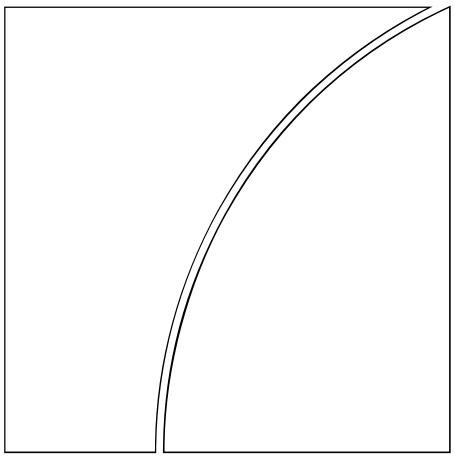
BANK FOR INTERNATIONAL SETTLEMENTS

# BIS Quarterly Review

September 2001



## International banking and financial market developments

BIS Quarterly Review
Monetary and Economic Department



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This publication is available on the BIS website (www.bis.org).



ISSN 1012-9979

Also published in French, German and Italian.

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## International banking and financial market developments



## Special features

## Notations used in this Review

| | |
|---|---|
| e | estimated |
| lhs, rhs | left-hand scale, right-hand scale |
| billion | thousand million |
| ... | not available |
| . | not applicable |
| – | nil or negligible |
| $ | US dollar unless specified otherwise |

Differences in totals are due to rounding

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# 1. Overview: the recovery keeps investors waiting

The onset of summer 2001 was marked by fading hopes for an early global economic recovery. As discussed in the June 2001 issue of the *BIS Quarterly Review*, spring had been a time of cautious optimism in financial markets, with participants generally convinced that monetary easing by the principal central banks in the developed countries would quickly turn the global economy around. In June and early July, however, disappointing macroeconomic data from Japan, Europe and the United States, accompanied by profit warnings from European and North American companies, indicated that the slowdown was not only continuing but also spreading. Stock markets fell sharply, giving back their earlier gains and extending the correction that had begun a year before.

The general deterioration in stock markets was compounded in July by turmoil in emerging markets. News about problems in Argentina, Turkey and Poland affected equity values and currencies of a number of emerging economies, although there were also many countries that escaped these spillover effects. The contagion started to abate within two weeks as market participants again began to differentiate between countries.

In contrast to the gloom in global equity markets, there was little sign of a credit crunch in global fixed income markets. Yield curves in the major economies retained their steep slopes, indicating a degree of confidence in a near-term economic recovery. Despite rising losses from defaults, credit spreads narrowed steadily over the first half of the year, as investors sought to add corporate bonds to their portfolios. Even spreads in the troubled telecoms sector narrowed. In the international market, firms continued to take advantage of favourable conditions by floating long-term debt securities in the second quarter, albeit at a slower pace than before. At the same time, with banks providing ready financing, announcements of new international syndicated credit facilities surged, reversing a two-quarter decline. Many corporate borrowers, however, used the funds to pay off other obligations, especially maturing long-term debt and commercial paper, rather than investing in new equipment and acquisitions.

## Equity markets focus on earnings as technology firms report large write-offs

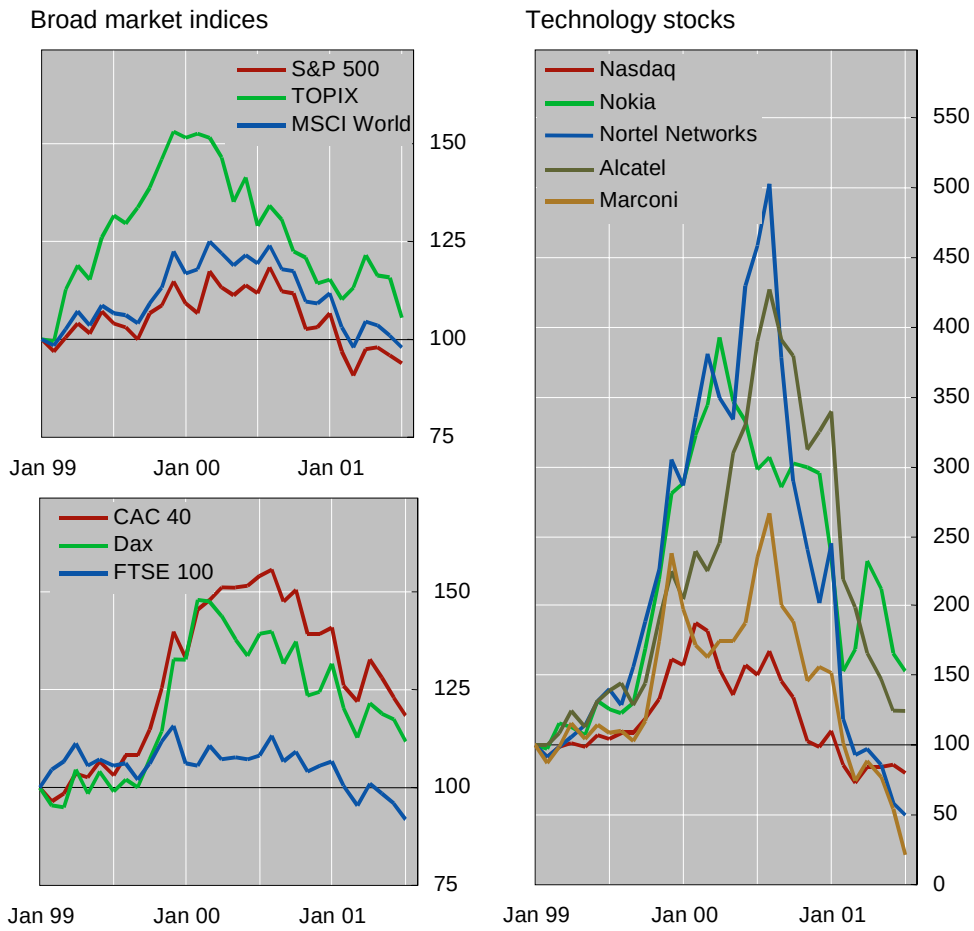
Earnings news and lower interest rates boost stocks in April …

Participants in equity markets found reason to cheer in April. After sharp drops in technology stock prices in February and March, investors welcomed a series of relatively encouraging earnings announcements in April, particularly the news that Dell Computer would be able to meet its latest earnings forecast. The effect of positive earnings news was reinforced two weeks later by an inter-meeting policy rate cut by the US Federal Reserve, the second surprise reduction after the one in January. As a result, the Nasdaq Composite Index rose 15% during April (Graph 1.1). In Japan, the election of a new prime minister on 24 April injected confidence into the Tokyo market and lifted the TOPIX by 6% in the days that followed (Table 1.1).

In June, however, cheer turned to gloom as less favourable earnings news dashed hopes of a quick economic recovery. This time, many of the significant earnings reports came from companies outside the United States. The initial

### Stock prices and market indices

Month-end data; January 1999 = 100




Sources: Bloomberg; Datastream.

Graph 1.1

## News events in stock markets

March–August 2001

| Date | Event | Most affected stock market (index name) | Cumulative price change (in %) | Number of days of price change |
|---|---|---|---|---|
| 9 March | Non-farm payrolls more than expected | Nasdaq | – 11.6 | 2 |
| 21 March | Ifo survey lower than expected | Dax | – 7.0 | 2 |
| 5 April | Dell meets earnings estimate | Nasdaq | 8.9 | 1 |
| 18 April | US rate cut | Nasdaq | 13.0 | 2 |
| 24 April | Koizumi elected in Japan | TOPIX | 6.2 | 5 |
| 8 June | Nortel profit warning | TSE 300 | – 1.2 | 2 |
| 2 July | *Tankan* survey worse than expected | TOPIX | – 1.1 | 1 |
| 2 July | IMF delays loan to Turkey | National 100 | – 23.8 | 4 |
| 5 July | Marconi profit warning | FTSE | – 3.8 | 5 |
| 6 July | Non-farm payrolls less than expected | Nasdaq | – 3.7 | 1 |
| 10 July | Argentine bond auction | Merval | – 13.6 | 3 |
| 12 July | Yahoo! and Microsoft issue favourable profit warning | Nasdaq | 5.7 | 2 |
| 14 August | Bank of Japan announces boost in money supply | TOPIX | 2.7 | 1 |

Sources: Bloomberg; national data. Table 1.1

shock came from Canada early in the month in the form of Nortel Networks' announcement of a $17 billion loss. The Toronto stock market fell 1.2% (Table 1.1). A series of adverse information events followed, including disappointing profit news late in June from several bellwether European technology firms. Indeed, news about a few bellwether companies has tended to exert a disproportionate influence on markets. During 2001 so far, the last weeks of January, April and July have seen the largest number of US profit warnings (Graph 1.2). Nonetheless, the S&P 500 on average rose during those weeks and fell during other weeks. The bellwether companies tend to release profit warnings early in the month and these have been the times that account for the overall trend of market decline.

