. [2] Emerging Markets Bond Index quarterly average.

Sources: Bloomberg; Capital DATA; JP Morgan; BIS calculations.

By contrast, net securities flows to *Asia* remained slightly negative during the fourth quarter, with net outflows of $3.4 billion from the private sector not offset by new public sector borrowing of $1.7 billion. For the year as a whole, with current account balances generally in surplus, net debt repayments by Asia rose to a high level. Only the Philippines increased their net borrowing ($0.6 billion), mainly the result of $1 billion of central government issues partly used to finance a Brady bond retirement.

Strong export growth in South Korea provided continuous current account surpluses over the year and suggested a robust recovery of the domestic economy. With foreign exchange reserves set to rise to $74 billion by year-end, there was on aggregate no need for capital inflows, and large repayments ($11.7 billion over the year) were possible. In the fourth quarter, in particular, repayments of $2.5 billion of private sector bonds, coupled with limited new issuance by state agencies and financial institutions, resulted in a zero net securities inflow to the country.

Thus although there was a relative shift from intermediated financing by banks to direct securities financing, net securities issuance remained modest, both in absolute terms and relative to global issuance, with the share of emerging markets falling to 3% of global annual issuance, the lowest level seen since 1990. As noted above, substantial current account surpluses obviated any need for Asian countries to borrow. Demand by Latin American borrowers might have been greater, but was to some extent discouraged by the cost of borrowing, particularly for lower-rated issuers. Average primary market spreads changed little from the still comparatively high level established in the second quarter of 1999, as is evidenced by the graph above. The constancy of spreads paid is in apparent contrast with the relaxation of credit conditions in the secondary market signalled by the decline in certain national indices and in the Emerging Markets Bond Index (EMBI). This decline may, however, only be reversing the preceding rise in the index partially due to special factors. With the market starting to anticipate the possibility of an eventual default by Ecuador in July, the EMBI spiked up further in August as the country invoked a 30-day grace period to postpone interest payments due on $5.9 billion

in Brady obligations, later defaulting on $1.4 billion in Brady Discount bonds.[8] Several governments (Mexico, Brazil and the Philippines) used this window of opportunity to buy back or swap Brady obligations in order to reduce interest payments or free up collateral. These transactions increased demand in the Brady market, thereby pushing up prices and depressing yields. Since the EMBI is heavily weighted towards Brady bonds, these developments would have tended to pull the index down again, independently of general credit conditions in the market. Thus it would appear to be premature to conclude from the fourth quarter decline in the EMBI index that the Ecuador default had no more than a passing effect on the borrowing conditions of emerging markets generally.

[8] See *BIS Quarterly Review*, November 1999, pp. 5–6.

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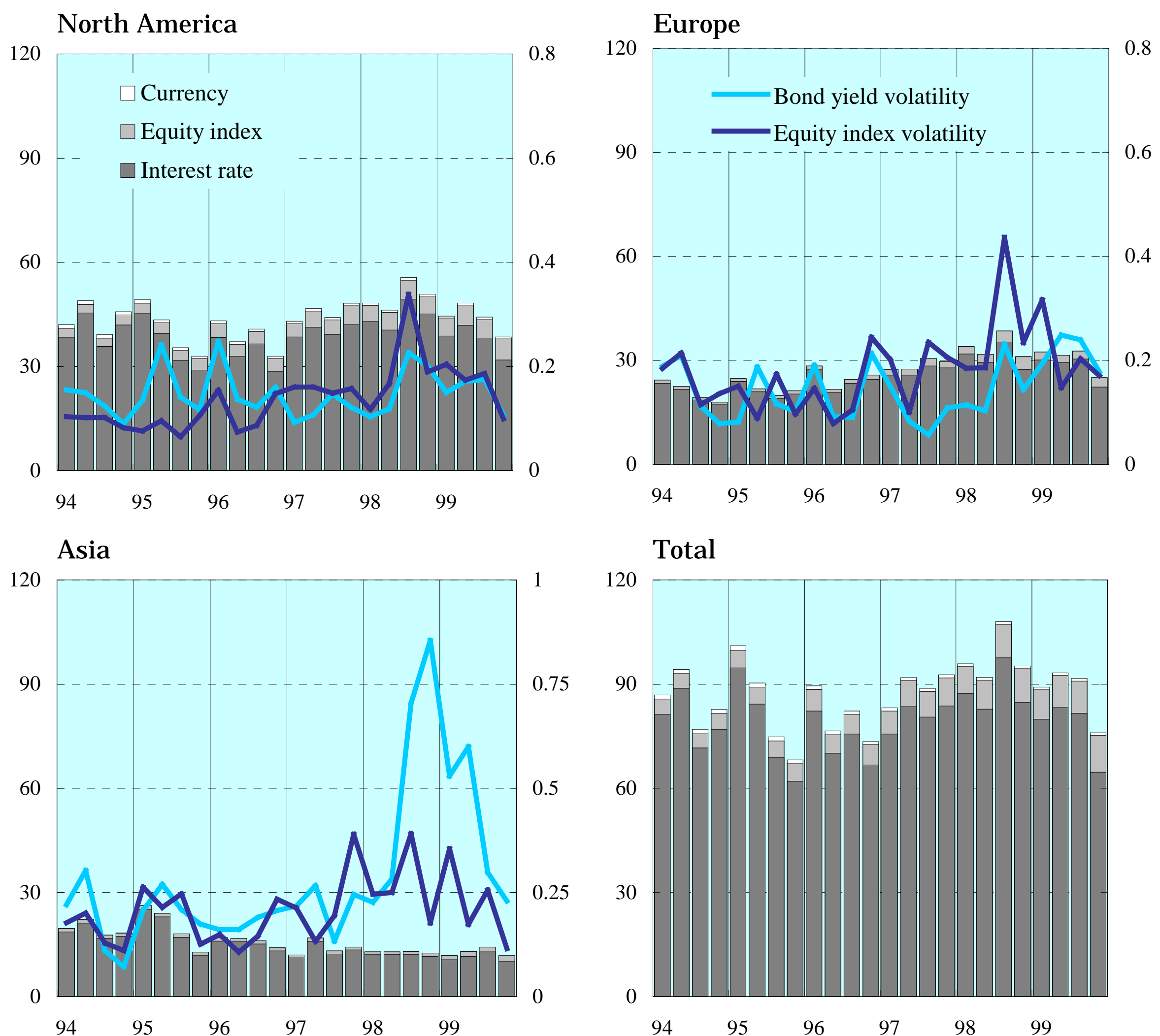
3. Derivatives markets

