BANK FOR INTERNATIONAL SETTLEMENTS

Monetary and Economic Department

INTERNATIONAL BANKING AND FINANCIAL MARKET DEVELOPMENTS

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C O N T E N T S*

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I

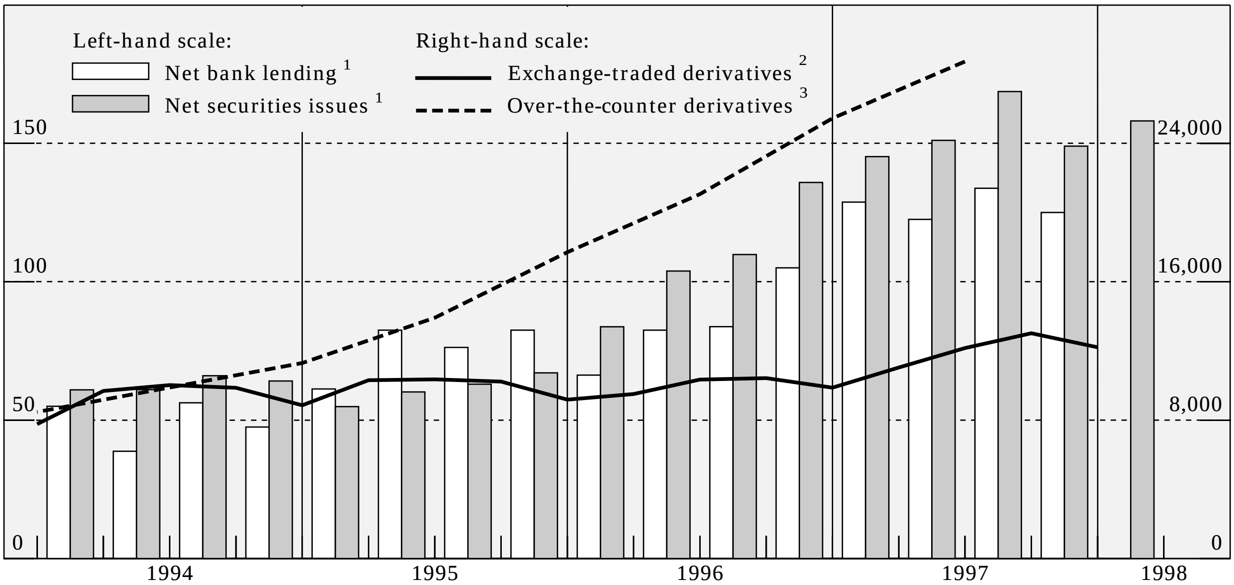
OVERVIEW OF RECENT INTERNATIONAL BANKING AND FINANCIAL MARKET DEVELOPMENTS

Developments in the first quarter of 1998 show that the overall buoyancy of international financial markets was not fundamentally challenged by the Asian crisis. First, the accommodative stance adopted by monetary authorities, combined with the flight to government securities maintained bond yields around historical lows. In a context of ample liquidity, investors discounted the risks of inflation and the potentially negative impact of the crisis on corporate profitability, thus propelling equity indices in North America and Europe to new records. Secondly, movements in bond yields within Europe reflected expectations of a further convergence of short-term rates in the prospective EMU member countries towards the lowest current rates, notwithstanding the actual or projected divergences in cyclical economic conditions. Thirdly, there was, with the exception of the dollar/yen parity, a return to stability in the foreign exchange market. In this area, concerns about larger US current account deficits and possible portfolio shifts related to the advent of the single European currency were dwarfed by the perception of strong US fundamentals. Finally, given the recovery of most Asian currencies and the general decline in risk premia, the integration of emerging economies into the world financial system was not called into question.

Against this background, primary market issuance of international debt securities rebounded strongly, reaching an all-time quarterly record. The main underlying forces were low nominal interest rates, the rapid emergence of a market for euro debt, deferred issuance from the fourth quarter of 1997, and ongoing funding diversification and restructuring by financial intermediaries. Greater awareness of liquidity and credit risks in the wake of the Asian crisis shifted investor interest away from lower-rated signatures and towards the larger issues of prime borrowers.

Activity in international financial markets

In billions of US dollars

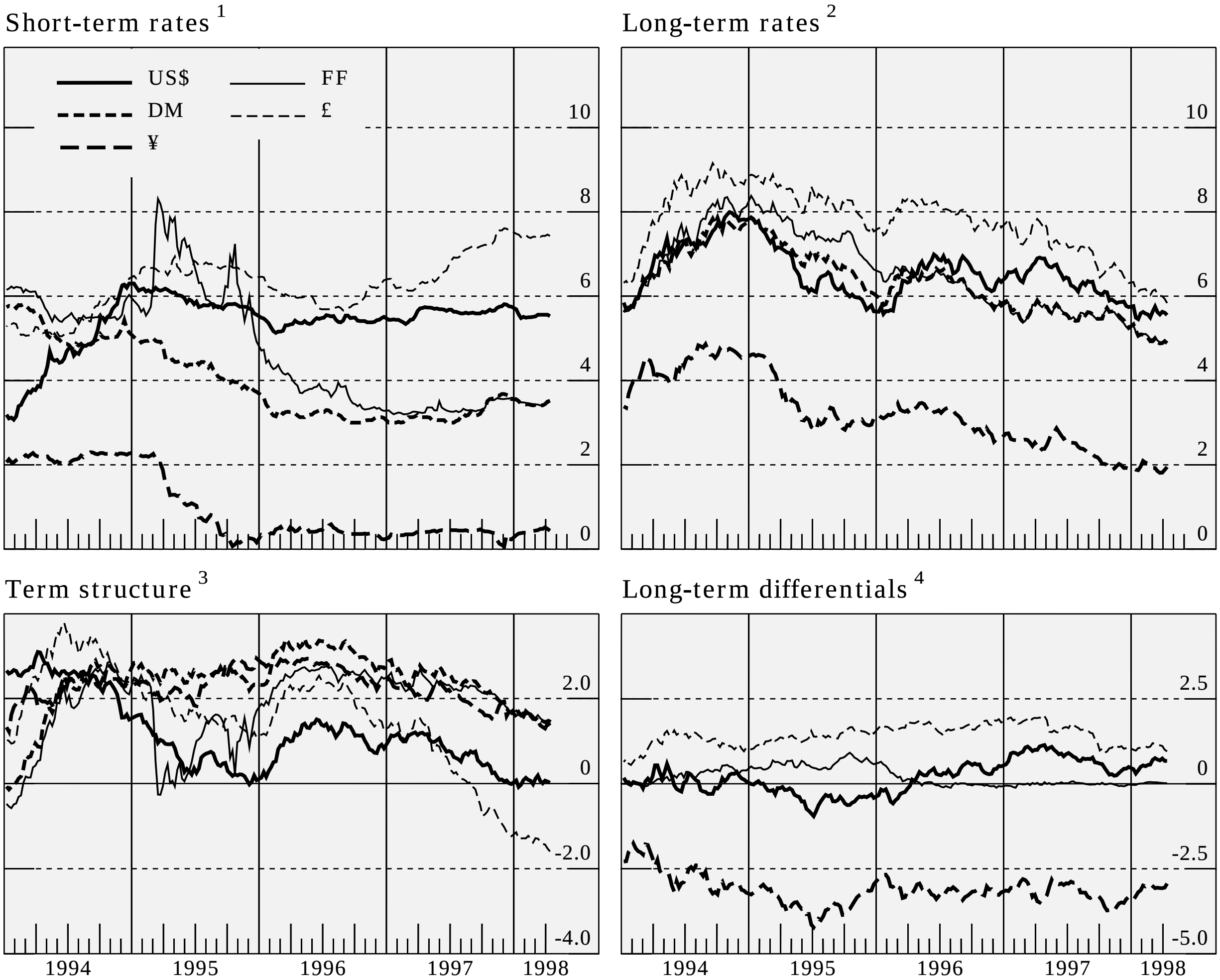


[1] Four-quarter moving averages. [2] Notional amounts outstanding of currency, interest rate and equity index futures and options. [3] Notional amounts outstanding of currency and interest rate swaps and other swap-related derivatives; semi-annual data only.

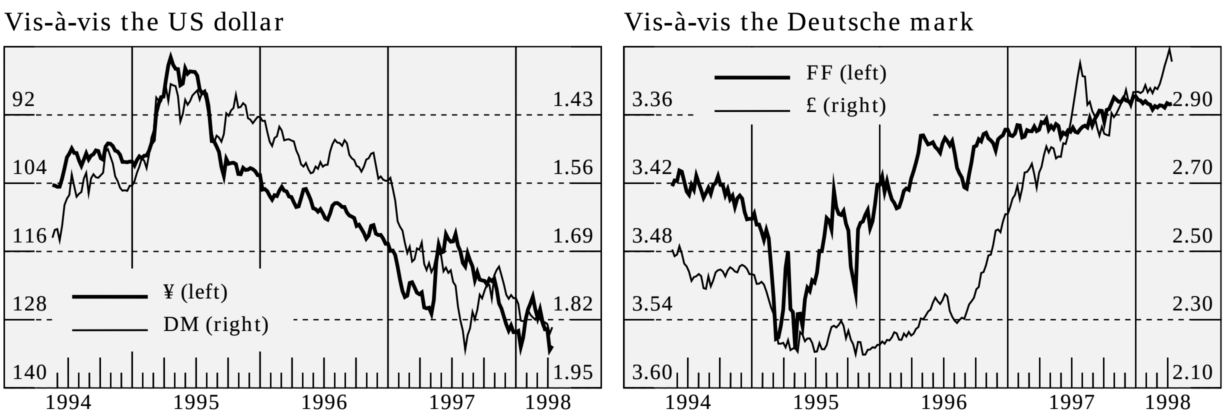
Sources: Bank of England, Euroclear, Euromoney, Futures Industry Association, International Financing Review (IFR), International Swaps and Derivatives Association (ISDA), International Securities Market Association (ISMA), national data and BIS.

International short and long-term interest rates

Weekly averages, in percentages and percentage points



Bilateral exchange rates



[1] Three-month euromarket interest rates. [2] Yields in annual terms on the basis of ten-year benchmark government bonds. [3] Long-term rates minus short-term rates. [4] Vis-à-vis German long-term rates.

Sources: Datastream, national data and BIS.

Concern about credit risk stemming from the financial difficulties experienced by Asian entities and the retreat of certain banking groups were also responsible for the sharply reduced volume of syndicated credit facilities arranged for emerging market names. In addition, there appears to have been greater demand for hedging instruments, while the growing weight of electronic trading

Estimated net financing in international markets[1]

In billions of US dollars

Components of net international financing	1996	1997					1998	Stocks at end-Dec. 1997
	Year	Year	Q1	Q2	Q3	Q4	Q1	
Total international[2] bank claims[3]	604.1	1,221.8	364.8	216.0	160.1	480.9	..	10,382.7
minus: interbank redepositing	184.1	721.8	179.8	106.0	55.1	380.9	..	5,097.7
A = Net international bank lending[3]	**420.0**	**500.0**	**185.0**	**110.0**	**105.0**	**100.0**	..	**5,285.0**
B = Net money market instruments	**41.1**	**19.8**	**7.1**	**5.3**	**9.8**	**-2.4**	**10.8**	**183.8**
Total completed bond and note issues	865.9	1,033.2	253.8	261.6	282.8	235.1	301.3	
minus: redemptions and repurchases	363.6	457.1	108.3	99.3	113.3	136.2	123.2	
C = Net bond and note financing	**502.3**	**576.0**	**145.4**	**162.3**	**169.4**	**98.9**	**178.1**	**3,358.3**
D = Total international financing[4]	**963.4**	**1,095.9**	**337.5**	**277.6**	**284.3**	**196.5**	..	**8,827.2**
minus: double-counting[5]	193.4	230.9	47.5	27.6	104.3	51.5	..	1,242.2
E = Total net international financing	**770.0**	**865.0**	**290.0**	**250.0**	**180.0**	**145.0**	..	**7,585.0**

[1] Changes in amounts outstanding excluding exchange rate valuation effects for banking data and euronote placements; flow data for bond financing. [2] Cross-border claims in all currencies plus local claims in foreign currency. [3] See notes to Table 1 of the statistical annex. [4] A + B + C. [5] International bonds purchased or issued by the reporting banks, to the extent that they are taken into account in item A.

accentuated the reconfiguration taking place in the derivatives industry. Meanwhile, the comprehensive BIS banking statistics now available for the fourth quarter of 1997 underline the dramatic adjustments which took place at the height of the Asian turmoil. Whereas commercial banks withdrew massively from the region during this period, international interbank business reached an unprecedented level. An ample supply of liquidity helped to accommodate the abrupt adjustment in international investment and borrowing positions and enabled Japanese banks to surmount their funding difficulties. It thus appears that the accommodative monetary stance in the major countries was instrumental in containing contagion outside Asia.

Although fears of a broader repercussion of the events in Asia receded in the first quarter of this year, Asian countries still need to face the economic, financial and social costs of adjustment. Moreover, questions can be raised concerning some of the assumptions behind the buoyancy of markets. At the same time, the accelerating pace of consolidation within the world financial industry is adding urgency to prior initiatives aimed at addressing the challenges created by globalisation. Some of these are dealt with in greater detail in the various sections of this commentary, but mention may be made here of the recent steps taken towards ensuring effective implementation of the Core Principles for Effective Banking Supervision, the ongoing efforts made to develop a monitoring framework for market and credit risks and the recent proposals made by the Joint Forum on Financial Conglomerates for facilitating the exchange of information and cooperation between supervisors.[1]

The Asian crisis also gave impetus to new initiatives. Mention may be made in this regard of the establishment of a BIS Institute for Financial Stability to respond to demands for guidance in implementing sound policies in all areas bearing on financial stability,[2] as well as of proposals to adapt the "architecture" of the international financial system to an environment which increasingly relies on the free flow of capital (see pages 11 and 12). However, attempts to design a framework for effective market discipline, crisis prevention and burden-sharing in the event of a crisis should not obscure

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[1] The Joint Forum, which was established in 1996 in the aftermath of the collapse of Barings, will use input from the industry and the supervisory community to address supervisory issues arising from the continuing emergence of financial conglomerates and the blurring of distinctions between the activities of firms in each market segment. See the announcement made in February by the Basle Committee, the International Organization of Securities Commissions (IOSCO) and the International Association of Insurance Supervisors (IAIS).