... but large write-offs drive markets down in June

A notable feature of the news about corporate earnings was the prominent role of write-offs by technology firms. The largest write-offs tended to relate to goodwill charges against acquisitions, although there were also significant write-offs related to vendor financing and inventory charges. The loss announced by Nortel Networks, for example, stemmed largely from the impairment of goodwill values in the Canadian firm's acquisitions of other companies. The loss reported in July by JDS Uniphase, a North American

manufacturer of fibre-optic components, involved the writing-down of nearly $45 billion in the value of its acquisitions.

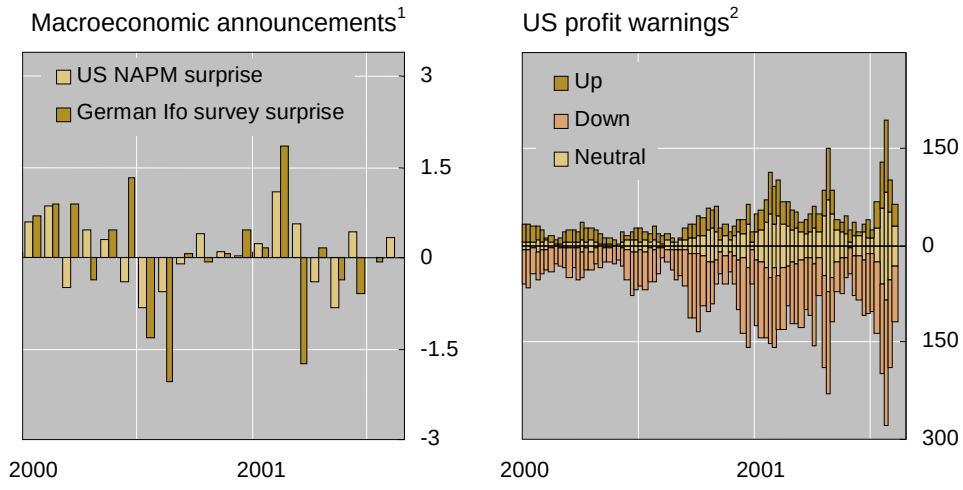
Markets focus on the implications of macroeconomic news for earnings ...

Macroeconomic announcements also battered the markets in Europe and the United States. Even here, however, markets seemed to respond to economic news primarily in terms of the implications for corporate earnings, rather than for monetary policy as had been the case earlier in the year. This focus on earnings suggests that equity market investors viewed the monetary policy easing cycle as being largely completed in the United States, with continental Europe lagging behind in its economic cycle. Market participants attached special significance to a comparison of the US NAPM index of manufacturing activity with the German Ifo survey of the business climate, suggesting that the euro area was six to seven months behind the US economy in the cycle (Graph 1.2). The US employment report on 6 July showed an unusually large loss in non-farm payrolls. Six or nine months previously such a report might have led to a market rally in the expectation that monetary policy would ease. On this occasion the Nasdaq Composite fell 3.7%, with the Fed having just indicated that the 25 basis point policy rate cut on 27 June would probably be the last for some time.

... and, in Japan, on policy decisions

To a greater extent than European and US markets, the Japanese market continued to respond to macroeconomic news in terms of the implications for the effectiveness of fiscal and monetary policy. The *Tankan* survey released on 2 July showed a further weakening of the economy and led to a 1.1% decline in the TOPIX that day. On 14 August, the index soared 2.7% after the Bank of Japan said it would boost money supply by allowing bank reserves to increase

## Macroeconomic and earnings indicators




[1] Normalised announcement surprises (for zero means and unit variances), based on the difference between released numbers and consensus forecasts. The US NAPM is an index from a survey by the National Association of Purchasing Management, and the German Ifo survey is a business climate index derived by the Institut für Wirtschaftsforschung from survey responses. [2] Number of US companies issuing profit warnings during the week. Positive surprises are shown as positive figures, negative surprises are shown as negative figures and neutral announcements are centred on the x-axis.

Sources: Bloomberg; BIS calculations. Graph 1.2

and purchasing greater amounts of government bonds. Coming after the new government had announced that it would rein in fiscal deficits, the central bank's action signalled its intent to further strengthen monetary support for stimulating the economy. Japanese stocks soon resumed a broad decline, however, as the market digested the extent to which the worsening global outlook would curtail the earnings even of relatively healthy export-oriented firms.

## Contagion returns briefly to emerging markets

Crises in Turkey and Argentina in early 2001 …

Unfavourable developments in both Argentina and Turkey had been attracting market participants' attention since late 2000. In February, the Turkish authorities had been forced to devalue the lira after funding difficulties at a local bank and signs of political disarray raised concerns about the stability of the banking system, which in turn precipitated capital flight. A few weeks later, sovereign spreads on Argentina's debt had widened to double their February levels when falling tax revenue and the resignation of two finance ministers in as many weeks raised doubts about the government's ability to carry out fiscal reforms. In both cases, investors had not reacted by automatically reducing their exposure to emerging economies across the board, but instead appeared to discriminate carefully among countries in terms of sovereign risk. The crisis in Turkey had seemed to pass after an IMF support package promised breathing space for longer-term restructuring. By June, the prospects for Argentina had also appeared encouraging after the authorities succeeded in swapping nearly $30 billion of debt coming due for longer-term securities.

… do not spread to other emerging economies

Pressures reappear in July …

In July, however, pressures in Turkey and Argentina resumed and were compounded by the emergence of problems in Poland. On 2 July, a disagreement over the composition of a new executive board for government-owned Turk Telekom led the IMF to delay the release of funds. Four days later, market participants were caught off guard by a near collapse of the government in Poland over an unexpectedly large budget deficit. On 10 July, it was news about Argentina's bond auction that stoked the fire. The auction was so poorly received that the government was forced to shorten the maturity of the new debt and to pay rates as high as those during the Russian crisis in 1998.

… and spillover effects are more evident …

Selling pressure hit a surprising number of emerging markets, with spillover effects somewhat more in evidence in July than earlier in the year. Those currencies already under pressure, such as the Turkish lira and Brazilian real, depreciated sharply. The Polish zloty, which had been one of the year's best performing currencies, fell by 4% against the dollar, apparently as speculators began to reverse carry trades funded with euro and Swiss franc loans. However, previously unaffected currencies, such as the Mexican peso, Hungarian forint and South African rand, began to weaken as well (Graph 1.3). One reason for the spread of the turmoil seems to have been heightened risk aversion vis-à-vis emerging markets, especially countries with problems related to domestic debt. In the case of the South African rand, the impact of these concerns was compounded by the use of the rand as a proxy for other African