The fourth quarter of 1999 witnessed a significant slowdown in derivatives activity through organised exchanges. Much of the reduction was related to year-end concerns. In over-the-counter (OTC) markets, data available for the first half of 1999 showed a sharp slowdown relative to the second half of 1998. This largely reflected a return to calmer conditions following the turmoil triggered by the

Turnover of exchange-traded options and futures and bond yield and equity index volatilities[1]

In trillions of US dollars (left-hand scale) and percentages (right-hand scale)

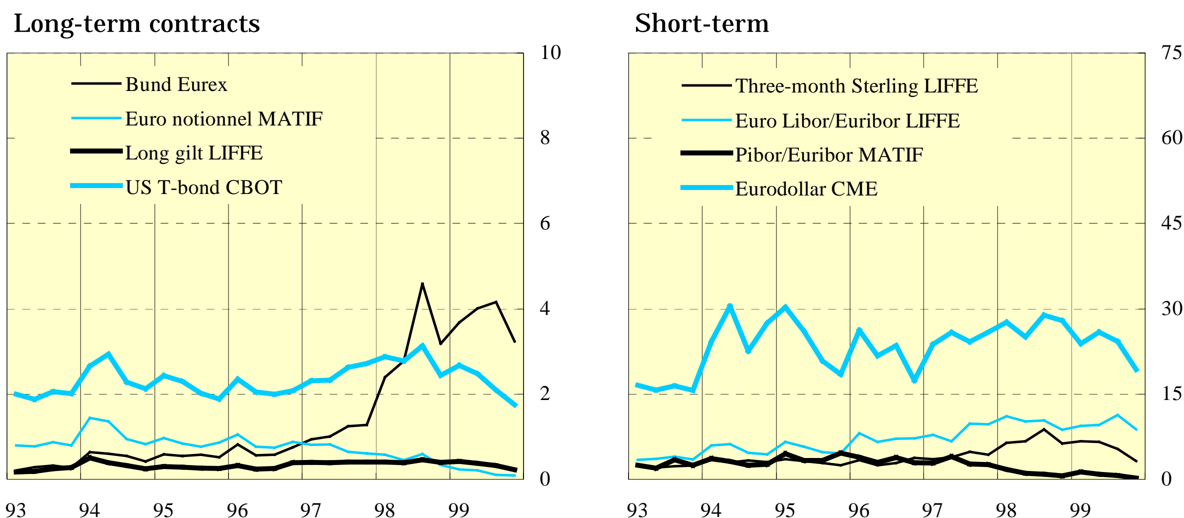


[1] Annualised standard deviation of daily percentage changes in 10-year government bond yields and equity indices of US, German and Japanese markets for North America, Europe and Asia respectively. [2] Including Australia and New Zealand.

Sources: FOW TRADEdata; Futures Industry Association; BIS.

Turnover of major European and North American interest rate futures

Quarterly turnover, in trillions of US dollars



Sources: FOW TRADEdate; Futures Industry Association; BIS.

Russian debt moratorium in August 1998 and the consolidation of business resulting from the introduction of the euro. Partial information for the second half of 1999 indicates a mixed pattern of activity in the OTC market.

Exchange-traded instruments: a slowdown ahead of the new millennium

The aggregate turnover of exchange-traded financial derivatives monitored by the BIS contracted by 17% in the fourth quarter of 1999 (to $76 trillion), the lowest level since the fourth quarter of 1996. There was, however, a marked disparity between the various risk categories, with fixed income and currency business dropping sharply (by 21% and 16%, respectively) and equity-related transactions expanding significantly (by 15%). This contrast does not appear to have reflected changes in the pattern of volatility. In the fixed income and currency markets, the dominant influence appears to have been the willingness of market participants to pare down their positions to a minimum ahead of the new millennium. The cautious attitude of traders was reported to have affected liquidity in some market segments but this effect appears to have been short-lived. In the case of equity-linked transactions, the widespread increase in the value of turnover largely reflected the increase in the level of equity indices.

For the year as a whole, the aggregate value of turnover in exchange-traded financial products monitored by the BIS declined by 10% (to $350 trillion). While the lack of market events comparable to those seen in 1998 (such as the Russian debt moratorium) probably accounted for some of this slowdown, other dampening factors may have been at play, such as reduced activity by highly leveraged entities and the consolidation of interest rate products resulting from the introduction of the euro. Business in equity-related products, particularly options, bucked the overall decline of market activity.

