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**BIS QUARTERLY REVIEW**

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**August 1999**

**INTERNATIONAL BANKING AND  
FINANCIAL MARKET DEVELOPMENTS**

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**BANK FOR INTERNATIONAL SETTLEMENTS**  
Monetary and Economic Department  
Basel, Switzerland

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## List of recent BIS publications

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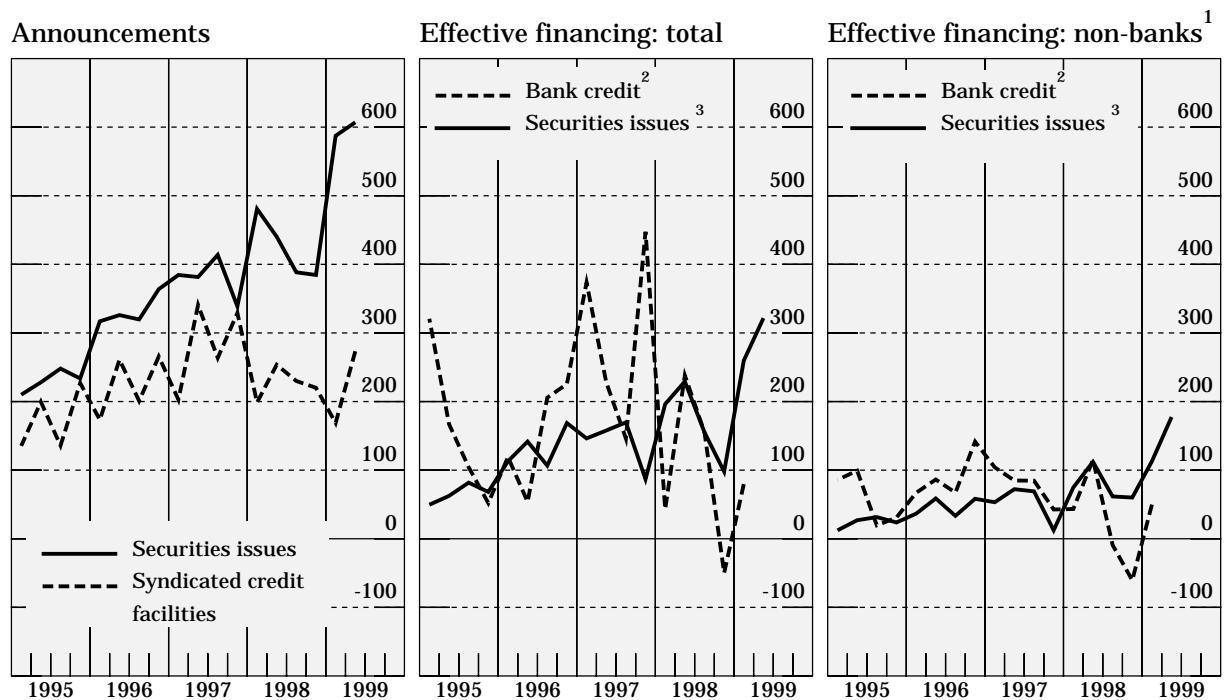
# I

## Overview of recent international banking and financial market developments

A measure of stability returned to global financial markets during the *second quarter of 1999* as credit and liquidity spreads tended to settle between crisis and pre-crisis levels. At the same time, global bond markets witnessed an unusual degree of decoupling between US and European long-term yields, with the 10-year yield differential widening to nearly 150 basis points in June. While signs of inflationary pressures and a bias towards tightening by the US Federal Reserve pushed up US bond yields sharply, sluggish economic growth and an anticipation of monetary easing in the euro area mitigated the increase in European yields. The general rise in long-term interest rates dampened equity markets only temporarily, and the quarter ended with strong stock market rallies (see the graph on page 23).

### Activity in international bank credit and securities markets

In billions of US dollars



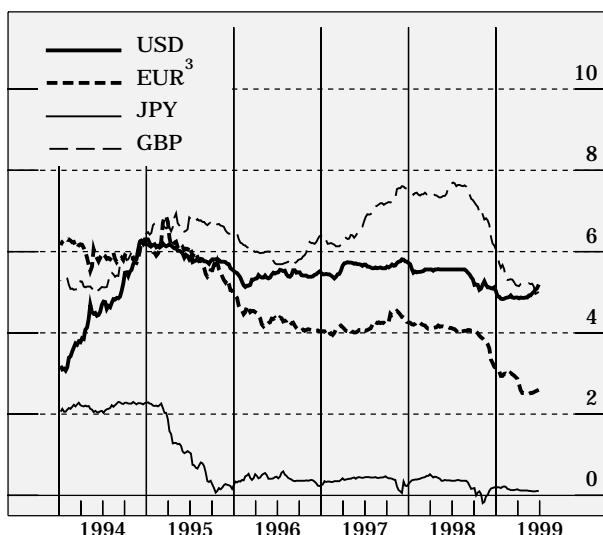
<sup>1</sup> Excluding non-bank financial institutions for securities issues. <sup>2</sup> Exchange-rate-adjusted changes in gross international bank claims. <sup>3</sup> Gross issues minus repayments.

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

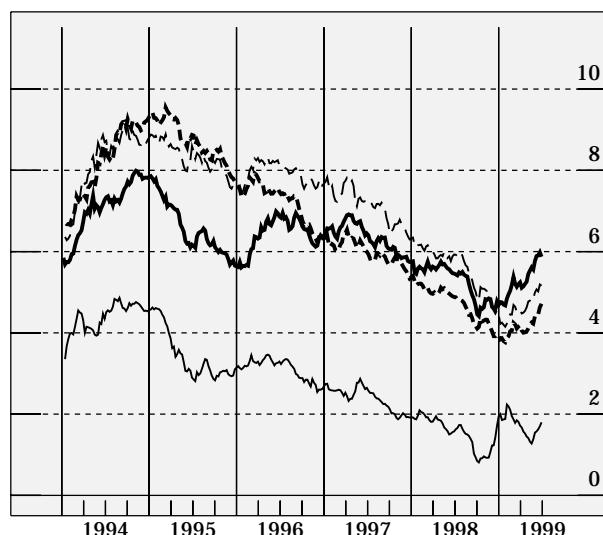
## Short- and long-term interest rates and exchange rates

Weekly averages, in percentages

### Short-term rates<sup>1</sup>

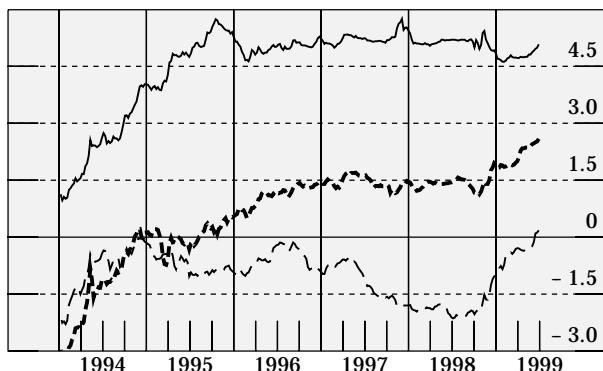


### Long-term rates<sup>2</sup>

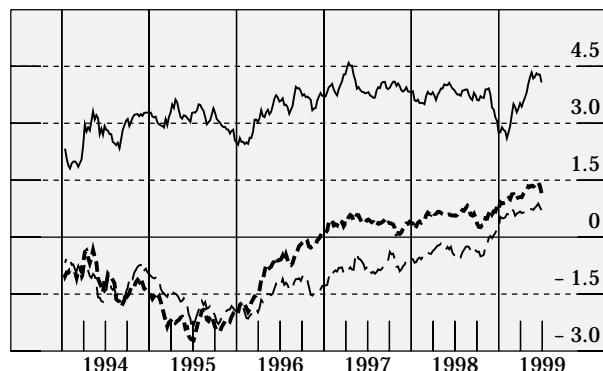


### Interest rate differentials

#### Short-term differentials<sup>4</sup>

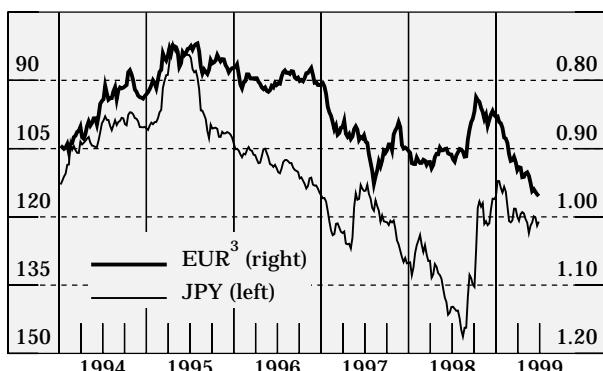


#### Long-term differentials<sup>5</sup>

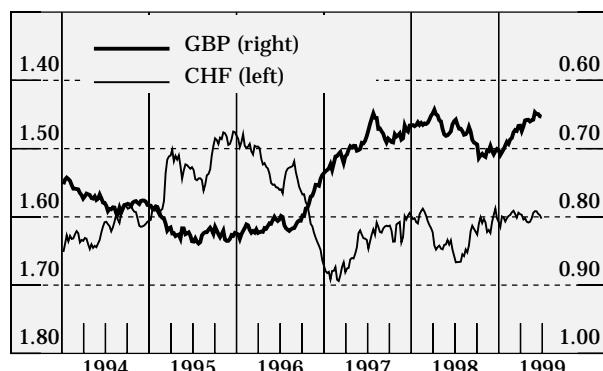


### Bilateral exchange rates

#### Vis-à-vis the US dollar



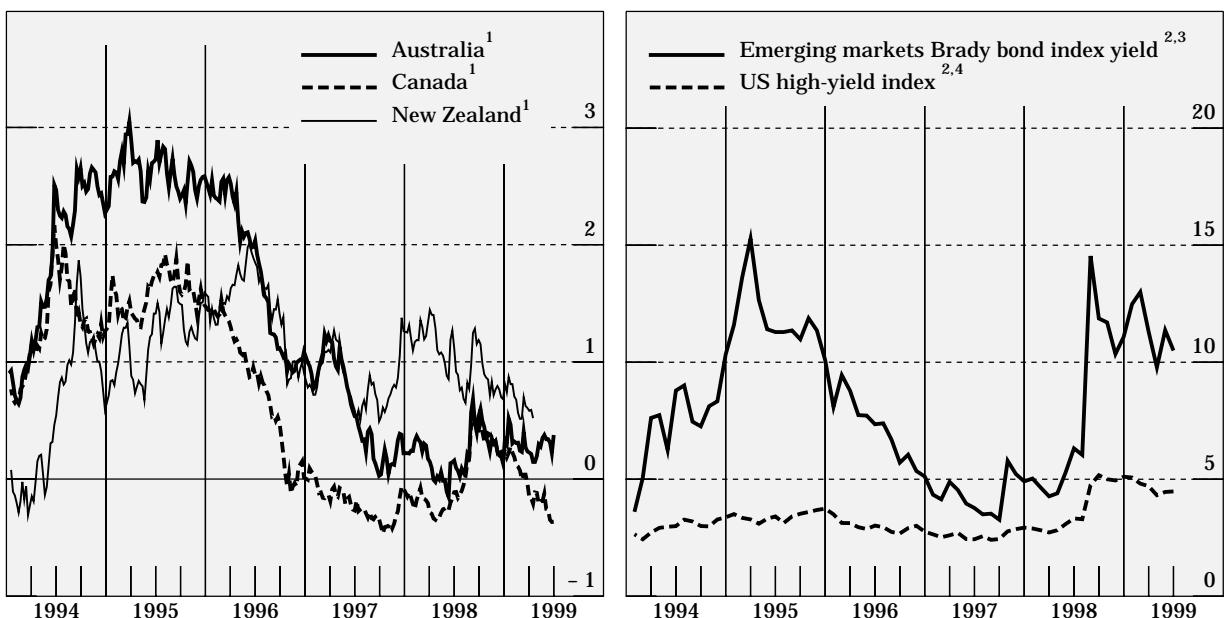
#### Vis-à-vis the euro<sup>3</sup>



<sup>1</sup> Three-month euromarket interest rates. <sup>2</sup> Yields in annual terms on the basis of 10-year benchmark government bonds. <sup>3</sup> ECU before 1999. <sup>4</sup> Spread of US short rate over short rates in other currencies. <sup>5</sup> Spread of US 10-year benchmark bond yield over equivalent benchmark yields in other currencies.

Sources: Datastream; national data; BIS.

## Yield differentials vis-à-vis US long-term benchmarks



<sup>1</sup> Weekly averages, in percentage points; <sup>2</sup> 10-year yield less the US 10-year Treasury yield. <sup>3</sup> Yield stripped of collateral backing less the US 30-year Treasury yield. <sup>4</sup> Sub-investment-grade corporate bond yield less the US 30-year Treasury yield.

Sources: Datastream; JP Morgan; Merrill Lynch; national data; BIS.

In currency markets, positions in risk reversals (see the graph on page 31) suggested a modest but persistent bias in the worries of market participants towards a strong appreciation of the yen against the dollar, but no particular concern about a sharp weakening of the euro.<sup>1</sup> These views were unusual given the lack of a clear trend in the yen and the slide of the euro during the quarter.<sup>2</sup> While reports of official intervention in mid-June may have staved off the appreciation of the yen, options traders evidently thought that upward pressures on the yen would continue. During the same period, the currencies of emerging markets in Asia regained stability against a background of economic recovery.

There was a record volume of international securities issues in the second quarter of 1999. Moreover, a drop in repayments meant a significant increase in net financing flows as well. Despite the global rise in long-term interest rates, activity continued to be supported by the ongoing wave of mergers and acquisitions, the rapid development of securities markets in Europe, attempts by banks to strengthen their balance sheets and the return of emerging market names. Concerns about increases in interest rates induced a partial shift by international investors to floating rate assets. However, the appetite for higher yields and riskier credit structures strengthened. While the US dollar once again continued to be the main currency of issuance, it lost further ground to euro-denominated securities.

<sup>1</sup> See the box at the end of Part I for a description of risk reversals.

<sup>2</sup> Historically, participants in currency options have tended to extrapolate exchange rate trends into expectations of a sharp adjustment in the same direction. See JM Campa, PHK Chang and RL Reider, "Implied exchange rate distributions: Evidence from OTC options markets", *NBER Working Paper 6179*, 1997 and R McCauley and W Melick, "Risk reversal risk", *Risk*, November 1996.

### Estimated net financing in international markets<sup>1</sup>

In billions of US dollars

	1997		1998			1999		Stocks at end-Mar. 1999
	Year	Year	Q2	Q3	Q4	Q1	Q2	
Total international <sup>2</sup> bank claims <sup>3</sup>	1,195.5	386.6	238.2	155.2	- 49.9	79.7	..	10,710.7
minus: interbank redepositing	730.5	276.6	138.2	100.2	45.1	- 50.3	..	5,190.7
<b>A = Net international bank claims<sup>3</sup></b>	<b>465.0</b>	<b>110.0</b>	<b>100.0</b>	<b>55.0</b>	<b>- 95.0</b>	<b>130.0</b>	<b>..</b>	<b>5,520.0</b>
<b>B = Net money market instruments</b>	<b>14.8</b>	<b>9.8</b>	<b>0.1</b>	<b>10.8</b>	<b>- 11.5</b>	<b>35.3</b>	<b>- 7.3</b>	<b>228.7</b>
Total completed bond and note issues	1,005.7	1,137.6	321.6	252.2	253.0	381.2	443.7	
minus: redemptions and repurchases	459.9	468.8	92.5	108.0	143.6	156.9	114.8	
<b>C = Net bond and note financing</b>	<b>545.8</b>	<b>668.8</b>	<b>229.1</b>	<b>144.2</b>	<b>109.4</b>	<b>224.4</b>	<b>..</b>	<b>4,198.5</b>
<b>D = Total international financing<sup>4</sup></b>	<b>1,025.6</b>	<b>788.6</b>	<b>329.2</b>	<b>210.1</b>	<b>2.9</b>	<b>389.7</b>	<b>..</b>	<b>9,947.3</b>
minus: double-counting <sup>5</sup>	150.6	223.6	74.2	60.1	2.9	74.7	..	1,392.3
<b>E = Total net international financing</b>	<b>875.0</b>	<b>565.0</b>	<b>255.0</b>	<b>150.0</b>	<b>0.0</b>	<b>315.0</b>	<b>..</b>	<b>8,555.0</b>

<sup>1</sup> Changes in amounts outstanding excluding exchange rate valuation effects for banking data and euronote placements; flow data for bond financing. <sup>2</sup> Cross-border claims in all currencies plus local claims in foreign currency. <sup>3</sup> Including holdings of securities.

<sup>4</sup> A + B + C. <sup>5</sup> International securities purchased or issued by the reporting banks, to the extent that they are taken into account in item A.

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

In the area of derivatives, exchange-traded business rose only slightly in the second quarter, but the proliferation of online dealing systems began to have significant repercussions on market activity and structure. Such electronic channels may improve the efficiency and transparency of markets, but they are likely to increase their fragmentation. Moreover, their rapid expansion is raising a number of questions regarding surveillance and jurisdictional authority.

The global wave of corporate restructuring also led to a rebound in announcements of syndicated loan facilities in the second quarter of 1999. The detailed BIS international banking statistics available for the first quarter show that the stock of international bank credit outstanding recovered during this period, following a contraction in the final quarter of 1998. However, this recovery masked contrasting developments. There was, on the one hand, a massive retrenchment of Japanese banks from the international interbank market, combined with a further reduction in banks' exposure to emerging markets and the disappearance of the need for interbank lines to support foreign exchange business between euro area legacy currencies. On the other hand, activity was supported by cross-border trading and investment in securities, especially within Europe. A catching-up of business immediately after the introduction of the single currency, following a reluctance by banks to initiate new transactions in legacy currencies before the transition, was another supportive influence. Nevertheless, longer-term analysis will be needed to assess the underlying impact of the euro on the international banking market. A third factor underlying growth was the reflow of non-bank deposits, which facilitated the recovery in bank credit.

In the main, notwithstanding the rapid containment of the Brazilian crisis, a sense of caution continued to prevail in the global financial community in the second quarter of 1999. This caution helped sustain the momentum for initiatives dealing with global financial crises. Thus, in April the Executive Board of the International Monetary Fund approved the creation of Contingent Credit Lines (CCLs) for IMF member countries as a readily available precautionary defence against balance-of-payments problems

arising from international financial contagion.<sup>3</sup> In May, the Financial Stability Forum<sup>4</sup> issued terms of reference for three ad hoc working groups. The first will recommend actions to reduce the destabilising potential of highly leveraged institutions; the second will evaluate measures for avoiding excessive reliance on volatile short-term capital flows; and the third will assess the progress made by financial offshore centres in enforcing international prudential standards and the exchange of information.<sup>5</sup> At the June summit in Cologne, the G8 presented a number of proposals aimed at better management of global capital flows and financial crises. These include support for the IMF's new CCLs; greater use of market-based tools to involve the private sector in forestalling, preventing and resolving crises (including through collective action clauses in sovereign debt contracts); and agreement on a broad framework for involving the private sector in crisis resolution. The group also said that it attached importance to a strengthening of the governance structure of international financial organisations.<sup>6</sup>

The quarter also saw the publication of two reports proposing improvements to risk management and disclosure in the wake of the Russian crisis and the near-collapse of Long-Term Capital Management (LTCM). In April, the US President's Working Group on Financial Markets released the "Rubin Report".<sup>7</sup> The Group recommended measures to constrain excessive leverage, but did not endorse direct regulation of currently unregulated market participants. In June, the Counterparty Risk Management Policy Group published the "Corrigan-Thieke Report".<sup>8</sup> It recommended improvements in market-wide practices and conventions; the compiling of information on new practices; and, where appropriate, the sharing of information with regulators. The Group believes that its recommendations represent the basis for a significant further enhancement of risk management practices which will, in turn, help strengthen market discipline related to counterparty and market risk management.

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<sup>3</sup> The CCLs are intended to create incentives for countries to adopt strong policies and adhere to internationally accepted standards by encouraging the constructive involvement of the private sector and signalling the IMF's willingness to provide financing to a member country should it be struck by contagion.

<sup>4</sup> The Financial Stability Forum was initiated by the G7 Ministers and Governors in February this year, based on a recommendation by Hans Tietmeyer, President of the Deutsche Bundesbank. The Forum is chaired by Andrew Crockett, General Manager of the Bank for International Settlements.

<sup>5</sup> The working groups comprise officials of developed and developing market economies, international financial institutions and supervisory groupings. They will draw on work completed or under way in various public and private sector forums and will report on their work to the Forum's next meeting in September.

<sup>6</sup> Inter alia, by giving the Interim Committee of the IMF permanent status as the "International Financial and Monetary Committee" and by further improving IMF surveillance and programmes.

<sup>7</sup> *Hedge funds, leverage and the lessons of Long-Term Capital Management*, Report by the President's Working Group on Financial Markets, Washington, April 1999.

<sup>8</sup> *Improving counterparty risk management practices*, Counterparty Risk Management Policy Group, New York, June 1999. The Group was established in January 1999 by 12 major internationally active commercial and investment banks in order to respond to the concerns of US legislators following the financial turbulence of 1998.