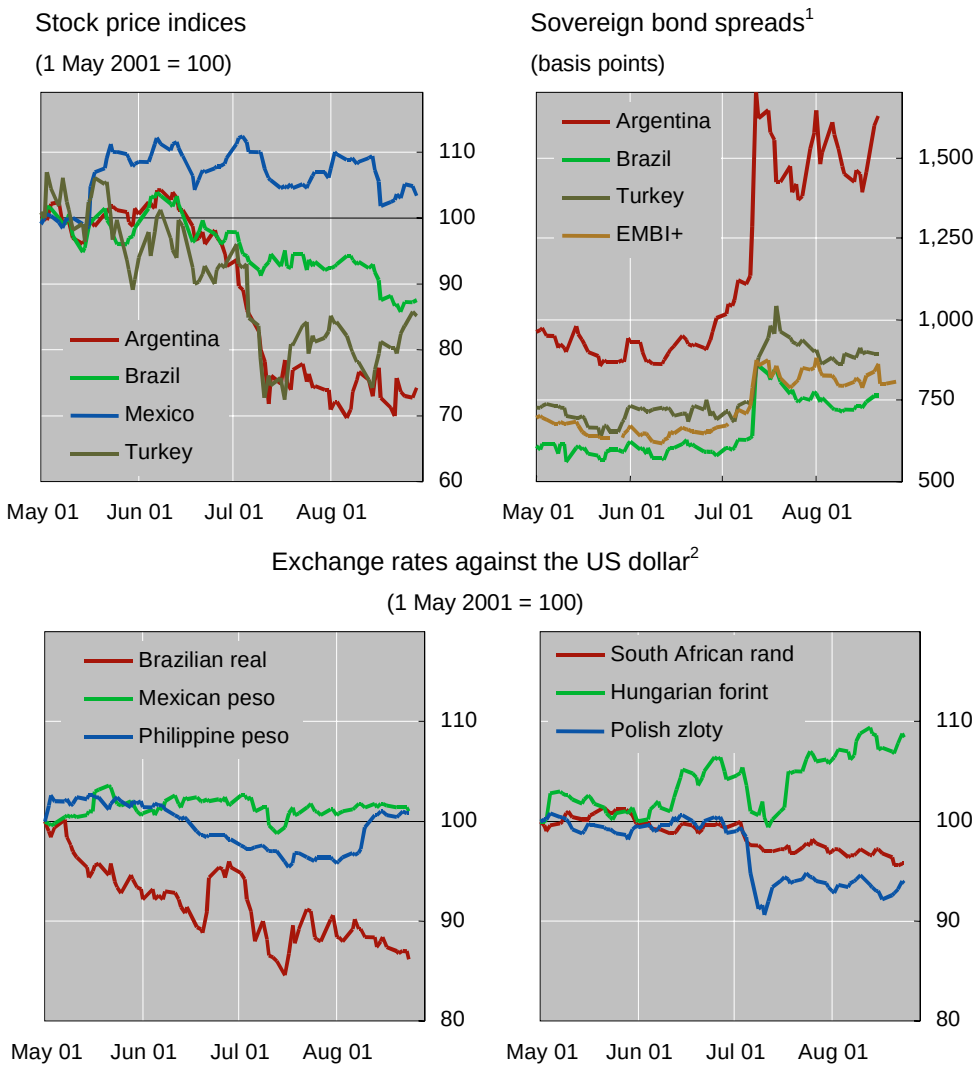
currencies. Nonetheless, most prominent emerging economies in Asia were largely spared these contagion effects.

... although still limited

The contagion, however, remained limited in scope and was also short-lived. Within days, international investors seemed to be again differentiating carefully between sovereign risks. A resolution of the dispute between Turkey and the IMF and the approval of a reduced government budget in Poland led to some recovery in emerging market asset prices.

The episode of contagion came after a period in which emerging market borrowers had started to return to capital markets in a significant way. Many major emerging economies had refrained from significant borrowing since the Russian moratorium in 1998 (Graph 1.4). In the second quarter of 2001,

## Stock prices, foreign debt and currencies of emerging economies

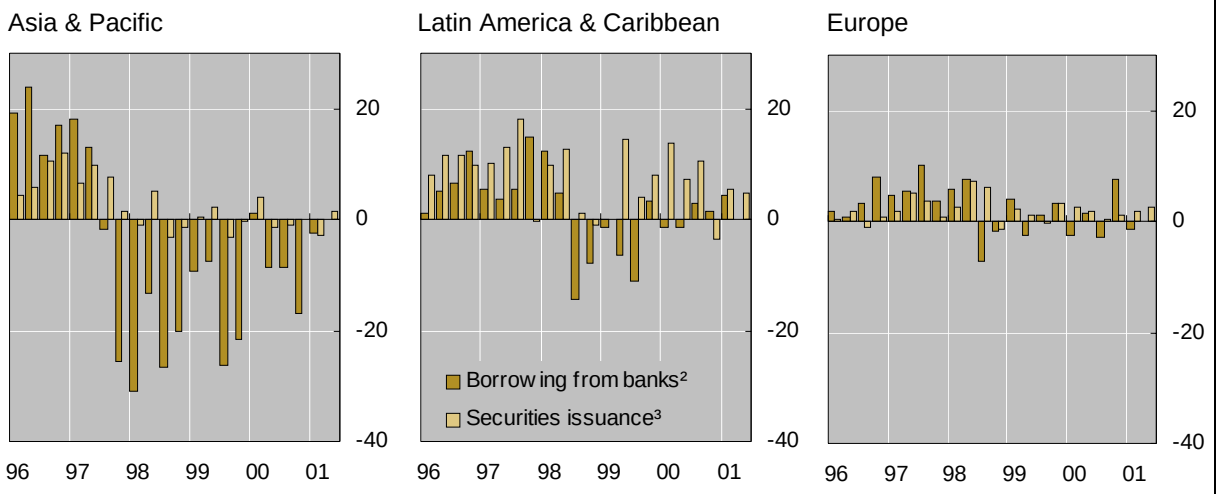



[1] Ten-year US dollar bond spreads over swap rates. [2] An increase indicates an appreciation against the US dollar.

Sources: Bloomberg; Datastream. Graph 1.3

## International bank and securities financing in emerging economies[1]

In billions of US dollars




[1] See Annex Table 7A for a list of the countries included in each region. [2] Exchange rate adjusted changes in cross-border loans of BIS reporting banks. Data on bank lending are not yet available for the second quarter of 2001. [3] Net issues of international money market instruments, bonds and notes.

Sources: Bank of England; Dealogic Capital Data; Euroclear; ISMA; Thomson Financial Securities Data; national data; BIS locational banking statistics. Graph 1.4

Mexico and Brazil return to the market

developing countries issued $10 billion in debt securities. The turmoil in July at first made it seem less likely that this return to the capital markets would continue. By August, however, both Mexico and Brazil had successfully launched large issues. The reception international investors gave Mexico's $1 billion 30-year bond and Brazil's ¥200 billion two-year samurai issue, so soon after the troubles in Argentina and Turkey, showed a rather resilient market.

## US dollar begins to waver

Unwinding of carry trades a possible factor …

The US dollar first seemed to waver during the Argentine and Turkish crises. It fell by 2.7% against the euro during the height of the crises from 6 to 11 July. Some market participants attributed this movement to the unwinding of carry trades involving exposures to Poland. In these carry trades, although short-term interest rates in euros had been higher than those in dollars, speculators may have chosen to borrow in euros because of the high correlation between this currency and the Polish zloty. Unwinding these trades meant selling Polish assets and buying euros, leading to the euro's strength and the appearance of dollar weakness.

… but subsequent dollar depreciation seems primarily driven by the growth outlook

Soon afterwards, the dollar began to weaken more broadly against the other major currencies. From its early July highs to 20 August, it declined by a total of 9.1% against the euro and 4.6% against the yen. This represented only a partial reversal of its previous appreciation, as the dollar remained 22.7% stronger against the euro and 7.1% stronger against the yen than it had been at the start of 1999. Nevertheless, there were signs that many of the factors that had contributed to the dollar's strength over the previous two years had

begun to exert less influence on market views. Thus, continued weak macroeconomic indicators led market participants to revise expectations of a quick return to growth in the United States. A downward revision to past productivity growth estimates also led them to question the formerly prevailing opinion that, once the current slowdown was over, GDP growth would again be significantly faster in the United States than in other developed economies. As stock markets continued to decline, retail investors and acquisition-minded executives began to lose their enthusiasm for US corporate equity. Attention became focused on the sustainability of cross-border flows into US corporate bonds, which were thought to have been a factor in the dollar's strength in the first half of 2001. Market uncertainty regarding the official stance towards exchange rates may also have contributed to the dollar's decline in July.

## Fixed income markets harbour more confidence

Monetary policy boosts confidence in fixed income markets ...