As in recent quarters, the proliferation of online trading systems continued to be one of the key developments shaping the competitive environment. Prospects for the creation of the Euro-Alliance, a pan-European stock exchange project supported by eight European bourses, became less certain with the announcement by NASDAQ of plans for the creation of an electronic platform in Europe and plans

Global ranking of exchanges[1]

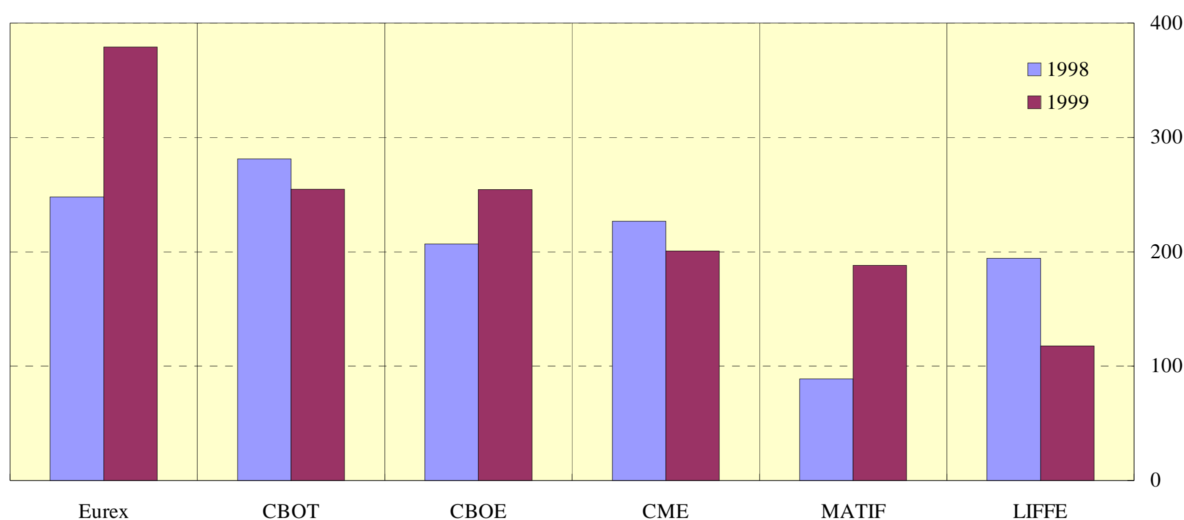
Serge Jeanneau

Looking at business on the major market-places, contract turnover on Eurex declined slightly in the fourth quarter, but the exchange remained by far the most active market-place in the world (with 98 million contracts), followed by the CBOE (81 million) and the CBOT (53 million).[2] Eurex has greatly benefited from the introduction of the euro, which has created a large pool of liquidity in German government bond contracts. Meanwhile, there was some recovery in December in the trading of the French government bond contract on the MATIF following efforts by French banks to revive it. By contrast, LIFFE experienced a further contraction of turnover, continuing the downward trend seen since it lost business in bund contracts to Eurex. One of the notable developments in North America was the continuing upsurge in equity option trading on the CBOE, in a context of declining overall activity on the other major US exchanges. In Asia, SIMEX remained the most active market-place, ahead of TIFFE and the TSE. The subdued pace of business in Japan was particularly noteworthy given the rapid increase in recent years in the stock of Japanese government debt.

Viewing 1999 as a whole, Eurex displaced the CBOT for the first time as the most active exchange in the world (379 million contracts compared with 255 million). The rapid increase in the use of equity options enabled the CBOE to become the third most important exchange (254 million). While the ongoing migration of activity in German bond contracts to Eurex had a further negative impact on the fixed income business of LIFFE (118 million), the MATIF managed to stage a recovery, although this was largely the result of a reduction in the nominal size of equity contracts (188 million). It should be noted, however, that the dollar amount of transactions remains much higher on exchanges that trade high-value money market contracts (such as the CME and LIFFE) than on those specialising in longer-term instruments (such as the CBOT and Eurex).

Volumes on major exchanges

In millions of contracts traded



Sources: Futures Industry Association; FOW TRADEdata.

[1] Exchanges referred to in this box: CBOE: Chicago Board Options Exchange; CBOT: Chicago Board of Trade; CME: Chicago Mercantile Exchange; LIFFE: London International Financial Futures and Options Exchange; MATIF: Marché à Terme International de France; SIMEX: Singapore International Monetary Exchange; TIFFE: Tokyo International Financial Futures Exchange; TSE: Tokyo Stock Exchange. [2] Comparisons of activity between exchanges are usually made in terms of numbers of contracts traded. A more accurate basis for comparison would be the aggregate value of transactions by exchange, but such data are not widely available. The analysis in this box relies therefore on the aggregate turnover of financial contracts (including options on single equities) and non-financial products (largely on commodities).

by Deutsche Börse for the online listing of top European stocks.[9] These initiatives, and a number of other competing ones already under development, are threatening the niches of established exchanges in domestic stocks and derivatives, and are likely to hasten the creation of a pan-European stock market.

However, breaking into European markets could prove more difficult than has been the case in North America since most European exchanges have already developed fairly cost-efficient electronic trading platforms. In the United States, competition from online systems further encouraged stock and derivatives exchanges to list new electronically traded contracts and to consider changing from mutual-owned status to a more market-oriented governance structure. Derivatives exchanges now realise that, despite these measures, greater efforts will be required to ensure their survival. Such efforts are likely to focus on the exploitation of profit opportunities in areas where inefficiencies remain, such as in the integrated trading and clearing of cash and derivative instruments. Exchanges will also try to capitalise on the strength of their credit standing to attract business from lower-rated counterparties in OTC markets.

OTC instruments: calmer conditions and the euro dampen growth in the first half of 1999

In November 1999, the BIS released its semiannual statistics on positions in the global OTC derivatives market for end-June 1999. These statistics constitute the third set of data released under a new regular reporting framework on OTC market activity. They include the notional amounts and gross market values outstanding of the worldwide consolidated OTC derivatives exposure of major banks and dealers in the G10 countries (see the table on page 31 and Annex Tables 18 to 21).[10] After adjustment for double-counting resulting from positions between reporting institutions, the total estimated notional amount of outstanding OTC contracts stood at $81.5 trillion at end-June 1999, a 1% increase over the $80 trillion reported for end-December 1998.

The most striking development was a sharp reduction in foreign exchange contracts, a segment that had already begun to decline in the second half of 1998. At the same time, interest rate contracts continued to grow, albeit at a slower pace. Equity-linked contracts expanded modestly, while commodity contracts recovered following a contraction in the second half of last year. Interest rate instruments remain by far the largest component of the OTC market (66%), followed by foreign exchange products (18%) and those based on equities and commodities (with 2% and 0.5% respectively).