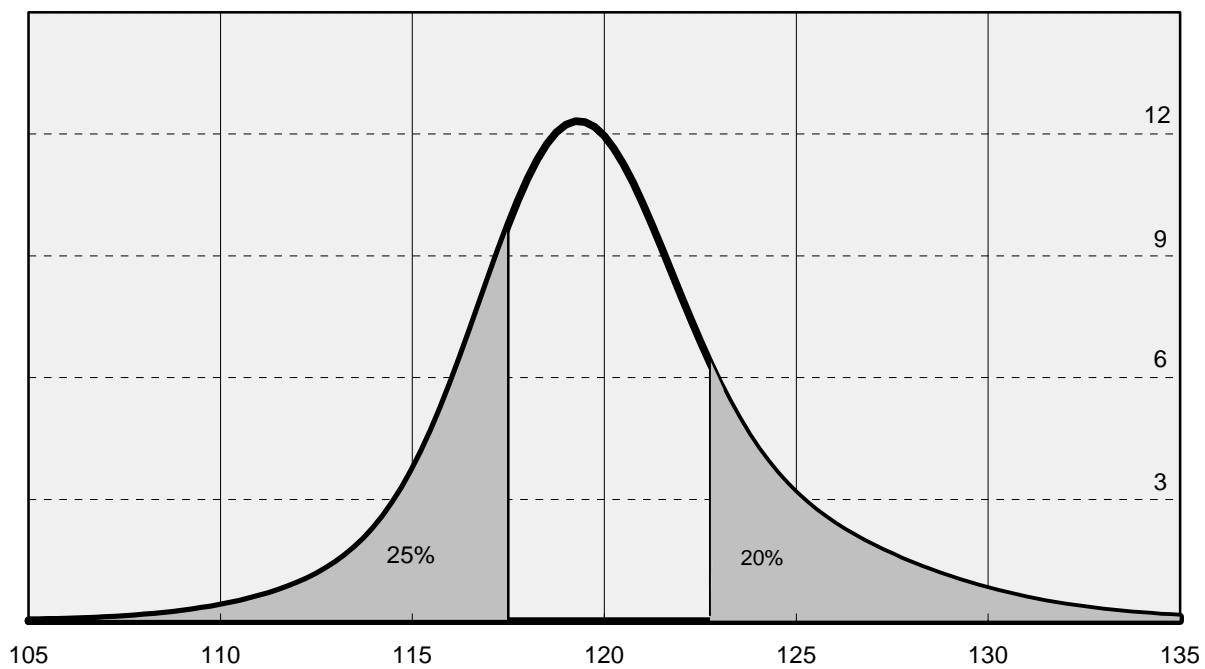
### Trading skewness in the currency market<sup>①</sup>

In recent years, the OTC market for currency derivatives has seen the development of “risk reversals”, instruments that specifically price the “skewness of tail risk”. This skewness refers to the asymmetry between the risk of large price movements in one direction and that of equivalently large movements in the other direction. Risk reversals can be used to trade skewness in the same way that options can be used to trade volatility. Indeed, a risk reversal simply combines opposite positions in two options. Buying a risk reversal is equivalent to buying a call and selling a put where both options are deeply and equally out-of-the-money. In the foreign exchange market, risk reversal prices are particularly useful indicators of whether market participants are more concerned about an extraordinary movement in one direction than in the other.

Interpreting risk reversals requires a grasp of the peculiar language of the OTC market for currency options. Quotes in this market reflect two conventions. First, options prices are quoted in terms of volatility, the most critical factor in option valuation. Although a currency option’s price also depends on the spot exchange rate and on interest rates in the two currencies involved, these other factors are determined largely outside the options market. In the specific case of risk reversals, prices are quoted in terms of the *difference* between the volatilities of the embedded call and put options. Second, strike prices are specified in terms of “delta”, which measures the sensitivity of an option’s value to the price of the underlying asset and depends on how close the option is to the money. An at-the-money option would have a delta of 0.5, a deeply out-of-the-money option a delta close to zero, and a deeply in-the-money option a delta close to one. Market participants are able to communicate effectively in these terms because they use a common translation device – the Garman-Kohlhagen equation, a well-known pricing formula for currency options.<sup>②</sup>

### One month ahead probability distribution for the yen/dollar on 16 June 1999

In JPY per USD and % probability



Source: Reuters; BIS calculations.

<sup>①</sup> This box was contributed by Eli Remolona and Robert Scott. <sup>②</sup> See Garman and Kohlhagen (1983). Note that for actual valuation purposes, dealers are likely to use their own modified versions rather than the original equation. Nonetheless, the original equation serves as a useful communicating device.

The Reuters British Bankers' Association page for currency options on 16 June 1999, for example, shows a one-month risk reversal for the yen/dollar quoted at "0.46 for 25 delta". Here, "0.46" is the difference between the volatilities of the call and put options that form the risk reversal. The fact that 0.46 is positive means the call is more valuable than the put. In other words, it is more expensive to hedge against a strong appreciation of the yen against the dollar than to hedge against the opposite movement. The "25 delta" in the quote leaves out a decimal point and specifies a strike price equivalent to a delta of 0.25.

To translate risk reversal quotes into actual prices requires information on an additional instrument called a "strangle". Buying this instrument is equivalent to buying *both* a call and put, rather than buying one and selling the other as in the case of a risk reversal. Strangles are typically traded at the same deltas as risk reversals. The price of a strangle is quoted in terms of the *average* of call and put volatilities (often expressed as a spread over the at-the-money volatility) rather than the difference between the two volatilities. Both this average and the difference allow the calculation of two separate volatilities, one for the call and one for the put.<sup>③</sup> The individual volatilities, the delta and information on the forward exchange rate and interest rate can then be translated into options prices through the Garman-Kohlhagen equation.

Under certain conditions, risk reversals allow the extraction of probabilities attached by market participants to large price movements. In fact, the entire probability distribution can be extracted assuming risk neutrality (that is, that options are priced as fair bets) and given sufficient assumptions about the shape of the distribution. McCauley and Melick (1996), for example, assume that this distribution has the shape of a mixture of two lognormal distributions. Since risk neutrality means options prices would correspond to their expected exercise values, McCauley and Melick then find the mixture of lognormals that makes these expected values approximate actual options prices most closely.

Applying a similar methodology to yen/dollar options on 16 June 1999 gives us the above chart. The area under the curve between any two points reflects the probability that the spot exchange rate will fall within that range. The horizontal axis represents possible outcomes for the spot rate at the maturity of the contract, and the vertical axis represents probability. However, in order to infer the probability for any particular movement, it is necessary to be able to estimate the area under the curve. For example, the strike prices for 25 delta puts and calls on 16 June 1999 were 122.8 and 117.4 respectively. The probability associated with a rise in the yen to 117.4 or above, according to the estimate of the risk-neutral density function, was 25%. Conversely, the probability of a fall in the yen to below 122.8 was 20%.

The difference in probabilities for the 25 delta risk reversal shows that market participants were biased towards a possible dramatic appreciation of the yen. This bias in expectations was typical of the three-month period leading up to 16 June, during which the actual exchange rate did not show a clear trend. Such a bias in expectations represents a break from the usual pattern documented by McCauley and Melick (1996) and Campa, Chang and Reider (1997), who find that the currency market tends to form expectations of large movements by extrapolating the recent trend in the exchange rate.

#### References:

- Campa, JM, PHK Chang and RL Reider (1997): "Implied exchange rate distributions: Evidence from OTC options markets", *NBER Working Paper 6179*.
- Garman, MB and SW Kohlhagen (1983): "Foreign currency option values", *Journal of International Money and Finance*, 2, pp. 231-37.
- Malz, A (1996): "Using option prices to estimate ex ante realignment probabilities in the European Monetary System: The case of sterling-mark", *Journal of International Money and Finance*, 15, pp. 717-48.
- McCauley, R and W Melick (1996): "Risk reversal risk", *Risk*, November.

<sup>③</sup> Malz, A (1996) explains these quote conventions and derives the implied volatilities as follows: (1) call volatility = at-the-money (ATM) volatility + strangle quote + 0.5(risk reversal quote); (2) put volatility = ATM volatility + strangle quote - 0.5(risk reversal quote).

## II

### The international banking market

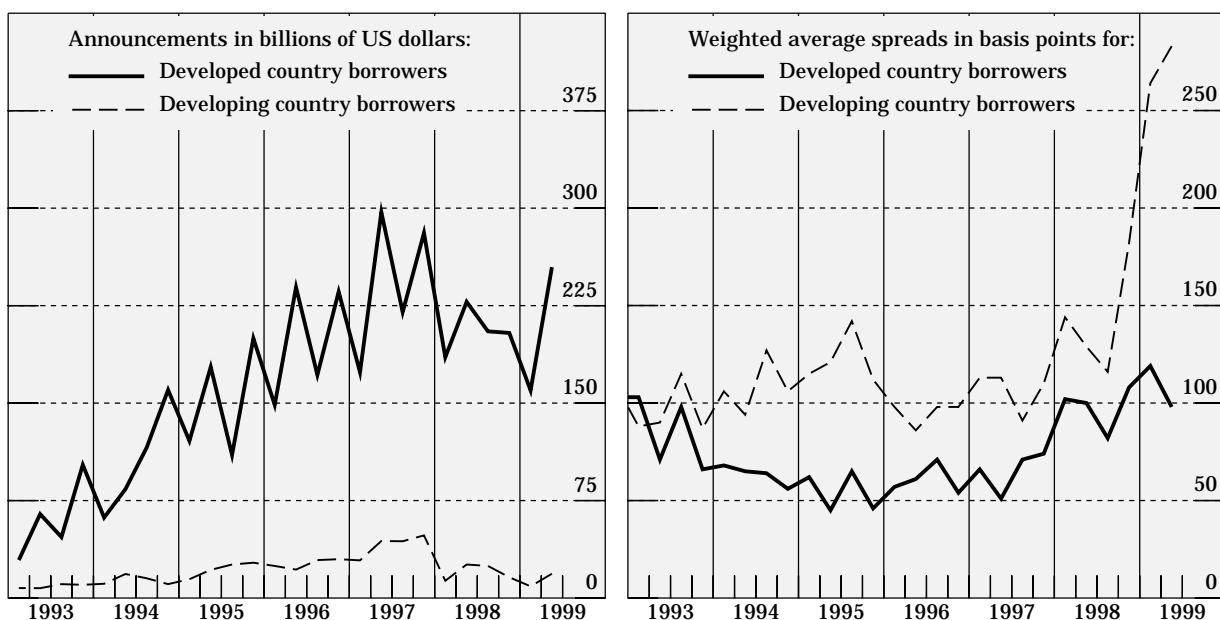
#### Overview

A rebound in the international syndicated loan market during the *second quarter of 1999* was driven largely by a global wave of corporate restructuring. Announced facilities reached \$273 billion, a 62% rise from the first quarter. However, the second quarter tends to generate many more deals than the first, and this latest surge was not exceptionally strong. The difference this time was that acquisition finance accounted for 22% of the business, a relatively large share. The biggest deal by far was a €22.5 billion facility supporting the hostile takeover of Telecom Italia by Olivetti. In one of the largest syndicated loans ever for an Asian company, Japan Tobacco obtained \$5 billion in bridge facilities for its purchase of RJR International.

The surge in acquisition-related facilities, a segment that had slowed somewhat after the Russian crisis, underlines a renewed appetite for risk on the part of the world's largest banks. The compensation for this risk was reflected in a weighted average spread on such facilities of 180 basis points, compared to 80 basis points for other developed country borrowers. Lenders adopted a similar attitude to emerging markets, for which announced facilities doubled to \$14 billion. The average spread for emerging market borrowers rose to 283 basis points, but this reflected in part new access to the market by Latin American names. Two of the largest emerging market facilities, for example, were arranged for Brazilian power utilities at spreads exceeding 800 basis points.

Detailed data available for the *first quarter of 1999* show that the stock of international bank credit outstanding recovered during this period (+\$80 billion), following the fall recorded in the fourth quarter of 1998 (-\$50 billion). This confirms market reports of limited repercussions from the Brazilian crisis in January. Indeed, the increase in total credit outstanding in the first quarter of 1999 concealed a major retrenchment in the international presence of Japanese banks (-\$192 billion; see

**Announced facilities in the international syndicated credit market and  
weighted average spreads\***



\* Spreads over Libor on US dollar credits.

Sources: Capital DATA; BIS.

## Main features of international claims of BIS reporting banks<sup>1</sup>

In billions of US dollars

	1997		1998				1999	Stocks at end-Mar. 1999
	Year	Year	Q1	Q2	Q3	Q4	Q1	
<b>Claims on outside area countries</b>	<b>100.4</b>	<b>– 31.4</b>	<b>– 4.5</b>	<b>– 4.9</b>	<b>– 25.9</b>	<b>3.8</b>	<b>– 11.8</b>	<b>1,180.1</b>
<b>Claims on inside area countries</b>	<b>1,100.0</b>	<b>414.8</b>	<b>33.5</b>	<b>233.6</b>	<b>202.3</b>	<b>– 54.4</b>	<b>28.4</b>	<b>9,228.2</b>
Claims on non-banks	242.6	87.4	27.9	102.7	8.3	– 51.5	34.9	2,869.8
Banks' borrowing for local onlending <sup>2</sup>	126.9	50.8	12.5	– 7.3	93.8	– 48.0	43.8	1,167.7
Interbank redepositing	730.5	276.6	– 6.9	138.2	100.2	45.1	– 50.3	5,190.7
<b>Unallocated</b>	<b>– 4.9</b>	<b>3.2</b>	<b>14.1</b>	<b>9.5</b>	<b>– 21.2</b>	<b>0.7</b>	<b>63.1</b>	<b>302.4</b>
<b>Gross international bank claims</b>	<b>1,195.5</b>	<b>386.6</b>	<b>43.1</b>	<b>238.2</b>	<b>155.2</b>	<b>– 49.9</b>	<b>79.7</b>	<b>10,710.7</b>
<b>Net international bank claims<sup>3</sup></b>	<b>465.0</b>	<b>110.0</b>	<b>50.0</b>	<b>100.0</b>	<b>55.0</b>	<b>– 95.0</b>	<b>130.0</b>	<b>5,520.0</b>
<b>Memorandum item: Syndicated credits<sup>4</sup></b>	<b>1,136.3</b>	<b>902.2</b>	<b>198.6</b>	<b>253.6</b>	<b>229.9</b>	<b>220.0</b>	<b>168.8</b>	

<sup>1</sup> Changes in amounts outstanding excluding exchange rate valuation effects. <sup>2</sup> Estimates of international borrowing by reporting banks, either directly in domestic currency or in foreign currency, for the purpose of local onlending in domestic currency (see also notes to Table 1 of the statistical annex). <sup>3</sup> Defined as total international claims of reporting banks minus interbank redepositing. <sup>4</sup> Announced new facilities.

Annex Table 8). The end of the accounting year in Japan possibly added to pressures on this group of banks to streamline their balance sheets. It also masked a further retreat of banks from emerging markets. In addition, the advent of the euro eliminated foreign exchange business between legacy currencies, although its impact on interbank cross-border positions within Europe is difficult to ascertain in view of the number of adjustments made to the reported figures for end-March (see also the box on page 10).<sup>9</sup>

At the same time, the credit squeeze faced by non-bank borrowers located in major financial centres, including those hosting hedge funds, seems to have run its course in the first quarter of 1999. There was even a significant rebound in credit business with non-bank entities inside the reporting area, although this may have reflected banks' more active transactions in securities and not necessarily any genuine return of lending to leveraged borrowers. Correspondingly, the apparent reduction in the ability of banks to attract non-bank funds in the closing months of 1998 was not repeated in the period under review. In fact, there was a significant reflow of deposits into the international banking system, which undoubtedly helped to ease fears of a further credit crunch.

### Business with countries inside the reporting area

Interbank lending within the reporting area turned around in the first quarter of 1999, from a \$38 billion increase in the fourth quarter of 1998 to a \$52 billion fall (see Annex Table 1). The decline was mainly related to the easing of the liquidity pressures confronting certain banking groups in the latter part of last year. In particular, the reduction in the borrowing premia paid by Japanese banks in the international interbank market alleviated the need for these banks' head offices to fund their foreign affiliates. This reduction in the borrowing premia may have weakened pressure to retreat from the international market. Another set of influences was linked to the ongoing pace of restructuring within the European banking industry, which, combined with the disappearance of euro legacy currencies, reduced the need for interbank credit lines between and within individual national banking

<sup>9</sup> In fact, as noted in the preceding issue of this commentary, European banking groups appear to have reduced the scale of their foreign exchange activity well in advance of the changeover.

## The impact of the euro on international banking aggregates

The replacement of 11 European currencies by the euro on 1 January 1999 affected the international banking statistics reported to the BIS in a number of ways. First, for reporting EMU member countries, the reallocation of business denominated in the 10 currencies (other than that of the host country) and the ECU from foreign currency to domestic currency led to a reduction in both their cross-border foreign and local foreign currency positions. With respect to the cross-border component, the reallocation simply meant a shift in external positions outstanding (from foreign to domestic currency) without affecting the overall amounts reported to the BIS. In calculating the flows shown in the table below, the BIS has made the appropriate adjustments to exclude the statistical impact of such a shift.\* In the case of local positions, however, the reclassification entailed a reduction in the "international" positions being reported. Here again, adjustments were made in the calculation of the flows to allow for this reclassification. It should also be stressed that, although cross-border intra-European credit positions and flows are now considered as "domestic" for euro area monetary policy purposes, they continue to be treated as cross-border for national balance-of-payments purposes. The BIS will continue to include such cross-border positions and flows in its international banking aggregates, but will introduce in due course new euro-series singling out these particular intra-European positions.

Second, the creation of the euro may have reduced actual international business. In particular, the disappearance of foreign exchange activity amongst the 11 legacy currencies has considerably reduced trading opportunities. It has also alleviated the need to maintain working balances for the purpose of settling foreign exchange transactions. Furthermore, by accelerating the process of consolidation of wholesale business within the European banking industry, it is leading to a streamlining of the regional networks of individual banking groups.

In spite of these dampening factors, data available for the first quarter suggest a strong upsurge in euro-denominated transactions (+\$337 billion, or 13%, after adjusting for the estimated breaks in series). First, European banking groups added to their portfolio of European debt securities, spurred by the greater recourse of governments to syndication and by the opening of the group of primary dealers to a broader spectrum of participants in government auctions. Second, mergers and acquisitions within the European corporate sector were associated with a significant need for funding in euros. Third, the reluctance of banks to initiate new transactions in currencies to be merged before the transition may have produced a catch-up effect immediately after the introduction of the single currency. Longer-term series will be needed to assess the underlying impact of the euro on the international banking market.

**Currency composition of international bank lending<sup>1</sup>**

In billions of US dollars

	1997	1998					1999	<b>Stocks at end- Mar. 1999</b>
	Year	Year	Q1	Q2	Q3	Q4	Q1	
<b>Banks in industrial reporting countries</b>	<b>1,032.5</b>	<b>482.6</b>	<b>132.1</b>	<b>261.0</b>	<b>181.1</b>	– 91.5	<b>162.2</b>	<b>8,822.3</b>
US dollar	452.5	110.3	– 55.9	46.3	66.5	53.4	– 105.8	3,765.9
Euro area currencies <sup>2</sup>	254.6	383.6	277.1	186.7	45.7	– 125.9	336.5	2,840.2
Japanese yen	174.5	– 36.0	– 117.3	29.2	20.3	31.7	– 153.4	865.4
Pound sterling	80.9	42.3	22.6	2.6	17.1	0.0	34.9	458.9
Swiss franc	27.9	27.7	15.1	12.4	3.0	– 2.8	50.0	353.0
Other and unallocated <sup>3</sup>	42.1	– 45.1	– 9.5	– 16.2	28.5	– 47.9	..	538.9
<b>Banks in other reporting countries<sup>4</sup></b>	<b>163.0</b>	<b>– 96.0</b>	<b>– 89.0</b>	<b>– 22.8</b>	<b>– 25.8</b>	<b>41.7</b>	<b>– 82.5</b>	<b>1,888.3</b>

<sup>1</sup> Changes in amounts outstanding excluding exchange rate valuation effects. <sup>2</sup> 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). <sup>3</sup> Including all non-dollar positions of banks in the United States, for which no currency breakdown is available. <sup>4</sup> No currency breakdown is available.

\* However, certain simplifying assumptions had to be made concerning the reallocation of currencies not reported separately. Partly for this reason, and also because of their multidimensional nature, the standard tables shown in the Annex have not been adjusted.

groups (see Annex Table 8). A third factor may have been the impact of deleveraging by non-bank customers on banks' global balance sheets, with Anglo-Saxon banks, for instance, considerably reducing their cross-border inter-office accounts.

Excluding the reduction in exposures to the Japanese non-bank sector, outstanding international claims on non-bank entities located inside the reporting area rebounded strongly in the first quarter of 1999 (from a \$80 billion drop in the fourth quarter of 1998 to a \$84 billion rise, see Annex Tables 4B and 6B). However, 73% of the first-quarter increase was accounted for by banks' cross-border purchases of securities. Cross-border lending between euro area countries accounted for much of the balance. There was, therefore, little statistical evidence of a resumption of borrowing for leveraged transactions by banks' customers during the period under review. This confirms reports of a lasting influence of the events of last autumn on risk-taking by non-bank players.

At the same time, heavy purchases of securities by reporting banks in the first quarter of 1999 may suggest a return by banks to proprietary trading. Indeed, the reflow of non-bank deposits originating from within the reporting area, following substantial withdrawals in the preceding quarter, may have provided banks with ample opportunities for new business. However, since the reported data do not distinguish between banking and trading books, the extent to which these securities purchases reflect proprietary trading by reporting banks cannot be ascertained. Moreover, the reduction of credit and liquidity premia may have raised the market value of banks' securities portfolios. In addition, the advent of the euro heightened the incentive for European banking groups to diversify away from their own domestic securities markets, in favour most notably of the government debt of other EU member countries. Finally, reporting banks' acquisition of foreign securities continued to be driven by the activity of Japanese banks (which now account for 27% of the \$1,601 billion of securities held by all reporting banks).