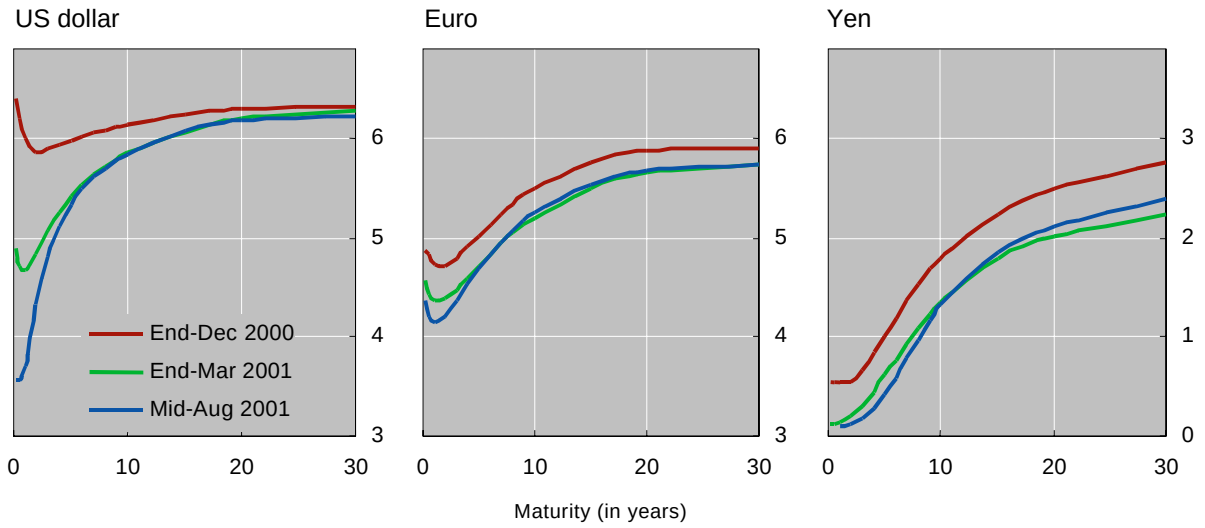
The gloom in equity markets and in the emerging economies contrasted with qualified optimism in fixed income markets. Over the first six months of the year, the US Federal Reserve had reduced its policy target rate by 275 basis points, culminating in a 25 basis point cut on 27 June. The ECB and the Bank of England also reduced their policy rates. The Bank of Japan, having announced in March a shift towards a more aggressive "quantitative easing" policy, went further in August by saying it would increase its purchases of government securities and allow a further rise in bank reserves. By late summer, participants in fixed income markets tended to conclude that these trends towards monetary easing would be sufficient to prevent the slowdown in the principal economies from deepening further. Nevertheless, views on the precise timing of the resumption of faster growth continued to be clouded with uncertainty.

... with steep yield curves suggesting cautious optimism

Reflecting this relative optimism, swap yield curves in US dollars, euros and yen tended to steepen (Graph 1.5). In the United States and the euro zone, the steeper yield curves incorporated hopes of a relatively rapid economic recovery, even if talk of a V-shaped turnaround was heard less often. During the first half of 2001, while the short-term ends of the dollar and euro yield curves shifted downwards significantly, longer-term yields declined only slightly or not at all. In part, the persistence of high long-term yields reflected specific, transient factors, notably a decline in the expected pace of debt reduction in the United States. Concerns about heightened inflation risks may also have played a role in keeping up long-term rates. Nevertheless, it was striking that both the surprise cut in policy rates announced by the Fed on 18 April and the rate cut by the ECB on 10 May only lowered the short ends of the dollar and euro yield curves without reducing long-term yields, thus causing a steepening of the curves. In Japan, by contrast, the steeper yield curve was a result of higher long-term yields, probably reflecting the anticipation of continued high levels of government borrowing.

## Yield curves for interest rate swaps[1]

In percentages




[1] For three-month, six-month and one-year maturities, Libor rates.

Source: Bloomberg. Graph 1.5

These slope movements point to the important role played by monetary policy, and the expected medium-term reaction of the economy, in the recent evolution of benchmark yield curves in the major economies. The steeper yield curves were more or less unchanged during the summer, even as current macroeconomic conditions worsened, suggesting that market participants retained their confidence in the underlying scenario for the future.

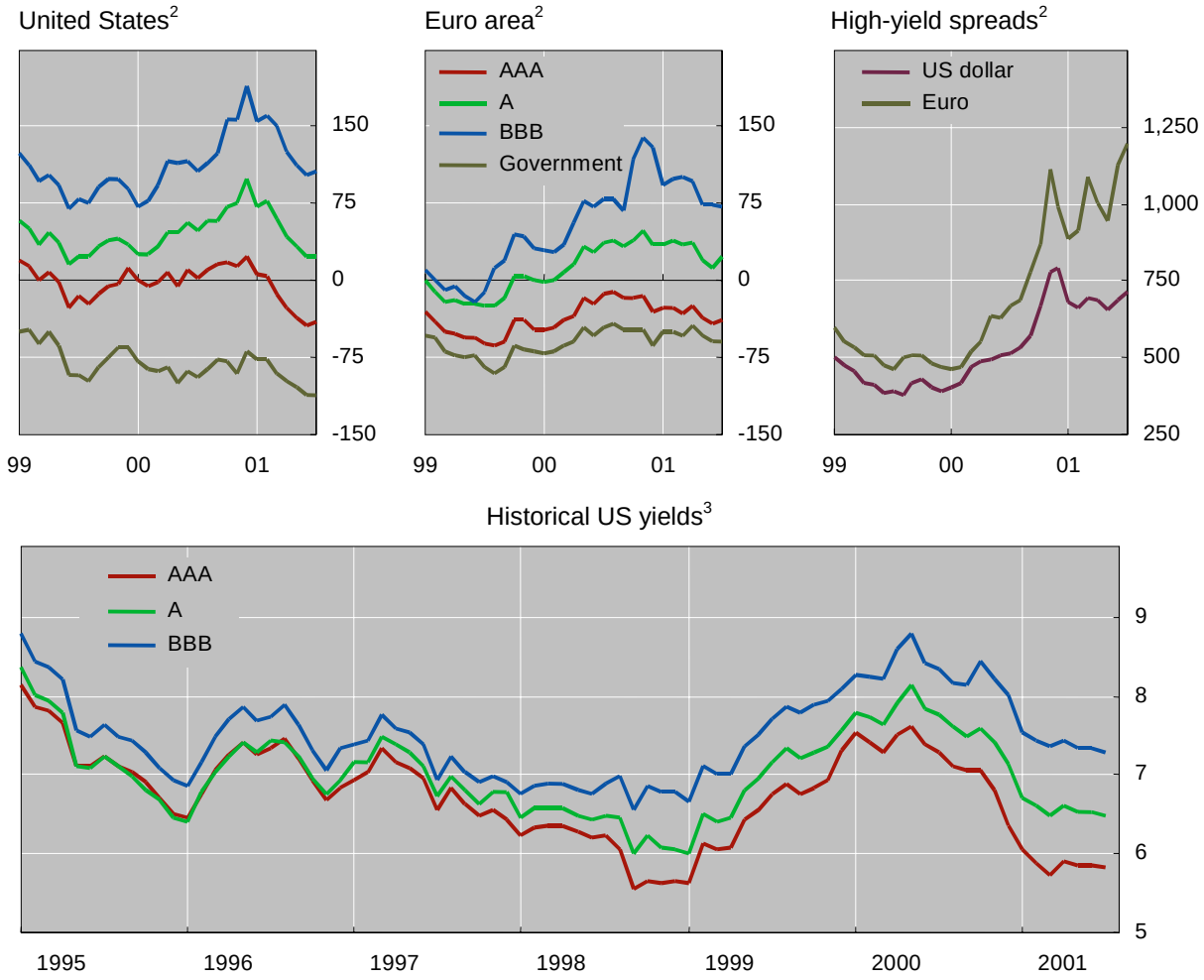
## Corporate bond market remains resilient

Corporate spreads narrow steadily …

The easing of monetary policy in the United States, the United Kingdom, the euro zone and Japan appears to have had strong effects on valuations in the corporate bond market. Over the first half of 2001, while equity market rallies proved short-lived, investment grade credit spreads in the bond market narrowed steadily (Graph 1.6). From the beginning of 2001 to end-July, the spreads of A-rated corporate bond yields over swaps declined from 71 to 24 basis points for dollar-denominated issues, and from 35 to 23 basis points for issues denominated in euros. In contrast to the experience during 2000, spreads on telecommunications company debt narrowed in line with those of other firms for most of the first half of 2001, though some telecoms issues, particularly those rated BBB and lower, continued to be shunned by investors. The low levels of yields available on short-term instruments and the persistence of low returns in equity markets appear to have been enough to prompt a favourable re-examination of corporate credit risk by investors, even as they remained sceptical with regard to corporate earnings prospects.

## Corporate and government bond spreads[1]

Month-end data




[1] Bond index yields against 10-year swap rates. [2] In basis points. [3] In percentages.

Sources: Bloomberg; Merrill Lynch; national data. Graph 1.6

Spreads in the commercial paper (CP) market, which had widened sharply at the end of 2000 and in the first quarter of 2001, also narrowed gradually during the second quarter and had virtually disappeared by early June. The market shocks experienced around the turn of the year, which had reflected the downgrades and defaults of technology firms, electricity utilities and companies with exposure to asbestos lawsuits, eventually receded.