The slowdown in the growth rate of interest rate contracts (with growth of 8% compared with 18% in the previous period) was accounted for largely by swaps. In contrast, activity in FRAs and interest rate options accelerated. The expansion in business in the second half of 1998 appears to have been related to the unwinding of leveraged positions through offsetting contracts after the financial turbulence associated with the Russian debt moratorium.[11] If so, the reduced rate of growth seen in the first half of 1999 could be attributed to this unwinding having run its course. However, it also reflected the

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[9] Eurex was also considering an extension of its reach outside Germany and Switzerland by allowing remote clearing membership. Under such an arrangement, market participants would no longer have to operate through a German or Swiss clearing member. This initiative would further undermine the Euro-Alliance project.

[10] The notional amount, which is generally used as a reference to calculate cash flows under individual contracts, provides a comparison of market size between related cash and derivatives markets. Gross market value is defined as the sum (in absolute terms) of the positive market value of all reporters' contracts and the negative market value of their contracts with non-reporters (as a proxy for the positive market value of non-reporters' positions). It measures the replacement cost of all outstanding contracts had they been settled on 30 June 1999. The use of notional amounts and gross market values produces widely divergent estimates of the size of the overall market and of the various market segments.

[11] In the OTC market, while positions may be unwound by assignment or termination of the original contract, it is more common for this to be done through new contracts with the opposite positions.

The global over-the-counter (OTC) derivatives markets[1]

Amounts outstanding, in billions of US dollars

	Notional amounts			Gross market values		
	End-June 1998	**End-Dec. 1998**	**End-June 1999**	**End-June 1998**	**End-Dec. 1998**	**End-June 1999**
A. Foreign exchange contracts	**18,719**	**18,011**	**14,899**	**799**	**786**	**582**
Outright forwards and forex swaps	12,149	12,063	9,541	476	491	329
Currency swaps	1,947	2,253	2,350	208	200	192
Options	4,623	3,695	3,009	115	96	61
B. Interest rate contracts[2]	**42,368**	**50,015**	**54,072**	**1,160**	**1,675**	**1,357**
FRAs	5,147	5,756	7,137	33	15	12
Swaps	29,363	36,262	38,372	1,018	1,509	1,222
Options	7,858	7,997	8,562	108	152	123
C. Equity-linked contracts	**1,274**	**1,488**	**1,511**	**190**	**236**	**244**
Forwards and swaps	154	146	198	20	44	52
Options	1,120	1,342	1,313	170	192	193
D. Commodity contracts[3]	**451**	**415**	**441**	**38**	**43**	**44**
Gold	193	182	189	10	13	23
Other	258	233	252	28	30	22
Forwards and swaps	153	137	127	..	..	..
Options	106	97	125	..	..	..
E. Other[4]	**9,331**	**10,388**	**10,536**	**393**	**492**	**400**
Grand total	**72,143**	**80,317**	**81,458**	**2,580**	**3,231**	**2,628**
Gross credit exposure[5]				**1,203**	**1,329**	**1,119**
Memorandum item: Exchange-traded contracts[6]	*14,256*	*13,549*	*15,501*	..	..	..

[1] All figures are adjusted for double-counting. Notional amounts outstanding have been adjusted by halving positions vis-à-vis other reporting dealers. Gross market values have been calculated as the sum of the total gross positive market value of contracts and the absolute value of the gross negative market value of contracts with non-reporting counterparties. [2] Single-currency contracts only. [3] Adjustments for double-counting estimated. [4] For end-June 1998: positions reported by institutions participating in the triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity but not in the semi-annual surveys; for subsequent periods: estimated positions of these reporting institutions. [5] Gross market values after taking into account legally enforceable bilateral netting agreements. [6] Sources: FOW TRADEdata; Futures Industry Association; various futures and options exchanges.

introduction of the euro. The expansion of euro zone instruments slowed sharply relative to the previous reporting period (to 6% from 21%) as the introduction of the single currency eliminated interest rate arbitrage activity between the various legacy currency segments.

The pronounced contraction of activity in currency instruments (with the stock of open positions dropping by 17%) was accounted for by outright forwards and forex swaps and options. Again, the introduction of the euro was a determining factor. The stock of contracts involving euro area currencies declined by 35% in the first half of 1999. The reduction in historical and implied volatility in the dollar/yen currency pair, which had experienced unprecedented swings in the second half of 1998, was associated with a decline in contracts involving these two currencies. The main exception to this pattern of decline occurred in the area of cross-currency swaps, which increased modestly. This rise may have been related to strong primary market activity in global securities markets.

Calmer market conditions were reflected in a 19% drop in estimated gross market values in the first half of 1999 (to $2.6 trillion). Taking into consideration the increase in the overall stock of transactions, market values dropped from 4% to 3% of reported notional amounts. Such values exaggerate actual credit exposure since they exclude netting and other risk reducing arrangements. Allowing for netting, the derivatives-related credit exposure of reporting institutions was much smaller (at $1.1 trillion).

The absence of more recent statistical data makes it difficult to assess activity in the second half of 1999. Data released by the US Office of the Comptroller of the Currency (US OCC) on third quarter holdings of derivatives by US banks (largely made up of OTC contracts) showed an 8% increase in the notional value of contracts (to $36 trillion).[12] This largest increase since the third quarter of 1998 may have reflected banks' attempt to reduce vulnerability to uncertain conditions in the fourth quarter of the year. The fact that much of the growth took place at the short end of the yield curve would support this presumption. Credit derivatives experienced an even more pronounced expansion in the third quarter, rising by 11% ($234 billion). The rapid increases seen in recent years in that relatively new market segment have been attributed to progress made in the management of credit risk portfolios and the growing use of credit derivatives in securitisation. It should be noted, however, that activity in credit derivatives remains highly concentrated, with one bank accounting for almost 60% of the notional value of outstanding US contracts.