[2] See the BIS Press Communiqué of 12th March 1998.

other, but more immediate, challenges facing the financial industry and its regulators, namely the transition to the single European currency and the next millennium. While preparations for the introduction of the euro are reaching an advanced stage (though with a number of detailed issues still pending), concerns continued to be expressed regarding adjustments to computer systems ahead of the century date change. In January, the Committee on Payment and Settlement Systems (CPSS) created a special section on the BIS Web site containing information on the state of preparedness of worldwide payment and settlement systems.[3] In April, the BIS hosted a Round Table on the subject, with the sponsoring organisations deciding to form a Joint Year 2000 Council.[4] Uncertainty surrounding these issues might warrant greater prudence in risk management strategies than has so far been assumed.

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3 A reporting framework will allow operators to indicate the state of internal and external preparedness of key components of their technological infrastructures.

4 The sponsoring organisations are: the Basle Committee, the CPSS, the IAIS and the IOSCO. The BIS Web site, which contains information on the Round Table, will be used to provide ongoing information on the activities of the sponsoring organisations and of the Joint Year 2000 Council.

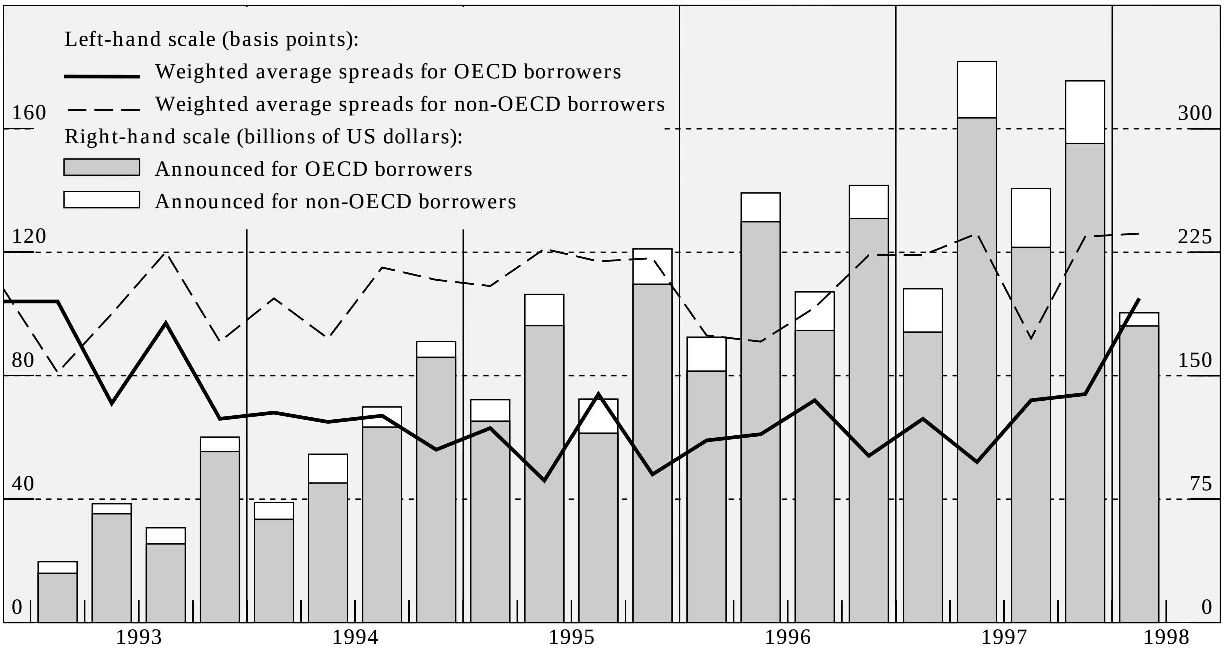
II
THE INTERNATIONAL BANKING MARKET

Overview

In the *first quarter of 1998*, activity in the international syndicated loan market showed that, despite strong borrowing demand for acquisition financing, the total volume of arrangements declined sharply. In particular, banks reduced their lending commitments to emerging market economies, both in Asia and elsewhere (from $39 billion in the fourth quarter of 1997 to $8 billion). The main underlying factors in this decline were credit risk concern following developments in the Asian region and reduced participation by Asian banks. In fact, there were reports that some banking groups had been engaged in the disposal of loans on a large scale, as part of a general attempt to improve capital ratios. Negotiations for the rolling-over of existing Asian debt also acted as a brake on the arrangement of new facilities.[5] With secondary market trading gaining broader acceptance, banks focused increasingly on the risk and return characteristics of assets. This tended to lengthen the syndication process, to widen margins and to make underwriting participation more dependent upon the actual provision of ancillary services. Reflecting the shift in the balance of power away from borrowers, facilities increasingly incorporated clauses for the repricing or modification of terms, thus bringing practices closer to those prevailing in the international bond market.

Detailed data now available for the *fourth quarter of 1997* provide some further insight into the drastic adjustment which took place in the international market-place. They show, in particular, an unprecedented expansion in the outstanding stock of international bank credit ($481 billion, or 21% on an annual basis). Growth was spurred by a strong upsurge in interbank

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



* Spreads over LIBOR on US dollar credits.
Sources: Euromoney and BIS.

5 The most notable example was the exchange of close to $22 billion of Korean banks' short-term debt for longer-term loans.

Main features of international lending by BIS reporting banks[1]

In billions of US dollars

Components of international bank lending	1996 Year	1997 Year	1996 Q4	1997 Q1	Q2	Q3	Q4	Stocks at end-Dec. 1997
Claims on outside-area countries	**141.4**	**94.9**	**44.1**	**41.6**	**31.0**	**25.1**	**-2.8**	**1,197.7**
Claims on inside-area countries	**446.2**	**1,115.7**	**177.8**	**304.3**	**167.2**	**160.8**	**483.4**	**8,935.0**
Claims on non-banks	302.2	262.9	115.4	79.1	52.2	88.4	43.2	2,778.6
Banks' borrowing for local onlending[2]	-40.1	131.0	-28.2	45.3	8.9	17.4	59.3	1,058.7
Interbank redepositing	184.1	721.8	90.6	179.8	106.0	55.1	380.9	5,097.7
Unallocated	**16.4**	**11.2**	**3.7**	**18.9**	**17.9**	**-25.9**	**0.3**	**250.0**
Gross international bank lending	**604.1**	**1,221.8**	**225.6**	**364.8**	**216.0**	**160.1**	**480.9**	**10,382.7**
Net international bank lending[3]	**420.0**	**500.0**	**135.0**	**185.0**	**110.0**	**105.0**	**100.0**	**5,285.0**
Memorandum item: Syndicated credits[4]	**900.9**	**1,136.3**	**265.6**	**202.7**	**340.8**	**263.7**	**329.1**	

[1] Changes in amounts outstanding excluding exchange rate valuation effects. [2] 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). [3] Defined as total international claims of reporting banks minus interbank redepositing. [4] Announced new facilities.

activity, which contrasted with the slowdown seen in direct business with non-bank customers located in major financial centres and with the absolute reduction (of $27 billion) in banks' exposure to Asian emerging economies. On the one hand, the need to hedge existing positions or to accommodate the abrupt changes that took place in investment and borrowing positions led to substantial transfers of interbank funds across geographical regions. On the other hand, the flight to quality resulting from the spillover of the turbulence in Asia, together with some flattening of yield curves in major currencies, appears to have dampened the enthusiasm of non-bank entities for leveraged investment strategies. There was even some evidence of an unwinding of such positions in the period under review (see the next section). At the same time, contagion outside Asia seems to have been contained, with, in particular, sustained but selective lending to Latin American countries.

An analysis by reporting centres and nationality groups of reporting banks suggests that other important underlying forces also fuelled international interbank business in the fourth quarter of 1997. One was the financing difficulties experienced by Japanese banks, as illustrated by the temporary reappearance of a significant premium on their interbank liabilities (see the graph on the next page), and which required a heavy supply of fresh capital from head offices to foreign affiliates. Such funding accounted for more than the whole of the $68 billion of net exports of capital through the Japanese banking system in the period under review.[6] Another factor that stimulated the interbank market was the restructuring taking place within the global financial industry. End-year window-dressing operations by US and European banks may have played a role, especially in view of the reduced importance of the counterbalancing influence of Japanese banks' own seasonal behaviour.[7] However, the fact that expansion was largely driven by inter-office accounts points to the importance of commercial banks' funding of existing, as well as newly acquired, affiliates.

6 However, this seems to have been followed by a number of withdrawals from overseas markets in the first quarter of this year.

7 The end-year and mid-year accounting terms for Japanese banks are end-March and end-September respectively.

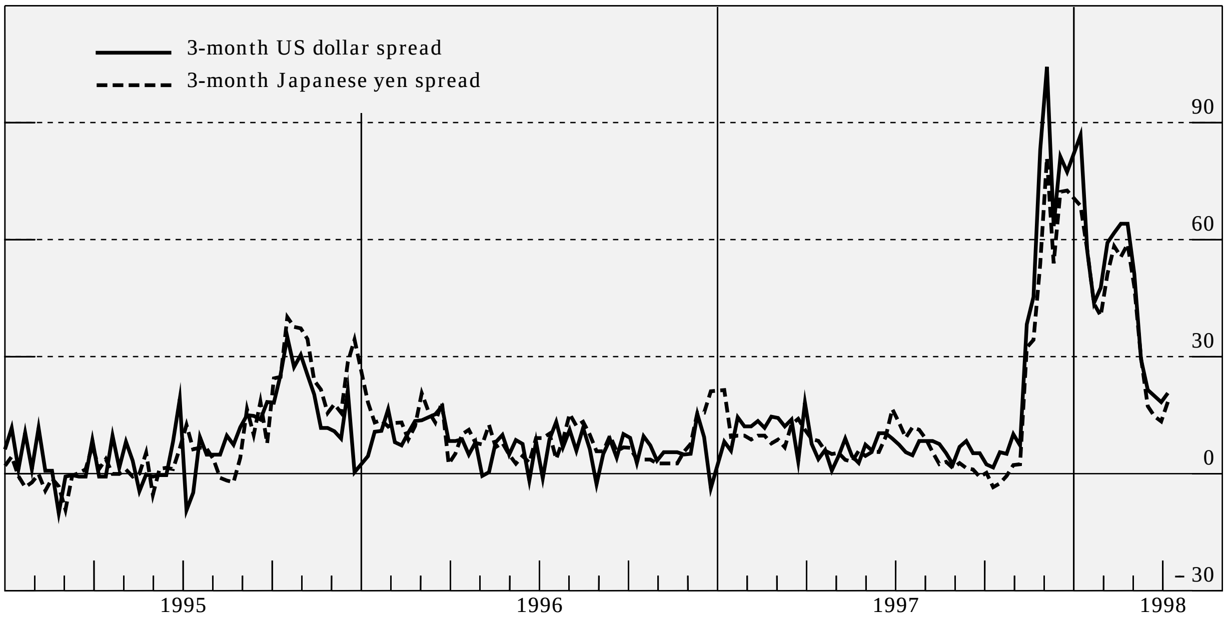
Business with countries inside the reporting area

Japan was by far the major supplier of funds to the market in the fourth quarter of 1997, mostly through credits in dollars and yen extended to Japanese banks' foreign affiliates. On the uses side of the international banking market, the United States was the main recipient, with the inflows primarily channelled through the domestic banking system. Meanwhile, the reshuffling taking place within the global financial industry boosted the intermediary function of London, which further strengthened its dominant position in Europe. There was also a strong upswing in the volume of interbank credit channelled through the Caribbean reporting centres, the location of many hedge funds and other investment companies, which points to strong borrowing demand from a wide range of market participants in the wake of the Asian crisis. But whereas in earlier periods such developments were associated with some increase in reporting banks' portfolios of securities issued by entities in these offshore centres (as well as, for that matter, by those located in emerging market countries), an absolute decline was recorded in such holdings in the fourth quarter. These two opposite movements, together with repayment of international banking funds by non-bank entities located in the United Kingdom, suggest a shift away from leveraged transactions (cash borrowing for investment in high-yielding instruments, including through repos).

Further evidence of greater caution on the part of international investors during the fourth quarter was provided by their renewed interest in the liquidity and safety of bank deposits. This was particularly noticeable for non-bank entities domiciled in the Caribbean centres and the United States. Within this overall movement, there was a strong preference for assets denominated in dollars and sterling, and reduced interest in deposits in Deutsche marks, in line with developments in foreign exchange markets (see Annex table 4 B). In spite of the weakening of the yen vis-à-vis the dollar and the record low levels of short-term interest rates in Japan, there was a sizable increase in yen-denominated deposits. This may have been related to concerns about the strength of Japanese financial institutions, as illustrated by the temporary reappearance of the "Japan premium", which may have led to some shift of yen deposits in favour of non-Japanese banking institutions.

Differentials in US dollar and Japanese yen interbank interest rates between Tokyo and London *

Weekly data, in basis points



* Tokyo interbank offered rate minus London interbank offered rate.

Source: DRI.

Banks' business with non-bank entities inside the reporting area[1]

In billions of US dollars

Country of residence of non-bank customers	Cross-border positions					Memorandum item: Domestic bank credit and money[2]				
	1996	1997				1996	1997			
	Q4	Q1	Q2	Q3	Q4	Q4	Q1	Q2	Q3	Q4
Total assets	**84.1**	**55.1**	**73.8**	**87.0**	**30.5**					
Canada	-1.8	4.0	2.5	0.4	0.0	10.4	12.5	12.7	19.3	11.1
France	0.0	12.4	-0.7	2.3	11.0	4.9	13.0	25.0	14.5	11.7
Germany	5.2	-1.5	-0.1	13.0	11.8	95.0	49.0	26.3	39.0	49.3
Italy	3.8	9.7	4.1	11.7	3.4	20.9	10.0	7.9	-10.1	22.1
Japan	7.0	-16.4	28.4	-20.7	-0.6	116.0	-75.2	33.3	-30.6	137.2
United Kingdom ...	8.7	10.3	12.4	10.8	-5.4	-7.0	20.0	13.6	7.9	5.9
United States	24.7	25.0	5.9	40.5	9.1	81.1	79.0	118.5	47.3	151.5
Other countries	36.5	11.6	21.3	29.0	1.2					
Total liabilities	**21.6**	**98.2**	**31.7**	**12.9**	**45.9**					
Canada	1.7	-0.3	1.6	-2.2	-0.2	11.5	3.6	-0.2	4.9	11.7
France	-1.6	2.7	0.5	-5.9	1.8	4.2	-9.6	6.0	2.7	19.2
Germany	2.0	15.3	-6.8	-3.0	-10,6	92.0	-27.7	8.1	-1.0	60.0
Italy	-3.7	4.2	-1.6	3.3	1.8	46.0	-16.6	17.2	3.7	33.9
Japan	1.9	6.0	-2.3	-2.0	0.9	134.8	-43.7	53.0	-26.7	197.8
United Kingdom ..	2.6	19.4	3.5	6.5	3.6	27.8	46.8	27.5	-36.1	25.5
United States	17.7	18.3	23.9	-10.7	25.6	132.2	90.8	62.3	117.3	176.1
Other countries	1.0	32.6	12.9	26.9	23.0					

[1] Changes in amounts outstanding excluding exchange rate valuation effects. [2] For Japan, M2+CDs; for the United Kingdom, M4; for other countries, M3.