… despite the high default risk implied by equity prices

The difference in investor sentiment between bond and equity markets could be seen in measures of default risk that rely on stock price information on individual companies. Such measures showed little or no appreciable decline in default risk in recent months (Graph 1.7) even as credit spreads narrowed. This difference may have reflected investors' unpleasant experience with equity markets over the past year, along with profound uncertainty about the earnings prospects of many large technology companies. Some telecoms operators

were reported to be having difficulty carrying out their plans to reduce debt through asset disposals.

In accepting narrower long- and short-term credit spreads, investors also appear to have discounted rising measured default rates. Moody's reports that 7.7% of speculative grade issuers – 9.4% in dollar-weighted terms – defaulted in the 12 months to end-June 2001. In both issuer and dollar-weighted terms, default rates on speculative grade issues rose to twice their annual averages over 1995-2000. For 2001 as a whole, Moody's forecasts an increase in the default rate for speculative grade issuers to nearly 10%. At the same time, the number of firms downgraded into the speculative category has been increasing slowly but steadily; from July 2000 to June 2001 the number of issuer downgrades exceeded that of upgrades by more than 2%.

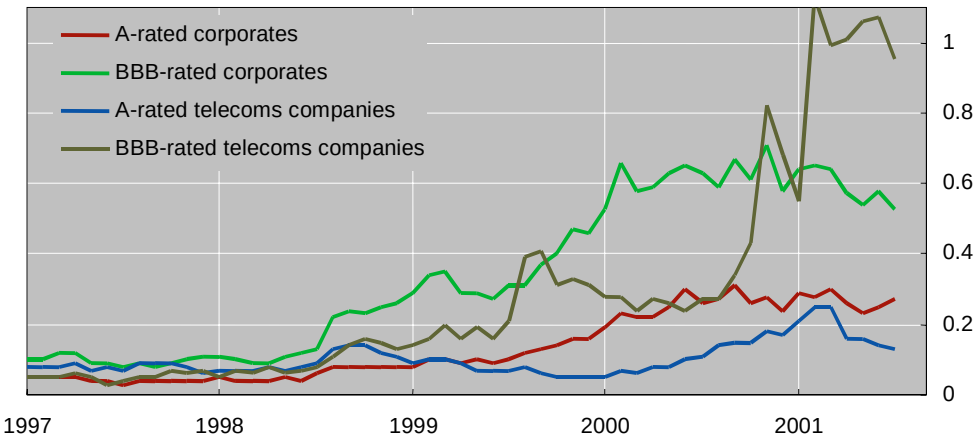
Banks remain willing to lend …

Banks, like bond investors, remained willing to take on corporate credit exposure. After having declined in the first quarter, syndicated lending grew in the second (see "Syndicated credits: US borrowers return in the second quarter" on page 22). This followed a strong increase in cross-border lending to non-banks in the United States and, to a lesser extent, Europe in the first quarter, which was surprising given that announcements of new syndicated facilities had been weak. It appears that some corporations drew on already committed bank lines in the first quarter, then refinanced this debt with long-term bonds and new syndications in the second. There was also an increase in interbank lending, apparently related to the financing of dealers' corporate bond inventories as investors increased their purchases of long-term securities (see Section 2).

Private sector borrowers took advantage of the favourable conditions in the corporate bond and syndicated loan markets. With investors scrambling to add corporate bonds to their portfolios, corporations floated a record amount of

## Implied default probability[1]

In percentages




[1] Median default probability for a one-year horizon based on KMV's expected default frequencies. The probabilities are estimated from Robert Merton's equations, which include market valuation of equity, equity volatility and leverage.

Source: KMV. Graph 1.7

long-term debt securities on international markets during the first half of the year. Gross issuance of bonds and notes by non-financial corporations on the international market totalled a record $156 billion in the second quarter of 2001, a small increase over the amount issued in the first. Yen-denominated issuance rose especially strongly in the second quarter and into July, in response to the persistence of low funding costs in yen. Some borrowers who had suffered reduced access to the unsecured CP markets at the turn of the year were able to find funding through asset-backed structures. Even in the junk bond market, where credit spreads have been high and volatile, corporate issuance was strong. Roughly $50 billion was issued on the US domestic high-yield market in the first half of the year, compared with $48 billion in the whole of 2000.

While the strength of *gross* issuance reflected a receptive market, a decline in *net* issuance also showed that the slowing global economy was beginning to dampen demand for financing. Net issuance by non-financial borrowers declined slightly as repayments increased, with corporate borrowers often using the proceeds to pay off their maturing long-term debt as well as their CP obligations (see Section 3). Despite the rise in syndicated lending in the second quarter, net issuance by financial institutions fell sharply, indicating that while banks did not withdraw from lending to the corporate sector, they also did not perceive a large enough volume of new lending opportunities to justify a significant expansion of their balance sheets.

… but lack lending opportunities

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# 2. The international banking market

The first quarter of 2001 saw record activity in the international banking market. According to the locational banking statistics, cross-border claims of banks in the reporting area increased by $704.3 billion, substantially higher than the previous peak of activity in the first quarter of 2000.[1] These flows were bloated by interbank activity in a recycling process that supported an unprecedented volume of cross-border lending to non-bank borrowers amounting to $183.3 billion. The bulk of this lending went to non-banks in the United States. In Europe,[2] cross-border flows to non-banks were boosted by purchases of government securities, and in offshore centres by hedge fund activity.

Emerging economies as a group did not benefit from this expansion of international banking activity. New lending to Mexico, Korea, Brazil and eastern Europe in the first quarter was more than offset by cutbacks in claims on Argentina, Turkey and economies in East Asia and the Middle East. Coupled with continuing deposit flows from Asian and oil-exporting countries, this contraction in claims resulted in the eighth consecutive quarter of net outflows from emerging economies to banks in the reporting area.

## Interbank activity reaches an all-time high

Lending in dollars and euros boosts interbank flows

The first quarter of 2001 was the busiest ever in the international interbank market. Cross-border lending to banks in developed countries totalled $387.6 billion, a 70% increase over the fourth quarter of 2000, which itself was an exceptionally buoyant period in the interbank market (Table 2.1). The US dollar segment of the international interbank market remained very active, but

[1] The discussion that follows refers mainly to the BIS locational banking statistics, which are based on the residence of reporting banks and adjusted for quarterly movements in exchange rates. These data differ in certain important respects from the BIS consolidated banking statistics. For an explanation of the differences, see "Introduction to the BIS locational and consolidated international banking statistics" in the Statistical Annex. The consolidated statistics for the first quarter of 2001 were published in a BIS press release on 30 July 2001 and are reprinted in Table 9 in the Statistical Annex.

[2] Historical data for the euro area have been revised to include Greece, which joined European monetary union on 1 January 2001. Greece is not a reporting country.