Anecdotal evidence concerning fourth quarter OTC activity paints a somewhat mixed picture. Although there was demand for millennium-related fixed income hedges and speculative trading strategies, most market operators probably pared down their positions ahead of the New Year. In the foreign exchange segment, concerns about Y2K are likely to have exacerbated the usual year-end slowdown.

[12] The series published by the US OCC are not fully comparable with those produced by the BIS because of differences in reporting methodologies.

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III. A look at trading volumes in the euro

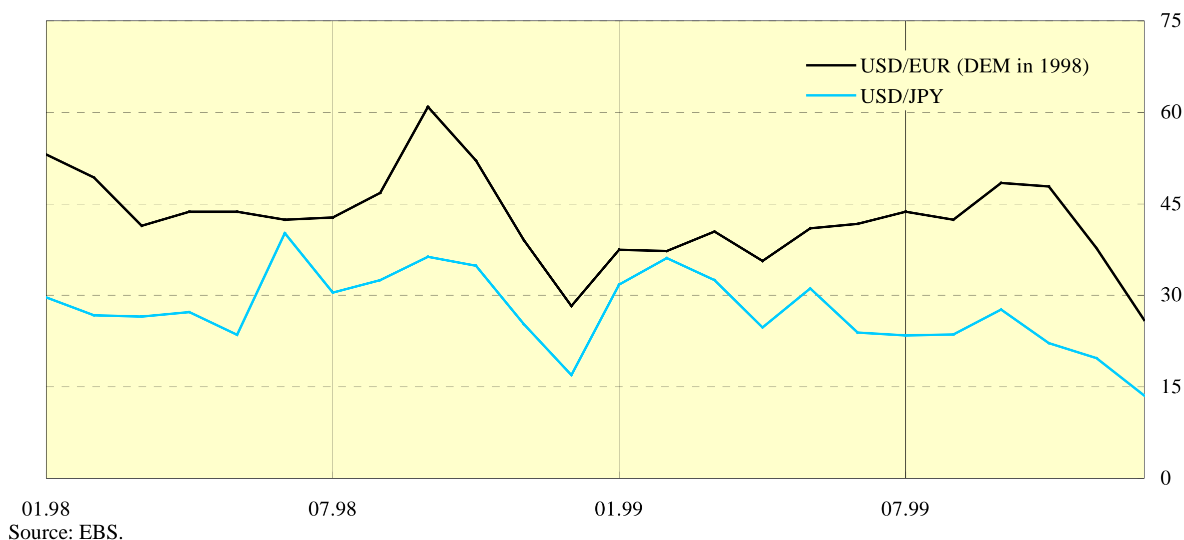
One year after the launch of the euro, it is interesting to gauge its importance as a transactions medium in the foreign exchange market. This role is important because of its implication for the euro's attractiveness to international investors. To that end, this note analyses information on trading volumes in different foreign exchange market segments.

The euro was introduced during a period of subdued FX market activity. Traders' responses to an informal survey indicate that the overall level of activity in 1999 was lower than in 1998. The fall in FX turnover accompanied a general reduction in financial market liquidity. In addition, it appears that the market share of the euro did not change substantially from that held by the mark in 1998. More specifically, the share of trading in euros against dollars in October 1999 was reported to have roughly matched that of dollar/mark trading in April 1998. Furthermore, the share of euro/yen trading accounts for only a small part of the total market. In the view of many market participants, the low liquidity of the euro/yen market has been a major disappointment. There is also some evidence of a slightly lower share of trading of dollars against yen. One conjecture is that the reduced importance of dollar/yen trading might be a symptom of the diminishing role of yen carry trades after the dramatic exchange rate movements in autumn 1998. Finally, it appears that the trading shares of sterling/dollar and sterling/euro have not changed significantly with respect to 1998.

Similar conclusions are suggested by electronically brokered spot trading volumes (see the graph below). Electronically brokered trading started to grow in 1995 (BIS (1997)). In April 1998, about 40% of spot market transactions in London were dealt through electronic brokers (BIS (1999)).

EBS spot foreign exchange turnover

Monthly averages of daily spot transactions, in billions of US dollars



Source: EBS.

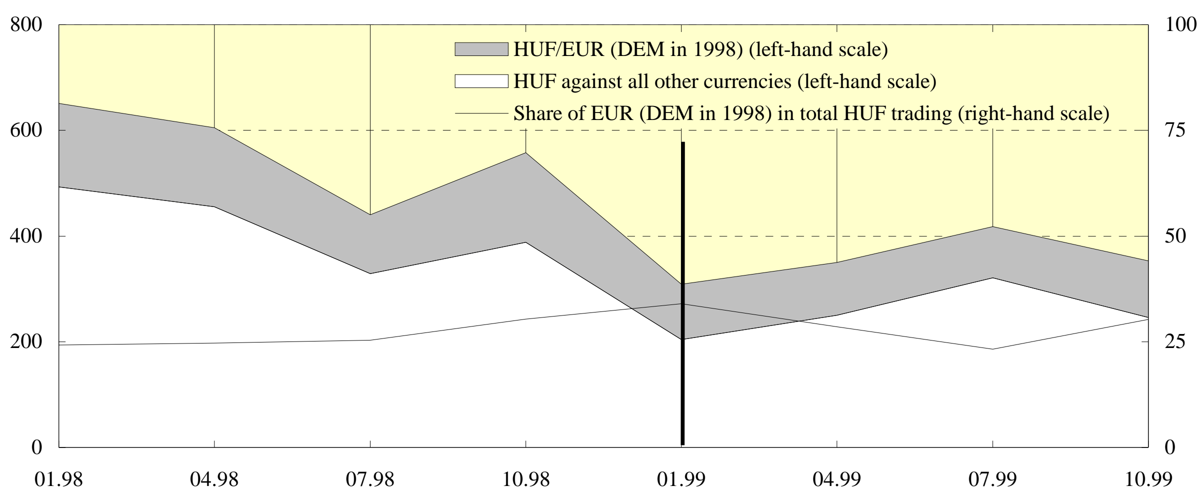
According to market sources this share increased substantially in 1999. Globally, about one third of all transactions involving the dollar, the yen and the euro are said to be currently effected through electronic brokers. Given that electronically brokered transactions cover only a part of FX markets, it would be misleading to use them as a proxy for total turnover.[13] Subject to this important caveat, however, they support the conclusion reached by looking at traders' informal estimates.