Business with countries outside the reporting area

Total new lending to outside-area countries came to a standstill in the fourth quarter of 1997. However, whereas reporting banks retreated massively from Asia (with a reduction in outstanding claims of $27 billion) and trimmed new lending to Eastern Europe (to $2 billion), they continued to extend a large volume of credit to Latin America ($11 billion). This pattern is consistent with other evidence of the limited contagion of the Asian crisis. It may also reflect the greater differentiation in the assessment of country risk, as further illustrated by the divergences recorded in banking flows to Eastern Europe. Nonetheless, these developments in the fourth quarter of last year need to be set against the simultaneous drying-up of international securities issuance by Latin American names in the wake of the Asian crisis and the general tightening of lending conditions in the syndicated loan market.

Banks' retreat from Asian emerging economies was widespread, encompassing virtually all the countries affected by the successive waves of the crisis (see Annex table 5 A, pages 21-22). While the non-renewal of interbank credit lines had already been strongly felt by Thailand and Korea in the third quarter, the movement spread thereafter to Indonesia, Malaysia and Taiwan. In addition, despite the fact that China was largely shielded from the turmoil in the currency market, bank lending to that country came to an abrupt halt. In contrast, there was some return of banking funds to the Philippines, with substantial inflows from workers' remittances and sustained export financing providing some buffer against contagion.

At the same time, reporting banks remained active in Latin America, extending a total volume of credit comparable to that of the preceding quarter. Argentina, Chile and Mexico were the major recipients of new funds. A swift and determined tightening of fiscal and monetary conditions

Banks' business with countries outside the reporting area*

In billions of US dollars

Outside-area country groups	1996	1997	1996	1997				Stocks at end-Dec. 1997
	Year	Year	Q4	Q1	Q2	Q3	Q4	
Total assets	**141.4**	**94.9**	**44.1**	**41.6**	**31.0**	**25.1**	**-2.8**	**1,197.7**
Developed countries	22.8	24.8	7.2	4.1	8.8	7.9	4.1	211.5
Eastern Europe	10.8	18.3	6.5	4.3	3.2	8.2	2.4	105.2
Developing countries	107.9	51.8	30.4	33.2	19.0	9.1	-9.4	880.9
Latin America	28.5	33.1	13.1	7.4	3.7	11. 1	11.0	304.4
Middle East	-0.1	10.0	-2.2	3.6	-0.6	0.3	6.7	80.1
Africa	-0.4	2.6	1.3	0.8	0.9	0.7	0.2	50.7
Asia	79.8	6.1	18.2	21.4	15.0	-3.0	-27.3	445.8
Total liabilities	**101.8**	**75.7**	**27.7**	**31.7**	**27.5**	**8.4**	**8.1**	**1,043.1**
Developed countries	23.2	17.9	2.7	6.1	8.5	5.1	-1.8	196.5
Eastern Europe	2.9	9.3	3.9	4.2	4.2	4.3	-3.4	55.6
Developing countries	75.8	48.5	21.2	21.3	14.8	-0.9	13.3	791.0
Latin America	26.9	23.0	0.0	6.0	18.9	1.0	-2.9	249.2
Middle East	17.1	-6.3	6.9	5.6	-6.0	-5.7	-0.1	209.5
Africa	2.9	7.0	1.3	2.7	3.4	2.0	-1.2	54.5
Asia	28.9	24.8	13.0	7.1	-1.6	1.7	17.6	277.8

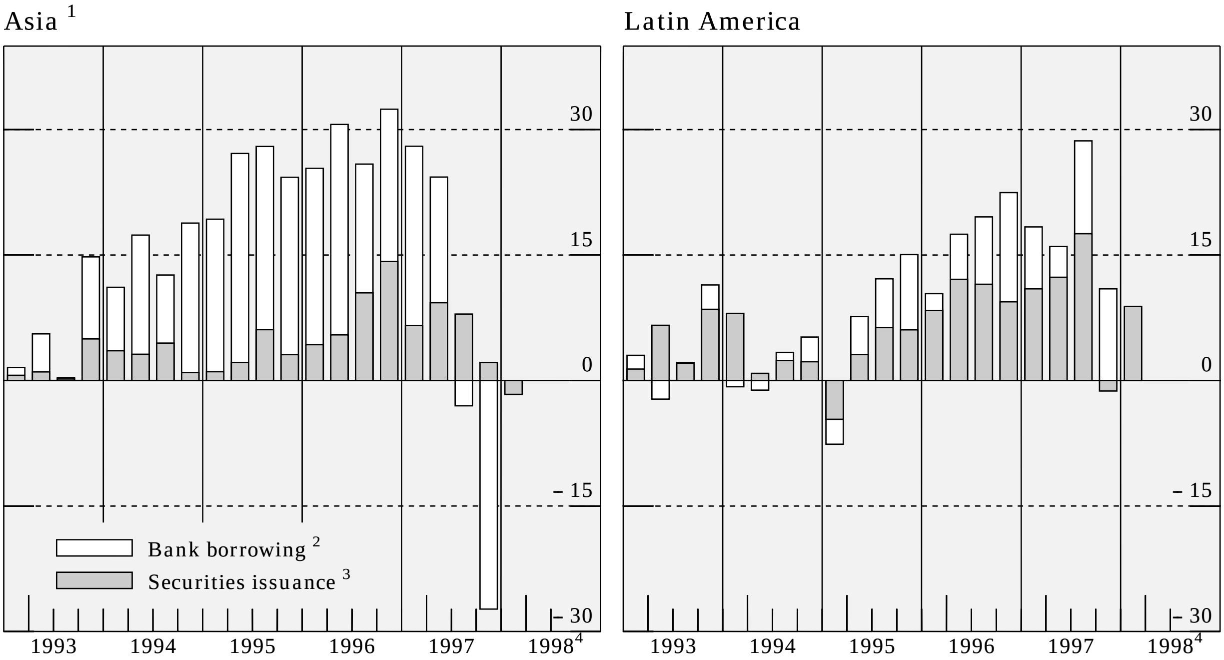
* Changes in amounts outstanding excluding exchange rate valuation effects.

seems to have been successful in maintaining the incentives for short-term capital imports and, therefore, in stabilising exchange rates. This was most evident in Brazil, which was one of the main victims of waning investor confidence outside Asia at the end of October 1997. A sharp increase in interest rates, combined with the announcement of a fiscal adjustment package in December, helped to maintain banking inflows for the quarter as a whole ($0.8 billion). The restructuring of local financial sectors may have also contributed directly and indirectly to warding off contagion in the region, in particular through the acquisition of newly privatised or other domestic institutions by foreign banks. However, it should be stressed that, following the sharp correction recorded by the region's equity markets and the coolness of international investors towards emerging market securities, the international banking market had temporarily become the main external financing channel in this period of strain. Furthermore, this was accompanied by wider spreads as well as stricter collateral and material adverse change clauses.

The turbulence in Asia had an uneven impact on other outside-area countries during the fourth quarter. In the Middle East, all new funds were channelled to major oil-producing countries, in a context of reduced oil export revenues and a more liberal attitude to external borrowing. In particular, large syndicated loan facilities were arranged for Saudi Arabian entities, which boosted reporting banks' claims on the country by $3.8 billion. In Eastern Europe, the Czech Republic and Hungary saw further sizable imports of banking funds, with earlier pressures on the Czech currency having prompted fiscal and monetary adjustment measures. However, the tightening of interest rates failed to sustain flows to Poland and Slovakia, although there is evidence of a significant reflow of foreign funds in the case of Poland during the first quarter of this year. In Russia, a series of increases in official rates from late October onwards seems to have been successful in countering the withdrawal of non-resident investors from the Treasury bill market and the repayment of interbank credit stemming from the debt rescheduling agreement reached in October. There was, as a result, a further inflow of banking funds to the country, albeit down to $0.9 billion from a quarterly average of $2.8 billion in the first nine months of the year.

International bank and securities financing in Asia and Latin America

In billions of US dollars



[1] Excluding Hong Kong, Japan and Singapore. [2] Exchange-rate-adjusted changes in BIS reporting banks' claims vis-à-vis Asian and Latin American countries. [3] Net issues of international money market instruments, bonds and notes. [4] Data on bank borrowing are not yet available for the first quarter of 1998.

Sources: Bank of England, Euroclear, Euromoney, IFR, ISMA, national data and BIS.

Structural and regulatory developments

In January, the Basle Committee on Banking Supervision issued a consultative paper on the evaluation of internal control systems.[8] The document describes the essential elements of sound systems applicable to all on or off-balance-sheet activities and sets out 14 principles for use by supervisory authorities when evaluating banks' internal controls. Drawing lessons from past losses, the paper stresses that the control process is essential (at all levels of staff and on a continuous basis) for banks to meet their objectives and remain financially viable. The paper follows the introduction of the Basle Committee's amendment to the 1988 Capital Accord to include market risk. The amendment breaks new ground by permitting banks to use their own risk management models as an alternative to the traditional standardised framework for measuring such risk. However, implementation has so far been uneven. For example, although the use of models is now compulsory for certain internationally active banks regulated by the Federal Reserve, only a few entities have so far obtained regulatory approval. The European Union is not expected to introduce its new version of the Capital Adequacy Directive (which will provide the legal framework for implementation of the Basle Accord) before the end of the year, and, as a result, few institutions are ready to meet the new rules. In Japan, the new rules came into effect at the end of March 1998. Meanwhile, discussions continued on possible alternatives to the internal models approach for market risk, including the pre-commitment approach (PCA) proposed by the Federal Reserve.[9] Following a 12-month trial organised by the New York Clearing House, some leading banks announced their support for this approach, although a number of issues remain to be resolved before it can be considered in practice.

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[8] Framework for the Evaluation of Internal Control Systems, Basle, January 1998.

[9] Mention may be made in this connection of the conference held in new York on 26th and 27th February on "Financial Services at the Crossroads: Capital Regulation in the 21st Century", sponsored by the Federal Reserve Bank of New York, the Bank of England, the Bank of Japan and the Board of Governors of the Federal Reserve System.

While the amendment to the Capital Accord recognised the progress made in recent years in the modelling, tracking and hedging of market risk by the largest banking institutions, considerable effort was devoted to reviewing the current regulatory standards for credit risk. The recent progress made in credit risk measurement and management techniques revived interest in proposals to adjust the current capital standards to also allow for the use of internal models. Thus, market associations called for reform of the current international capital standards for credit risk.[10] However, there remain important obstacles in this area, including limitations in data availability and hedging capability. Such limitations apply to other risks, which therefore hamper the development of one all-encompassing standard that would take into account the interdependency of risks.[11]

Finally, in the context of recent initiatives taken by national authorities and international organisations to review existing international surveillance arrangements, the Euro-currency Standing Committee of the central banks of the Group of Ten countries (ECSC)[12] has embarked on an examination of how the BIS international banking statistics could be made more timely, meaningful and comprehensive. Following identification of a number of gaps in the data, efforts are under way to collect (on a best-efforts basis) the current half-yearly statistics on the maturity, sectoral and nationality distribution of international bank lending on a quarterly basis and to publish them with a shorter lag. Additional data on ultimate risk will also be introduced. At the same time, it must be noted that better information is a necessary but not sufficient prerequisite for the prevention of crises. For example, although the BIS data showed a growing dependence of Asian countries on short-term international bank loans, such lending continued unabated until the crisis erupted. This illustrates that the use of the information is at least as important as its availability.

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[10] See ISDA, Credit Risk and Regulatory Capital, New York, March 1998, and IIF, Recommendations for Revising the Regulatory Capital Rules for Credit Risk, Washington, March 1998.

[11] See, for instance, the remarks made by Ms. Susan M. Phillips, of the Federal Reserve, before the International Swaps and Derivatives Association, 13th Annual General Meeting in Rome, 26th March 1998, as well as the presentation made by Mr. Tom de Swaan, Chairman of the Basle Committee, at the New York conference mentioned in footnote 9.

[12] The mandate of the ECSC, as revised in 1990, is to monitor and examine "issues arising out of financial market developments, including the longer-term evolution in domestic and international financial market structures and systems, that are of relevance to central banks in the formulation and conduct of their policies and operational activities in the monetary and macroprudential fields".

Financial market turbulence in Asia during the first quarter of 1998

In January 1998, ongoing political uncertainty and policy slippage caused the exchange rates of many South-East Asian countries and Korea to collapse. With the tightening of interest rates failing to stop currency depreciation, there was a further deterioration in the credibility of policy-makers and no viable macroeconomic programme could be established or implemented. This contrasts with the experience of other emerging economies, where, in spite of the spillover of the crisis in October 1997, contagion on the foreign exchange markets was rapidly contained by prompt corrective action. While interest rates were raised quickly in a number of cases (to extremely high levels in certain instances, such as Brazil and Hong Kong) in response to currency pressures, this formed part of a broader set of micro- and macroeconomic initiatives.

On the face of it, there was a clearer appreciation in some of the countries caught in the turbulence of the necessity to show a firm commitment to address the root of their difficulties. Market perceptions became more differentiated and this rapidly led to a diverging path of exchange rates. The contrast was most evident in the three countries subject to large IMF programmes, namely Indonesia, Korea and Thailand. On the one hand, Korea and Thailand set in train a comprehensive series of measures aimed at restructuring their financial systems and promoting transparency. These involved, inter alia, the liquidation of insolvent institutions and the opening of local banking systems to foreign participation. The programmes were also accompanied by agreements with creditor banks on an exchange or a rolling-over of foreign debt. At the end of March, the currencies of the two countries showed signs of stabilising at higher levels, official reserves had been partly replenished, domestic interest rates had fallen back and the spreads on their foreign currency debt had narrowed to around 3 percentage points (see the graph on page 19).