### **Business with countries outside the reporting area**

Latin American countries were engulfed in a severe bout of market turmoil in the first quarter of 1999. The decision by the Brazilian authorities to abandon the managed exchange rate regime and float the real in January sent a shockwave throughout the region. However, contagion was less pronounced than feared and containment within Brazil was quicker than expected. By the end of the quarter, the country's economic prospects had improved considerably, resulting in a significant easing of exchange rate pressure. The voluntary arrangement with foreign banks to maintain trade and interbank credit lines and the approval of a revised IMF programme in late March contributed to this favourable evolution.<sup>10</sup> Nevertheless, the outstanding exposure of BIS reporting banks to Brazil was cut by another \$6.1 billion, leading to a cumulative \$20 billion fall (-18%) from its mid-1998 peak. Adding to this pressure on the availability of external resources, local entities faced net repayments of \$3 billion in the international debt securities market. The sharp curtailment of banking and securities financing therefore shows how critical foreign official assistance was in helping to contain the crisis.

Furthermore, there was no visible spillover effect elsewhere in the region during the period under review, as illustrated by the return of banking funds to Argentina (+\$1.2 billion). This confirms other evidence of greater market differentiation. The resilience to shocks also underlined the progress made in implementing market-oriented reforms and economic restructuring. Nonetheless, large financing requirements led Argentina to make heavy calls on the international capital market. The need to boost confidence in the currency board also prompted numerous references by the Argentine authorities to a potential dollarisation of the economy, fuelling the debate over the merits and costs of such a step.

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<sup>10</sup> Towards the end of March, the authorities were reported to have purchased dollars to prevent the currency from appreciating too rapidly. For the quarter as a whole, however, foreign exchange reserves dropped from \$43 billion at end-1998 to \$32 billion. The latter amount also includes a first disbursement of \$9 billion under the \$41.5 billion official assistance package arranged in December 1998.

### Banks' business with countries outside the reporting area\*

In billions of US dollars

	1997		1998				1999	Stocks at end-Mar. 1999
	Year	Year	Q1	Q2	Q3	Q4	Q1	
<b>Total assets</b>	<b>100.4</b>	<b>- 31.4</b>	<b>- 4.5</b>	<b>- 4.9</b>	<b>- 25.9</b>	<b>3.8</b>	<b>- 11.8</b>	<b>1,180.1</b>
Developed countries	26.6	30.1	9.5	1.9	8.6	10.1	7.2	246.5
Eastern Europe	18.5	- 0.6	6.3	4.5	- 10.4	- 1.1	- 0.6	103.1
Developing countries	55.3	- 60.9	- 20.2	- 11.3	- 24.1	- 5.3	- 18.3	830.5
Latin America	34.5	1.0	13.7	2.6	- 8.0	- 7.3	- 3.8	307.8
Middle East	10.6	23.6	- 0.9	6.1	7.5	10.9	- 3.3	102.8
Africa	2.6	- 1.3	0.8	- 1.7	- 0.2	- 0.1	0.5	58.5
Asia	7.6	- 84.3	- 33.8	- 18.3	- 23.4	- 8.7	- 11.8	361.5
<b>Total liabilities</b>	<b>76.8</b>	<b>- 12.6</b>	<b>28.0</b>	<b>0.2</b>	<b>- 20.3</b>	<b>- 20.5</b>	<b>- 3.1</b>	<b>1,023.6</b>
Developed countries	17.9	- 10.1	- 1.0	5.1	- 4.3	- 9.9	10.2	187.8
Eastern Europe	9.4	- 11.3	- 2.5	2.4	- 8.1	- 3.2	4.7	49.5
Developing countries	49.5	8.9	31.5	- 7.3	- 7.9	- 7.5	- 18.0	786.4
Latin America	23.7	- 12.8	16.2	- 9.1	- 20.0	0.0	- 3.8	234.6
Middle East	- 6.1	17.0	5.4	- 3.5	17.6	- 2.6	- 18.2	210.4
Africa	7.2	- 1.5	1.5	- 0.2	- 2.0	- 0.8	1.4	54.3
Asia	24.8	6.3	8.4	5.5	- 3.5	- 4.1	2.5	287.1

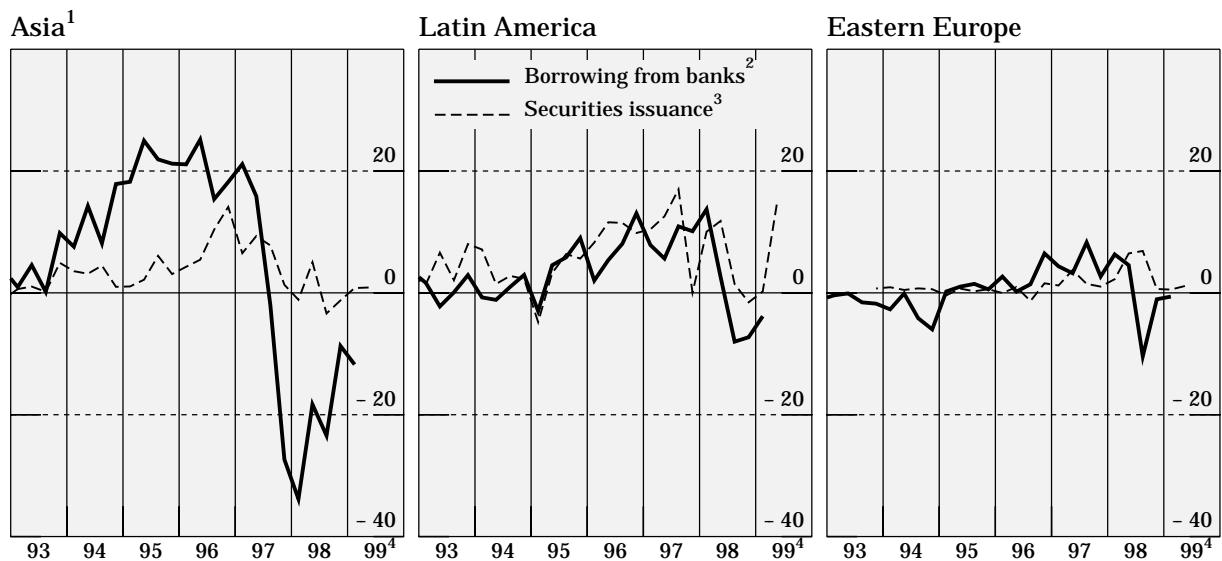
\* Changes in amounts outstanding excluding exchange rate valuation effects.

Meanwhile, claims on eastern Europe declined by \$0.6 billion in the first quarter of 1999, marking the third consecutive reduction in exposures since Russia's devaluation in August 1998. Again, this was fully accounted for by the scaling-back of positions vis-à-vis Russia (-\$2 billion). As a result, total outstanding claims on the country accounted at end-March for less than 50% of reporting banks' exposure to eastern Europe, the lowest level since the break-up of the Soviet Union. The overall decline vis-à-vis Russia masked a \$0.3 billion resumption in lending to the non-bank sector, implying a cut of more than \$2 billion in credit to Russia's struggling banking sector (Annex Tables 6A minus 6B). Although part of the decline was due to purely statistical valuation-related effects, widespread insolvency and illiquidity among all but a few large Russian banks have led to substantial arrears on foreign debt. This has heightened creditors' unwillingness to extend loans to this sector. Elsewhere in eastern Europe, Poland received \$1.6 billion of new funds from reporting banks as foreign investors remained optimistic about prospects for the country. International banks were also willing to lend funds to non-bank entities in Hungary (+\$0.4 billion) and the Czech Republic (+\$0.3 billion). In contrast, Slovakia experienced a drop in international credit flows to the banking sector of \$0.9 billion, while non-bank sector borrowing rose slightly.

In Asia, the emergence of large current account surpluses weakened the demand for external funds. Nonetheless, there was a clear distinction in banking flows between the two most heavily indebted countries involved in the 1997 crisis. For the first time since the turmoil, South Korea saw substantial net inflows (\$1.3 billion), while Thailand continued to shoulder heavy net repayments of interbank debt (\$6.2 billion). The contrast between the two countries in the pattern of flows seemed to correspond to a widely held view in credit markets that the Korean government had shown decisiveness in restructuring and recapitalising the banking system, while the pace of such change in Thailand had been slow. The other countries most affected by the crisis – Indonesia and Malaysia – also recorded net repayments, but at much reduced levels compared to average quarterly outflows in 1998. China recorded a net outflow of \$3.7 billion, but this was more than accounted for by the unwinding of a window-dressing transaction in the fourth quarter between a major Chinese bank and one of its foreign affiliates.

## International bank and securities financing by region

In billions of US dollars



<sup>1</sup> Excluding Hong Kong, Japan and Singapore. <sup>2</sup> Exchange-rate adjusted changes in BIS reporting banks' claims vis-à-vis Asian, Latin American and eastern European countries. <sup>3</sup> Net issues of international money market instruments, bonds and notes. <sup>4</sup> Data on bank borrowing are not yet available for the second quarter of 1999.

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

### Structural and regulatory developments

In April the Basel Committee on Banking Supervision issued a report on current practices and issues in credit risk modelling, a highly technical approach used by sophisticated financial institutions in quantifying and aggregating credit risk.<sup>11</sup> One of the issues raised in the report is the potential use of such models in determining regulatory capital requirements. A models-based approach to regulatory capital might bring requirements into closer alignment with the riskiness of a bank's assets. Nonetheless, the document points out that the ability of models to take into account the likelihood of default and other factors leading to changes in credit quality is severely constrained by a lack of data on the historical performance of loans and other variables. The difficulties in these specifications are exacerbated by the longer time horizons needed for measuring credit risk, as compared with market risk. Many years of data, spanning multiple credit cycles, may be required to estimate credit risk parameters adequately. The data problem is even more serious for model validation. To gain further confidence in credit risk modelling, both banks and regulators need some means of assessing how accurately banks' internal models represent the level of risk in their portfolios. However, the issue of time horizons makes it fundamentally more difficult to validate credit risk models than market risk models. The report notes that, at present, there is no commonly accepted framework for periodically verifying the accuracy of credit risk models. Before a portfolio modelling approach could be used to determine capital requirements for credit risk, regulators would have to be confident not only that models are being used to actively manage risk, but also that they are conceptually sound, empirically validated, and produce capital requirements that are comparable across institutions.

<sup>11</sup> *Credit risk modelling: current practices and applications*, Basel Committee on Banking Supervision, Basel, April 1999. The Committee is seeking comments on the report from all interested parties by 1 October 1999.

## Proposals for a new capital adequacy framework

In June the Basel Committee on Banking Supervision issued a proposal for a new capital adequacy framework to replace the Capital Accord of 1988.<sup>①</sup> The 1988 Accord has helped strengthen the soundness and stability of the international banking system and enhance competitive equality among internationally active banks. However, the financial marketplace has developed dramatically during the past decade, to the point where the Accord's capital ratio has become a less accurate indicator of a bank's financial condition. The new framework is designed to better align regulatory capital requirements with underlying risks, and to recognise the improvements made in the meantime in risk measurement and control. It consists of three pillars: *minimum capital requirements*, which seek to develop and expand on the standardised rules set forth in the 1988 Accord; *supervisory review* of an institution's capital adequacy and internal assessment process; and effective use of *market discipline* as a lever to strengthen disclosure and encourage safe and sound banking practices. The Committee believes that, taken together, these three elements are the essential pillars of an effective capital framework. It also thinks that the new framework should at least maintain the current overall level of capital in the banking system.<sup>②</sup>

Original risk weights by category of on-balance sheet asset		
Weight	Asset category	
0%	a:	Cash
	b:	Claims on central governments and central banks denominated in national currency and funded in that currency
	c:	Other claims on OECD* central governments and central banks
	d:	Claims collateralised by cash or OECD central government securities or guaranteed by OECD central governments
0, 10, 20 or 50% (at national discretion)	a:	Claims on domestic public sector entities, excluding central government, and claims guaranteed by or collateralised by securities issued by such entities
20%	a:	Claims on multilateral development banks and claims guaranteed by, or collateralised by securities issued by, such banks
	b:	Claims on banks incorporated in the OECD and claims guaranteed by OECD incorporated banks
	c:	Claims on securities firms incorporated in the OECD subject to comparable supervisory and regulatory arrangements, including in particular risk-based capital requirements, and claims guaranteed by these securities firms
	d:	Claims on banks incorporated in countries outside the OECD with a residual maturity of up to one year and claims with a residual maturity of up to one year guaranteed by banks incorporated in countries outside the OECD
	e:	Claims on non-domestic OECD public sector entities, excluding central government, and claims guaranteed by or collateralised by securities issued by such entities
	f:	Cash items in process of collection
50%	a:	Loans fully secured by mortgage on residential property that is or will be occupied by the borrower or that is rented
100%	a:	Claims on the private sector
	b:	Claims on banks incorporated outside the OECD with a residual maturity of over one year
	c:	Claims on central governments outside the OECD (unless denominated in national currency and funded in that currency – see above)
	d:	Claims on commercial companies owned by the public sector
	e:	Premises, plant and equipment and other fixed assets
	f:	Real estate and other investments (including non-consolidated investment participations in other companies)
	g:	Capital instruments issued by other banks (unless deducted from capital)
	h:	All other assets
* The OECD group comprises, for the purpose of the current Accord, all countries which are members of the OECD or have concluded special lending arrangements with the IMF associated with the Fund's General Arrangements to Borrow, and which have not rescheduled their external sovereign debt within the previous five years.		
<sup>①</sup> <i>A new capital adequacy framework</i> , Basel Committee on Banking Supervision, Basel, June 1999. <sup>②</sup> The Committee seeks comments on its proposals from all interested parties by 31 March 2000, with the exact date for the implementation of the new Accord depending on the comments received and the work entailed.		

### **Minimum regulatory capital requirements**

With respect to the first pillar, the objective is to have a more comprehensive and risk-sensitive treatment of credit risk. The Committee proposes a system for sovereign risk that would use external credit assessments for determining risk weights. It is intended that such an approach would also apply, either directly or indirectly and to varying degrees, to the risk weighting of exposures to banks, securities firms and corporates. The result would be to reduce risk weights for high quality corporate credits, and to introduce a higher than 100% risk weight for certain low quality exposures. A new risk weighting scheme to address asset securitisation is also proposed, as is the application of a 20% credit conversion factor for certain types of short-term commitments. The Committee is also seeking to devise a sounder and more consistent approach for the capital treatment of *credit risk mitigation techniques*. This includes proposals for expanding the scope for eligible collateral, guarantees and on-balance sheet netting.

The proposals outlined above are intended to form the basis for a standardised approach for setting capital charges at the majority of banks. However, the Committee recognises that for some banks, subject to supervisory approval, *internal credit ratings* could become a viable basis for regulatory capital requirements. The Committee will present a more detailed analysis of its proposals in this respect in a forthcoming consultative document.

The Committee also considered the possible use of *portfolio credit risk models* in setting regulatory capital requirements. It commends the use and continued development of such models, but notes that a number of hurdles, including data availability and model validation, must be overcome before these can be used for regulatory purposes. The Committee will continue to analyse the potential use of credit risk models for regulatory capital requirements, as highlighted in its report, *Credit risk modelling: current practices and applications*, released in April 1999 (see page 13 of this commentary).

In addition, the Committee is seeking to expand coverage of the Accord to incorporate *other major categories of risk*. While the current Accord focuses mainly on credit risk, it has since been amended to address market risk for banks' trading books. Interest rate risk in the banking book and other risks, such as operational risk, have not been explicitly addressed. The Committee therefore proposes to develop a capital charge for interest rate risk in the banking book for banks where it is significantly above average. It also proposes to develop an explicit capital charge for other risks, principally operational risk, and is exploring practical ways in which this could be done.

### **Supervisory review process**

The second pillar of the framework, the supervisory review of capital adequacy, will seek to ensure that a bank's capital position is consistent with its overall risk profile and strategy and, as such, will encourage early supervisory intervention if the capital does not provide a sufficient buffer against risk. The report notes that supervisors should have the ability to require banks to hold capital in excess of minimum regulatory capital ratios. Furthermore, the new framework stresses the importance of bank management developing an internal capital assessment process and setting targets for capital that are commensurate with the bank's specific risk profile and control environment. This internal process would then be subject to supervisory review and intervention where appropriate.

### **Proposed risk weights by credit rating band<sup>1</sup>**

Claim	Assessment					
	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	Below B-	Unrated
Sovereigns	0%	20%	50%	100%	150%	100%
Banks	Option 1 <sup>2</sup>	20%	50%	100%	150%	100%
	Option 2 <sup>3</sup>	20%	50% <sup>4</sup>	50% <sup>4</sup>	100% <sup>4</sup>	50% <sup>4</sup>
Corporates	20%	100%	100%	100%	150%	100%
Securitisation tranches	20%	50%	100%	150% or deducted from capital <sup>5</sup>	deducted from capital	deducted from capital

<sup>1</sup> Standard & Poor's methodology was used as an example in the proposals. <sup>2</sup> Based on the sovereign risk weighting of the country in which the bank is incorporated. <sup>3</sup> Based on the assessment of the individual bank. <sup>4</sup> Claims on banks of a short original maturity, for example less than six months, would receive a weighting that is one category more favourable than the usual risk weight on the bank's claims. <sup>5</sup> Tranches with a rating of B+ or below would be deducted from capital.

### **Market discipline**

The Committee also believes that supervisors have a strong interest in facilitating effective market discipline, the third pillar, as a lever to strengthen the safety and soundness of the banking system. Effective market discipline requires reliable and timely information that enables market participants to make well-founded risk assessments. The Committee plans to issue more detailed guidance on the disclosure of capital structure, risk exposures and capital adequacy later this year.

### **Impact on financial markets**

Although the new capital adequacy framework is currently only at the proposal stage, the likelihood of a closer correspondence between the inherent riskiness of assets and the associated capital charges has already led to changes in the assessment of the risk and return characteristics of financial assets. This was most evident in the secondary market prices of some sovereign bonds, for which the new proposals would alter the risk weights (see the tables on page 15 and below). The more precise allocation of banks' risk capital could also reduce the pricing differential between loans and debt securities.

Moreover, the proposals are likely to reduce regulatory capital arbitrage. For example, the relatively high capital cost of corporate loans has prompted banks to economise on regulatory capital by securitising their highest quality assets.<sup>③</sup> Existing capital charges also appear to have encouraged them to hold a greater proportion of lower-quality assets.<sup>④</sup> Moreover, the existing rules may have created a bias in favour of short-term lending (see the table on page 14), particularly, as the recent global financial crisis showed, to banks in emerging market countries. Lastly, the proposals might have an impact on activity in the OTC derivatives market, since the 50% maximum risk weight that has been applied to off-balance sheet credit risk exposures is likely to be replaced by a graduated scale based on credit ratings.

**Current versus proposed risk weights for selected sovereigns**

	Rating	OECD	Risk weight (%)*	
			Current	Proposed
Argentina	BB	No	100	100
Brazil	B+	No	100	100
Chile	A-	No	100	20
China	BBB	No	100	50
Colombia	BBB-	No	100	50
Czech Rep.	A-	Yes	0	20
Greece	BBB	Yes	0	50
Hungary	BBB-	Yes	0	50
Indonesia	CCC+	No	100	150
Israel	A	No	100	20
South Korea	BBB	Yes	0	50
Malaysia	BBB-	No	100	50
Mexico	BB	Yes	0	100
Poland	BBB-	Yes	0	50
Russia	CC-	No	100	150
Singapore	AAA	No	100	0
South Africa	BB+	No	100	100
Thailand	BBB-	No	100	50
Turkey	B	Yes	0	100

\* The 100% risk weighting implies a capital charge of 8%.

Sources: Standard & Poor's; BIS.

<sup>③</sup> While retaining the high-risk tranches of such transactions. <sup>④</sup> The impact of the Basel Accord has been analysed extensively in a recent working paper by the Basel Committee. See *Capital requirements and bank behaviour: the impact of the Basel Accord*, Basel Committee on Banking Supervision, Basel, April 1999.

### III

## The international securities markets

### Overview

The accelerating pace of securitisation in Europe was the driving factor behind the record issuance of international securities in the second quarter of 1999. At the same time, the drop in repayments meant an even more significant increase in net financing flows. Despite the further rise in global bond yields, primary market activity was also supported by the ongoing wave of mergers and acquisitions, the move by banks to strengthen their balance sheets, the return of emerging market borrowers and the entry of new types of issuers.

One of the striking features of the second quarter was the continuing buoyancy of issuance in euros despite the unfavourable background of euro weakness. The introduction of the single currency has acted as a catalyst for the emergence of an integrated European capital market and the unprecedented pool of investment demand created by the merger of national currencies has enabled borrowers to arrange exceptionally large transactions. At the same time, the disappearance of currency-related profit opportunities has encouraged speculative investors to seek higher returns through greater credit risk, providing fertile ground for a variety of lower-rated securities and innovative structures. Together these factors largely accounted for the record volume of euro-denominated corporate debt issuance.