Another source of information on the role of the euro in FX markets is estimates of trading in emerging market countries. An important issue is whether traders in these countries will transact their home currency against the euro much more than they did against its predecessor currencies and whether the euro might threaten the dollar's dominant role. While FX markets in emerging market countries are still very small, data on these markets are interesting as qualitative information.

In those FX markets, the role of the euro so far seems similar to that of the mark, being confined mainly to eastern Europe. Hungary is an interesting case because until December 1998 it managed its exchange rate by reference to a currency basket heavily tilted towards the mark. Since January 1999, the euro has taken over this role. The graph below shows that, with a share of total trading involving the forint of about 25%, trading against the euro in 1999 was no higher than trading against the mark before January 1999.[14]

Foreign exchange market: Hungary

Left-hand scale: millions of US dollars per working day; right-hand scale: percentage shares



Source: National Bank of Hungary.

In emerging markets outside eastern Europe, the euro's role remains limited, as was that of the mark previously (Galati (1998)). In Thailand and Korea, for example, less than 1% of all transactions involving the domestic currency are conducted against the euro. In South Africa this fraction is only slightly higher than 1%. In Brazil, 85–90% of all trading of reais against foreign currencies is against the dollar.

[13] It may be misleading to gauge developments in total FX volumes from electronically brokered volumes alone for two reasons. First, part of the changes in volumes may be the result of the substantial increase in their market share over the last 18 months. Moreover, because of the fundamentally different price discovery processes of electronic brokering and other means of FX trading, a decrease in electronically brokered volumes may not reflect a reduction in liquidity.

[14] Moreover, when we consider transactions taking place in Hungary that do not involve the local currency, trading volumes for dollar/euro are not much larger than trading volumes for mark/dollar before 1999. It is interesting to note that local FX trading is still dominated by the dollar, which captures about 75% of total activity.

Our analysis suggests that the introduction of the euro has not to date caused major changes in FX market activity. The euro made its appearance at a time of reduced overall FX market volumes. In terms of its importance in FX trading, the new currency roughly matches the mark. This appears plausible given that the euro did not start with a "Big Bang". Rather, markets had been preparing for its arrival for several years, as the trends in trading of European cross rates through EBS shows (BIS (1998)). The next BIS triennial central bank survey of foreign exchange and derivatives market activity, scheduled for 2001, may be useful to test whether FX markets will by then have found a new norm.

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IV. Structural and regulatory developments

Initiatives by Basel-based committees and other groups

October

The Basel Committee on Banking Supervision (BCBS) released a methodology[15] for the assessment of countries' compliance with its Core Principles for Effective Banking Supervision, a set of 25 principles designed to establish a global standard for prudential regulation and supervision. The vast majority of countries with large financial systems have endorsed the core principles and have declared their intention to implement them. As a first step towards full implementation, countries should assess their current degree of compliance with the principles based on the above-mentioned methodology. The Committee sees the formulation of the methodology as an iterative process, with refinements made as experience is gained.

The BCBS and the Technical Committee of the International Organization of Securities Commissions (IOSCO) issued updated guidance to banks and securities firms on public disclosures in the areas of trading and derivatives.[16] The paper identified information which, if publicly disclosed, would assist markets and counterparties in undertaking sound risk assessment of financial institutions' trading and derivatives activities. The recommendations in the paper follow two main themes. First, institutions should provide users of their financial statements with a clear picture of their trading and derivatives activities. They should disclose meaningful summary information, both qualitative and quantitative, on the scope and nature of their trading and derivatives activities and illustrate how these activities contribute to their earnings and risk profiles. Second, institutions should disclose information produced by their internal risk measurement and management systems on their risk exposures and their actual performance in managing these exposures. Linking public disclosure to internal risk management processes would help ensure that disclosure keeps pace with innovations in risk measurement and management techniques.[17] The most recent recommendations supersede those issued by the two Committees in 1995 in connection with their first survey report on the trading and derivatives disclosures of banks and securities firms.

A working group established by the Committee on the Global Financial System (CGFS)[18] published a report on the strains experienced by global financial markets in the autumn of 1998.[19] The group assembled a large database on prices in a variety of markets, with an emphasis on indicators of credit

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15 See *Core Principles Methodology*, Basel Committee on Banking Supervision, Basel, October 1999; see also *Core Principles for Effective Banking Supervision*, Basel Committee on Banking Supervision, Basel, September 1997.

16 See *Recommendations for Public Disclosure of Trading and Derivatives Activities of Banks and Securities Firms*, Basel Committee on Banking Supervision and Technical Committee of the International Organization of Securities Commissions, Basel, October 1999.

17 However, financial market participants made it clear that legal and proprietary considerations would place limitations on the amount of information which it would be practicable to disclose.

18 The CGFS is a central bank forum established by the Governors of the G10 central banks to monitor and examine broad issues relating to financial markets and systems with a view to elaborating appropriate policy with regard to monetary and financial stability.

19 See *A Review of Financial Market Events in Autumn 1998*, Committee on the Global Financial System, Basel, October 1999.

risk and liquidity. Members of the group also interviewed market participants to obtain their assessment of conditions during the crisis and the response of their institutions to those conditions. The report surveys the key events of autumn 1998 and discusses the underlying mechanisms that seemed to drive these events, highlighting the withdrawal of market-making institutions from risk-taking in response to perceived increases in counterparty risk. It reviews the channels through which these processes fed on themselves and spread from one market to another. While the report refrains from making specific policy recommendations, it identifies issues raised by the crisis. These include: (i) shortcomings in the risk management techniques used by financial institutions, particularly as regards the relationship between credit risk, market price risk and liquidity risk; (ii) the need for greater transparency regarding large exposures in specific markets; and (iii) the need for central banks and other authorities to improve their monitoring and analysis of financial market developments.