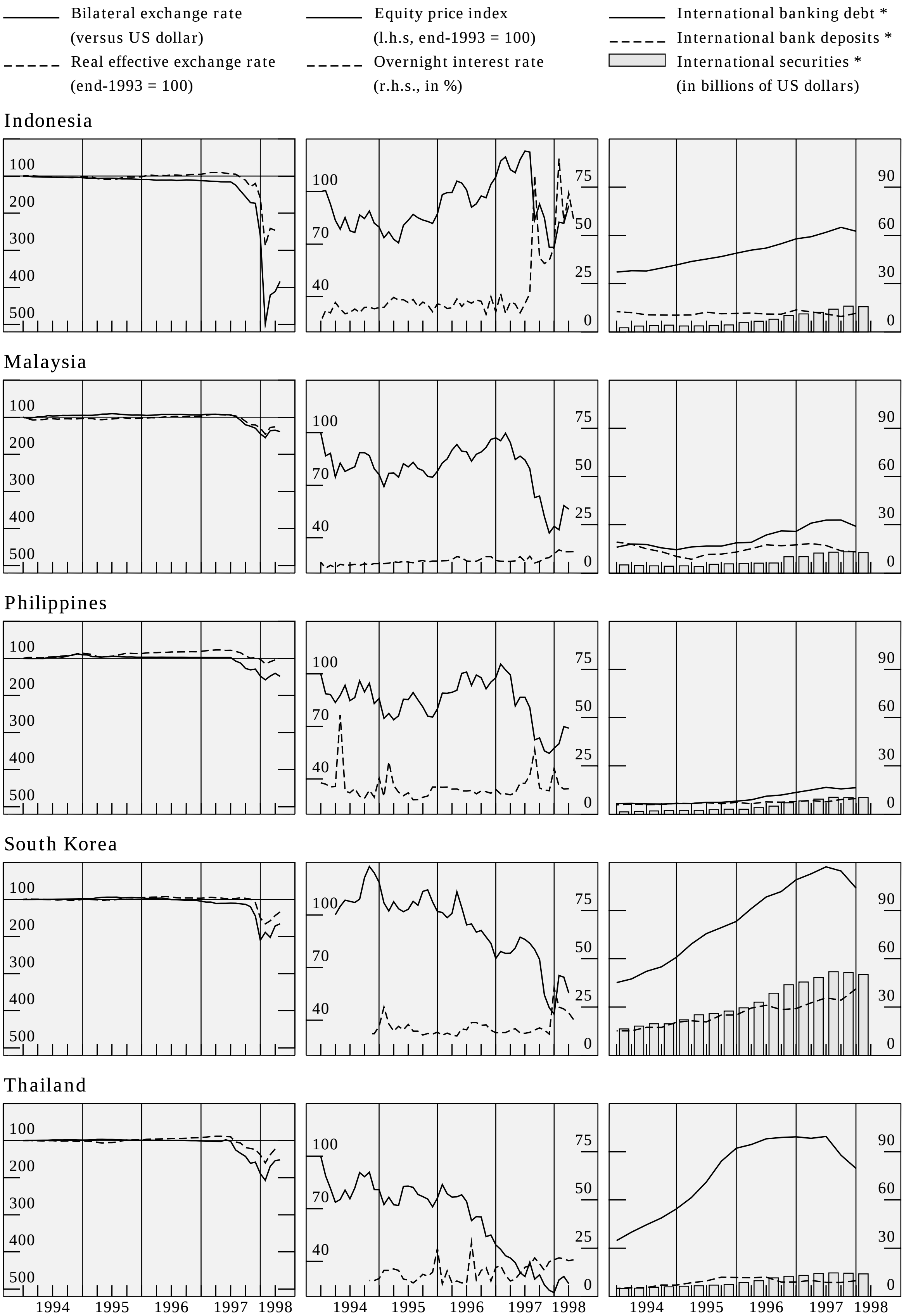
In Indonesia, on the other hand, a combination of persistent political uncertainty and policy slippage, the high level and heterogeneity of external debt and a near-collapse of the economy prevented a recovery of the exchange rate. Against this background, plans by the Government to establish a currency board had to be abandoned. At the same time, pressures grew for the country to agree to a new reform programme negotiated with the IMF. A package was eventually signed in April, which included, in addition to tight monetary policy, an orderly restructuring of the banking sector and a scheme involving the Government in dealing with the country's corporate foreign debt (estimated at somewhere in the region of $80 billion). The scheme, which is similar to that used to settle the Mexican debt crisis, called for a special government agency to act as a clearing house for local currency payments from debtors (at a favourable exchange rate). Further recovery of the currency will depend on progress made in implementing the reform package.

More generally, these three countries still need to face the actual economic, financial and social costs of adjustment.[①] While international rating agencies have incorporated the related uncertainty into their ratings, most recent forecasts suggest that, despite their heavy export orientation, the ability of these countries to reap the benefits of currency depreciation might be limited. First, the response of exports to the sizable competitive gains is partly neutralised by the importance of intra-regional trade (including with Japan), the dependence on imported inputs, difficulty in obtaining trade financing and, in view of exchange rate uncertainty and inflationary prospects, the lack of willing counterparties for the hedging of liabilities. Secondly, the financial weakness of the corporate and financial sectors has forced a sharp downward adjustment in borrowing and spending, with the tightening of monetary policy acting to exacerbate the liquidity squeeze. Recent projections of the level of activity in Indonesia, Korea and Thailand (as well as Malaysia) show an absolute contraction of GDP, at least in the short run.

At the same time, the Asian crisis has highlighted the fragility of the international financial system and, as a result, an intense debate has begun on the lessons to be drawn and on the means to strengthen the "architecture" of the system. There is wide agreement on the need to enhance transparency through the broader and speedier dissemination of financial information and to improve the soundness of national financial systems. There is also a consensus on the need for buttressing the global financial infrastructure and reducing reliance on short-term capital through inter alia, a prudent sequencing of market opening. Some suggestions have also been made for lessening moral hazard problems by giving the private sector greater responsibility in sharing the costs of crisis resolution. However, much remains to be done in these areas.

① The same is true of Malaysia and the Philippines, which have embarked on similar macro and micro-structural reform programmes.

Selected Asian financial indicators



* Stocks outstanding.

Sources: Bank of England, Bloomberg, Datastream, Euroclear, Euromoney, IFR, IMF, ISMA, national data and BIS.

III
THE INTERNATIONAL SECURITIES MARKETS

Overview

Following a significant contraction in the fourth quarter of 1997, issuance of international debt securities rebounded sharply in the first quarter of 1998, to a new record in both gross and net terms. The enthusiastic return of investors and borrowers to the international market place reflected a mix of short and long-term influences. Among the short-term ones, four stand out. First, the concerns created by the Asian crisis encouraged central banks in the major industrial countries to maintain an accommodative monetary stance. High liquidity and expected price stability appear to have played an important role in moderating risk aversion among investors, with the drop of benchmark rates to historical lows being conducive to fixed income financing. Secondly, despite receding concerns about the Asian financial crisis, investors continued to seek refuge in liquid securities, creating a window of opportunity for the most highly rated entities. Thirdly, this development was not entirely at the expense of lower-rated borrowers since low interest rates prompted investors to return to such names, albeit on repriced terms.[13] Indeed, part of the quarter's activity reflected business that had been delayed by the drying-up of market demand at the end of last year. Fourthly, the recent gains made by institutional investors on their equity holdings encouraged a rebalancing of portfolios into fixed income securities.

Main features of international debt securities issues[1]

In billions of US dollars

Instrument, nationality, currency and type of issuer	1996	1997					1998	Stocks at end-March 1998
	Year	Year	Q1	Q2	Q3	Q4	Q1	
Total net issues	**543.4**	**595.9**	**152.5**	**167.6**	**179.3**	**96.5**	**188.9**	**3,691.4**
Money market instruments[2]	41.1	19.8	7.1	5.3	9.8	-2.4	10.8	193.2
Bonds and notes[2]	502.3	576.0	145.4	162.3	169.4	98.9	178.1	3,498.2
Developed countries	413.3	461.3	120.8	118.9	136.5	85.2	147.6	2,961.7
Europe[3]	*245.6*	*265.9*	*76.3*	*65.4*	*69.9*	*54.2*	*94.3*	*1,755.4*
Japan	*16.2*	*0.9*	*3.0*	*-1.4*	*8.3*	*-9.0*	*-5.7*	*309.4*
United States	*131.9*	*178.1*	*33.3*	*45.8*	*54.9*	*44.1*	*49.9*	*602.9*
Canada	*8.8*	*10.1*	*3.9*	*4.8*	*2.2*	*-0.8*	*6.0*	*190.1*
Offshore centres	17.0	14.9	4.2	5.1	5.4	0.2	1.6	51.4
Other countries	88.1	89.2	19.6	30.7	33.6	5.4	9.0	336.9
International institutions	25.0	30.4	8.0	12.9	3.8	5.7	30.7	341.4
US dollar	262.8	336.5	68.4	98.1	110.9	59.0	104.4	1,673.8
EU currencies	175.3	199.0	61.7	40.8	53.1	43.4	86.4	1,255.4
Yen	85.1	34.2	16.1	11.9	7.5	-1.2	-7.3	444.3
Other currencies	20.2	26.2	6.3	16.8	7.8	-4.7	5.4	317.9
Financial institutions[4]	351.0	368.2	96.3	88.1	106.2	77.7	112.3	1,700.3
Public sector[5]	121.4	101.8	31.8	42.6	29.8	-2.4	59.8	1,112.1
Corporate issuers	71.0	125.9	24.4	36.9	43.3	21.2	16.8	879.0
Memorandum items:								
Stand-alone international bonds	**278.3**	**292.8**	**69.6**	**87.0**	**85.7**	**50.5**	**90.5**	**2,531.6**
Bonds issued under EMTN programmes	**195.9**	**215.8**	**64.0**	**54.6**	**70.0**	**27.2**	**68.8**	**666.2**

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

Sources: Bank of England, Euroclear, Euromoney, IFR, ISMA and BIS.

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[13] With real interest rates remaining high, it cannot be excluded that investors are exhibiting a form of "money illusion" that would lead them to focus on high-coupon securities.

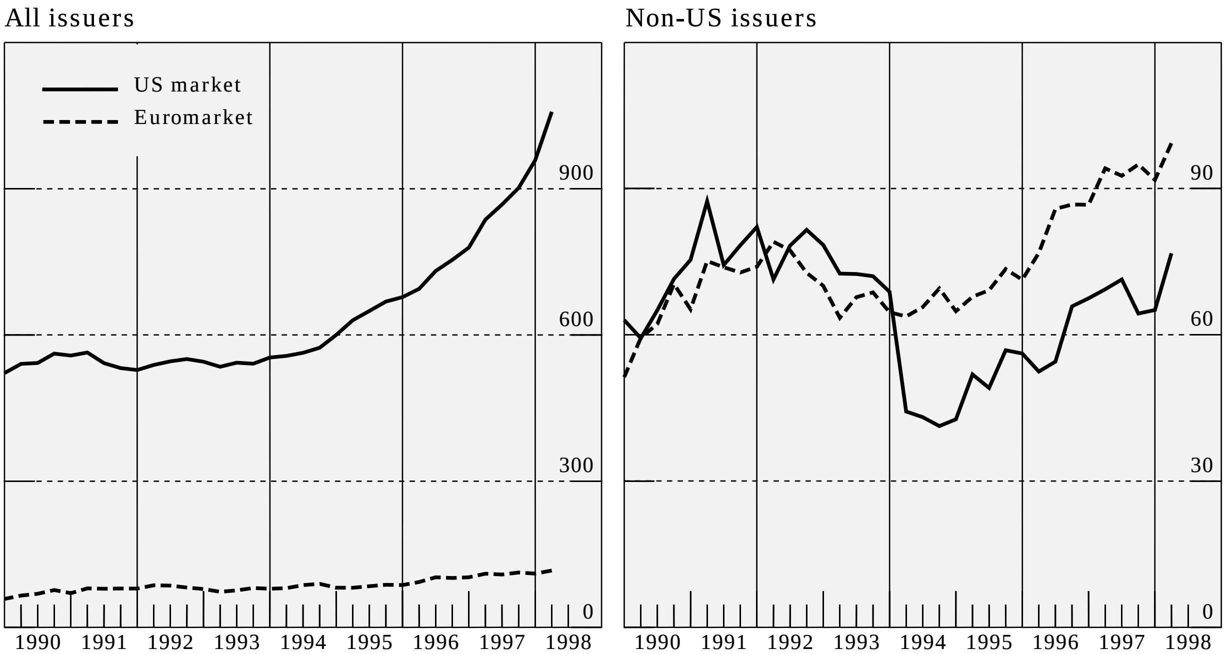
At the same time, some longer-term factors began to exert a stronger influence. Two of these are worth mentioning. First, the widespread improvement in fiscal positions in the industrial world, including the move to a cyclical surplus in the United States, has dramatically reduced the supply of quality securities, allowing other highly rated borrowers to secure very favourable terms. Secondly, the forthcoming introduction of the single European currency is being increasingly treated by market participants as a fait accompli. The creation of a market in euro debt ahead of the official introduction of the currency has added to the momentum for cross-border flows. Indeed, the desire to establish benchmarks in the new euro market is leading to a shift in European issuance away from local markets and is attracting a growing number of non-European entities. This was reflected during the quarter by the unprecedented volume of parallel and ECU/euro securities.[14]

Money market instruments/short-term euronotes

In the market for euro-commercial paper (ECP) and other short-term euronotes, issuance rebounded in the first quarter of 1998, with the stock outstanding rising by 6%, to $193 billion.[15] Financial institutions dominated activity through heavy issuance of US dollar paper. Although the US dollar remains by far the most actively used currency, dealers believe that the short-term market is poised for significant diversification over the next few years. For example, the cautious attitude of Japanese banks has prompted non-bank borrowers to diversify their funding sources away from direct bank lending. Meanwhile, the entry of foreign investment banks into the Japanese domestic financial market has been paralleled by the establishment of yen-denominated international programmes. In Europe, the introduction of the single currency is likely to result in the creation of a large and

Commercial paper outstanding

In billions of US dollars



Sources: Federal Reserve Board, Euroclear and BIS.