## Main features of cross-border claims of BIS reporting banks

Exchange rate adjusted changes in amounts outstanding, in billions of US dollars

| | 1999 | 2000 | | | | | 2001 | Stocks at end-March 2001 |
|---|---|---|---|---|---|---|---|---|
| | Year | Year | Q1 | Q2 | Q3 | Q4 | Q1 | |
| Total claims | 276.1 | 1,175.6 | 445.0 | 118.5 | 217.0 | 395.0 | 704.3 | 11,177.4 |
| Interbank loans[1] | –222.6 | 648.8 | 285.2 | – 23.0 | 96.8 | 289.8 | 405.5 | 6,379.2 |
| Loans to non-banks | 103.3 | 66.0 | 26.5 | – 0.3 | 21.3 | 18.4 | 183.3 | 2,228.5 |
| Securities[2] | 395.5 | 460.8 | 133.3 | 141.8 | 98.9 | 86.8 | 115.5 | 2,569.7 |
| On developed countries | 467.4 | 1,117.7 | 486.0 | 117.6 | 184.9 | 329.1 | 640.1 | 8,743.3 |
| *of which: intra-euro*[3] | *266.6* | *152.9* | *110.8* | *– 11.8* | *27.5* | *26.5* | *130.5* | *1,668.9* |
| Interbank loans[1] | 24.8 | 662.0 | 337.6 | 8.7 | 88.7 | 227.1 | 387.6 | 5,086.2 |
| Loans to non-banks | 113.5 | 78.7 | 41.5 | – 12.8 | 26.9 | 23.1 | 159.5 | 1,520.1 |
| Securities[2] | 329.0 | 376.9 | 107.0 | 121.7 | 69.3 | 78.9 | 93.0 | 2,137.0 |
| On offshore centres | –102.3 | 49.6 | – 49.9 | 6.1 | 26.9 | 66.6 | 48.8 | 1,272.6 |
| Interbank loans[1] | –139.2 | – 18.9 | – 63.3 | – 17.3 | 13.1 | 48.7 | 21.9 | 843.7 |
| Loans to non-banks | 9.4 | 18.8 | – 0.9 | 13.0 | – 2.0 | 8.7 | 17.4 | 259.4 |
| Securities[2] | 27.5 | 49.7 | 14.3 | 10.4 | 15.8 | 9.2 | 9.4 | 169.5 |
| On emerging economies | – 68.9 | – 12.9 | 0.9 | – 3.6 | – 4.2 | – 6.0 | – 1.9 | 877.4 |
| Interbank loans[1] | – 58.5 | – 10.0 | 5.6 | – 10.1 | – 8.9 | 3.5 | – 8.5 | 324.5 |
| Loans to non-banks | – 16.6 | – 27.8 | – 16.2 | 0.2 | – 1.3 | – 10.6 | 4.5 | 398.9 |
| Securities[2] | 6.1 | 24.9 | 11.4 | 6.3 | 6.1 | 1.2 | 2.1 | 154.1 |
| Unallocated claims | – 20.1 | 21.2 | 8.1 | – 1.5 | 9.4 | 5.3 | 17.3 | 284.1 |
| *Memo: Syndicated credits*[4] | *1,025.9* | *1,464.9* | *261.8* | *373.9* | *424.3* | *404.9* | *271.8* | |

[1] Includes inter-office transactions. [2] Partly estimated. The data comprise mainly debt securities, but also include other assets, which account for less than 5% of total claims outstanding. [3] Cross-border claims of reporting banks in the euro area on residents of the euro area. [4] Signed new facilities.

Sources: Dealogic Capital Data; BIS locational banking statistics. Table 2.1

even larger flows were seen in the euro segment. Owing principally to this high level of interbank activity, the euro accounted for 51% of the total increase in the foreign currency claims of banks in the reporting area, up from 20% in the fourth quarter of last year (Table 2.2).

Interbank activity involves US banks lending to European banks

Banks located in the United States were the most important source of cross-border dollar funding in the first quarter. Foreign demand for dollars to support purchases of US securities contributed to an unusually large $70.3 billion increase in dollar lending by banks in the United States to banks abroad. Two thirds of this credit went to banks in Europe, mainly in the United Kingdom, Switzerland and Germany. Most of the remainder was channelled to own offices in the Caribbean.

Activity in the euro segment of the international interbank market centred on the United Kingdom. Banks' efforts to meet demand for domestic financing by borrowers in the euro area boosted cross-border euro lending to banks in the reporting area to $246 billion in the first quarter. Activity within the euro area accounted for only one fifth of this interbank lending, while flows between the United Kingdom and the euro area accounted for slightly more than half.

## Currency breakdown of international claims of BIS reporting banks[1]

Exchange rate adjusted changes in amounts outstanding, in billions of US dollars

| | 1999 | 2000 | | | | | 2001 | Stocks at end-March 2001 |
|---|---|---|---|---|---|---|---|---|
| | Year | Year | Q1 | Q2 | Q3 | Q4 | Q1 | |
| Total claims | 333.4 | 1,372.1 | 573.5 | 148.0 | 230.6 | 420.0 | 834.8 | 12,698.8 |
| *of which: local claims*[2] | *57.3* | *196.5* | *128.4* | *29.5* | *13.6* | *25.0* | *130.5* | *1,521.4* |
| US dollar | 32.6 | 522.1 | 151.7 | 74.3 | 105.7 | 190.4 | 298.1 | 5,360.8 |
| Euro | 464.6 | 516.7 | 301.4 | 55.1 | 74.6 | 85.6 | 427.0 | 3,482.6 |
| *of which: intra-euro*[3] | *295.4* | *140.5* | *106.6* | *– 8.4* | *20.4* | *21.8* | *112.3* | *1,357.3* |
| Japanese yen | –207.0 | 105.3 | 29.6 | 30.4 | – 10.0 | 55.3 | – 1.4 | 884.5 |
| Pound sterling | 13.5 | 88.6 | 60.6 | 6.1 | 17.2 | 4.7 | 66.3 | 566.9 |
| Swiss franc | 37.7 | 8.8 | 34.4 | –29.2 | 8.9 | – 5.2 | 14.3 | 321.2 |
| Other and unallocated | – 8.0 | 130.5 | – 4.2 | 11.2 | 34.3 | 89.2 | 30.5 | 2,082.7 |

[1] International claims in all currencies and local claims in foreign currencies. [2] For a currency breakdown, see Table 5D in the Statistical Annex. [3] Euro-denominated international claims of reporting banks in the euro area on residents of the euro area.

Source: BIS locational banking statistics. Table 2.2

London's banks prominent in euro lending

The large flows between London and the euro area in the first quarter reflect London's importance in the euro segment of the international interbank market. In terms of cross-border interbank business, London is the leading financial centre in the euro market. Indeed, London's importance has grown since the start of monetary union, its share of cross-border interbank claims in euros having increased from 21% to 25% between the first quarter of 1999 and the first quarter of 2001. Switzerland is also a major centre in the euro interbank market, conducting more euro cross-border business than all but three countries within the euro area. Banks in the United States and Japan do little interbank business in euros; it is likely that US and Japanese banks instead book euro transactions through their offices in London and other international banking centres. Relative to their role in the dollar interbank market, offshore centres play an insignificant role in intermediating euro-denominated flows to banks. Whereas international banks' US dollar-denominated liabilities to offshore centres (mainly to their own offices) exceed $800 billion, their euro-denominated liabilities to offshore centres equal approximately $100 billion (Table 2.3).

## Flows to non-banks in the United States surge

Loan funds chanelled to US borrowers

Dollar funds made available through the interbank market supported an exceptionally large increase in banks' cross-border claims on non-bank borrowers in the United States. Flows to US non-banks totalled $124.1 billion, slightly more than in all of 2000 and over twice as much as the previous peak in the third quarter of 1997. The consolidated banking statistics indicate that virtually all of these flows went to the non-bank private sector, not public sector borrowers.

## Cross-border interbank business in euros

Outstanding stock of euro-denominated claims on banks, in billions of US dollars

| Reporting country | 1999 Q1 | 2000 Q1 | 2001 Q1 |
|---|---|---|---|
| Total of BIS reporting banks[1] | 1,708.0 | 1,807.7 | 2,017.3 |
| Euro area[2] | 1,152.6 | 1,175.8 | 1,267.0 |
| Germany | 336.3 | 334.9 | 394.0 |
| France | 245.3 | 219.4 | 236.3 |
| Luxembourg | 154.5 | 173.8 | 174.5 |
| Netherlands | 96.7 | 93.6 | 108.8 |
| Italy | 99.4 | 88.9 | 95.3 |
| United Kingdom | 364.4 | 394.3 | 497.3 |
| Switzerland | 133.4 | 162.2 | 142.0 |
| Offshore centres[3] | 72.3 | 77.0 | 112.6 |
| Japan | 22.0 | 30.9 | 52.2 |
| *Memo: United States*[4] | *80.6* | *63.6* | *71.1* |

[1] Includes only those countries that report a currency breakdown. [2] Excludes Greece, which is not a reporting country. [3] Data refer to BIS reporting banks' liabilities to offshore centres, which should be equivalent to offshore centres' euro-denominated claims on banks in the reporting area that report a currency breakdown. [4] Cross-border loans by banks in the United States in all currencies other than the US dollar. The United States does not report a currency breakdown for foreign currency claims, and only reports loans, not holdings of securities.

Source: BIS locational banking statistics. Table 2.3

Cross-border lending makes up for drop in local lending

Surprisingly, nearly 90% of the flows to US non-banks took the form of loans rather than securities purchases. The June 2001 issue of the *BIS Quarterly Review* had attributed part of the surge in corporate bond issuance in the first quarter of 2001 to the repayment of bank loans. This is consistent with lending patterns in the domestic banking market; US flow-of-funds data show that banks in the United States curtailed their local lending activity in the first quarter. By contrast, the locational banking statistics show that *cross-border* lending to non-banks in the United States accelerated.