### Main features of international debt securities issues<sup>1</sup>

In billions of US dollars

	1997		1998			1999		Stocks at end- June 1999
	Year	Year	Q2	Q3	Q4	Q1	Q2	
<b>Total net issues</b>	<b>560.6</b>	<b>678.6</b>	<b>229.2</b>	<b>155.1</b>	<b>97.9</b>	<b>259.7</b>	<b>321.6</b>	<b>4,684.1</b>
Money market instruments <sup>2</sup>	14.8	9.8	0.1	10.8	- 11.5	35.3	- 7.3	220.8
Bonds and notes <sup>2</sup>	545.8	668.8	229.1	144.2	109.4	224.4	328.9	4,463.3
Developed countries	437.5	573.0	187.0	139.7	86.1	236.6	293.4	3,856.7
<i>Europe</i> <sup>3</sup>	251.8	279.9	90.1	71.0	23.7	123.2	163.2	2,170.2
<i>Japan</i>	- 1.6	- 18.2	- 9.3	- 4.2	- 1.1	- 0.7	1.7	307.0
<i>United States</i>	174.9	284.3	98.3	66.0	60.6	109.8	123.6	1,063.6
<i>Canada</i>	9.7	21.1	7.0	3.9	4.2	0.0	5.5	207.8
Offshore centres	14.2	10.2	5.5	2.9	- 0.4	7.7	1.9	68.2
Other countries	88.6	40.3	27.8	3.2	- 1.5	3.0	20.9	392.6
International institutions	20.3	55.1	9.0	9.3	13.7	12.4	5.3	366.6
US dollar	329.0	409.3	146.6	85.4	55.4	138.3	151.8	2,253.3
Yen	32.0	- 27.2	- 10.4	- 3.4	- 6.3	- 12.5	- 3.4	447.7
Euro area currencies	135.2	221.5	70.9	60.4	29.6	108.9	133.5	1,275.3
Other currencies	64.4	74.9	22.1	12.6	19.2	25.0	39.6	707.8
Financial institutions <sup>4</sup>	353.8	370.0	117.2	93.4	37.9	146.8	144.1	2,205.9
Public sector <sup>5</sup>	86.4	181.8	56.2	34.9	39.0	54.0	78.3	1,344.4
Corporate issuers	120.4	126.8	55.8	26.7	21.0	58.9	99.1	1,133.7

<sup>1</sup> Flow data for international bonds; for money market instruments and notes, changes in amounts outstanding excluding exchange rate valuation effects. <sup>2</sup> Excluding notes issued by non-residents in the domestic market. <sup>3</sup> Excluding eastern Europe. <sup>4</sup> Commercial banks and other financial institutions. <sup>5</sup> Governments, state agencies and international institutions.

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

## Main features of the international bond and note markets

In billions of US dollars

	1997	1998				1999	
	Year	Year	Q2	Q3	Q4	Q1	Q2
<b>Announced issues</b>	<b>1,002.6</b>	<b>1,142.5</b>	<b>308.5</b>	<b>243.5</b>	<b>252.5</b>	<b>409.5</b>	<b>446.4</b>
Floating rate issues	281.6	281.7	82.3	75.3	55.2	99.2	136.2
Straight fixed rate issues	656.8	813.5	212.8	158.3	186.5	298.4	295.6
Equity-related issues <sup>1</sup>	64.2	47.2	13.4	9.9	10.8	11.9	14.7
US dollar	515.1	587.8	174.8	121.1	124.8	197.5	193.6
Yen	129.5	72.8	13.5	19.0	19.7	17.7	24.6
Euro area currencies	218.6	319.5	82.9	69.2	66.0	147.2	176.6
Other currencies	139.4	162.4	37.3	34.2	42.0	47.1	51.6
Financial institutions <sup>2</sup>	536.8	571.3	149.4	134.0	113.0	212.9	216.8
Public sector <sup>3</sup>	216.2	321.9	77.2	61.6	82.5	99.2	105.6
Corporate issuers	249.6	249.3	81.9	47.9	57.0	97.4	124.0
<b>Completed issues</b>	<b>1,005.7</b>	<b>1,137.6</b>	<b>321.6</b>	<b>252.2</b>	<b>253.0</b>	<b>381.2</b>	<b>443.7</b>
<b>Repayments</b>	<b>459.9</b>	<b>468.8</b>	<b>92.5</b>	<b>108.0</b>	<b>143.6</b>	<b>156.9</b>	<b>114.8</b>

<sup>1</sup> Convertible bonds and bonds with equity warrants. <sup>2</sup> Commercial banks and other financial institutions. <sup>3</sup> Governments, state agencies and international institutions.

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

The expanded access to capital markets enjoyed by corporates is likely to weaken relationship banking and bring greater competition to the pricing of loans and securities.<sup>12</sup>

### Money market instruments

Net issuance of eurocommercial paper and other short-term notes dropped sharply in the second quarter (with the stock declining by \$7 billion, to \$221 billion) following a marked rebound in the first. This drop in the stock outstanding largely reflected the abrupt shift in the operations of Dutch and German financial institutions from strong net issuance in euro-denominated paper to net repayments.

### Longer-term international securities

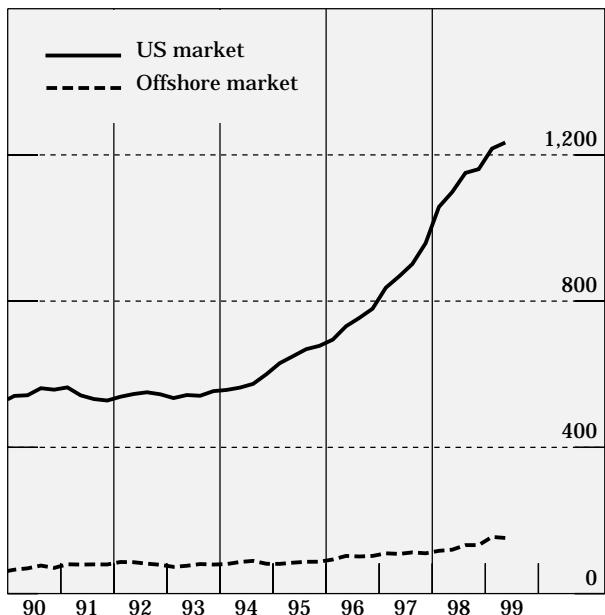
In the longer-term segment of securities markets, business reached a new record in the second quarter of 1999, (+9%, to \$446 billion), even as the growth in announcements slowed. Inflationary pressures remained under control in most of the major countries, but issuing conditions worsened relative to the first quarter. The US bond market set the tone as concerns about overheating and monetary tightening pulled interest rates to levels prevailing before the global financial crisis of the second half of 1998. The increase in yields also appears to have reflected the return to a more normal relationship between the business cycle and bond yields following the disruptive flight to quality seen in the second half of last year. The undertone in the market for euro-denominated securities was also bearish. The single currency weakened for much of the quarter, reflecting the comparative weakness of economic activity in the euro area, concerns about the deteriorating fiscal position of some countries and the conflict in

<sup>12</sup> See R McCauley and W White, "The euro and European financial markets", *BIS Working Papers*, No.41, Basel, May 1997.

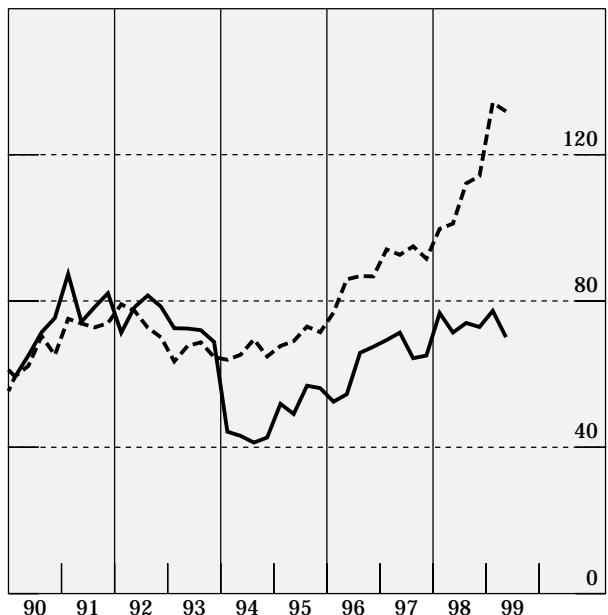
### Commercial paper outstanding

In billions of US dollars

All issuers



Non-US issuers



Sources: Euroclear; Federal Reserve Board; BIS.

the Balkans. The resulting losses on euro-denominated assets shook the confidence of international investors. Lastly, the strength of the yen encouraged investors to reconsider their strategy with respect to yen-denominated securities.

*Type of issues.* Interest rate volatility was reported to have induced some international investors to switch to floating rate notes (FRNs) or shorter-duration instruments. This appears to have been reflected to some extent in the mix of issues, with FRNs increasing appreciably (by 37%, to \$136 billion) and fixed rate bonds declining slightly (by 1%, to \$296 billion). However, since much of the increase in floating rate paper resulted from the arrangement of exceptionally large acquisition-related transactions,<sup>13</sup> there was little evidence of a fundamental market shift.<sup>14</sup> Similarly, there was no evidence at the aggregate level of a move by investors to shorten duration (see the graph on page 21).

There was a decline in the average size of transactions from the record reached in the first quarter, but investors nevertheless continued to favour large and liquid issues.<sup>15</sup> In response to the demand for liquidity, the largest borrowers opted for global issues and introduced new programmes for the regular issuance of sizable securities. For example, building on the success of its recently introduced Benchmark Note Programme, the Federal National Mortgage Association (FNMA) launched a facility for callable bonds. The sustained reduction in the issuance of US Treasury paper will provide a favourable background for the further arrangement of such facilities.

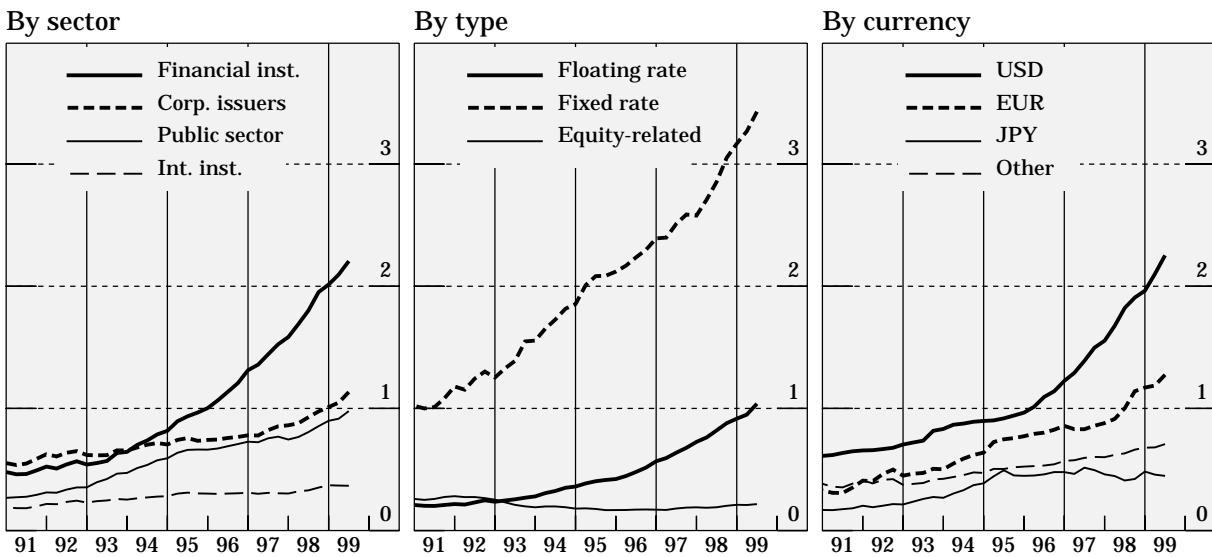
<sup>13</sup> With the notes sometimes offered to shareholders of target companies in exchange for their stocks.

<sup>14</sup> Some investment funds were also reported to have shifted from equity assets to low-risk sovereign notes or quality bank paper.

<sup>15</sup> Of note, issues of \$1 billion or more accounted for 33% of total issuance in the second quarter compared with 39% in the first.

### International debt securities outstanding\*

In trillions of US dollars



\* Estimated data before third quarter 1993.

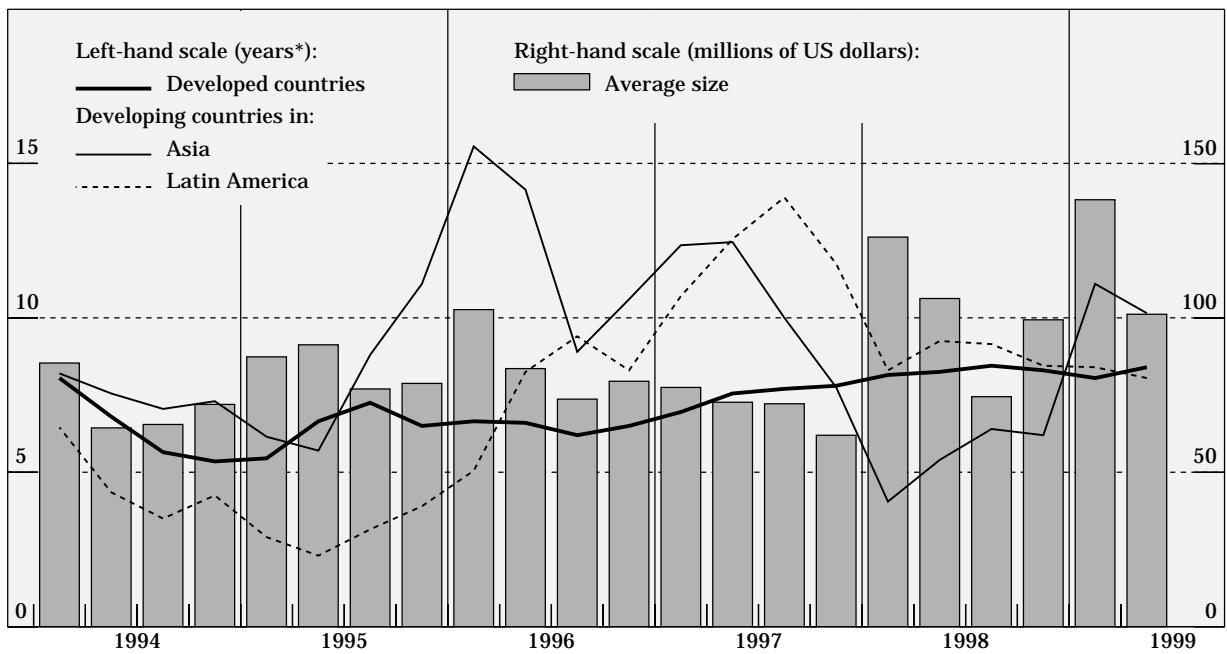
Sources: Bank of England; Capital DATA; Euroclear; ISMA; Thomson Financial Securities Data; BIS.

At the same time, there was a further recovery in investors' appetite for higher-yielding credits. Thus, the quarter witnessed an expansion of activity in the burgeoning international market for high-yielding securities ("junk" bonds). A market source estimated that issuance had amounted to the equivalent of about \$11 billion in the first half of 1999. Most of the transactions were denominated in dollars, sterling or euros, and involved European companies in high-growth or consolidating industries (such as telecommunications and chemicals). The strength of the equity market was particularly supportive of acquisition-related deals, but the establishment of new retail-targeted funds is also likely to have added to market demand. It should be noted, however, that the European high-yield market remains a fraction of its US counterpart and will require a larger volume of issuance in a variety of economic sectors before it can rival the US market.

The strength of global equity markets also fuelled the issuance of international equities (which rose by 72%, to \$58 billion). Activity increased in most of the euro area countries, but much of the expansion was accounted for by German firms. As in other market segments, the introduction of the euro has facilitated the launch of significant offerings, including a \$10 billion flotation by Deutsche Telekom. There was also a slight increase in equity-linked issues (from \$12 billion to \$15 billion). Most of these issues were launched by European companies (French in particular, with \$5 billion worth of transactions) and were denominated in euros. As in other market segments, the removal of barriers represented by separate European currencies has widened the investment spectrum of investors, leading them to increase their exposure to convertible issues as an intermediary step to more extensive investment in equities. Moreover, acquisitions are increasingly being financed through convertible issues (rather than through a combination of bank loans and straight bonds), while the unwinding of corporate cross-holdings is now conducted through exchangeable issues.

Lastly, the issuance of mortgage- and other asset-backed securities proceeded at a healthy pace (\$49 billion). Market participants believe that the market will receive a boost from the harmonisation of national regulations in Europe, proposed changes to regulatory capital charges (which would favour highly rated issuers), the securitisation of new types of cash flows (such as those linked to acquisition finance and balance sheet restructuring) and the growing use of credit derivatives.

### Average size and maturity of announced straight fixed rate international bonds and notes



\* Two-quarter moving average weighted by size.

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

*Type of issuers.* Issuance by financial institutions barely increased over the quarter (from \$213 billion to \$217 billion), but continued to be the driving force in the international securities markets. European financial institutions were once again at the forefront, accounting for almost two-thirds of financial sector issues. Their heavy recourse to the international capital markets served to finance the rapid growth of private sector credit, as well as mergers and acquisitions. The large volume of refinancing transactions also suggests that the restructuring taking place in the European financial industry has led banks to adjust the liabilities side of their balance sheets. However, swap rates indicate continuing concerns about the credit quality of financial institutions (see the graph on page 30).

The public sector's use of the market increased substantially (from \$99 billion to \$106 billion), reflecting active issuance by US semi-public financing agencies and emerging market sovereign entities. A modest expansion by European public sector issuers reflected in part the growing use of the market by municipalities and state governments. These borrowers have traditionally raised funds in domestic markets, but have gradually been given greater authority to manage their financing operations more actively. Meanwhile, the reversal of the flight to quality made it more difficult for supranational entities to achieve their funding targets.

The most striking development, however, was the record volume of activity by corporate borrowers (rising from \$97 billion to \$124 billion). European companies accounted for almost all of the increase. On the demand side, the creation of an integrated capital market has opened up an unprecedented pool of investment funds. Moreover, the combination of the relaxation of constraints on foreign investment, low returns on traditional saving instruments and a stronger appetite for risk have provided a propitious background for the emergence of a market for lower-rated securities.<sup>16</sup> This has facilitated

<sup>16</sup> Some observers have suggested that the Basel Committee's proposals for a reform of the Capital Accord would increase the attractiveness of corporate securities for banks.

### International bond and note issuance in the major currencies

In billions of US dollars

	1995	1996	1997	1998	1999	
					Q1	Q2
US dollar	180.4	391.2	515.1	587.8	197.5	193.6
% share of North American borrowers	38	38	39	53	61	62
Euro area currencies	143.0	211.9	218.6	319.5	147.2	176.6
% share of euro area borrowers	58	57	56	63	67	71
Yen	126.2	135.1	129.5	72.8	17.7	24.6
% share of Japanese borrowers	30	32	34	44	52	38
Other	81.2	120.9	139.4	162.4	47.1	51.6
<b>Total</b>	<b>530.7</b>	<b>859.1</b>	<b>1,002.6</b>	<b>1,142.5</b>	<b>409.5</b>	<b>446.4</b>

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

the arrangement of exceptionally large acquisition-related financing packages, as illustrated by a \$9.9 billion two-tranche issue for an Italian telecommunications firm and issues exceeding \$3 billion each for a German engineering/telecommunications concern and a Spanish oil company.<sup>17</sup> The greater depth of the European corporate market is likely to give further momentum to the European wave of mergers and acquisitions. On the supply side, the consolidation of companies' funding operations through large issuing programmes has led them to switch to capital markets.

*Currency of issuance.* While the US dollar continued to be the main currency of issuance in the second quarter (with 43% of announced transactions), it lost some ground to euro-denominated securities (which accounted for 40% of issues). Indeed, the extent of activity in the euro was unusual given that international investors tend to refrain from allocating funds to weakening currencies. However, the currency factor may not have been relevant in this case given that the investor base is largely European. Although North American borrowers have launched more euro-denominated issues than in legacy currencies during the same period in 1998, they appear to have been somewhat deterred from bringing a larger supply of issues because the terms available in the currency swap market have not been sufficiently attractive to permit arbitrage-driven deals. There was a significant resumption of activity in yen towards the end of the period, due to the strength of the currency and the positive impact of the disappearance of the "Japan premium" on the arrangement of swaps. Lastly, the sterling sector benefited from widening swap spreads as well as expectations of exchange and interest rate stability. The sterling market has seen a rapid expansion of private sector issuance, particularly asset-backed and high-yielding securities.

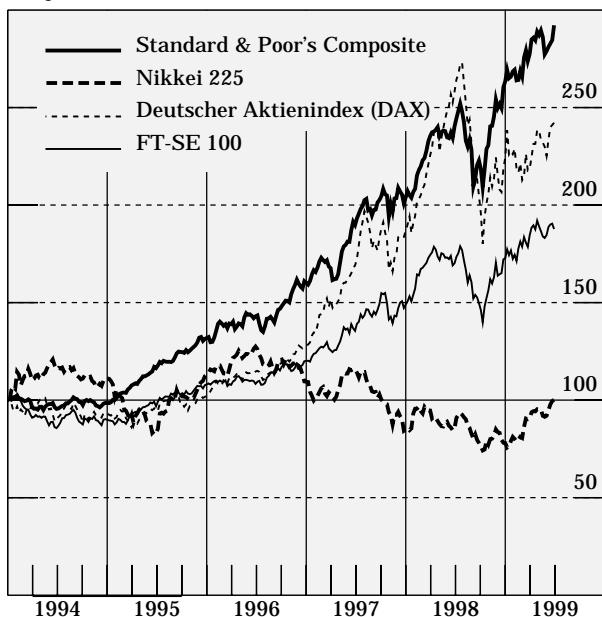
*Nationality of issuers.* Borrowers from the industrial world continued to account for an overwhelming share of activity in the second quarter (with a rise of \$400 million, or 90% of global issuance). Among the various nationalities, US borrowers remained the most active (with issuance rising by 7%, to \$141 billion), but business conducted by European names as a whole expanded more rapidly (by 13%, to \$229 billion). There was a particularly sharp increase in activity by the non-financial private sectors of Italy, the Netherlands and Spain. Meanwhile, weak business demand for funds meant that Japanese borrowers remained on the sidelines.