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[14] Parallel securities are issued in tranches denominated in various European currencies but include similar coupons and maturities as well as conversion into the euro and consolidation into larger fungible issues. ECU/euro securities are officially denominated in euros but payments are made in ECUs until the euro actually comes into force.

[15] This was about half the rate of growth of the US commercial paper market, where the stock outstanding rose to $1,058 billion in March 1998.

Main features of the international bond and note market

In billions of US dollars

Instruments, currencies and type of issuer	1996	1997					1998
	Year	Year	Q1	Q2	Q3	Q4	Q1
Announced issues	**866.9**	**1,032.5**	**262.2**	**268.4**	**284.0**	**217.9**	**342.4**
Floating rate issues	222.6	283.8	63.8	65.2	86.5	68.2	63.9
Straight fixed rate issues	593.1	684.8	186.6	182.5	179.8	136.0	267.0
Equity-related issues[1]	51.1	63.9	11.8	20.7	17.7	13.7	11.5
US dollar	392.3	518.6	117.7	140.4	150.9	109.6	155.4
EU currencies	278.1	304.9	89.0	69.6	77.8	68.5	141.3
Yen	135.0	129.8	36.2	31.5	35.4	26.6	19.7
Other currencies	61.4	79.2	19.3	26.9	19.9	13.2	26.0
Financial institutions[2]	455.9	544.6	139.2	130.7	155.7	119.0	170.3
Public sector[3]	215.0	236.3	66.5	68.9	57.2	43.7	114.7
Corporate issuers	196.0	251.6	56.5	68.8	71.0	55.3	57.4
Completed issues	**865.9**	**1,033.2**	**253.8**	**261.6**	**282.8**	**235.1**	**301.3**
Repayments	**363.6**	**457.1**	**108.3**	**99.3**	**113.3**	**136.2**	**123.2**

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

Sources: Bank of England, Euroclear, Euromoney, IFR, ISMA and BIS.

liquid short-term debt market. Recent arrangements for issuing notes denominated in ECUs/euros show that such a market is already coming into existence. Lastly, the development of securitisation has been accompanied by the establishment of vehicles for the issuance of short-term notes.

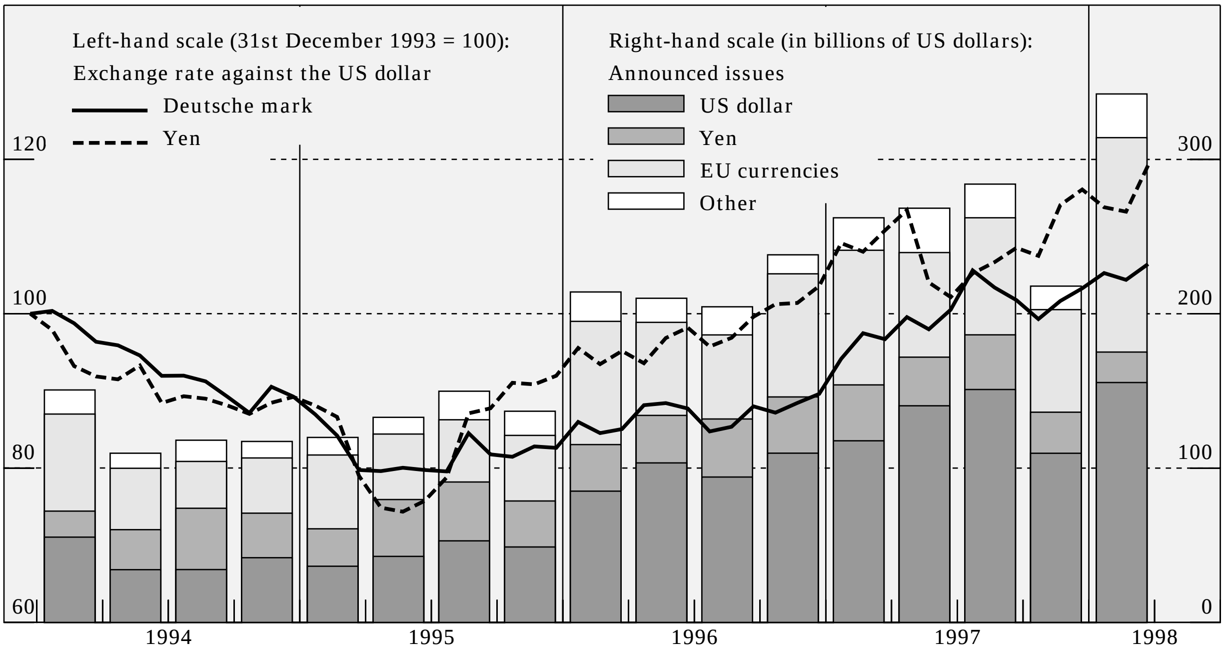
Longer-term international securities

In the longer-term segment of the international securities markets, announcements and net issuance reached new records ($342 billion and $178 billion respectively). While all of the increase in gross issuance took place in the straight fixed rate sector, the flight to quality and liquidity found a reflection in the mix of borrowers accessing the market, which favoured highly rated public sector and supranational entities. The preference for large institutionally targeted deals could also be seen in the sharp increase in the average size of issues (which more than doubled in the fixed rate sector, to $135 million; see the graph on page 18). Although these developments would in the past have been reflected in a shift towards US dollar paper, issues in EU currencies were increasingly popular.

Type and nationality of issuers. Highly rated public sector and supranational entities accounted for most of the spectacular increase in announcements in the quarter (57% of the $125 billion increment). In particular, US semi-public financing agencies took advantage of the strength of the US dollar and the reduced availability of US government paper to embark on a major expansion of issuance abroad (from $1.5 billion in the fourth quarter of 1997 to $22.9 billion) through international programmes designed to create large benchmarks spanning the US yield curve.[16] A similar rationale formed the basis for the launching of jumbo issues by a wider range of sovereign and supranational entities - such as the Republic of Italy and the European Investment Bank - which aimed at introducing euro-denominated benchmarks. Financial institutions accounted for a slightly lower share of activity than in previous quarters, but were once again the most active single group of borrowers (with 50% of announcements). While subordinated issues were more difficult to market and asset

[16] FNMA was the most active, accounting for more than $18 billion worth of transactions, including three issues of $4 billion each and one of $4.8 billion.

International bond and note issuance and the US dollar exchange rate



Sources: Bank of England, Euroclear, Euromoney, IFR, ISMA and BIS.

securitisation dropped sharply (following two quarters of intense activity), highly rated German commercial, mortgage and state-supported banks pursued the active diversification of their funding sources through exceptionally large Deutsche mark bonds. In contrast, non-financial companies barely increased their recourse to the market, possibly being constrained by the strong preference of investors for sizable issues.

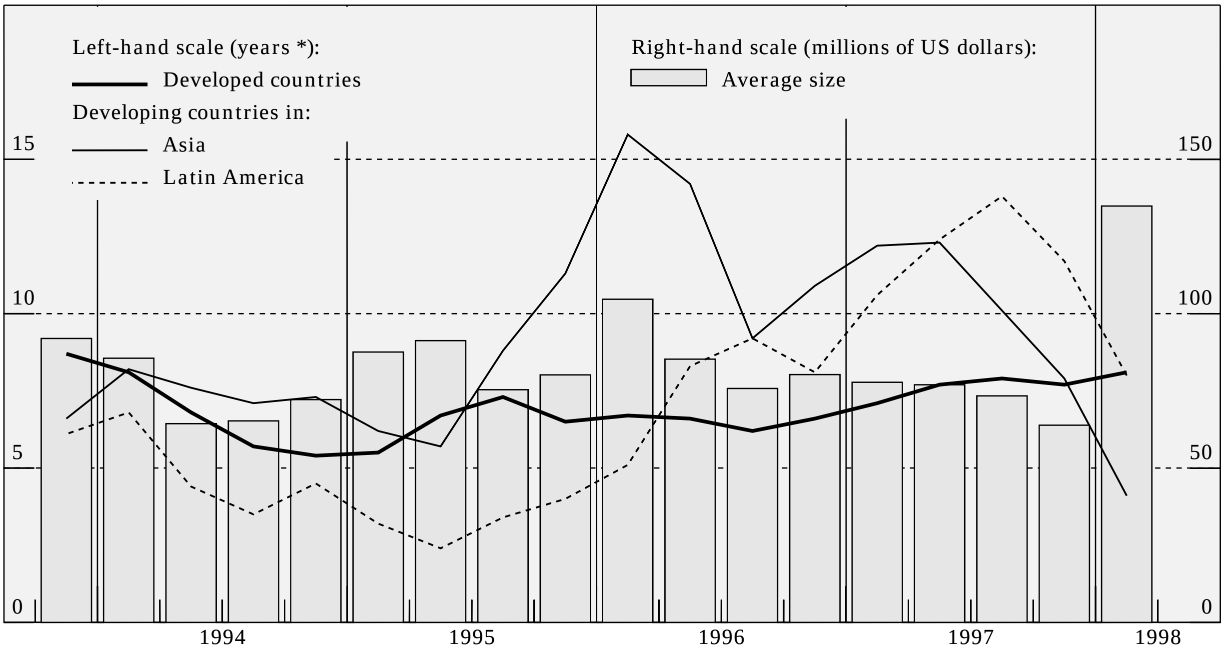
The combined impact of the surge in fund-raising by German, US and supranational entities and the withdrawal of Asian names meant that business was more geographically concentrated than in previous quarters.[17] Gross financing for Japanese borrowers increased slightly but remained negative on a net basis. Japanese financial institutions have faced widening risk premia, while corporate borrowers have turned to the domestic bond market. However, the preference of investors for high-quality and liquid issues was not entirely at the expense of lower-rated issuers. Indeed, low nominal returns, particularly in the context of EMU-related interest rate convergence, acted to sustain investors' interest in high-coupon securities. The difficulty of analysing the credit quality of issuers located in geographically distant financial systems might explain the strong upsurge of interest in European high-yielding ("junk") securities. With issues made by European corporations having carried high credit ratings so far, the anticipated shift to lower-rated transactions will represent a considerable challenge to the capacity of euromarket investors to analyse and price credit risk.

While the arrangement of a refinancing package for Korea did much to improve confidence in emerging markets, continuing concerns about the state of the Indonesian financial system and the sharp increase in corporate defaults in Asia tempered investor demand for assets in that region.[18] This was illustrated by the behaviour of secondary market spreads on benchmark issues, with

17 German, US and supranational entities accounted for more than 50% of total transactions, compared with 44% in the previous quarter.

18 It is not clear what the impact the Asian crisis will have on the arrangement of credit-linked notes incorporating default put options. Such structures created major difficulties for the Korean and Thai state-owned entities that had launched them last year since they had to make funds available at a very critical time. Moreover, although investors were able to

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



* Two-quarter moving average weighted by size.
Sources: Bank of England, Euroclear, Euromoney, IFR, ISMA and BIS.

the significant narrowing of Latin American premia not being matched by those on Asian names.[19] With flotations by Asian borrowers (outside Japan) reaching their lowest level since the second quarter of 1992, the recovery in issuance from emerging market countries resulted almost exclusively from the return of Latin American borrowers. The positive response in late January to an issue by Argentina encouraged other sovereigns in the region to return to the market but terms remained substantially less attractive than those obtained in the summer of last year (see the graphs on page 19). In contrast, the Asian crisis may have had the side-effect of creating a more favourable disposition of investors to issuers from Eastern Europe. For example, Ukraine was able to float large DM and ECU/euro issues bearing some of the largest coupons ever seen in those currencies. Despite the political turmoil prevailing in Russia, the central government returned to the market.

Currency of issue. While the search for liquidity through larger issues was most pronounced for the US dollar, a striking development of the first quarter of 1998 was the impressive increase in the share of EU currencies (to 41% from 31%), which made them a close competitor to the US dollar (the share of which declined to 45% from 50%). A notable feature of activity was that most large issues denominated in “core” European currencies will be fungible into large euro-denominated benchmarks upon introduction of the euro. This was illustrated by the dramatic increase in the volume of such euro-fungible issues (to $47.9 billion from $7.1 billion), of which almost half was directly denominated in ECUs/euros. There was also some return to high-yielding currencies such as the Czech koruna, the Polish zloty and the South African rand as well as the introduction of new currencies such as the Latvian lats. In contrast, the high costs of issuance faced by Japanese financial institutions and the lack of attractive cross-currency swap opportunities for non-Japanese borrowers hindered activity in yen (issuance in which fell to 6% from 12%).

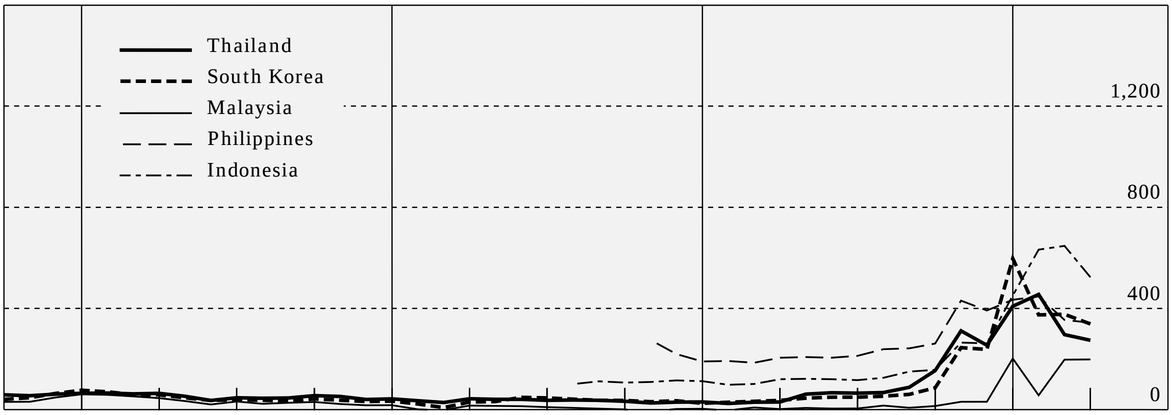
recover their funds, there is a realisation that the very act of exercising such put options could be sufficient to trigger a default by the issuers.

19 Technical factors such as strong trading and hedging demand for benchmark issues meant that in some cases the drop in reference rates exaggerated the improvement in creditworthiness.