The large increase in cross-border lending suggests that in addition to returning to bond markets in the first quarter, corporate borrowers drew on their credit lines with commercial banks even more heavily than they had in the final quarter of 2000. Foremost among those drawing on backup facilities were borrowers who had difficulty accessing the commercial paper (CP) market. For example, syndicated credits totalling $6.5 billion were arranged for Lucent Technologies in the first quarter to help the firm meet its obligations after losing access to the CP market. Many of these backup facilities are funded by syndicates of international banks, and so drawdowns would be likely to have a greater impact on activity in the international banking market than in local markets.

Are bank subsidiaries buying US securities?

International banks' indirect purchases of US securities via their local subsidiaries also help explain why cross-border lending to non-banks in the United States surged even while domestic lending slowed. Banks' direct cross-border purchases of securities issued by US residents (banks and non-banks)

amounted to only $22.8 billion in the first quarter, substantially less than purchases during 2000. This low level is surprising given the tremendous increase in issuance in the US corporate bond market in the first quarter and the record foreign purchases of US securities reported by the US Treasury (which are usually mirrored in the locational banking statistics but in the first quarter were not).[3] What appears to have occurred is that banks in the reporting area extended credit to their securities subsidiaries in the United States to finance their purchases of corporate bonds and other US securities.

Banks located in the United Kingdom were the principal source of flows to non-banks in the United States, lending $70.8 billion. However, according to the consolidated banking statistics, banks headquartered in Germany, Japan and Switzerland were ultimately responsible for most of the rise in claims on US residents. The locational data suggest that these banks provided funds to the United States through both their subsidiaries in London and their head offices.

## Banks in Europe concentrate on securities purchases

Large flows to euro area public sector

In Europe too, cross-border flows to non-banks from banks in the reporting area accelerated in the first quarter. Claims on euro area non-banks increased by $53.5 billion, and claims on UK non-banks by another $38.7 billion. These are some of the largest ever flows to non-banks in Europe. In contrast to the rise in cross-border claims on non-banks in the United States, the increase for Europe was concentrated on public sector borrowers. Moreover, much of this activity originated within the euro area; flows from the rest of the world to non-banks in the European Union remained more or less unchanged at $16.4 billion.

Virtually all of the cross-border flows to non-banks in the United Kingdom in the first quarter took the form of loans. Euro-denominated lending to the United Kingdom by banks in the euro area was especially strong. Much of this euro lending was driven by the pickup in euro-denominated issuance in the international debt securities market in the first quarter. Euro area banks appear to have channelled funds to their securities subsidiaries in London, which then increased their own inventories of bonds.[4]

Government securities account for bulk of flows

Banks in the reporting area employed funds made available through the euro segment of the cross-border interbank market to step up their purchases of securities issued by euro area residents. Government securities appear to have accounted for the bulk of banks' cross-border purchases. The German

[3] The US Treasury's international capital reporting system shows that net purchases of long-term US securities by foreigners equalled $156.7 billion in the first quarter. Foreign purchases totalled $456.3 billion in 2000.

[4] In the locational banking statistics, securities subsidiaries are classified as non-banks. In the consolidated banking statistics, the claims of these subsidiaries are consolidated with those of the parent bank. This consolidation can result in significant differences between the locational and consolidated banking statistics.

and Italian governments issued large amounts of debt in the first quarter, and some of this was taken up by banks, mainly euro area banks. ECB data covering domestic as well as cross-border banking activity within the euro area show that euro area banks also purchased substantial amounts of securities issued locally by corporations and other non-financial entities.

## Hedge fund activity boosts flows to non-banks in offshore centres

Lending flows go to Cayman Islands

The first quarter saw strong demand for bank credit by non-bank borrowers in offshore centres. Cross-border claims increased by $24.1 billion, with loans accounting for much of the rise. Three quarters of these flows went to non-banks in the Cayman Islands, including hedge funds. Banks in the United Kingdom provided a little less than half of the funds, and banks in the United States, euro area and Japan the remainder.

Repurchase agreements with hedge funds and international mutual funds were behind part of the rise in claims on non-banks. A large number of hedge funds and many mutual funds are domiciled in the Cayman Islands and other offshore centres. Mutual funds' use of leverage is typically limited, but hedge funds frequently engage in repos to achieve their desired leverage ratio. Hedge funds reportedly enjoyed very strong inflows of share capital in the first quarter of 2001.[5] This could in turn have led to increased borrowing by hedge funds from banks in the reporting area.[6]

Yen lending was also a contributing factor in the rise. Yen-denominated claims on non-banks in offshore centres rose by $6.3 billion in the first quarter. Banks in Japan extended financing to special purpose vehicles in the Cayman Islands to purchase and securitise yen loans.

## Banks distinguish weaker emerging economies from stronger ones

Banks discriminate while continuing to cut back on emerging economies

In contrast to the large amounts lent to non-bank borrowers in developed countries and offshore centres in the first quarter of 2001, banks in the reporting area continued to cut back their claims on emerging economies. Nevertheless, despite deteriorating conditions in some emerging economies, the contraction in claims was relatively small, at $1.9 billion. Even if new lending was limited, there were no signs of a broad-based retrenchment by international banks (Graph 2.1 and Table 2.4). In the first quarter at least, banks appeared to make distinctions across countries according to their perceived credit quality, pulling back from countries facing specific problems while continuing to lend to countries with favourable prospects.

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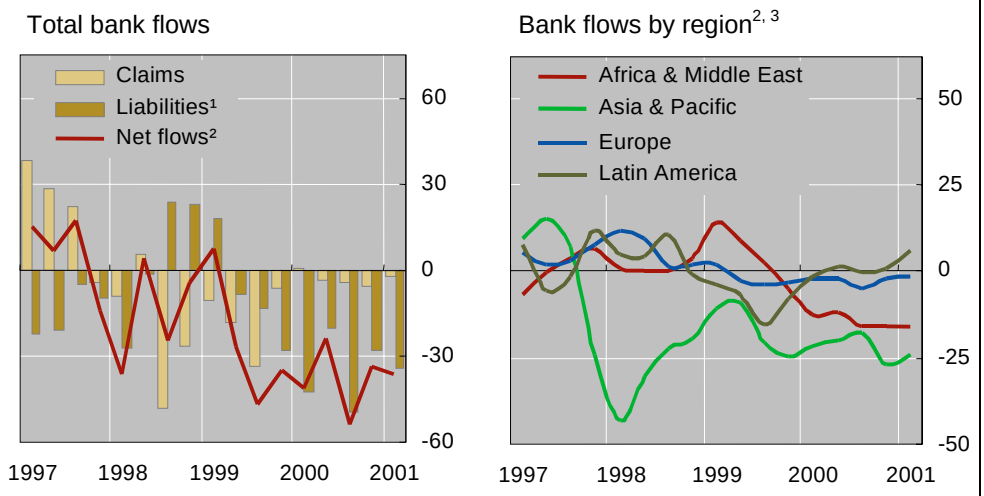
[5] TASS Research reports that net asset flows into hedge funds totalled $6.9 billion in the first quarter of 2001, compared to $8 billion during the whole of 2000.

[6] For a discussion of hedge fund activity in offshore centres, see the article by Liz Dixon, "Financial flows via offshore financial centres as part of the international financial system", in the June 2001 issue of the Bank of England's *Financial Stability Review*.

## Banks' external positions vis-à-vis emerging economies

Exchange rate adjusted changes in amounts outstanding, in billions of US dollars




[1] A negative (positive) value indicates an increase (decrease) in BIS reporting banks' liabilities vis-à-vis emerging economies. [2] Changes in claims minus changes in liabilities. [3] Two-quarter moving average.

Source: BIS locational banking statistics. Graph 2.1

Turkey suffers from retreat by banks …

Bank flows to Turkey turned around sharply in the first quarter of 2001, following the emergence of strains in the banking system and the flotation of the currency. After benefiting from the largest increase in cross-border claims among emerging economies in 2000, Turkey experienced the largest contraction in claims: $2.3 billion. Claims on banks accounted for most of the decline, as only the top tier of Turkish banks retained access to the international syndicated credit market in the first quarter. Cross-border claims on Turkey are likely to have declined again in the second quarter after the central government repaid in June a $1 billion loan hastily arranged in December 2000.