The acceleration of financing flows to emerging market countries was a notable development during the review period (with issues rising by 53%, to \$26 billion). The return of investors to this asset class

<sup>17</sup> Such facilities have generally been used to refinance previously arranged syndicated short-term bridge loans.

### Equity market developments

**Major indices<sup>1</sup>**



**Emerging market indices<sup>2</sup>**



<sup>1</sup> Weekly averages. Indexed to the average for the first week of 1994. <sup>2</sup> IFC indices in US dollar terms. Indexed to the month-end observation for December 1993.

Sources: International Finance Corporation (IFC); BIS.

reflected a number of considerations, including a broad switch in strategies from capital preservation to return enhancement, Brazil's success in stabilising its economy following the currency crisis in January, and evidence of stronger economic growth in Asia. The US dollar accounted for two-thirds of issues from emerging market borrowers, owing to that market segment's greater depth and the attraction of the currency to investors. However, the rise in US long-term interest rates brought dollar issuance to a near halt in June. The slack was taken up in part by some increase in euro-denominated issues (as issuers attempted to lock in the relatively low interest rates). While access for private sector borrowers improved, public sector entities still accounted for more than 60% of announcements.

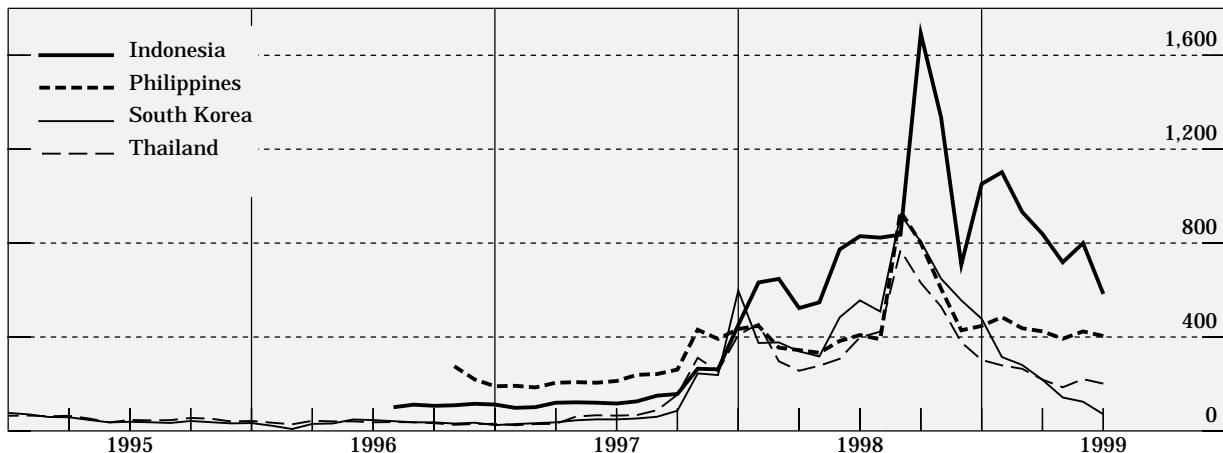
Latin American entities were responsible for two-thirds of funds raised by emerging market borrowers, but lingering concerns about the state of the Brazilian economy and the impact of the devaluation of the Brazilian real on Argentina kept spreads at fairly high levels (see the graph on page 25). Argentina was the most active borrower (\$6 billion), bringing a steady string of small issues on terms that worsened gradually as the country's economic prospects deteriorated during the course of the quarter. In contrast to other issuers from the region, more than half of the bonds and notes launched by Argentina were denominated in euros as its debt managers attempted to diversify funding sources. Brazil launched its first sovereign issue since the first quarter of 1998, partly in exchange for existing Brady issues. Asian borrowers increased their presence in the international market, but their overall level of activity remained subdued (with only \$5 billion worth of issues). One of the landmark transactions was a \$1 billion global issue for Malaysia, the country's first sovereign issue since the early 1990s. In spite of the rehabilitation of Asian borrowers, several Asian sovereigns, such as Indonesia and Thailand, have yet to return to the international market.<sup>18</sup> Looking at eastern European borrowers, Russian and Ukrainian entities continued to be excluded from securities markets, but names from other countries met with a more favourable reception. Eastern European borrowers switched to the euro, which accounted for 68% of the volume of new issues from the region.

<sup>18</sup> The establishment by the Japanese government of a programme of credit guarantees for Asian sovereign issuers could help such countries return to the market.

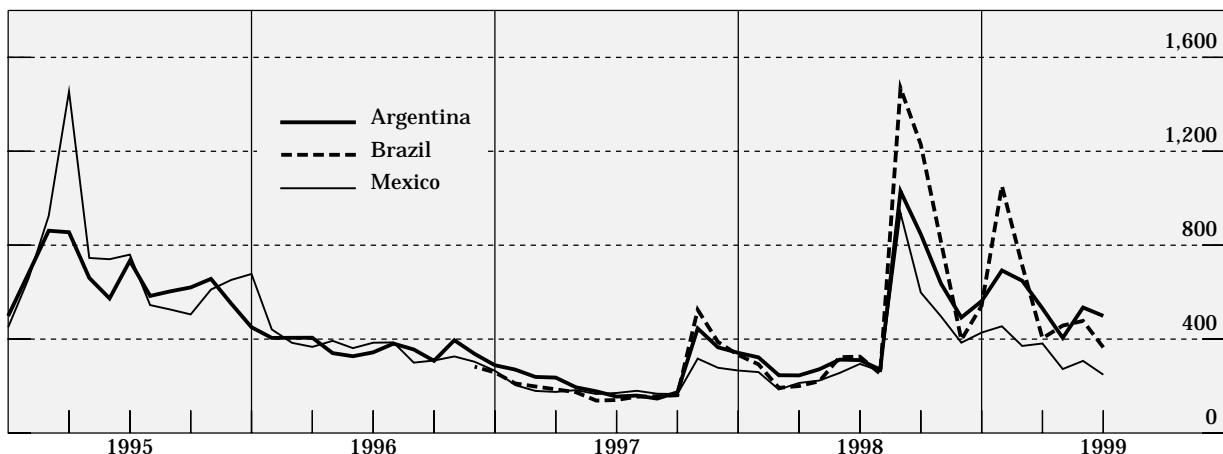
**Average spread of US dollar sovereign international bonds over  
10-year US Treasury notes**

In basis points

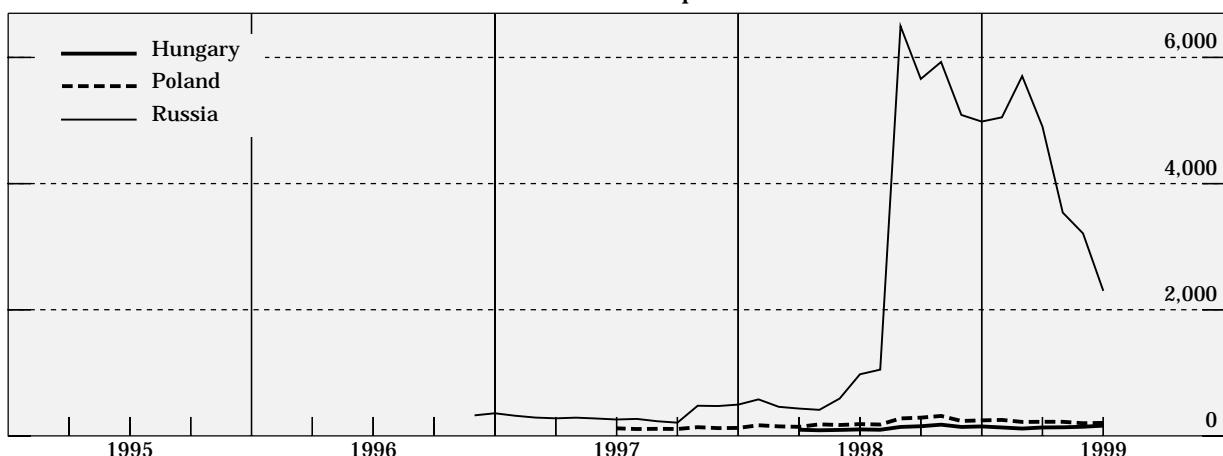
**Asia**



**Latin America**



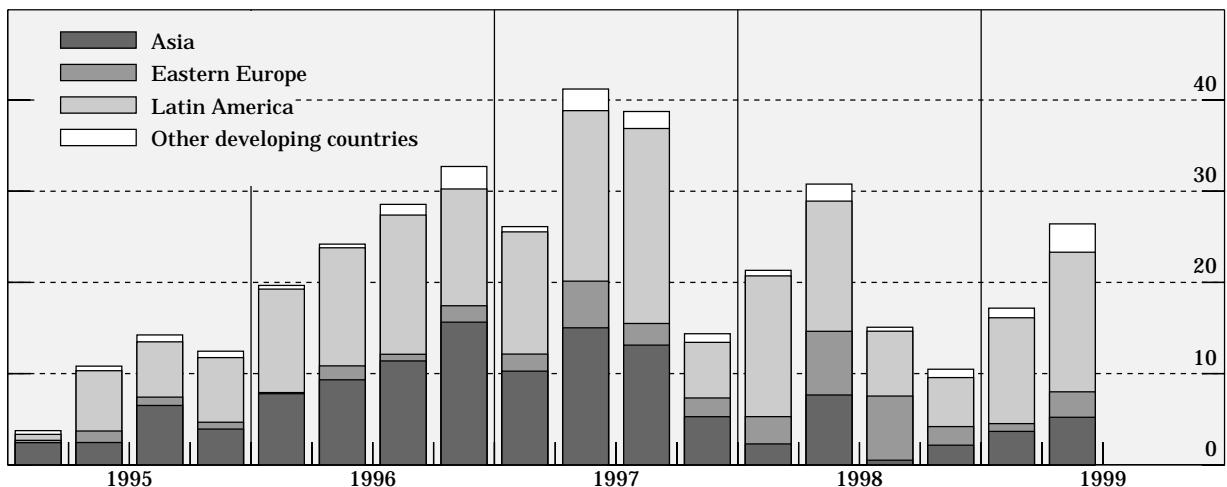
**Eastern Europe**



Source: Bloomberg.

## International bond and note issuance by emerging market borrowers\*

In billions of US dollars



\* Announced issues based on the nationality of the borrower.

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

## Structural and regulatory developments

The impetus towards consolidation in the European financial industry was reflected in new initiatives in the areas of trading and clearing in the second quarter of 1999. The relentless growth of electronic facilities for the trading of equities, foreign exchange and derivatives is now spreading to fixed income markets. June, in particular, saw the introduction of several new trading facilities. Thus, EuroMTS, the first electronic trading system for European benchmark bonds, successfully began its operations; the SWX launched an international electronic trading platform for repos on European government debt; and Cantor Fitzgerald, the US government bond broker, launched the first global electronic platform for creditworthy and liquid international bonds.<sup>19</sup>

In the area of clearing, Euroclear published in May a plan for the creation of a pan-European clearing and settlement system that would be based on a hub and spoke model involving Euroclear at the centre and national depositories at the rim.<sup>20</sup> Shortly after this announcement, Cedel and Deutsche Börse Clearing announced a merger of their clearing, settlement and custody operations. Once the new entity is legally established, the European Clearing House will be joined by SBF/SICOVAM. Other national and international depositories were invited to participate, either through electronic links or by merger.<sup>21</sup> The potential for consolidation in the area of clearing and settlement is highlighted by the

<sup>19</sup> Moreover, a number of other initiatives were announced. In April, Coredeal, the innovative screen-based real-time settlement system for international debt securities developed by ISMA, applied to the UK Financial Services Authority for recognition as an investment exchange. The service would provide a central counterparty guarantee mechanism eliminating counterparty risk and allowing trading anonymity. In June, Bloomberg and Reuters, two large providers of financial information, announced separate plans to launch electronic broking ventures for debt securities, while seven of the world's largest banks revealed plans for BrokerTec, a global electronic brokerage system for bonds that will initially focus on US and European government securities.

<sup>20</sup> While large cross-border investors would settle their non-domestic business through the hub, domestic and retail investors would continue to clear domestic debt and equity securities through national depositories.

<sup>21</sup> The trend was also underscored by the signing in May of a memorandum of understanding between the LSE, the DB and six other European stock exchanges for the creation of a pan-European trading and clearing alliance for the shares of the largest European companies.

existence of more than 30 national clearing systems in Europe compared with three for the US market as a whole.

The successful implementation of such systems would yield a number of benefits to market participants: it should improve market efficiency by increasing liquidity and transparency; help moderate the proliferation of bilateral and multilateral alliances; enable market participants to centralise collateral (and reduce associated costs) and share the costs of investment in information technology; and, finally, reduce the potential for systemic risk through the development of pan-European standards for clearing, settlement and governance.<sup>22</sup>

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<sup>22</sup> The new proposals were followed by the formation of an ad hoc group of international banks to formulate principles that users would like to see embodied in the development of a pan-European clearing and settlement infrastructure. One of the banks' concerns is that the creation of a continental system might lead to reduced competition in the provision of clearing services (thus requiring countervailing governance).

## IV

### Derivatives markets

#### Overview

The second quarter of 1999 saw a slight increase in derivatives activity through organised exchanges. One of the key trends that continued during the quarter was the proliferation of online dealing systems. This is likely to have important repercussions for market activity and structure. First, the popularity of such facilities among retail investors could lead to a further expansion in the number of market participants. Second, the growing importance of electronic channels may improve the efficiency and transparency of markets, but it may also increase their fragmentation. Third, growing participation by retail investors and market fragmentation raise numerous questions regarding market surveillance and jurisdictional authority. Although first-half 1999 data for the over-the-counter (OTC) market are not yet available, anecdotal evidence suggests a mixed pattern of activity. The semiannual statistics on the global OTC market recently released by the BIS showed a rapid increase in the second half of 1998 in that segment of the derivatives market (see the box on page 33).

#### Exchange-traded instruments

The aggregate turnover of exchange-traded financial derivatives contracts monitored by the BIS rose to \$93 trillion in the second quarter of 1999, from \$90 trillion in the first quarter.<sup>23</sup> Although the climate in US financial markets was somewhat calmer than in the second half of 1998, speculation concerning an increase in US policy rates generated some business in North American short-term interest rate contracts (+10%) and equity index instruments (+13%). The weakness of the euro created fears of renewed inflationary pressures in Europe, but fewer market participants saw a likelihood of monetary tightening. As a result, activity in Europe followed a different path, with interest rate business declining (-6%) and equity index activity dropping sharply (-27%). In the Asia-Pacific region, trading in interest rate contracts recovered (+7%), while the turnover of equity index instruments surged (+39%), largely as a result of the rapid growth of business on new exchanges. Meanwhile, the turnover of currency instruments picked up somewhat, following subdued activity for much of 1998. Looking at the turnover of major contracts, the CME's eurodollar futures was by far the most actively traded interest rate contract in the world in value terms, while Eurex's bund futures continued to be the most popular bond market instrument (see the graph on page 29). In the area of equity products, the CME's S&P 500 futures was the most popular instrument, followed by the CBOE's Dow Jones Industrial Index options contract.

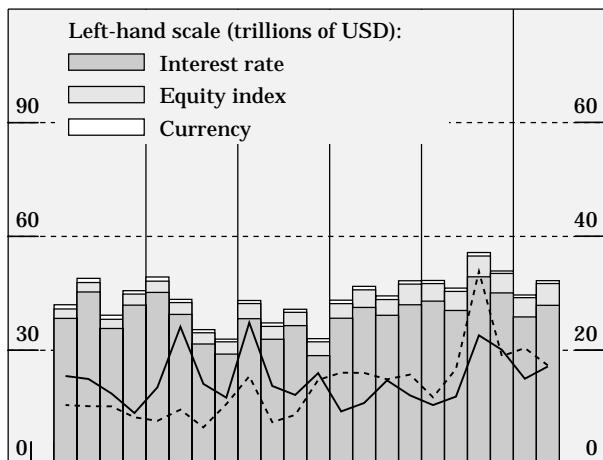
Eurex further reinforced its dominant position in terms of the number of contracts traded (93.7 million). Meanwhile, LIFFE increased its share of the Euribor contract. The exchange will switch to the electronic trading of such contracts in the third quarter, but will retain open outcry as a precautionary measure. LIFFE might face competition from Eurex in this area, since the latter exchange enjoys a wider distribution network and has temporarily waived both trading and clearing fees. MATIF, for its part, does not seem to have derived significant benefits from EMU, with its Euro

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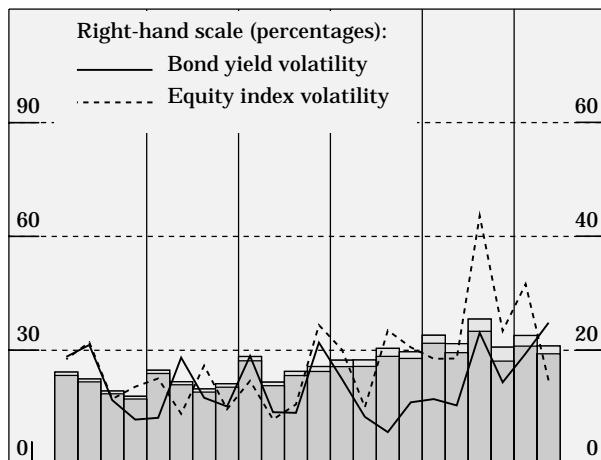
<sup>23</sup> The BIS has changed the basis of its analysis from the number of contracts traded to their dollar value. Value-based reporting should reduce the impact of fluctuations in the turnover of small contracts on the aggregate numbers and eliminate the distortions resulting from sudden changes in the unit value of contracts.

## Turnover of exchange-traded options and futures and bond yield and equity index volatilities<sup>1</sup>

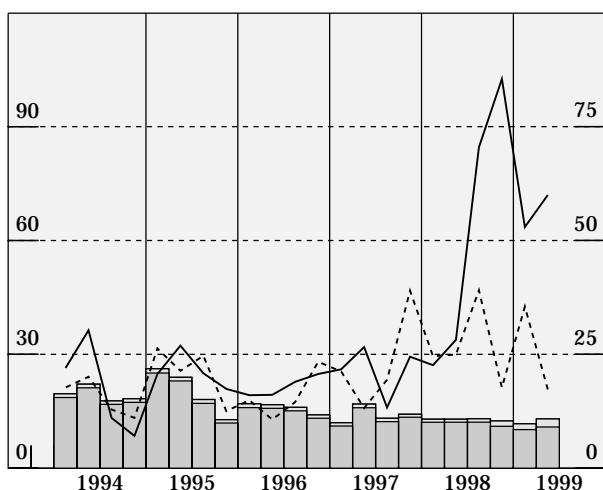
**North America**



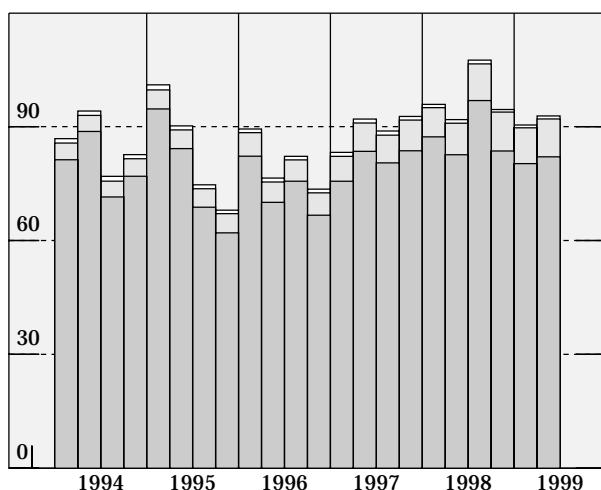
**Europe**



**Asia<sup>2</sup>**



**Total**



<sup>1</sup> 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. <sup>2</sup> Including Australia and New Zealand.

Sources: FOW TRADEdata; Futures Industry Association; BIS.

Notionnel contract suffering from persistent investor preference for the bund contract. The exchange is now concentrating on widening the distribution of its interest rate products through the Euro Globex Alliance.<sup>24</sup>

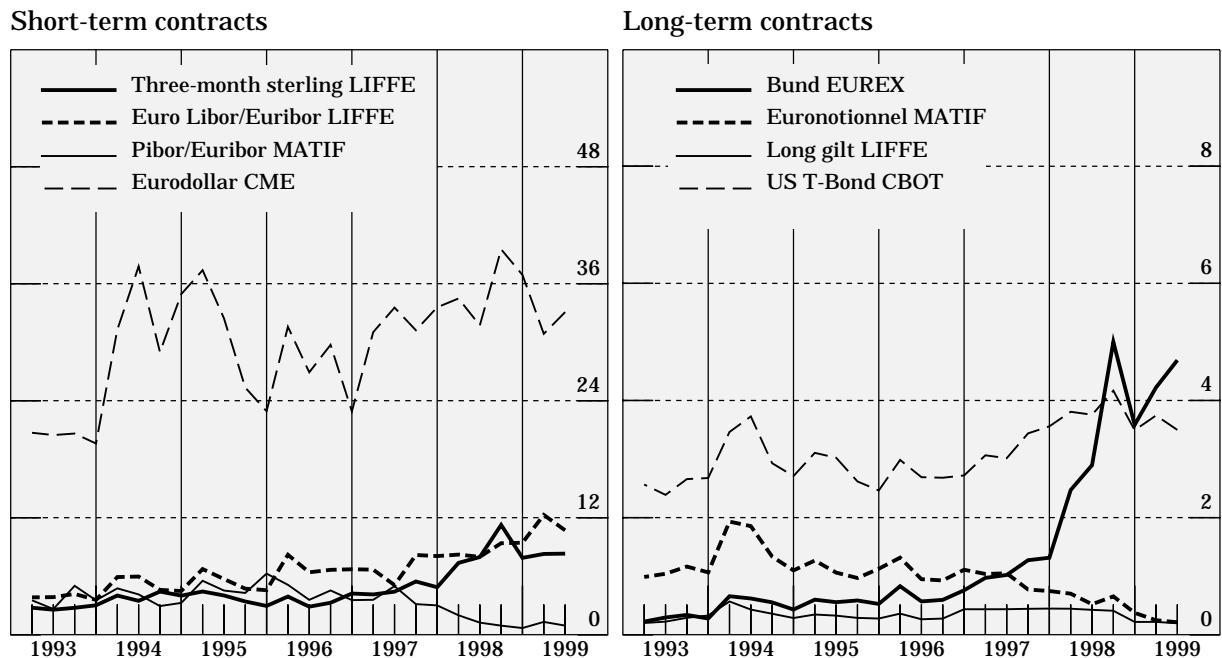
Faced with Eurex's dominant position, the other European exchanges have attempted to recapture market share at the long-term end of the yield curve by introducing instruments intended to address some of the technical problems faced by Eurex's bund contract. In June MEFF RF launched a contract on a basket of European government bonds aimed at reducing the problem of market squeezes.<sup>25</sup>

<sup>24</sup> The grouping includes MEFF RF, MIF and BDP. Meanwhile, MATIF has ceased to be an independent entity and is now part of ParisBourse SBF SA.