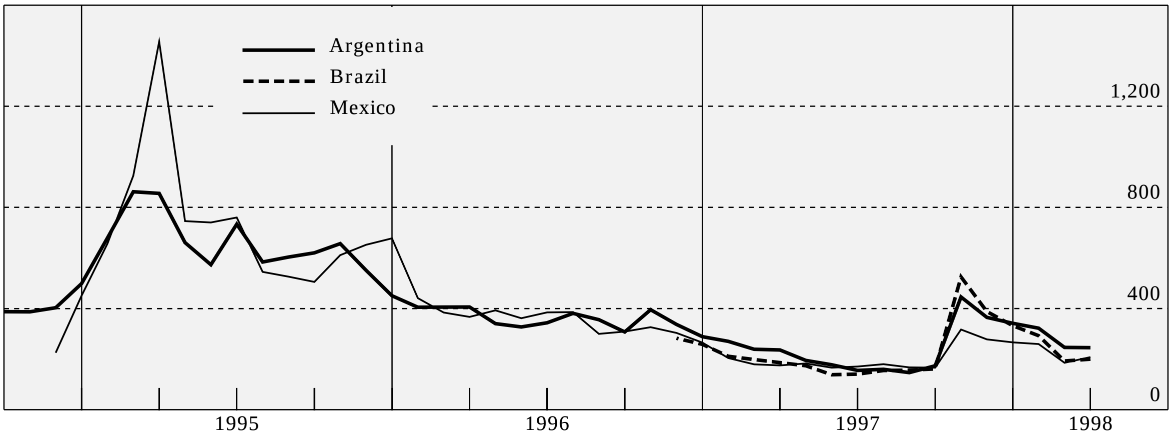
Average spread of US dollar sovereign international bonds over ten-year US Treasury bonds *

In basis points

Asia



Latin America

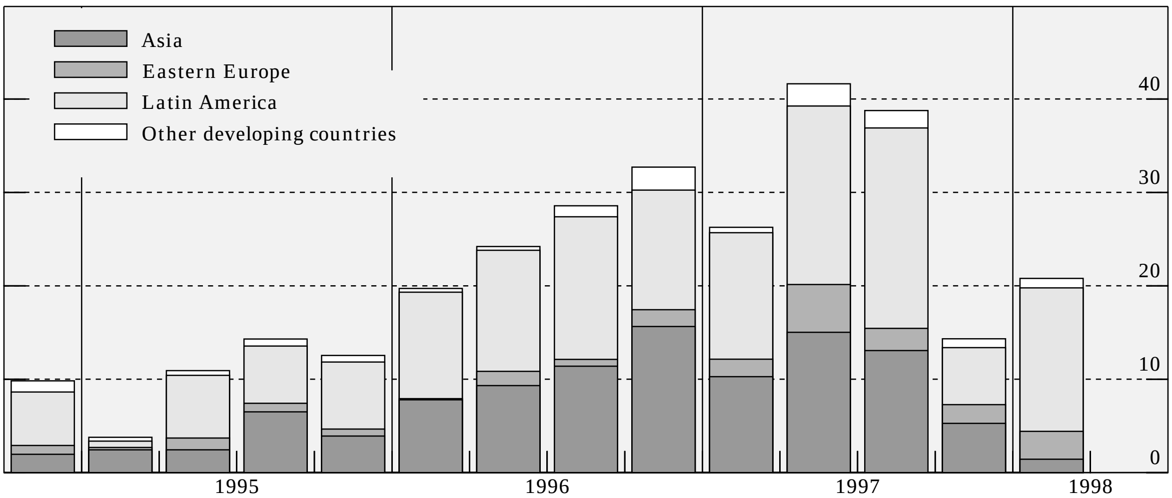


* Brady bonds for Latin American countries and the Philippines and ten-year eurobonds for Asian countries.

Sources: Bloomberg, Datastream and BIS.

International bond and note issuance by emerging market borrowers *

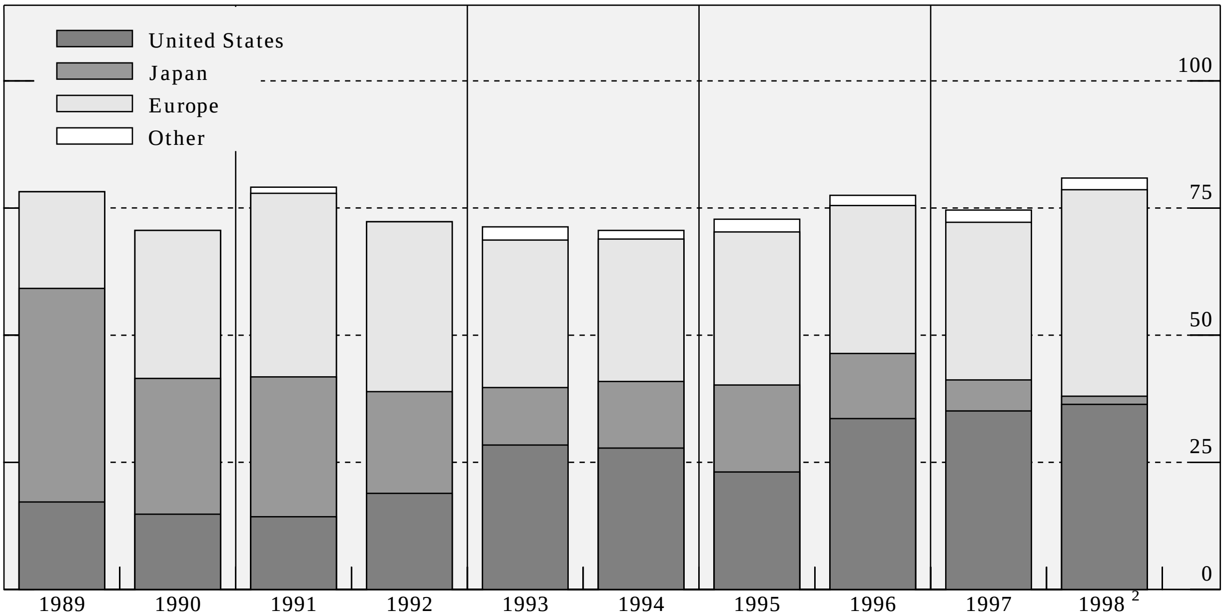
In billions of US dollars



* Announced issues based on the nationality of the borrower.

Sources: Bank of England, Euroclear, Euromoney, IFR, ISMA and BIS.

Share of international bond issues of the top 20 bookrunners [1]
In percentages



[1] Includes global, euro-, foreign and eligible foreign-targeted domestic bonds, but excludes equity-related transactions.
[2] First quarter.
Sources: IFR and BIS.

The shift seen in the currency composition of issuance was reflected in the relative position of underwriters. The sustained volume of US dollar business allowed US dealers to slightly improve their share of the primary market (to 36%), but the upsurge in transactions denominated in European currencies (including in the ECU/euro) enabled European-based underwriters to capture a dominant position (41%). The strong volume of ECU/euro issues proved particularly supportive to the standing of some French banks. In contrast, the share of Japanese bookrunners declined further, possibly reflecting the reduction in yen-denominated issues and in the borrowing activity of Japanese entities. The strong bargaining power exercised by issuers of jumbo securities and the large number of players in the underwriting business put further downward pressure on underwriting margins, which is likely to accelerate market consolidation.

Type of issues. The issuance of *straight fixed rate bonds* grew by almost 100% in the first quarter (to $267 billion). The dollar market benefited from the persistence of wide swap spreads and accommodated some of the largest transactions,[20] as well as a wide range of other less familiar structures.[21] However, the heavy volume of business led to some market saturation, leaving underwriters with large inventories of securities. The flatness of the yield curve made these issues difficult to carry, putting upward pressure on secondary market spreads. In the case of core European currencies, diminishing swap opportunities were largely offset by the rush to create euro-fungible securities. One notable development was the growing ability of European currencies to accommodate large issues, as illustrated by the introduction of an ECU 4 billion eurobond for Italy. Large European currency issues increasingly resemble those of central governments, with the availability of strip and repo facilities and the alignment of coupons and maturities with those of government issues. At the same time, issuers wanting to benefit from swap arbitrage had to turn to currencies that will not be part of the first wave of EMU, such as sterling and the Greek drachma, or those of Eastern Europe and

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20 These included, in addition to the string of jumbo issues launched by FNMA, a $4 billion deal for the World Bank.

21 Such as new Pfandbrief issues and several callable/puttable bonds that enable borrowers to benefit from arbitrage opportunities existing between the wholesale and retail markets for interest rate options.

Australasia. Yen issues were negatively affected by the Asian turmoil, fears of interest rate increases and the general lack of arbitrage opportunities. Issuance in the Samurai market dried up as emerging market and dual-currency issues were withdrawn, in sharp contrast with the record volume of corporate issuance in the domestic bond market.

The pace of issuance of *floating rate notes* (FRNs) moderated (to $64 billion from $68 billion). The Asian crisis had a strongly negative impact in the early part of the quarter on subordinated notes issued by the financial sector (the mainstay of the market), with the drying-up of liquidity apparently destabilising other market segments. Although sovereign and supranational borrowers found more attractive opportunities in the fixed rate sector, the decision by Moody's in March to upgrade the country ceilings of six European countries ahead of EMU was followed by a tightening of margins on European sovereign notes. Innovative issues included a "second order" securitisation that was collateralised on the basis of previously issued ABSs.

Reduced issuance by US-based companies led to a slight decline in total announcements of *equity-related issues* during the first quarter of 1998 (to $11.5 billion from $13.7 billion). Nevertheless, market sources reported that the low level of nominal interest rates in the major countries and investors' perception that equity markets might be overvalued had created interest in convertible bonds. Such securities, which now account for the bulk of European equity-linked transactions, have recently been used as substitutes for straight equity offerings and have gained popularity in corporate restructuring. Exchangeable securities, in which the debt of one company can be exchanged for the equity of another, have been used frequently in recent quarters as a tax-efficient means of unwinding cross-shareholdings.

Following two quarters of intense primary market activity, the issuance of mortgage and other *asset-backed securities* (ABSs) moderated considerably in the first quarter of 1998 (to $31 billion from $49 billion). In particular, the volume of transactions brought by UK and US securitisation vehicles more than halved (to $5.4 billion and $14.1 billion respectively). Although such structures are generally highly rated, they tend to be less liquid than comparable uncollateralised securities. In contrast, the restructuring of Japanese financial portfolios and the retrenchment of cross-border exposures were accompanied by a pick-up in business originating from Japan ($4.8 billion). Nevertheless, the difficulty of finding insurance coverage (which enables special-purpose vehicles to obtain AAA ratings) and counterparties to currency swaps made the arrangement of ABSs highly problematic for Asian borrowers. In spite of the subdued level of aggregate activity, new market segments were developed. For example, faced with the debt servicing difficulties of their emerging market customers, French and Italian export credit agencies sold part or all of their assets' credit risk through securities backed by the receivables of emerging market and transition countries.

Structural and regulatory developments

In January, the European Monetary Institute released a report setting out nine standards for EU securities settlement systems that will be used after the launch of EMU. The standards, which aim at limiting the exposure of the European System of Central Banks to settlement risks, require each system to have a sound legal basis as well as measures to limit settlement and custody risk. In the same month, the International Securities Market Association announced the forthcoming introduction of an electronic trading system for eurobonds and other international securities such as warrants and ADRs. The "Codereal" system is expected to improve the efficiency and transparency of trading by listing the highest bid and lowest offer prices for each security as well as the amounts on offer. Prices will be posted anonymously and the system will allow traders to negotiate with each other without revealing their identities. The system will also provide a full audit trail of transactions.

IV
DERIVATIVES MARKETS

Overview

Available data show that activity in derivatives markets was sustained in the first quarter of 1998. While the Asian crisis generated some business in the early part of the quarter, there appears to have been greater demand for hedging instruments thereafter despite the overall absence of abrupt market swings. The number of financial contracts traded on exchanges grew by 4%, but evidence from the United States indicated some deceleration in the over-the-counter (OTC) market. Exchanges put the emphasis on developing new equity indices, trading mechanisms and linkages, and OTC dealers actively promoted instruments for the trading of equity indices and credit risk. Competition remained intense, with the growing weight of automated exchanges and the formation of new alliances challenging the monopoly of established exchanges in certain products and accentuating the reconfiguration of the industry. The Asian crisis revealed that global risk management systems had functioned reasonably well but that several areas continued to be in need of improvement. In particular, the increase in the volatility of currency and equity markets in the fourth quarter of 1997 showed a need to reconsider the underlying assumptions of value-at-risk models, especially when such market movements are sharp and prolonged. At the same time, the announcement of large losses by major financial concerns highlighted the need for better internal controls.

Exchange-traded instruments

The aggregate turnover of exchange-traded financial contracts monitored by the BIS expanded by 4% in the first quarter of 1998, to a new record of 322 million contracts. This fifth consecutive quarterly increase reflected an upsurge of activity in interest rate products (9%), following subdued business in November and December of last year. This expansion appears to have been related to concerns about the Asian crisis in the early part of the quarter and expectations of monetary tightening in Europe and North America towards the end of the period. In contrast, aggregate activity in equity indices and currency products declined (by 5% and 17% respectively). The drop in the volatility of equity markets, from the spectacular highs reached in the previous quarter, was accompanied by a sharp decline in the trading of options on stock indices.[22] At the same time, trading in currency instruments remained lethargic, with a drop in activity being recorded in Brazil.

Looking at developments on the major exchanges (in all types of products), business reached new records on the CBOT, the DTB and LIFFE. Expansion was the most rapid in Europe, with the AEX and the DTB posting particularly rapid increases (of 51% and 36% respectively). While the CBOT remained the busiest market-place in the first quarter (with 68.1 million contracts), LIFFE managed to maintain its lead over the CME (59.7 million compared with 54.3 million). However, despite the substantial increase in short-term interest rate business on the UK exchange, reduced opportunities for trades based on the convergence of European interest rates and some displacement of activity to the DTB tempered the rate of expansion. At the same time, the moderation in business in equity products affected the CBOE, with a decline in turnover (to 47.7 million). The DTB (with 40.2 million contracts) continued to benefit from the ongoing repatriation of trading in German government bond contracts and the development of instruments on shorter maturity bonds. The exchange saw a further rise in its market share in Bund futures (to 63% from 48%). Lastly, business conducted on the MATIF declined to its lowest quarterly volume since the early 1990s (14.3 million). The convergence of European interest rates, the growing popularity of German bond contracts and temporary disruptions related to the introduction of a new trading system all combined to inhibit business in that market.