November

The Joint Year 2000 Council[20] set up an information sharing platform (Market Authority Communication Services) to facilitate cross-border communication among financial market authorities during the Y2K changeover period. The services included maintaining up-to-date contact lists of regulators in major markets and collecting and disseminating information on the operational status of core components of the same markets. 176 institutions from 104 countries registered as participants and the services, which were provided through website and conference call facilities, were actively used for the whole period.

The Financial Stability Forum (FSF) established and issued terms of reference for two ad hoc working groups.[21] A task force was asked to examine ways of fostering the implementation of international standards relevant to the strengthening of financial systems, and a study group was asked to review recent experience with deposit insurance schemes and to consider setting out international best practice for such arrangements. Both groups are expected to report in March of this year.

The CGFS released a report identifying general principles and making specific policy recommendations relevant to the promotion of deep and liquid government securities markets.[22] The document was based on discussions within the Committee and on an earlier report analysing the determinants of market liquidity.[23] The note identifies five guiding principles for the design of deep and liquid markets: a competitive market structure; a low level of market fragmentation; low transaction costs; a sound, robust and safe market infrastructure; and heterogeneity of market participants. It also discusses five policy recommendations for government securities markets covering debt management strategies, taxation, transparency of issuance and trading information, trading rules and infrastructure, and the development of related markets.

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[20] The Joint Year 2000 Council was established in April 1998 and is sponsored by the BCBS, the CPSS, IOSCO and the IAIS.

[21] The FSF was initiated by G7 Ministers and Governors in February 1999, based on a recommendation by Hans Tietmeyer, then President of the Deutsche Bundesbank. The Forum is chaired in a personal capacity by Andrew Crockett, General Manager of the Bank for International Settlements, and comprises officials from developed and developing market economies, international financial institutions and supervisory groupings.

[22] See *How should we design deep and liquid markets? The case of government securities*, Committee on the Global Financial System, Basel, November 1999.

[23] See *Market Liquidity: Research Findings and Selected Policy Implications*, Committee on the Global Financial System, Basel, May 1999. The study, which was the result of a coordinated research effort by the central banks of Canada, Italy, Japan, the United Kingdom and the United States and the Bank for International Settlements, includes the results of a survey on the structure of government securities markets in the G10 countries and 18 individual research papers on various aspects of market liquidity.

December

The BCBS and the Technical Committee of IOSCO published their fifth annual survey on the public disclosure of trading and derivatives-related activities by major banks and securities firms in the G10 countries.[24] The exercise revealed that virtually all banks and securities firms covered by the survey disclosed information on market risk and their methods of managing it in their 1998 financial reports. Examples of common market risk information include model parameters and value-at-risk numbers generated by the models. While financial institutions generally provided information on credit risk management policies and credit exposures, information on credit risk measurement models was much less common. The majority of banks and securities firms also disclosed information on the management of liquidity and operational risk. The format of the survey was substantially updated and revised to reflect the October 1999 disclosure guidance.

The BCBS, IOSCO and the International Association of Insurance Supervisors (IAIS) announced the release of documents prepared by the Joint Forum.[25] The papers outline principles for banking, securities and insurance supervisors for ensuring the prudent management and control of risk concentrations and intra-group transactions and exposures. They form part of the compendium of documents published in February 1999 which deals with the supervision of financial conglomerates. These documents address some of the most important supervisory issues arising from the emergence of financial conglomerates and the blurring of distinctions between the activities of firms in each segment of the financial sector.

The Committee on Payment and Settlement Systems (CPSS) released for consultation *Core Principles for Systemically Important Payment Systems*. The report was prepared by a CPSS-appointed Task Force, consisting of payment system experts from 23 central banks as well as from the IMF and the World Bank. The report sets out core principles for the design and operation of systemically important payment systems and defines central bank responsibilities in applying these principles. The core principles establish a basic framework for the stable functioning of a country's payment systems. Robust and efficient payment systems are necessary to prevent systemic disruptions to financial systems, particularly in emerging markets.

Initiatives by European regulatory authorities and market participants

October

Euroclear, the Government Securities Clearing Corporation (GSCC) and the London Clearing House (LCH) announced plans for the creation of the European Securities Clearing Corporation (ESCC), a new entity for the netting of transactions in European bond markets and repurchase agreements. The facility will be based on LCH's RepoClear, a service launched in August 1999 that has so far only traded repos based on German government debt. The partners will establish cross-margining arrangements that would enable market participants to post collateral on one continent and trade on another. The agreement led GSCC and Euroclear to abandon an earlier plan to launch a separate European repo netting entity that would have competed with a facility to be introduced by Cedel and Deutsche Börse Clearing.

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[24] See *Trading and Derivatives Disclosures of Banks and Securities Firms – Results of the Survey of Public Disclosures in 1998 Annual Reports*, Joint Report by the Basel Committee on Banking Supervision and the Technical Committee of the International Organization of Securities Commissions (IOSCO), Basel, December 1999.

[25] See *Risk Concentration Principles* and *Intra-Group Transactions and Exposure Principles,* Joint Forum, Basel, December 1999. The Joint Forum was established in 1996 under the aegis of the BCBS, IOSCO and the IAIS to take forward the work of an earlier body, the Tripartite Group, in examining supervisory issues relating to financial conglomerates. It comprises an equal number of bank, insurance and securities supervisors from 13 countries.

A group of experts from the financial industry (the Giovanini Group) proposed that the European Commission help remove some of the barriers to cross-border trading in repurchase agreements.[26] The group's report noted that in spite of a satisfactory functioning of domestic repo markets, continent-wide activity was hampered by the fragmentation of the infrastructure (particularly clearing and settlement) and differences in market practices, fiscal treatments and legal frameworks.