<sup>25</sup> The concerns created by the potential for market squeezes are likely to be assuaged by the Bundesbank's announcement that it will increase the number of 10-year issues.

## Turnover of major European and North American interest rate derivatives

Quarterly turnover, in trillions of US dollars



Sources: FOW TRADEdata; Futures Industry Association; BIS.

Meanwhile, LIFFE relaunched its bund contract, but with a lower coupon to broaden the basket of deliverable securities. In June the exchange began electronic trading of gilts and other government bond contracts. European exchanges also launched a variety of contracts based on recently introduced equity indices. The struggle to establish a benchmark for the euro zone reflects a number of factors, including the expectation of growing cross-border flows of equity investment, the shift from country to pan-European sectoral allocation and proposals to set up a pan-European trading platform.

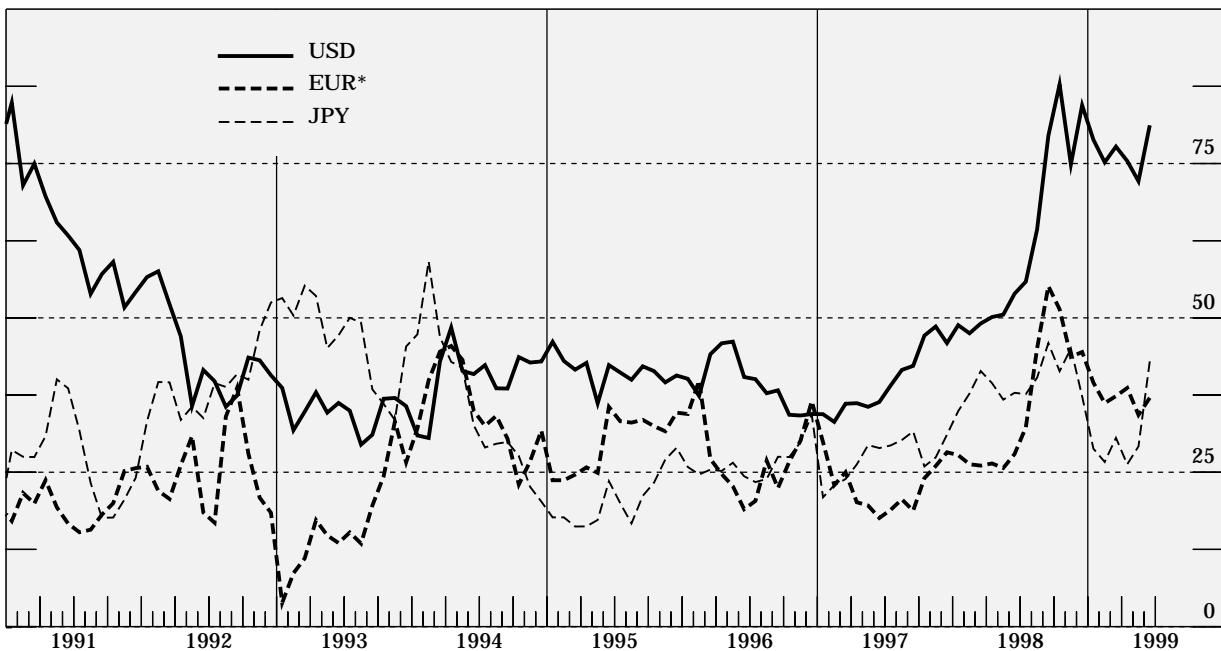
Apart from the impact of the euro, much of the market's attention focused on the implications of electronic trading. Leading banks and brokers have not only become increasingly supportive of the introduction of such low-cost facilities at the major exchanges, but have also participated in or created several online brokerage services. They have announced the launch of new electronic exchanges for both cash and derivatives markets. The growth of internet-based delivery mechanisms has created a major challenge for traditional exchanges, since the growing ability of investors to switch from one exchange to another through online dealing systems has weakened their monopolistic power in a given region or product range.

The impact of these developments was most obvious in the United States, where the growth of trading on a recently established electronic exchange, plans for the creation of new ones<sup>26</sup> and the general enthusiasm of retail investors for online brokerage have put the largest US marketplaces on the defensive. In response, they have made further improvements to the order delivery mechanisms of trading pits, introduced parallel trading (pit and screen-based), accelerated the development of their own electronic trading platforms and sought to enter into alliances with exchanges that have already developed successful screen-based systems. For example, in early July the CME introduced parallel trading of its eurodollar contract, the CBOE announced that it would begin to trade its less active stock

<sup>26</sup> Such as the International Securities Exchange, which if authorised would become the first fully electronic options exchange in the United States.

### Interest rate swap spreads over 10-year government bond yields

Monthly averages, in basis points



\* Deutsche mark before 1999.

Source: Datastream.

options on a screen-based system, and the CBOT reversed its initial refusal to form an alliance with Eurex. The rapid development of online trading also represents a challenge for European exchanges. Although eight stock exchanges confirmed the creation of a single trading platform, progress has been hampered by difficult negotiations concerning ownership and the selection of equity indices and trading systems. The proliferation of parallel online systems has led some observers to speculate that, if the obstacles to the integration of European markets are not soon removed, the relevance of this platform could be superseded by such networks.

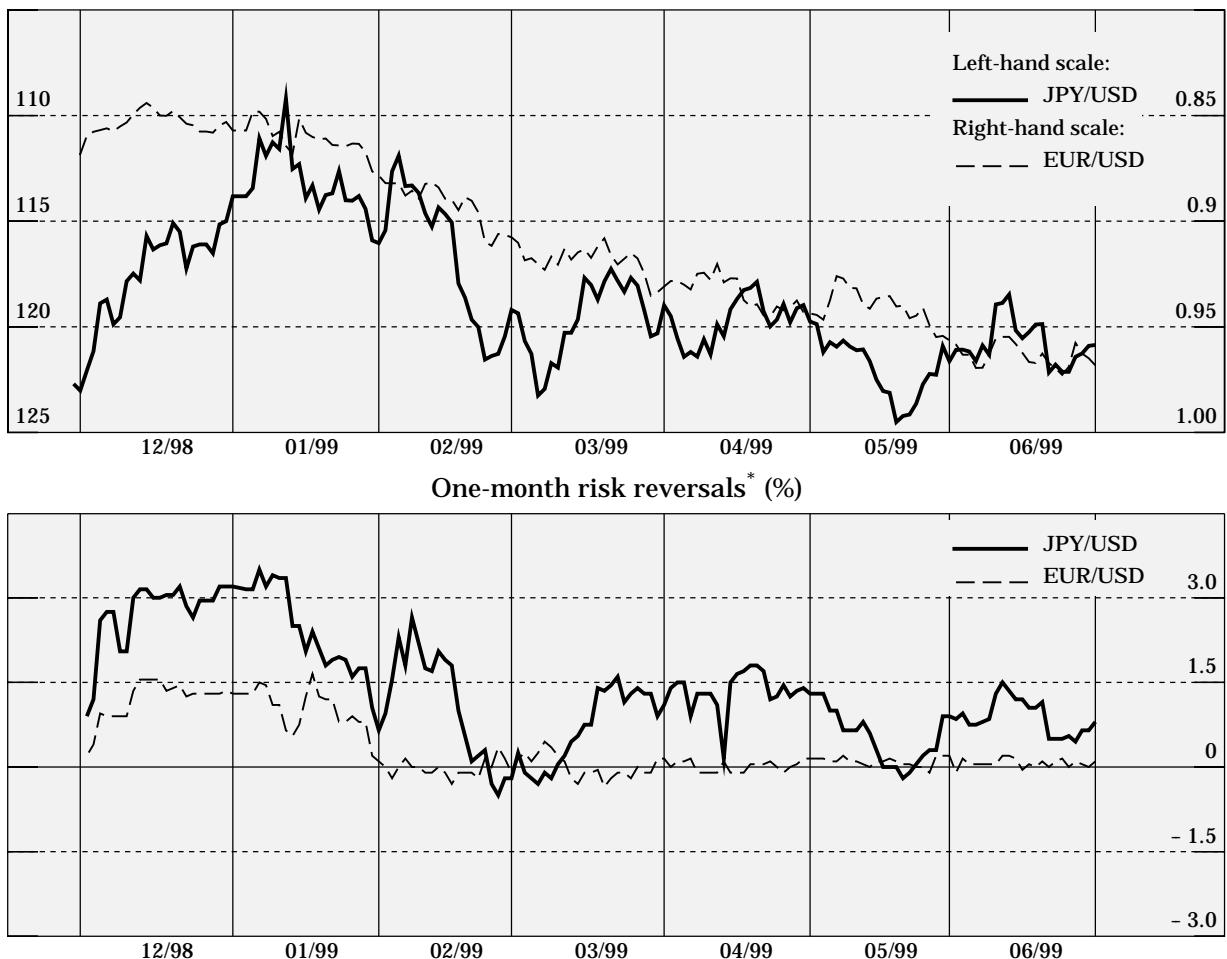
### Over-the-counter instruments

The increasingly bearish tone of fixed income markets in the second quarter of 1999 had a mixed impact on the OTC market. Market participants had been anticipating a tightening of US monetary conditions for some time; as a result, interest rate volatility in North America remained fairly low compared with the end of 1998. However, these calmer conditions failed to translate into narrower swap spreads as expectations of higher interest rates encouraged a great deal of rate fixing by end-users (see the graph above). In Europe, the weakness of the euro is reported to have generated some business in fixed income and currency instruments. However, in the light of the turbulence seen in the second half of 1998, investors' appetite for structured securities was reported to have remained subdued.

In the area of currency derivatives, the trading of options was concentrated in the dollar/yen pair for much of the quarter. Reports noted a rise in speculative positions and a return to strategies involving yen carry trades. Positions in risk reversals suggested a persistent bias towards a strong appreciation of the yen against the dollar (see the box on page 6). Historically, participants in currency options have tended to worry about sharp adjustments only in the presence of a clear trend in the exchange rate. Reports of official intervention in mid-June may have prevented such a trend from developing, but options traders evidently thought that upward pressures on the yen would continue. Risk reversals involving the euro/dollar pair also deviated from previous patterns. In this case there seemed to be

## Major currencies: exchange rates and risk reversals

### Yen and euro against the US dollar



\* Positive values indicate a bias of concern towards dollar weakness.

Sources: Reuters; BIS.

little concern about a dramatic depreciation of the euro despite its tendency to weaken during the quarter. Reports that Japanese life insurers were hedging their holdings of euro-denominated bonds may have been a transitory factor in the depreciation of the euro.

Transactions in equity derivatives received a boost from the global wave of mergers and acquisitions and the restructuring of markets brought about by the introduction of the euro.<sup>27</sup> Moreover, EMU has been associated with a shift from country to sectoral allocation, which has spurred institutional demand for pan-European index products. Much of the activity in equity-related instruments appears to have taken place in the retail-based warrants market, which is now largely dominated by equity-related transactions. In Japan, the clarification of the legal framework for the trading of OTC equity derivatives was accompanied by the selling of structured securities such as reverse convertible bonds.<sup>28</sup>

<sup>27</sup> A large number of warrants were based on the post-acquisition price of merged entities.

<sup>28</sup> Such bonds enable borrowers to pay either the stated principal or a fixed amount of shares in a designated blue chip stock.

The heavy global supply of securities, mergers and acquisition financing, some volatility in credit spreads and the recent proposals to reform the Basel Capital Accord (see Part II) generated active trading in credit derivatives. A large transaction based on a bank's portfolio of corporate loans illustrated the growing use of credit derivatives as an alternative to securitisation in the management of credit risk. Indeed, firms active in the market claim that the use of such instruments in "synthetic" securitisation<sup>29</sup> offers a number of advantages over standard collateralised loan obligations, including the removal of much of the underlying credit risk (although it is replaced by counterparty risk), the ease with which transactions can be structured, and savings in rating fees (since rating agencies do not have to give detailed ratings of all the assets forming the underlying portfolio). Another distinctive feature of recent activity in credit derivatives has been the purchase by banks and other intermediaries of credit default protection ahead of large merger-related transactions.

### **Structural and regulatory developments**

In May the CBOT and the CME announced the introduction of common banking and cross-margining. Both arrangements will enable members of the two exchanges to save on expenses related to transactions and margin requirements. Common banking will enable clearing firms to reduce the number of banking transactions required to complete settlement and to allocate collateral more efficiently. Cross-margining will provide for the creation of special accounts in interest rate products. Positions held at different exchanges will be considered on a portfolio basis, thus reducing the amount of margin collateral to be held. In June the US Commodity Futures Trading Commission removed its ban on the installation in the United States of terminals for foreign electronic exchanges. The agency announced that it would begin processing applications on a case-by-case basis and promised to address comparative regulatory levels between US and non-US electronic markets.

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<sup>29</sup> Synthetic securitisation enables the issuer of securities to transfer the credit risk of underlying assets through credit derivatives rather than through the removal of assets from its balance sheet.

## OTC derivatives markets and the global turbulence of autumn 1998

On 2 June 1999 the BIS released its second set of semiannual statistics on the global OTC derivatives market, covering the four main categories of market risk: currency, interest rate, equity and commodity. The data show that, in the wake of the massive unwinding of positions recorded during the global turbulence of last autumn, the total notional amount of open positions in the OTC market rose from \$72 trillion at end-June 1998 to \$80 trillion at end-December 1998. This represents an increase of 11% over this six-month period, against a contraction of 5% for exchange-traded products (to \$14 trillion).

Expansion was focused heavily on interest rate products (+18%), in particular swaps (+23%), whereas open positions in foreign exchange contracts posted a slight decline (-4%), largely due to a sharp fall in the segment for currency options (-20%). However, this contrast in the evolution of the two major market risk categories is more apparent than real. Owing to their very short maturity (less than one week on average), currency positions were often closed through the non-renewal of maturing contracts. In the case of interest rate products, the much longer maturity of existing contracts meant that outstanding open positions were neutralised by writing opposite contracts (which also reduced margin payments). The widening of swap spreads relative to primary market spreads, which was another salient feature of the period under review, acted as an incentive for prime names to issue fixed rate bonds and to swap payments into floating rate ones. Interest rate-related business was also buoyed by the rapid growth of the Deutsche mark swap market (+42%) as a substitute benchmark for bunds. In addition, swings in interest rates and, most notably, the unexpected surge in Japanese long-term interest rates prompted large market participants to reverse outstanding swaps.

### Global OTC derivatives markets<sup>1</sup>

Amounts outstanding, in billions of US dollars

	End-June 1998		End-December 1998	
	Notional amounts	Gross market values	Notional amounts	Gross market values
<b>A. Foreign exchange contracts</b>	<b>18,719</b>	<b>799</b>	<b>18,011</b>	<b>786</b>
Outright forwards and forex swaps	12,149	476	12,063	491
Currency swaps	1,947	208	2,253	200
Options	4,623	115	3,695	96
<b>B. Interest rate contracts<sup>2</sup></b>	<b>42,368</b>	<b>1,160</b>	<b>50,015</b>	<b>1,675</b>
FRAs	5,147	33	5,756	15
Swaps	29,363	1,018	36,262	1,509
Options	7,858	108	7,997	152
<b>C. Equity-linked contracts</b>	<b>1,274</b>	<b>190</b>	<b>1,488</b>	<b>236</b>
Forwards and swaps	154	20	146	44
Options	1,120	170	1,342	192
<b>D. Commodity contracts<sup>3</sup></b>	<b>451</b>	<b>38</b>	<b>415</b>	<b>43</b>
Gold	193	10	182	13
Other	258	28	233	30
Forwards and swaps	153	..	137	..
Options	106	..	97	..
<b>E. Other<sup>4</sup></b>	<b>9,331</b>	<b>393</b>	<b>10,371</b>	<b>490</b>
<b>Grand total</b>	<b>72,143</b>	<b>2,580</b>	<b>80,300</b>	<b>3,230</b>
<b>Gross credit exposure<sup>5</sup></b>		<b>1,203</b>		<b>1,329</b>
<i>Memorandum items:</i>				
<i>Exchange-traded contracts<sup>6</sup></i>	14,256		13,549	

<sup>1</sup> 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. <sup>2</sup> Single-currency contracts only.

<sup>3</sup> Adjustments for double-counting estimated. <sup>4</sup> For end-June 1998: positions reported by non-regular reporting institutions in the context of the triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity at end-June 1998; for end-December 1998: estimated positions of non-regular reporting institutions. <sup>5</sup> Gross market values after taking into account legally enforceable bilateral netting agreements. <sup>6</sup> Sources: Futures Industry Association; various futures and options exchanges.

Despite the rise in market volatility, the gross market value of outstanding positions, which measures the replacement cost of all outstanding contracts had they been closed on the reporting dates, increased only marginally (from 3.6% to 4% of reported notional amounts). A slight decline in the maturity of currency contracts (which partly offsets the effect of volatility) and, in the case of interest rate contracts, some flattening of the yield curve in the intermediate range (which reduces the value of yield curve plays) were contributing factors. Net market value, which is obtained by deducting legally enforceable bilateral netting agreements from the gross market value figure, was unchanged relative to notional amounts.

The contrast in the development of gross and net market values in the second half of 1998 reflected not only the neutralisation of existing contracts through opposite position-taking but also the perceived need for greater protection against counterparty risk. Net market values provide a more accurate picture of the credit exposure stemming from OTC transactions. Although the reported net figure represented only 12% of on-balance sheet international banking assets, the increase in the net figure between end-June and end-December was twice as high as that of international banking assets (10% against 5%) and may also mask important fluctuations within the period. In principle, such off-balance sheet exposure should be backed by collateral or margins, which can be adjusted on a daily basis to reflect changes in market values. However, the LTCM episode of last autumn revealed insufficient consideration of potential future exposure, as well as of the possible disappearance of liquidity for collateral assets in periods of extreme market stress. Recent public and private initiatives aim at correcting these deficiencies.<sup>①</sup>

<sup>①</sup> See, for example, *Banks' interactions with highly leveraged institutions* and *Sound practices for banks' interactions with highly leveraged institutions*, Basel Committee on Banking Supervision, Basel, January 1999.

# V

## Restructuring in the global banking industry<sup>30</sup>

Over the last two decades or so, deregulation and innovation have radically transformed the financial industry. Financial institutions in general, and banks in particular, have faced an increasingly competitive environment. These forces, in some cases reinforced by episodes of widespread financial distress, have been instrumental in a major restructuring and consolidation of the banking industry. This section briefly reviews some of the major trends in the restructuring process and the challenges that this poses to both private sector participants and the authorities.