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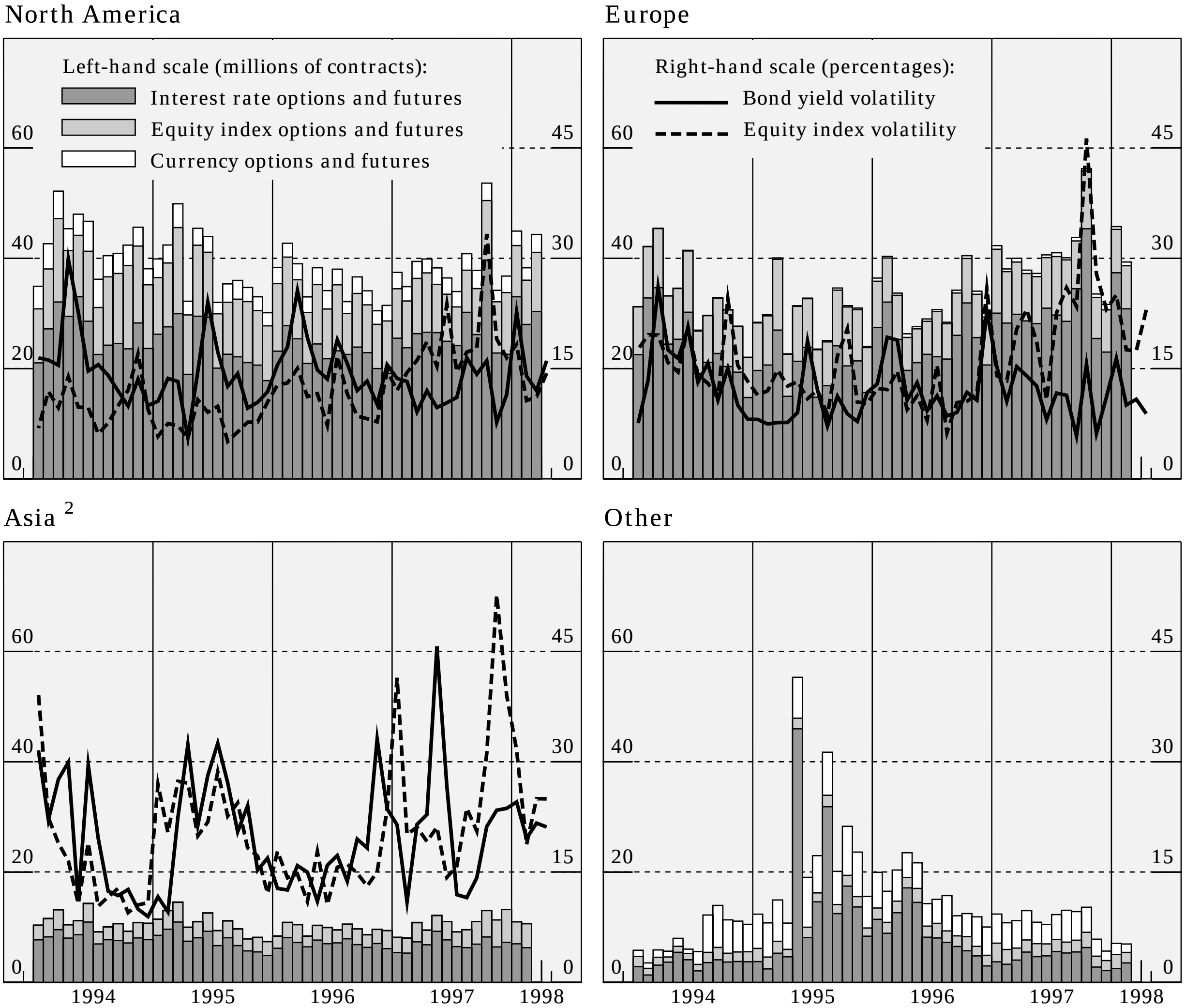
22 Meanwhile, options on single equities (not covered by the BIS aggregate statistics) followed a somewhat different pattern, with a recovery from the lull seen in the last quarter of 1997.

Turnover of derivative financial instruments traded on organised exchanges and bond yield and equity index volatilities[1]



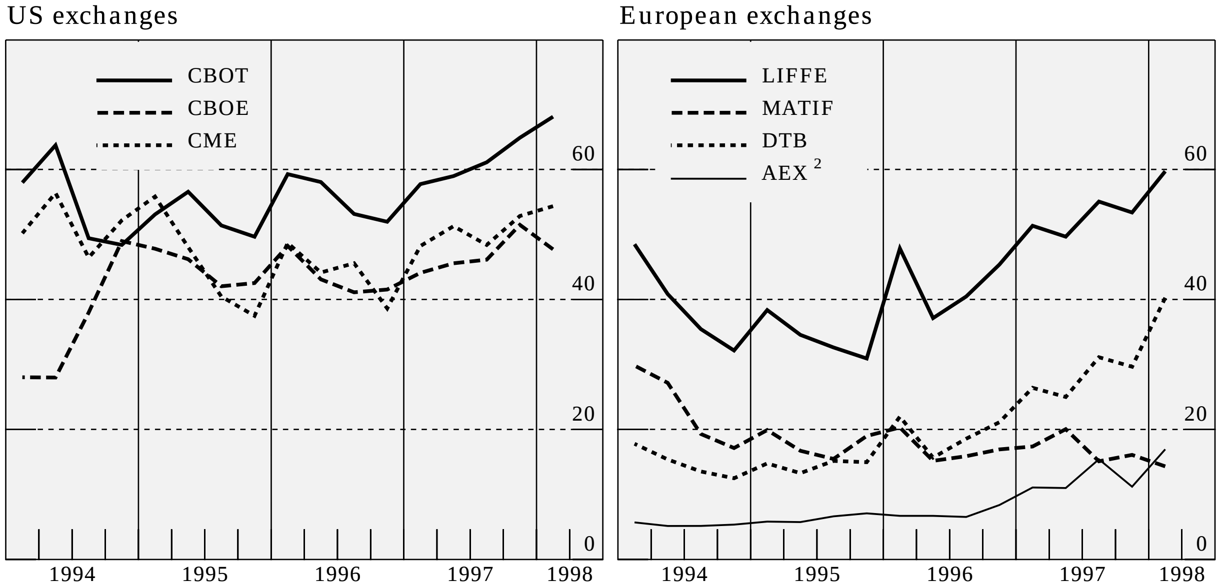
[1] Annualised standard deviation of daily percentage changes in ten-year government bond yields and equity indices of US, German and Japanese markets for North America, Europe and Asia respectively. [2] Including Australia and New Zealand.
Sources: Futures Industry Association and BIS.

Intense competition faced by exchanges in the first quarter of 1998 arose as much from the continuing inroads made by OTC instruments as from a host of other factors such as pressures to reduce trading costs and the successful implementation of electronic trading technologies and linkages. For instance, the strengthening of cooperation between the French, German and Swiss exchanges through the projected Euro Alliance[23] prompted a major reconsideration of the open outcry philosophy and, related to it, intense discussions concerning the governance and ownership structure of pit-based exchanges in Europe. Thus, as part of its integration into the new platform, the MATIF introduced in early April a new electronic trading system. In response to this continental challenge, LIFFE announced in March that it would move to electronic trading, in parallel with open outcry, by the end of 1999. In the same month, the CBOT announced an alliance with the joint European platform, with the aim of developing a common trading network. The initiative does not constitute a wholehearted change to electronic trading since orders for CBOT products from the joint system

23 The agreement goes further than that reached in September 1997 since, in addition to creating a single trading platform, it aims at implementing joint clearing and marketing of cash and derivatives products

Derivatives turnover on major US and European exchanges [1]

In millions of contracts, quarterly data



[1] Includes all types of derivative instruments traded on exchanges (i.e. including commodity products and options on single equities). [2] AEX results from a recent merger of exchanges in the Netherlands.

Sources: Futures Industry Association and BIS.

will continue to be routed through the CBOT's trading pits during its regular business hours. However, the announcement is symptomatic of a profound change in philosophy, whereby exchanges prefer to expand through electronic links. This plethora of initiatives has also led other exchanges to reconsider earlier plans for pit-based alliances.

The Euro Alliance's first concrete step was the introduction in February of a family of continental equity indices in cooperation with Dow Jones. The four DJ STOXX indices, which comprise broad and narrow benchmarks that cover both Europe as a whole and the countries that will form part of EMU, will be used as underlying for euro-denominated derivative contracts to be launched in June 1998. They will compete directly with the Eurotop indices designed by the AEX in cooperation with FTSE International. The introduction of EMU will lead to the removal of national constraints on foreign asset allocation and is likely to make some existing national and continental benchmarks redundant. While a few major European exchanges also introduced a number of new contracts, such as futures on the volatility of the DAX equity index (by the DTB) and a five-year gilt futures (by LIFFE), expected consolidation in Europe was reflected in the retrenchment of activity on some exchanges. At the same time, progress in the direction of an integrated Nordic market-place continued, as illustrated by the agreement between the Danish and Swedish exchanges for a common trading system by early 1999.

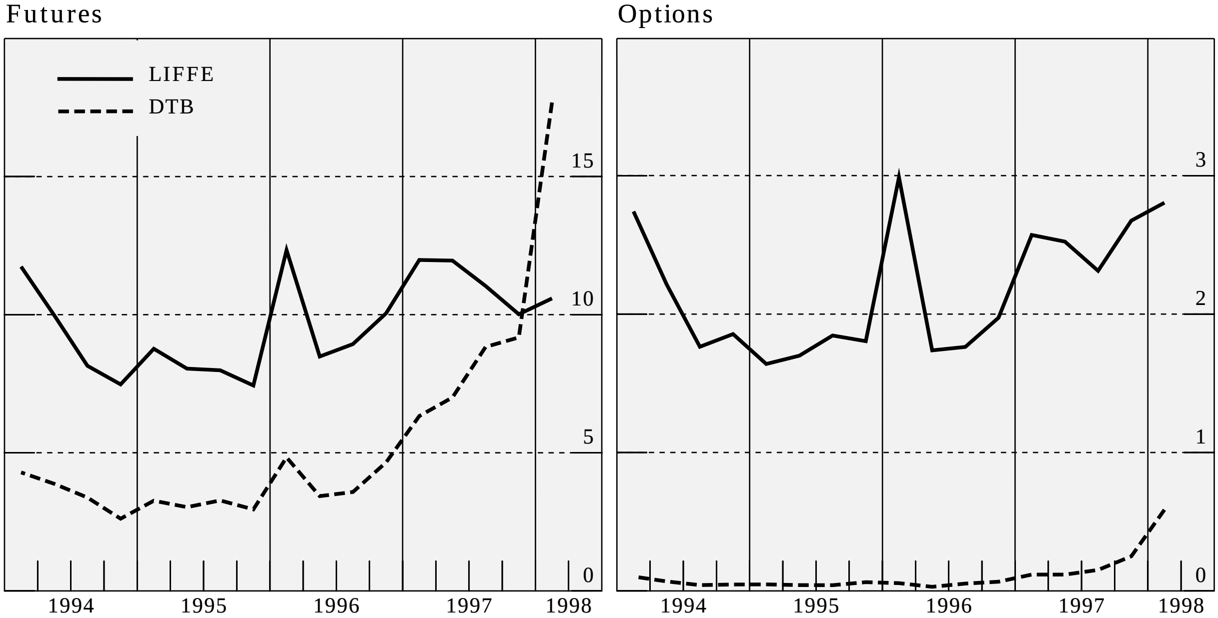
In North America, the CME announced plans to introduce cross-currency futures based on the ECU as well as futures contracts on the rouble. The exchange also announced the forthcoming launch of US overnight "turn rate" contracts.[24] The CBOT pursued its globalisation strategy by installing electronic terminals in London and by supporting the establishment of new exchanges in emerging market countries.[25] Attempts by US exchanges to capture OTC business continued, with the

[24] The "turn" is the period between the last business day of one period and the first business day of the next. Such contracts are designed to help firms manage quarterly and year-end funding risks.

[25] Other evidence in the United States of the trend towards electronic trading includes the project announced by the NYCE and a large US wholesale market broker to form a group to act as a regulated market for the computerised trading of futures on US Treasury securities.

Bund futures and options turnover on LIFFE and the DTB

In millions of contracts, quarterly data



Sources: Futures Industry Association and BIS.

listing of warrants on indices by the AMEX and the introduction of flex options on single equities by the PHLX. At the same time, pressures to reduce costs continued to drive market rationalisation, with the CBOT and the CME reaching an agreement to combine their clearing operations.

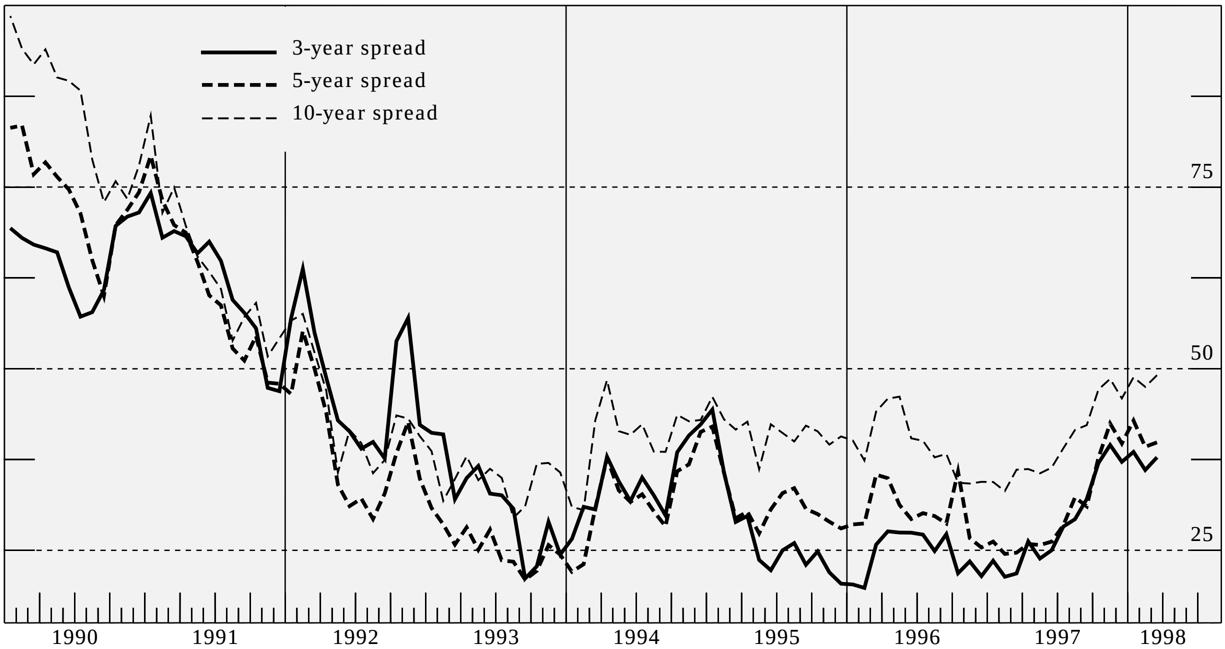
Over-the-counter instruments

The unavailability of recent data makes it difficult to obtain an accurate picture of overall activity in the OTC market in the first quarter of 1998. Trading appears to have slackened relative to the fourth quarter of 1997, but there is evidence that dealers expended a great deal of effort in broadening the geographical scope of products based on the convergence of interest rates and on equity-related instruments. In the case of *interest rate products*, wide swap spreads stimulated swap-related US dollar bond issuance as well as strong demand from end-users to fix their funding rates at the prevailing low levels. However, the fall-back in the volatility of US dollar interest rates narrowed dealers' opportunities to launch structured products. In Europe, trades based on the convergence of core rates lost much of their attraction, but opportunities continued to exist for the trading of the interest rates of Mediterranean countries and the United Kingdom. The low level of interest rates prevailing in the core European countries created demand for yield-enhancing products and led to a further development of longer-dated swaps. In February, two French banks announced the signing of a swap contract denominated in euros which was priced through a synthetic euro yield curve.