November

The European Commission launched a round of consultations on a new capital adequacy framework for banks and investment firms. A consultative paper prepared by the Commission's services identifies a number of areas for consideration, notably credit risk, supervisory review and market discipline. The exercise complements a consultation procedure undertaken by the BCBS, which was launched on 3 June 1999. However, the European framework will cover a broader range of entities than the Basel rules, which are aimed only at large internationally active institutions. Moreover, the document proposes that the new capital adequacy framework be preferably based on internal credit ratings, in contrast to the BCBS scheme which would give banks the possibility of using either internal or external ratings. The deadline for comments was set at 31 March 2000.

Initiatives by US regulatory authorities and market participants

October

The US Securities and Exchange Commission (SEC) gave four US exchanges specialising in equity options a period of 90 days to submit a plan for the electronic linkage of their markets. Regulators are increasingly concerned that multiple listings could result in a dilution of liquidity. They believe that such an inter-market link would be critical in ensuring best execution of customer orders. However, the establishment of such a link will be complicated by the fact that exchanges have independently developed their own electronic systems. Competition in the market for equity options intensified during the summer as exchanges abandoned a tacit non-competition agreement that prohibited the multiple listing of most options. It is likely to intensify in the year 2000 with the introduction in the United States of the International Securities Exchange, an electronic facility for the trading of stock options.

November

The US President's Working Group on Financial Markets published its report on the OTC derivatives market.[27] The group recommended a number of changes to the Commodities Exchange Act (CEA – the legislation that governs the Commodity Futures Trading Commission (CFTC)), including the exclusion from the CEA of bilateral swap agreements by sophisticated market participants (other than in non-financial commodities with finite supply). The group agreed that there was no compelling evidence of problems involving bilateral swap agreements that would warrant regulation under the CEA. It noted that the sophisticated counterparties using OTC derivatives did not require the same protection under the CEA as that required by retail investors. It also argued that most of the dealers in the swap market were either affiliated with broker-dealers or were regulated by one of the relevant regulatory agencies. Lastly, the report supported improvements to legal certainty in several areas such as the electronic trading of OTC instruments, clearing houses for OTC products and hybrid securities.

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[26] See *The EU repo markets: opportunities for change*, October 1999.

[27] *Over-the-Counter Derivatives Markets and the Commodities Exchange Act*, US Commodity Futures Trading Commission, US Federal Reserve Board, US Securities and Exchange Commission and US Treasury, Washington, DC, November 1999. See also the detailed summary contained in *Swaps Monitor*, New York, 15 November 1999.

The CFTC voted to allow US futures exchanges to list new futures and options contracts without its prior approval. Exchanges will be able to list new contracts one day after having filed a description of their terms and conditions. The measure will enable the exchanges to rapidly respond to the introduction of new products by their competitors. It also submitted for public comment proposals for similar liberalisation concerning amendments in exchanges' trading rules. The CFTC would retain the authority to subsequently disapprove or alter new contracts or trading rules, but transactions already concluded would remain valid.

The US General Accounting Office released a report on the lessons learned from the near-collapse of Long-Term Capital Management (LTCM).[28] One of the main conclusions of the report is that financial regulators need to coordinate better their oversight of high-risk activities undertaken by institutions operating across the various areas of regulatory responsibility. The report noted that the LTCM crisis showed that the traditional focus of US regulators on individual institutions and markets was not adequate to identify potential systemic threats that can arise from non-regulated entities. It also highlighted that the banks and securities firms that were LTCM's direct creditors and counterparties had failed to enforce their own risk management standards. Lastly, it mentioned that the "regulatory gap" had become more significant due to the growing share of financial assets held outside regulated entities. Thus, it recommended direct regulation of unregistered affiliates of securities and derivatives firms by the SEC and the CFTC.

[28] See *Long-Term Capital Management: Regulators Need to Focus Greater Attention on Systemic Risk*, Washington, DC, November 1999.

Chronology of major structural and regulatory developments

Month	*Body*	*Initiative*
October 1999	Basel Committee on Banking Supervision	• Release of *Core Principles Methodology*
	Basel Committee on Banking Supervision / International Organization of Securities Commissions	• Release of *Recommendations for Public Disclosure of Trading and Derivatives Activities of Banks and Securities Firms*
	Committee on the Global Financial System	• Release of *A Review of Financial Market Events in Autumn 1998*
	Giovanini Group	• Release of *The EU repo markets: opportunities for change*, a report recommending removal of barriers to cross-border trading in repos
	Euroclear, Government Securities Clearing Corporation, London Clearing House	• Plans are announced for the creation of the European Securities Clearing Corporation
	US Securities and Exchange Commission	• SEC requests US equity options exchanges to submit a plan for the electronic linkage of their markets.
November 1999	European Commission	• Round of consultations on a new capital adequacy framework is launched
	Committee on the Global Financial System	• Release of *How should we design deep and liquid markets? The case of government securities*
	US President's Working Group on Financial Markets	• Release of *Over-the-Counter Derivatives Markets and the Commodities Exchange Act*
	US Commodity Futures Trading Commission	• Futures exchanges allowed to list new futures and options contracts without prior CFTC approval
	US General Accounting Office	• Release of *Long-Term Capital Management: Regulators Need to Focus Greater Attention on Systemic Risk*
	Financial Stability Forum	• Formation of two ad hoc working groups
December 1999	Committee on Payment and Settlement Systems	• Release for consultation of *Core Principles for Systemically Important Payment Systems*
	Basel Committee on Banking Supervision / International Organization of Securities Commissions	• Release of *Trading and Derivatives Disclosures of Banks and Securities Firms – Results of the Survey of Public Disclosures in 1998 Annual Reports*
	Joint Forum	• Release of *Intra-Group Transactions and Exposure Principles* and *Risk Concentration Principles*