### The background

Against the backdrop of generally favourable cyclical conditions, bank profitability has been stable or improving in most industrial countries in the second half of the 1990s. The main exception has been Japan, reflecting serious financial difficulties in the banking sector. These recent benign developments, however, should not be allowed to mask the structural challenges facing the industry. Seen from a longer-run perspective, profit margins have tended to decline somewhat in several countries, at least since the mid-1980s (see the graph on the next page). Similarly, outside the English-speaking countries, bank share prices have lagged behind the general equity market indices. More tellingly, the widespread narrowing of net interest margins underscores the long-term loss of profitability on traditional intermediation activities (see the graph on the next page and Table 1 on page 44), while the fairly widespread decline in “individual” credit ratings since the late 1980s highlights the deterioration in institutions’ risk profile (see the graph on page 37).<sup>31</sup> In terms of rate of return on assets and net interest margins, the United States is somewhat of an outlier, with clear improvements in these variables having been recorded over the longer term.<sup>32</sup>

These statistics are symptomatic of the powerful forces operating at both the firm and the macro level that are inducing a restructuring and consolidation in the banking industry. At the micro level, deregulation in the functional, geographical, price and balance sheet dimensions of the operation of institutions, together with technological advances in the production and delivery of financial services, have vastly increased potential output and reduced marginal production costs. At the same time, in a structural sense, financial capital has tended to grow more expensive at the margin as the cost of retail and wholesale funding has increased, and shareholders have become more demanding and assertive in requiring a focus on appropriate returns on their investments. To a similar effect, regulators have become more alert to the need for banks to operate with adequate capital levels, and the public sector has been perceived as gradually withdrawing support to individual institutions in its role as owner or provider of emergency assistance (except, of course, at times of generalised crisis). This last factor is

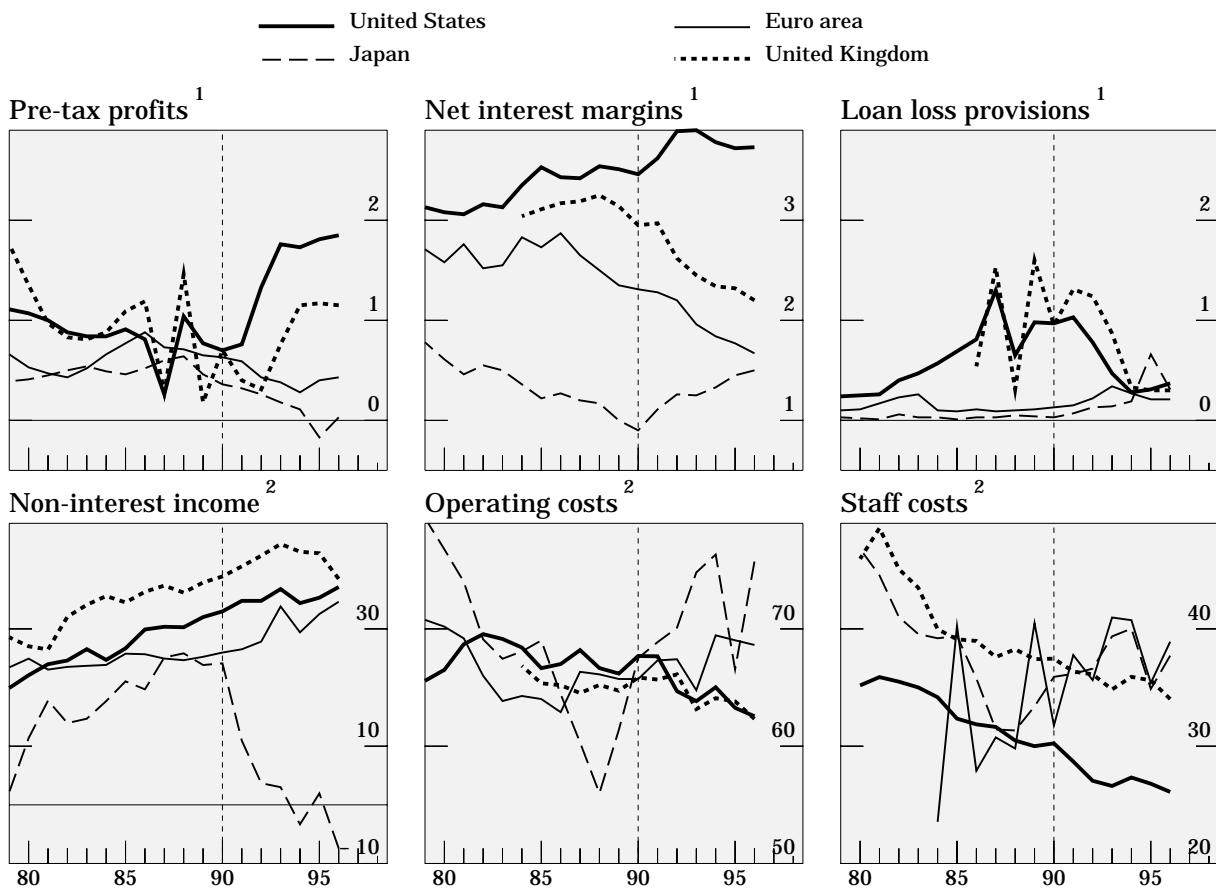
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<sup>30</sup> This section was prepared by Claudio Borio and Kostas Tsatsaronis. The authors would like to thank Angelika Donaubauer for excellent statistical assistance.

<sup>31</sup> Fitch IBCA’s “individual” ratings attempt to assess the bank’s creditworthiness on a stand-alone basis independent of any form of outside support either from the authorities or its owners.

<sup>32</sup> Several factors have underpinned the increase in net interest rate margins in the United States: success in keeping rates on core retail deposits comparatively low; a shift from securities holdings to higher-yielding loans, particularly as demand recovered in the 1990s; better loan pricing procedures; and, in the early 1990s, the particularly steep yield curve.

### Long-term accounting indicators of banks' performance



<sup>1</sup> As a percentage of average total assets (current and previous year). <sup>2</sup> As a percentage of gross income.

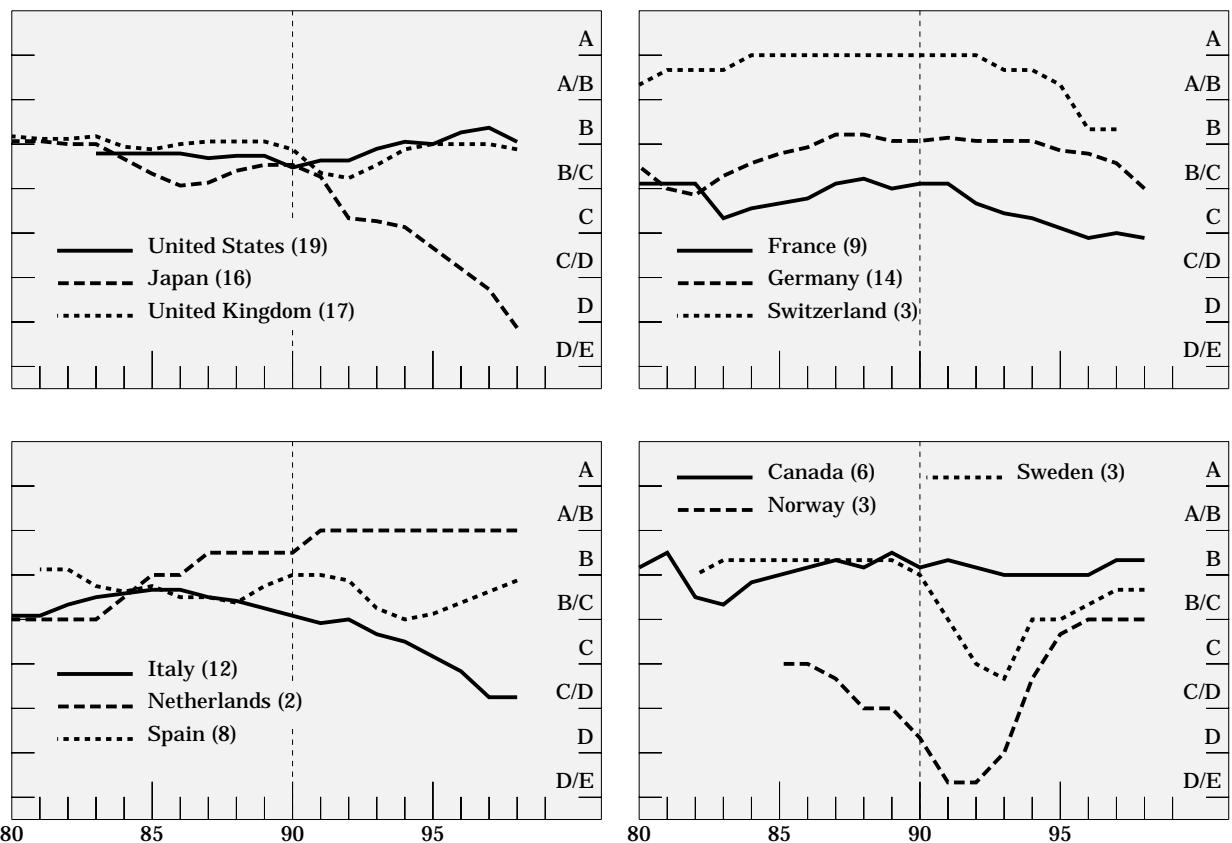
Source: OECD.

reflected in the decline in “legal” ratings in some countries.<sup>33</sup> At the macro level, relaxation of credit constraints and heightened competitive pressures have arguably contributed to episodes of widespread financial distress, both nationally and internationally, not least by supporting vicious circles in credit expansion and asset price misalignments. The consequent crises have acted as a major catalyst for restructuring and consolidation.

Looking ahead, there is little reason to believe that the forces for change will abate. Deregulation has not fully run its course. While the prospect for the elimination of the remaining functional barriers in the United States is still somewhat uncertain, in Japan the effects of the “Big Bang” are only beginning to be felt. In the European Union, it is probably only a matter of time before the mortgage lending sector is exposed more fully to the rigours of competition and before the conduct of business restrictions that still hamper the direct provision of cross-border services in the retail sector come under closer scrutiny. In addition, the creation of EMU has been widely heralded as a major catalyst for further restructuring. Reasons for this include greater price transparency and the loss of foreign exchange revenue and of any competitive advantage for domestic players associated with the existence of national currencies, as well as the required redefinition of the contours of money, bond, equity and derivatives markets. More generally, while deregulation in the insurance industry has so far lagged that in banking, it is expected to have a significant impact on the other segments of the financial

<sup>33</sup> “Legal” ratings do not assess the quality of an institution but rather reflect the rating agency’s (in this case Fitch IBCA’s) assessment of whether it would receive support in the event of difficulties.

### “Individual” credit ratings of major banks \*



\* Average of banks' rating at end-year. Figures in brackets indicate the number of banks included. Fitch IBCA's “individual” ratings attempt to assess the bank's creditworthiness on a stand-alone basis independent of any form of outside support either from the authorities or its owners.

Sources: Fitch IBCA; authors' calculations.

industry in the foreseeable future. Meanwhile, the pace of technological change is unlikely to slow down. In particular, the longer-term impact of the development of new delivery and payment channels should not be underestimated, especially in the retail sector; the various forms of electronic banking are one such example. These developments have increased the contestability of the market for distribution of financial services as a new set of potential competitors, such as software houses and computer network providers, are bound to put increasing pressure on networks of bricks-and-mortar branches.

Overall, booming demand for financial services may well continue to fuel above average growth rates for the financial sector in the long term; the bright prospects for asset management services in the wake of the increasing demand for private pensions are the most obvious example. Nevertheless, a precondition for banks to take advantage of the new opportunities is to achieve cost-effectiveness and to redeploy resources towards the more profitable activities while avoiding the temptation to take excessive risks in the restructuring process.<sup>34</sup>

<sup>34</sup> The establishment for the foreseeable future of a low inflation environment has a contrasting effect on banks' performance. On the one hand, to the extent that it is associated with higher trend growth in the real economy, lower inflation improves business prospects. On the other hand, it reduces the positive impact on operating revenues associated with comparatively low rates on retail deposits (the “endowment effect”). In addition, it implies that banks cannot count so easily on rising collateral values on real assets, such as property, to underpin asset quality.

## Features of the restructuring

While the prevailing consensus on the existence of excess capacity in many segments of the financial industry is rooted in logic, business experience and casual observation, rigorous measurement of the phenomenon is particularly difficult. Ideally, the best synthetic indicator of excess capacity would be a measure of the gap between a cyclically adjusted return on equity capital and the corresponding ex ante rate of return required by the market (often referred to as the “cost of equity capital” in the literature on corporate finance), applied to either individual institutions or particular lines of business.<sup>35</sup> However, because of the paucity of available data and the opaqueness of balance sheets, such comparisons are impracticable and difficult to interpret at the aggregate level, particularly in a cross-country context. This explains why most of the analysis of these issues has relied largely on an examination of more indirect indicators of pressures on capacity, ranging from the ones outlined above to various elements of financial structure and costs. For much the same reasons, it is easier to identify the broad direction of change consistent with the relief of current pressures on margins than the size of the required adjustment, itself very much a moving target.

There is wide agreement on some of the features of the required restructuring. The number of institutions is expected to decline and their average size to increase, leading to a rise in concentration. This should facilitate the necessary reduction in excess capacity in both retail and wholesale segments, help counterbalance rising competitive pressures, and provide the critical size for the necessary expenditures on infrastructure and efficient production and distribution. Minimum size is considered particularly important in wholesale segments such as investment banking and processing business (e.g. global custodians). Costs will need to be cut further. Branch networks should shrink and be converted to higher value added services; at least in the medium term, employment should fall and skills would have to be upgraded. An increasing proportion of income is likely to come from non-interest sources, as banks try to economise on expensive capital and to meet the rapidly growing demand for capital market related services, such as securities underwriting and, above all, asset management (see the graph on page 36).<sup>36</sup> Less clear, however, are the speed and limits of these trends.

A review of the restructuring process under way confirms the breadth and depth of the forces at work. There has indeed been a generalised tendency for the number of deposit-taking institutions to decline markedly and for concentration to rise (see Table 2 on page 45), for employment and staff costs to fall (see Table 3 on page 46 and the graph on page 36) and, to a lesser extent, for branch networks to shrink (see Table 4 on page 47).<sup>37</sup> At the same time, the available evidence also indicates that consolidation and rationalisation have been uneven across countries and market segments. This reflects not only differences in initial conditions but also, and more significantly, the strength of the obstacles to the required adjustment.

The above indicators suggest that consolidation has proceeded fastest and in some respects furthest in those Nordic countries that experienced a banking crisis in the late 1980s–early 1990s. They also show that the restructuring in continental Europe and Japan has been lagging behind that in English-speaking countries. While disentangling structural and conjunctural factors is very difficult, accounting returns on equity and the behaviour of equity prices contain a similar message. An important factor behind this uneven pace of change is differences in the ability to effect the necessary cuts in employment and staff costs. Only recently have these obstacles shown signs of weakening. As

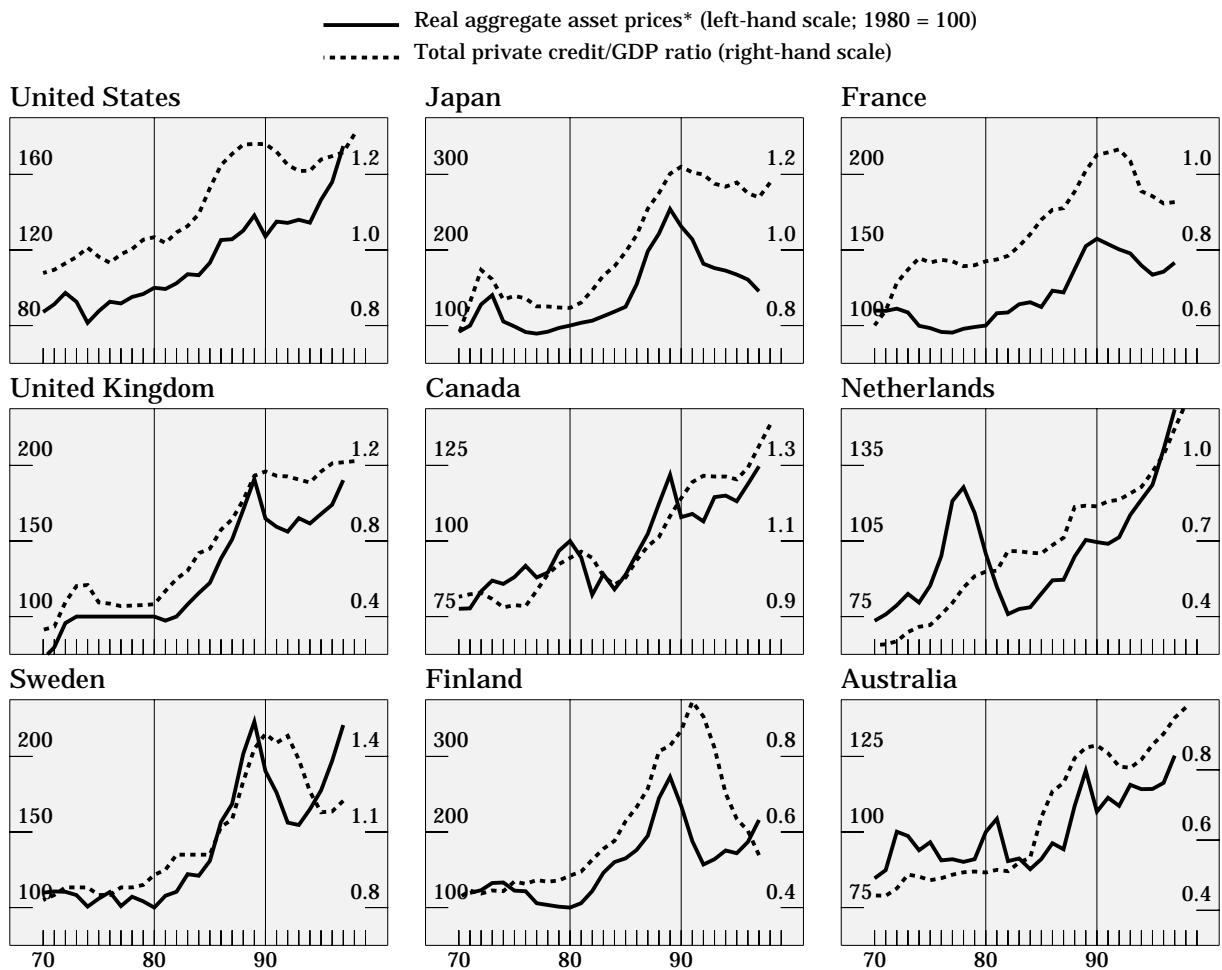
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<sup>35</sup> Within institutions at the cutting edge of measurement technology, analyses of this kind are beginning to be used as a guide to business decisions (e.g. for internal capital allocation and share repurchase decisions).

<sup>36</sup> While non-interest revenue has been expanding in relative terms, figures from the securities industry in the United States suggest no corresponding improvement, and possibly some deterioration, in profit margins in that sector.

<sup>37</sup> Countries where branching restrictions have been lifted more slowly or more recently, such as Italy, the United States and Japan, are among those where no cuts in branch networks have occurred as yet. In addition, in the United States the figures reflect in part the rapid expansion of so-called “supermarket” branches, with a small staff and a restricted and highly automated set of services.

### Credit and real aggregate asset prices



\* Weighted average of equity and residential and commercial real estate price indices deflated by consumer prices. The weights are based on the composition of private sector wealth.

Sources: National data; BIS calculations.

regards institutional segments, while in terms of numbers of institutions consolidation has been most substantial among savings, cooperative and mutual banks, in terms of employment this has been so only in those cases where a crisis has occurred, such as the United States and the Nordic countries. Moreover, restructuring in this sector has often been accompanied by a shift of resources into segments where competition was already strong. The experience of building societies in the United Kingdom in the wake of demutualisation is a case in point. Wholesale market segments, not well captured by the above indicators, are those where competition is fiercest but the possibility to adjust probably greatest. The battle for "bulge bracket" status in investment banking, which is demonstrated by the numerous forays and withdrawals of participants, is an illustration of this.

While the restructuring under way is both necessary and desirable, it is not without risks. Strains could appear as competitive pressures interact with stubborn cost structures and heighten incentives for risk-taking. This possibility exists in any industry but it is especially relevant in finance in general, and banking in particular, for at least two reasons. First, in contrast to other industries, excess capacity in banking is not always self-correcting as it does not immediately reduce profitability. Rather, it tends to raise it for a time, exacerbating cyclical patterns. Specifically, credit expansion facilitates economic activity and booms in asset prices that, for a while, generate strong positive feedback on the financial condition of participants. The experience with excessive lending to emerging market countries is just

### Merger and acquisition activity in the banking sector<sup>1</sup>

	Number of transactions				Value of transactions							
					in billions of US dollars				as a % of all sectors <sup>2</sup>			
	1991–92	1993–94	1995–96	1997–98 <sup>3</sup>	1991–92	1993–94	1995–96	1997–98 <sup>3</sup>	1991–92	1993–94	1995–96	1997–98 <sup>3</sup>
United States	1,354	1,477	1,803	1,052	56.8	55.3	114.9	362.4	18.7	9.0	10.6	18.2
Japan	22	8	14	28	0.0	2.2	34.0	1.1	0.3	18.8	21.6	4.1
Euro area <sup>4</sup>	495	350	241	203	17.5	14.6	19.1	100.4	8.3	9.3	11.2	27.1
Belgium	22	18	20	21	1.0	0.6	0.5	32.5	14.1	7.0	4.9	34.8
Finland	51	16	7	7	0.9	1.0	1.2	4.3	22.3	21.7	7.4	77.5
France	133	71	50	36	2.4	0.5	6.5	4.0	4.3	1.0	9.8	4.1
Germany	71	83	36	45	3.5	1.9	1.0	23.2	6.5	7.6	3.7	45.5
Italy	122	105	93	55	5.3	6.1	5.3	30.1	15.6	17.7	24.9	63.3
Netherlands	20	13	8	9	0.1	0.1	2.2	0.4	0.2	0.5	17.5	0.8
Spain	76	44	27	30	4.3	4.5	2.3	5.9	13.5	21.5	14.1	26.6
Norway	23	24	9	5	0.1	0.2	1.0	1.5	1.2	5.7	8.0	20.0
Sweden	38	23	8	8	1.1	0.4	0.1	2.1	3.8	2.0	0.3	7.1
Switzerland	47	59	28	22	0.4	3.9	1.0	24.3	9.5	43.4	2.4	78.3
United Kingdom	71	40	25	17	7.5	3.3	22.6	11.0	6.5	3.4	10.4	4.0
Australia	19	20	18	14	0.9	1.5	7.3	2.3	3.6	5.7	14.3	4.9
Canada	29	31	16	11	0.5	1.8	0.1	29.1	1.9	4.1	1.6	34.4
<b>Total banks</b>	<b>2,098</b>	<b>2,032</b>	<b>2,162</b>	<b>1,360</b>	<b>84.7</b>	<b>83.2</b>	<b>200.8</b>	<b>534.2</b>	<b>11.7</b>	<b>8.5</b>	<b>11.0</b>	<b>18.9</b>
<i>Memo item:</i>												
<i>Total non-bank financial</i>	2,723	3,267	3,973	5,156	63.7	122.2	189.9	534.2	8.8	12.5	10.4	19.4

<sup>1</sup> Classified by the industry of the target; only completed or pending deals; announcement date volumes. <sup>2</sup> Of mergers and acquisitions in all industries. <sup>3</sup> As at 30 October 1998. <sup>4</sup> Excluding Austria, Ireland, Luxembourg and Portugal.