In the area of *cross-currency derivatives*, with the major currency pairs exhibiting divergent patterns, evidence on the extent of business was mixed. There was sustained demand for dollar call/yen put options, and the end of the quarter saw some large US dollar put/DM call transactions (on expectation of higher German rates). Trading in European cross rates reached new lows, with the main exception being the DM/Swiss franc parity.

US dollar interest rate swap spreads over US Treasury yields

Monthly averages, in basis points



Source: Datastream.

In the market for *equity derivatives*, lower volatility apparently failed to dampen activity. Dealers in warrants and structured notes offered a large number of products on baskets of pan-European indices. The consolidation taking place in the financial industry also boosted the demand for warrants on single equities or on baskets of stocks of financial firms. Despite the recent appetite of retail investors for specific exposures, basket products have gained in popularity due to their lower trading costs and fund managers' shift from active stock selection to index tracking. The low returns available on fixed income instruments continued to generate substantial retail demand for long-maturity guaranteed savings products. However, the active marketing of such products, which are created by the combination of long-dated call options on equity markets and zero coupon fixed income securities, remained constrained by difficulties in hedging the options component. Following losses by institutions that had covered themselves by purchasing and rolling over short-term equity options, dealers shifted in favour of products that are cheaper to hedge (on baskets or average returns) or modified their hedging strategies through increased purchases of convertible bonds or sales of structured notes.[26] Interest in volatility swaps also expanded, offering investors a simpler means of trading volatility than caps, puts or straddles.

The Asian crisis did much to focus attention on the question of *credit risk*. While some investors benefited from securities incorporating credit protection clauses, others had to grapple with losses on credit-linked notes based on underlying Indonesian corporate credits. The Asian crisis also brought to the fore the legal risks in OTC transactions, as illustrated during the quarter by the refusal of Korean counterparties to make payments to a US dealer on total return and currency swap transactions.[27] Moreover, the demise of a large Hong Kong-based securities firm highlighted a lack of adequate understanding of the implications of default-induced swap terminations. With competition in

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[26] For example, some notes were based on ranges that paid high coupons if equity markets stayed within given corridors, while other securities were based on binary payouts.

[27] One counterparty sued its US dealer for fraudulent behaviour, arguing that it had failed to inform it of the risks associated with the transactions.

the OTC market forcing dealers to expand their customer base to lower-rated credits, questions related to the credit quality of counterparties will assume even greater importance.[28] In a recent survey of the credit derivatives market, a well-known trade publication estimated the global value of outstanding contracts at $165 billion at the end of 1997. The survey highlighted that while most activity was concentrated in total return and default swaps, credit spread options were expected to grow at the fastest rate. In comparison, the US Office of the Comptroller of the Currency released end-1997 data showing that credit derivatives held by US banks amounted to $55 billion.

Structural and regulatory developments

During the first quarter of 1998, ISDA introduced a number of refinements to its Master Agreement. In January, it published the first standard documentation for credit derivatives - the "Confirmation of OTC Credit Swap Transaction" - which provides market participants with a template for cash or physically settled transactions involving a single non-sovereign reference entity (sovereigns will be dealt with at a later stage).[29] This was followed in March by a draft of an EMU Protocol, clarifying the treatment of existing transactions in the light of EMU.[30] ISDA also introduced a number of other technical measures[31] and announced the inauguration in April of a screen service providing mid-market swap and swaption rates in the major currencies and swap spreads for US dollar instruments. The service aims at providing authoritative rates that can be used in the valuation of derivative products.

In March, the regulators of exchange-traded derivatives markets agreed at the Futures Industry Association's annual conference to strengthen information-sharing in order to detect manipulative or abusive trading practices. Under the new agreement, regulators will be able to request from each other, and the exchanges they oversee, information concerning certain events such as the emergence of abnormally large positions or backwardation.[32] In the same month, the US Commodity Futures Trading Commission (CFTC) announced a review to the oversight of OTC derivatives in the light of market growth, the size of losses suffered by some participants and recent industry developments.

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[28] Indeed, since the beginning of the year, investors are reported to have entered into default swaps on emerging market benchmarks.

[29] The document defines eight events that would count as default and trigger payment under a credit derivatives contract. It also includes a timetable for the exercise of payments after a credit event has occurred.

[30] The protocol outlines five areas that will be affected by EMU (continuity of contracts, price sources, netting, definitions and bond options) and defines market practices for each of those areas. It also includes a list in which trading counterparties can signal their agreement to any of the recommended market practices.

[31] These include standards for the automated generation and matching of confirmations for OTC derivatives transactions as well as for portfolio level matching of collateralised transactions under ISDA credit support documentation.

[32] Backwardation is the excess of the spot price (plus carrying costs) over the forward price. It occurs when investors are willing to pay a premium for owning the underlying.

Futures on stock indices ①

Since their first introduction in the United States in 1982, stock index futures contracts have experienced significant growth. Such instruments complement options and warrants that are based on the same underlying, but differ from them considerably with regard to market practices and rules. This box focuses on stock index futures, reviewing their main characteristics and analysing their expansion as well as their benefits for market participants.

Stock index futures are contracts specifying the terms on which the underlying stock index can be sold/purchased at a future date at a pre-agreed price. Since futures are traded on an organised exchange, the terms are standardised with regard to the underlying, the contract size, the delivery month and the settlement method. The underlying is a specific stock index constructed as a weighted average of stocks from a particular geographical area or a given country.② Country-based contracts can be further subdivided into indices reflecting a group of companies accounting for a certain percentage of stock market capitalisation, indices on companies of a specific size or those on certain industry groups. The contract size of stock index futures is equal to a multiple of the value of the underlying index. For example, that of the S&P 500 Index contract is calculated as the product of a multiplier of 250 and the index value on that date. Contracts are settled in cash on the basis of the value of the underlying index. More recently, futures based on the volatility of a stock index have also been introduced.

As can be seen in the table on the next page, the most actively traded stock index futures (in US dollar terms) are generally based on broad indices which have gained market acceptance over a fairly long period of time. However, there is also some activity in contracts reflecting all shares of a given stock exchange and of specific industries such as technology companies. The contracts listed in the table make up 96% of the total US dollar value of stock index futures turnover worldwide, which stood at $16.4 trillion in 1997. Two-thirds of the turnover was accounted for by the three most actively traded contracts (S&P 500, DAX, Nikkei 225). The “open interest” column shown in the table measures the US dollar value of outstanding contracts at end-1997 and provides further evidence of the concentration of activity.③

The global turnover value of stock index contracts has risen significantly since 1986, from $3 trillion to a record $16.4 trillion in 1997. US exchanges dominated total activity in value terms until the end of the 1980s. Following the introduction of contracts on Japanese indices by various exchanges in the Asia-Pacific region, business there began to expand considerably and exceeded US turnover between 1989 and 1991. Activity in Europe, meanwhile, has developed steadily and European exchanges moved into second place behind the US in 1997. Activity on US exchanges is largely dominated by the S&P 500 contract. Turnover in Europe, meanwhile, tends to be more equally distributed since all major exchanges list futures on their country's stock indices. Trading on exchanges in the Asia-Pacific region is led by contracts on Japanese indices, followed by contracts on Hong Kong and Australian indices.

Stock index futures enable investors to modify the risk/return characteristics of a given equity portfolio, by generating payoffs that compensate for the changes in the value of the equity portfolio arising from movements in the equity market as a whole.④ Index contracts also provide investors with a low-cost substitute for the underlying stocks. This is especially evident for futures on broad market indices, by means of which exposure to the equivalent of a well-diversified equity portfolio can be obtained through a single transaction. In addition, futures tend to be very liquid, which enables investors to enter/exit markets quickly and to execute large orders without triggering sizable price pressures. Moreover, index futures are easier and cheaper to sell short (i.e. without ownership of the underlying) than the underlying, thus enabling investors to implement a large variety of investment and trading strategies. Lastly, investors in futures are permitted to acquire more leveraged positions compared with the stock markets, thus reducing significantly up-front cash requirements.

However, in spite of their economic benefits, the use of such instruments in the active management of equity portfolios remains modest. At the end of 1997, the ratio of the value of open interest on the main stock index futures contracts to the market capitalisation of the underlying stocks ranges from less than 1% (e.g. for the FTSE 100 and the Swiss Market Index) to 2.9% (for the DAX). Moreover, this ratio has been fairly stable over time, with even some decline during the last episode of stock market buoyancy in the case of the DAX.

① This box has been contributed by Giorgio Glinni of the Monetary and Economic Department of the BIS. ② The value of a stock index is therefore determined by the price of its constituent stocks; cash dividend payments are usually not added to the index value. ③ The US dollar value of open interest on stock index futures at end-1997 totalled $217 billion, compared with $777 billion for options on stock indices. ④ The risk which arises from the performance of the market as a whole and which is independent of the level of diversification of equity portfolios is known as systematic risk.

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The most active stock index futures contracts in 1997

Futures exchange	Underlying	Capitalisation of the underlying index as a percentage of stock exchange capitalisation at end-1997*	Multiplier of futures contract at end-1997	Contract size at end-1997 (in US dollars)	Value of turnover in 1997 (in billions of US dollars)	Value of turnover as a percentage of global value of turnover in stock index futures in 1997	Open interest at end-1997 (in billions of US dollars)
CME (United States)	Standard & Poor's 500 (AMEX, Nasdaq Stock Market, NYSE; United States)	81%	250	242,608	8,312	50.8%	90.0
DTB (Germany)	DAX (Frankfurter Wertpapierbörse, Germany)	74%	100	237,135	1,463	8.9%	17.2
OSE (Japan)	Nikkei 225 (Tokyo Stock Exchange, Japan)	57%	1,000	117,420	1,097	6.7%	24.8
LIFFE (United Kingdom)	FTSE 100 Index (London Stock Exchange, United Kingdom)	76%	25	212,330	726	4.4%	12.4
SBF Group (France)	CAC 40 (Règlement Mensuel (Monthly settlement stock market), France)	76%	200	100,162	632	3.9%	8.1
ISE (Italy)	MIB 30 (Italian Stock Exchange, Italy)	74%	10,000	141,781	562	3.4%	3.1
HKFE (Hong Kong)	Hang Seng Index (Hong Kong Stock Exchange, Hong Kong)	72%	50	69,215	548	3.3%	4.1
BM&F (Brazil)	BOVESPA Index (São Paolo Stock Exchange, Brazil)	72%	3	27,401	453	2.8%	0.9
SIMEX (Singapore)	Nikkei 225 (Tokyo Stock Exchange, Japan)	57%	500	58,710	354	2.2%	5.9
TSE (Japan)	TOPIX (Tokyo Stock Exchange, Japan)	100%	10,000	90,422	342	2.1%	11.5
SOFFEX (Switzerland)	Swiss Market Index (Schweizer Börse, Switzerland)	77%	50	215,265	339	2.1%	4.1
MEFF RV (Spain)	IBEX 35 PLUS (Mercado Continuo Español, Spain)	81%	1,000	47,827	278	1.7%	2.8
AEX (Netherlands)	AEX (Amsterdam Stock Exchange, Netherlands)	70%	200	90,588	222	1.4%	3.4
NYFE (United States)	NYSE Composite (NYSE, United States)	100%	500	255,595	213	1.3%	1.1
SFE (Australia)	All Ordinaries Share Price Index (Australian Stock Exchange, Australia)	90%	25	42,695	151	0.9%	8.9
CME (United States)	NASDAQ 100 (Nasdaq Stock Market, United States)	45%	100	99,080	78	0.5%	0.6

* The percentages are reported by stock exchanges. For all listed contracts on Japanese indices, the capitalisation of the underlying index is expressed as a percentage of the capitalisation of all first section stocks of the TSE. For the Standard & Poor's 500 contract, the capitalisation of the underlying index is expressed as a percentage of the capitalisation of the NYSE only.

Sources: Futures Industry Association, various exchanges and BIS.

ABBREVIATIONS USED FOR EXCHANGES

AEX	Amsterdam Exchanges
AMEX	American Stock Exchange
BM&F	Bolsa de Mercadorias y Futuros
CBOE	Chicago Board Options Exchange
CBOT	Chicago Board of Trade
CME	Chicago Mercantile Exchange
DTB	Deutsche Terminbörse
HKFE	Hong Kong Futures Exchange
ISE	Italian Stock Exchange
LIFFE	London International Financial Futures and Options Exchange
MATIF	Marché à Terme International de France
MEFF RV	Mercado de Futuros Financieros de Renta Variable
NYCE	New York Cotton Exchange
NYFE	New York Futures Exchange
NYSE	New York Stock Exchange
OSE	Osaka Securities Exchange
PHLX	Philadelphia Stock Exchange
SBF	Société des Bourses Françaises
SFE	Sydney Futures Exchange
SIMEX	Singapore International Monetary Exchange
SOFFEX	Swiss Options and Financial Futures Exchange
TSE	Tokyo Stock Exchange