Source: Securities Data Company.

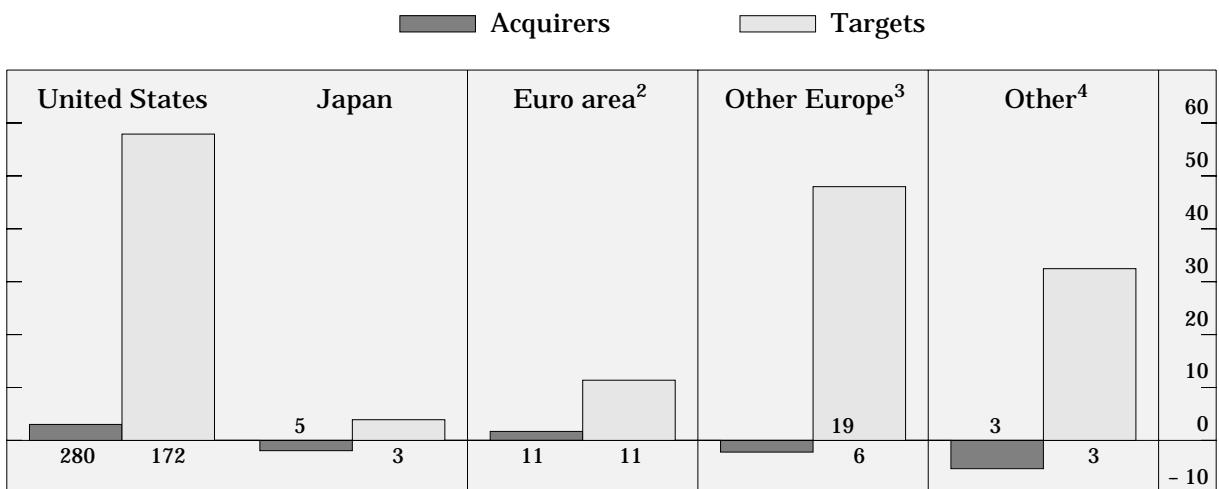
the most recent example of this peculiarity.<sup>38</sup> The true extent of excess capacity may thus not become fully apparent. Second, government intervention can weaken discipline further. Explicit or implicit forms of protection designed to limit the consequences of financial disruptions are a case in point. Similarly, in several countries extensive public ownership has shielded parts of the banking industry from the full impact of competitive pressures, while possibly exacerbating such pressures on the private segment. In other words, banking is characterised by an “exit” problem. Arguably, this combination of a less effective self-correcting mechanism with the exit problem can bias the industry towards a permanent state of excess capacity even in the absence of technological pressures. It can thereby also heighten the potential for financial strains.

As an illustration of some of the potential risks of the restructuring under way, consider the possible contrasting assessments that could be made of two characteristics of the current process: the major wave of mergers and acquisitions sweeping the industry, and heightened shareholder expectations.

The present M&A wave is an integral element of the consolidation process, and part of a much broader phenomenon that extends well beyond the financial sector (see the table above). Just like previous ones, while rooted in the objective requirements outlined above, the current wave has been sustained by a rising, indeed exuberant, stock market and by a natural tendency for behaviour to conform to the prevailing norms of the moment. In some respects, the present wave is more promising

<sup>38</sup> This experience also indicates how the problems linked to excess capacity can be “exported” internationally.

### Comparative share price responses to mergers and acquisitions<sup>1</sup>



<sup>1</sup> Average returns in excess of the banking sector index over a two-month window centred on the announcement date of the transaction; the figures in the graph indicate the number of cases for which share prices were available during the period January 1994–January 1999. <sup>2</sup> France, Germany, Italy, Spain, Portugal and Finland. <sup>3</sup> Denmark, Sweden, Switzerland and the United Kingdom. <sup>4</sup> Australia and Canada.

Sources: IFR Securities Data; Datastream; authors' calculations.

than previous ones. Its nature is more defensive, with retrenchment and cost-cutting receiving higher priority. The sizable share of in-market mergers in the retail sector, where clear gains can be reaped through rationalisation of cost structures (e.g. the consolidation of overlapping branch networks) is an indication of these preoccupations. Firms' managements appear more critical of the merits of functional and, except in formerly highly segmented markets, geographical expansion, particularly across borders. Rating agencies and, less so, acquirer shareholders have on balance responded more positively than in the past in some countries. Nevertheless, there are also reasons for being cautious. On the whole, studies continue to indicate that the experience of a majority of mergers is disappointing, as organisational problems are systematically underestimated and acquirers tend to overpay for targets. In addition, rating agencies' assessments have not been uniform. Besides expressing some scepticism about less defensive mergers, notably those combining very different business lines, rating agencies have tended to be less positive about transactions in countries where the obstacles to the required cost-cutting are greater (e.g. continental Europe vs. the United States). The comparative response of share prices to the announcement of these transactions yields a similar picture (see the graph above).

Undoubtedly, the greater attention that firms' managements have been paying to the interests of shareholders in recent years has been a positive influence on the restructuring process. Indeed, one of the objectives of the Basel Capital Accord was precisely that of shifting the corporate governance balance away from management towards shareholders in order to counteract what was widely perceived as a pursuit of growth and size regardless of profitability and risk. However, the legitimate question has been raised, not least by those responsible for risk management at some international banks, as to whether current shareholder demands might not be excessive and rather insensitive to underlying risks.<sup>39</sup> The alluring prospects of the unprecedented bull market in equities and, possibly, the institutionalisation of savings together with more aggressive asset management techniques have

<sup>39</sup> From this perspective, the assessment of share repurchases is mixed, in a way similar to that of the merger wave. Share repurchases could be seen as reflecting the recognition by management that funds should be returned to shareholders whenever they do not yield sufficient risk-adjusted returns. On the other hand, they could be a mechanism for raising returns simply by increasing leverage, at the expense of creditors and, possibly, ultimately taxpayers.

been mentioned as contributing to this development. If true, this could induce excessive risk-taking and tend to undermine the effectiveness of capital standards.

### Selected policy issues

The key policy challenge in the years ahead is to facilitate the orderly restructuring of the financial industry. This means strengthening and complementing those market mechanisms that discipline individual institutions while at the same time improving the safeguards against systemic risk. What follows focuses on two sets of policy issues. The first comprises policy responses that command a broad consensus, but on which uneven progress has been made, with significant differences persisting across countries. The second comprises some open questions raised by the configuration of the industry emerging from the restructuring.

There is a broad consensus on the following policy responses:

- Encouraging a structure of ownership of institutions that is more sensitive to market forces. Privatisation is important in this context.
- Lessening the obstacles to the adjustment of labour. Facilitating labour shedding, and reducing inflexibilities in the labour market more generally, remains a priority.
- Lessening the obstacles to the adjustment of capital. Despite the rather mixed historical record of M&A activity, there is broad agreement that firms should have the freedom to reallocate capital according to perceived gains and strict economic criteria. The alternative, viz. a more restrictive attitude towards mergers, would most probably be counterproductive. For instance, regulatory and other less transparent impediments to the conclusion of cross-border deals deserve careful examination. In particular, there is a risk that excessive emphasis on the preservation of existing domestic interests may sidetrack the required rationalisation process. Strong opposition to concentration per se could have similar effects. Rather, a policy response more consistent with the restructuring needs would be to strengthen the market disciplining mechanisms, not least in order to make decisions regarding M&A deals more responsive to the interests of the shareholders of the acquiring, as opposed to acquired, institution.<sup>40</sup>
- Improving disclosure, particularly regarding the risk profile of institutions. Besides supporting greater discipline on the part of creditors and counterparties, short of a painful loss experience this may well be the only way of helping to correct any excessive shareholder demands in terms of returns on equity.
- Limiting moral hazard, by restricting the provision of various forms of implicit or explicit government guarantee.
- Managing financial distress in a way consistent with the above principles. This implies not only limiting the insulation of market participants from losses on outstanding contracts but also underpinning the restructuring of portfolios with measures that tackle the root cause of the problem. The elimination of any underlying excess capacity so as to ensure a return to sustained profitability is essential.

Two features of the configuration of the emerging financial industry potentially complicate the authorities' ability to limit moral hazard. The appropriate policy response to these emerging features remains very much an open question. The first such feature is the increasing size of the banking

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<sup>40</sup> The interests of the shareholders of the target companies are naturally protected by their decision to sell the shares at the appropriate price; by contrast, no such automatic protection is afforded to those of the acquiring firms. The common divergent behaviour of the share prices of the two firms in response to a takeover is an illustration of this asymmetry. This imbalance is especially important given that the payment premium over the value of the target firm's assets (under the new management) can have a material effect on the financial strength of the firm emerging from the transaction.

organisations. As the M&A wave has progressed, deals have grown larger, reaching unprecedented proportions (see the table on page 40). This risks raising the significance of the “too big to fail” issue to a new dimension and exacerbating some of the problems that arise in the international context because of the disparity between the size of the lending institutions and that of the markets in emerging economies.<sup>41</sup> The second is the increasing linkages between banks and institutions that have traditionally fallen outside the protective umbrella of the central bank, notably insurance companies. In both cases, unless the potential extension of the safety net can be avoided, the configuration of the industry would be biased by perceptions of the implicit guarantees, with the authorities de facto subsidising concentration. By the same token, excess capacity could be made worse.

Outlining the set of public policies supportive of an orderly restructuring is relatively straightforward. As experience indicates, implementing them is much harder. Yet their implementation is essential, for what is at stake goes beyond aspects of industrial organisation. As this article has suggested, it includes securing financial stability in an increasingly difficult environment.

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<sup>41</sup> For instance, the “marginal” nature of some of the investments, given their small size in relation to the overall balance sheet of the lending institutions, is a likely, albeit partial, explanation for the observed greater amplitude of the ebb and flow cycles that characterise the availability of capital to emerging economy borrowers. This effect, which has a counterpart in the case of portfolio investment flows, implies that the scale of the corresponding adjustments in financing to these borrowers is greater than to those in industrial countries.

**Table 1**  
**Profitability of major banks, 1996–98**

As a percentage of average total assets

	Return on assets <sup>1</sup>			Loan loss provisions			Net interest margin			Operating costs		
	1996	1997	1998	1996	1997	1998	1996	1997	1998	1996	1997	1998
United States (13)	1.83	1.77	1.42	0.35	0.39	0.44	3.44	3.19	3.03	3.85	3.62	3.93
Japan <sup>2</sup> (19)	-0.54	0.00	-0.74	1.82	0.92	1.90	1.16	1.28	1.07	0.93	1.13	1.00
Euro area (44)	0.55	0.53	0.63	0.30	0.32	0.32	1.79	1.69	1.55	2.01	1.98	1.95
Belgium (4) <sup>3</sup>	0.54	0.65	0.50	0.19	0.13	0.06	1.62	1.44	0.96	1.70	1.61	1.28
Finland (1)	0.73	1.06	-0.08	0.54	0.44	0.33	1.57	1.77	1.79	2.42	1.71	1.73
France (6)	0.32	0.37	0.27	0.20	0.30	0.23	1.09	1.07	0.63	1.40	1.43	0.95
Germany (3)	0.51	0.36	0.56	0.21	0.27	0.24	1.37	1.23	0.98	1.80	1.71	1.65
Italy (8)	0.40	0.02	0.61	0.50	0.75	0.55	2.15	2.03	2.06	2.31	2.36	2.21
Netherlands (3)	0.80	0.81	0.60	0.27	0.18	0.26	2.20	2.06	1.90	2.38	2.40	2.32
Spain (6)	0.84	0.99	1.07	0.42	0.36	0.38	2.57	2.66	2.76	2.51	2.68	2.82
Denmark (2)	0.97	0.95	0.90	0.22	0.13	0.17	2.03	1.70	1.62	1.83	1.54	1.51
Norway (4)	1.42	1.25	0.95	-0.21	-0.16	0.25	2.48	2.18	2.17	2.49	2.29	2.14
Sweden (4)	1.32	0.81	0.93	0.26	0.11	0.12	1.99	1.83	1.46	1.55	1.61	1.57
Switzerland (2)	-0.06	-0.11	0.46	0.72	0.29	0.15	0.91	0.85	0.80	2.04	2.06	1.92
United Kingdom (4)	1.22	0.99	1.19	0.21	0.21	0.25	2.24	2.16	2.18	2.72	2.64	2.41
Canada <sup>2</sup> (6)	1.22	1.24	0.99	0.23	0.20	0.21	2.54	2.24	1.98	2.50	2.55	2.48
Australia <sup>2</sup> (4)	1.78	1.63	1.39	0.16	0.18	0.26	3.35	3.09	2.89	3.19	2.88	2.72

Note: The figures in brackets in the first column denote the number of banks.

<sup>1</sup> Pre-tax profit. <sup>2</sup> Fiscal years. <sup>3</sup> Only three banks in 1998 following the merger of two institutions in the peer group.

Sources: Fitch IBCA; authors' calculations.

Table 2  
**Bank restructuring: number of institutions and size concentration**

	Number of institutions <sup>1</sup>						Concentration: top five (top ten)		
	1980 <sup>2</sup>	1990	1997	Peak (since 1980)		1980 <sup>3</sup>	1990	1997	
	number			year	% change <sup>4</sup>	percentage share in total assets			
United States <sup>5</sup>	36,103	27,897	22,140	36,103	1980	-38.7	9 (14)	9 (15)	17 (26)
Japan	547	605	575	610	1988	-5.7	25 (40)	30 (49)	31 (51)
Euro area <sup>6</sup>	9,445	8,979	7,040	9,445	1985	-25.5			
Austria	1,595	1,210	995	1,595	1980	-37.6	40 (63)	35 (54)	44 (57)
Belgium	176	157	136	176	1980	-22.7	53 (69)	48 (65)	57 (74)
Finland	631	498	341	631	1985	-46.0	63 (68)	65 (69)	77 (80)
France	1,033	786	567	1,033	1984	-45.1	56 (69)	52 (66)	57 (73)
Germany <sup>7</sup>	5,355	4,721	3,577	5,355	1980	-33.2	n.a.	n.a.	17 (28)
Italy	1,071	1,067	909	1,109	1987	-18.0	26 (42)	24 (39)	25 (38)
Netherlands	200	180	169	200	1980	-15.5	69 (81)	73 (84)	79 (88)
Portugal	17	33	39	39	1997	-	n.a.	n.a.	n.a.
Spain <sup>8</sup>	357	327	307	378	1982	-18.8	38 (58)	38 (58)	47 (62)
Norway	346	165	154	346	1980	-55.5	63 (74)	68 (79)	59 (71)
Sweden	598	498	124	598	1980	-79.3	64 (71)	70 (82)	90 (93)
Switzerland	478	499	394	499	1990	-21.0	45 (56)	45 (57)	49 (62)
United Kingdom	796	665	537	796	1983	-32.5	n.a.	49 (66)	47 (68)
Australia	812	481	344	812	1980	-57.6	62 (80)	65 (79)	69 (81)
Canada	1,671	1,307	942	1,671	1984	-43.6	n.a.	55 (78)	78 (93)

<sup>1</sup> Deposit-taking institutions, generally including commercial, savings and various types of mutual and cooperative banks. <sup>2</sup> For the euro area and Finland, 1985; for France and Canada, 1984; for the United Kingdom, 1983; for Portugal and Spain, 1981. <sup>3</sup> For France, 1986; for Italy, 1983; for Austria, Finland and the Netherlands, 1985; for Switzerland, 1987. <sup>4</sup> From peak to most recent observation where applicable. <sup>5</sup> Data including credit unions (commercial banks and thrifts only: 1997, 10,817; percentage change, -42%). <sup>6</sup> Excluding Ireland and Luxembourg. <sup>7</sup> For 1980, western Germany only. <sup>8</sup> Concentration data for commercial and savings banks only.

Sources: British Bankers' Association; Building Societies Association; national data.

Table 3  
Bank restructuring: employment and staff costs

	Employment <sup>1</sup>					Staff costs <sup>2</sup>			
	1980 <sup>3</sup>	1990	1997	Peak		1980–82 <sup>4</sup>	1986–88	1995–96	
	number (in thousands)			year	% change <sup>5</sup>	as a percentage of gross income			
United States <sup>6</sup>	1,900	1,979	1,929	2,136	1987	– 9.7	36	31	26
Japan	609	585	554	609	1980	– 9.0	44	33	36
Euro area <sup>7</sup>	1,756	2,050	2,043	2,052	1992	– 2.3	n.a.	n.a.	37
Austria	62	75	75	77	1992	– 2.5	48	42	36
Belgium	68	79	77	79	1990	– 3.0	41	33	40
Finland	42	50	26	53	1989	– 50.3	43	33	29
France	398	399	382	401	1988	– 4.7	47	44	44
Germany <sup>8</sup>	533	696	751	758	1994	– 0.9	48	44	39
Italy	277	324	314	333	1993	– 5.6	38	42	44
Portugal	56	59	60	63	1992	– 4.8	40	39	36
Netherlands	107	116	115	117	1991	– 1.7	42	40	37
Spain	252	252	242	256	1991	– 5.4	47	43	39
Norway	24	31	24	35	1987	– 29.5	42	35	32
Sweden	39	45	43	46	1991	– 5.9	29	23	28
Switzerland	84	120	107	120	1990	– 10.7	40	37	35
United Kingdom	324	423	356	428	1989	– 16.8	47	38	35
Australia	265	356	317	356	1990	– 11.0	n.a.	n.a.	n.a.
Canada	170	211	264	264	1997	–	42	33	35

<sup>1</sup> In deposit-taking institutions. <sup>2</sup> For Austria, Belgium, Italy, the Netherlands and Switzerland, all banks; for all other countries, commercial banks (OECD definition). <sup>3</sup> For the euro area and France, 1985; for Australia and Sweden, 1984; for Portugal, 1982; for Spain, 1981. <sup>4</sup> For Austria, France, Italy and Belgium, 1981–82; for Canada, 1982. <sup>5</sup> From peak to most recent observation where applicable. <sup>6</sup> Employment data excluding credit unions: 1997, 1,748; percentage change, –13%. <sup>7</sup> Excluding Ireland and Luxembourg. <sup>8</sup> For employment in 1980, western Germany only.

Sources: For staff costs, OECD; for employment, British Bankers' Association, Building Societies Association and national data.

**Table 4**  
**Bank restructuring: number of branches<sup>1</sup>**

	1980 <sup>2</sup>	1990	1997	Peak	
	number (in thousands)			year	% change <sup>3</sup>
United States	58.6	70.0	76.9	76.9	1997
Japan	13.9	22.6	23.3	23.5	1995
Euro area <sup>4</sup>	130.4	148.4	159.9	159.9	1997
Austria	3.4	4.5	4.7	4.7	1997
Belgium	7.8	8.3	7.4	8.5	1989
Finland	3.4	3.3	1.2	3.5	1988
France	24.3	25.7	25.5	25.9	1987
Germany <sup>5</sup>	39.3	43.6	47.1	49.2	1992
Italy	12.2	17.7	25.6	25.6	1997
Netherlands	6.6	8.0	7.0	8.5	1986
Portugal	1.4	2.0	3.8	3.8	1997
Spain	25.8	35.2	37.6	37.6	1997
Norway	1.9	1.8	1.6	2.2	1987
Sweden	3.7	3.2	2.5	3.7	1980
Switzerland	3.7	4.2	3.3	4.2	1990
United Kingdom	20.4	19.0	14.3	21.2	1985
Australia	6.3	6.9	6.1	7.1	1993
Canada	8.8	8.7	9.4	9.4	1997

<sup>1</sup> Deposit-taking institutions; for the United States, excluding various types of credit cooperative. <sup>2</sup> For the euro area, France, the Netherlands and Portugal, 1981; for Australia, 1987. <sup>3</sup> From peak to most recent observation where applicable. <sup>4</sup> Excluding Ireland and Luxembourg. <sup>5</sup> For 1980, western Germany only.

Sources: British Bankers' Association; Building Societies Association; national data.

## ABBREVIATIONS USED FOR EXCHANGES

AEX	Amsterdam Exchanges
AMEX	American Stock Exchange
ASX	Australian Stock Exchange
BDP	Bolsa de Derivados do Porto
BM&F	Bolsa de Mercadorias y Futuros
CBOE	Chicago Board Options Exchange
CBOT	Chicago Board of Trade
CME	Chicago Mercantile Exchange
CSCE	Coffee, Sugar & Cocoa Exchange
CX	Cantor Exchange
DB	Deutsche Börse
FINEX	New York Cotton Exchange – Finex Division
HEX	Helsinki Securities and Derivatives Exchange, Clearing House
HKFE	Hong Kong Futures Exchange
ISE	Italian Stock Exchange
KLOFFE	Kuala Lumpur Options and Financial Futures Exchange
KLSE	Kuala Lumpur Stock Exchange
LIFFE	London International Financial Futures and Options Exchange
LSE	London Stock Exchange
MATIF	Marché à Terme International de France
ME	Montreal Exchange
MEFF RF/RV	Mercado de Futuros Financieros de Renta Fija/Renta Variable
MIF	Mercato Italiano Futures
MONEP	Marché des Options Négociables de Paris
NASD	National Association of Securities Dealers
NYBT	New York Board of Trade
NYCE	New York Cotton Exchange
NYSE	New York Futures Exchange
NYSE	New York Stock Exchange
OSE	Osaka Securities Exchange
PE	Pacific Exchange
SBF	Société des Bourses Françaises
SFE	Sydney Futures Exchange
SIMEX	Singapore International Monetary Exchange
SOFFEX	Swiss Options and Financial Futures Exchange
SWX	Swiss Exchange
TSE	Tokyo Stock Exchange

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