… as does Argentina …

Uncertainty about Argentina's short-term prospects led banks in the first quarter to cut back their claims on that country by $2.2 billion, or 5% of outstanding claims. Banks have been hesitant to commit funds to Argentina since 1998, when cross-border claims peaked at $50 billion. Argentina's access to the international banking market now appears to have deteriorated further. In the second quarter of 2001, Argentine borrowers were able to raise only $200 million in the international syndicated loan market, the smallest amount since 1995. Another noteworthy development was the decline in international banks' liabilities vis-à-vis Argentina. Banks in Argentina withdrew a record $6.1 billion in deposits from banks in the reporting area in the first quarter. Some of these deposits had been part of the central bank's foreign exchange reserves.

While reducing their exposure to Turkey and Argentina, banks in the reporting area put new money into Mexico, Brazil and countries in accession

## Banks' external positions vis-à-vis emerging economies

Exchange rate adjusted changes in amounts outstanding, in billions of US dollars

| | 1999 | 2000 | | | | | 2001 | Stocks at end-March 2001 |
|---|---|---|---|---|---|---|---|---|
| | Year | Year | Q1 | Q2 | Q3 | Q4 | Q1 | |
| Total claims | – 68.9 | – 12.9 | 0.9 | – 3.6 | – 4.2 | – 6.0 | – 1.9 | 877.4 |
| Africa & Middle East | 0.2 | – 7.9 | – 6.3 | – 1.0 | – 1.6 | 1.0 | – 5.4 | 142.9 |
| Saudi Arabia | 2.0 | 0.0 | – 1.2 | – 0.1 | 0.0 | 1.3 | – 1.9 | 23.9 |
| Asia & Pacific | – 61.8 | – 29.3 | 3.0 | – 7.3 | – 6.7 | – 18.3 | – 1.2 | 275.2 |
| Mainland China | – 17.1 | – 5.4 | 0.1 | – 3.4 | – 1.7 | – 0.5 | – 1.7 | 56.5 |
| Taiwan, China | – 3.3 | – 4.2 | 1.3 | – 0.1 | – 1.1 | – 4.3 | – 0.2 | 14.5 |
| Europe | 8.9 | 10.8 | – 0.4 | 2.6 | 0.2 | 8.4 | 0.2 | 167.8 |
| Russia | – 6.5 | – 6.6 | – 1.4 | – 1.4 | – 3.2 | – 0.6 | – 1.2 | 33.9 |
| Turkey | 5.8 | 11.2 | 2.7 | 2.7 | 2.5 | 3.4 | – 2.3 | 46.0 |
| Latin America | – 16.2 | 13.6 | 4.6 | 2.1 | 3.9 | 3.0 | 4.5 | 291.5 |
| Argentina | 0.6 | 1.2 | – 1.2 | – 0.1 | 2.3 | 0.2 | – 2.2 | 44.5 |
| Brazil | – 8.9 | 9.5 | 1.5 | 0.2 | 3.2 | 4.6 | 2.8 | 97.4 |
| Total liabilities[1] | 32.1 | 140.5 | 42.3 | 20.5 | 49.8 | 27.9 | 34.4 | 1,065.6 |
| Africa & Middle East | – 7.1 | 46.7 | 7.6 | 8.4 | 20.8 | 9.9 | 17.1 | 327.4 |
| Saudi Arabia | – 17.9 | 10.8 | – 0.4 | – 0.9 | 7.2 | 4.9 | 4.5 | 64.0 |
| Asia & Pacific | 4.9 | 64.9 | 26.6 | 9.5 | 12.0 | 16.7 | 11.4 | 364.5 |
| Mainland China | – 3.9 | 35.7 | 12.0 | 10.4 | 5.1 | 8.1 | 0.4 | 101.3 |
| Taiwan, China | 7.5 | 19.2 | 0.0 | 0.6 | 6.1 | 12.5 | 3.3 | 66.7 |
| Europe | 20.5 | 19.4 | 1.9 | 4.7 | 7.7 | 5.1 | 6.1 | 126.3 |
| Russia | 3.8 | 7.2 | 2.4 | 3.4 | 3.1 | – 1.8 | 3.7 | 26.9 |
| Turkey | 3.3 | 2.2 | 0.0 | – 0.6 | 0.2 | 2.6 | – 1.3 | 19.0 |
| Latin America | 13.8 | 9.6 | 6.3 | – 2.1 | 9.3 | – 3.8 | – 0.2 | 247.5 |
| Argentina | 0.1 | 3.2 | 0.4 | 0.1 | 3.7 | – 1.0 | – 5.9 | 34.3 |
| Brazil | 2.2 | – 4.6 | 1.2 | – 8.9 | 2.3 | 0.7 | – 2.3 | 44.9 |
| Net flows[2] | – 101.0 | – 153.4 | – 41.4 | – 24.1 | – 54.0 | – 33.9 | – 36.3 | – 188.2 |
| *Memo:* | | | | | | | | |
| *OPEC members' deposits* | *– 19.7* | *37.4* | *2.6* | *10.5* | *16.8* | *7.4* | *12.5* | *243.1* |

[1] Mainly deposits. Other liabilities account for less than 1% of the total liabilities outstanding. [2] Total claims minus total liabilities.

Source: BIS locational banking statistics. Table 2.4

negotiations with the European Union. Cross-border claims on Mexico increased by $4 billion. Brazilian borrowers, who had been active in the samurai market in the first quarter of 2001, also tapped banks for yen funding; yen lending to banks accounted for approximately one third of the $2.8 billion increase in cross-border claims on Brazil. Among EU applicant countries, Poland received $1 billion from banks in the reporting area, mainly through purchases of zloty-denominated government securities. Banks lent another $0.9 billion to Cyprus and $0.8 billion to the Czech Republic.

… but banks help Mexico and Brazil

Even though emerging economies in East Asia, especially those dependent on exports of electronic equipment, have been adversely affected by the economic slowdown in the United States, weaker growth prospects have not greatly impacted international banking activity in the region so far.

Repayments by Asian borrowers in the first quarter again exceeded new lending, resulting in a $1.2 billion decline in claims on emerging economies in Asia. China and Thailand experienced the largest contraction in claims, $1.7 billion and $1 billion respectively. Claims on Korea increased by $3.2 billion, mainly owing to repo transactions between US banks and Korean securities firms. Claims on Malaysia also increased, by $0.4 billion, the second consecutive quarterly rise. Several Malaysian entities, including the central government, tapped international bond markets in late 2000 and early 2001, and banks in the reporting area appear to have purchased a portion of these issues.

East Asian deposits remain strong ...

As well as paying down their external debt, East Asian residents continued to deposit surplus foreign exchange abroad. International banks' liabilities vis-à-vis emerging economies in East Asia increased by $11.4 billion in the first quarter, in line with deposit flows during 2000. Banks in Korea placed $4.4 billion abroad, and banks in Indonesia $1.5 billion. However, deposit flows from Taiwan, China (hereinafter referred to as Taiwan), which had picked up sharply in the latter half of 2000, slowed to $3.3 billion (see the special feature on pages 49-56). Outflows from mainland China also slowed substantially. Rather than placing surplus foreign exchange with banks in the reporting area, in the first quarter residents of Taiwan and mainland China appeared to prefer to invest directly in dollar debt instruments. The US Treasury's international capital reporting system shows a marked increase in their holdings of US Treasury and agency bonds and other US debt securities in the early months of 2001.

... as do deposits from oil exporters

High oil prices supported further deposit flows from oil-exporting countries. The first quarter of 2001 saw another large increase in international banks' liabilities vis-à-vis OPEC members: $12.5 billion. Saudi Arabia remained the largest depositor, placing $4.5 billion, followed by the United Arab Emirates with $4.1 billion. At the same time, the two countries stepped up repayments to banks in the reporting area. Since the end of 1998, when oil prices began to increase, the outstanding stock of cross-border claims on OPEC members has fallen by 18% to $126.9 billion, and banks' liabilities to OPEC members have increased by 14% to $243.1 billion.

## Syndicated credits: US borrowers return in the second quarter

*Blaise Gadanecz*

Syndicated lending activity rebounded in the second quarter of 2001 to a record high of $431 billion. On a seasonally adjusted basis, signings rose by 13%, reversing the trend of the previous two quarters. The rebound was led by borrowers from the United States, for whom banks arranged credits totalling $294 billion. EU nationals were also more active, raising $85 billion. In contrast, the volume of deals for borrowers in emerging economies remained virtually unchanged at $14 billion.

Some of the largest loans in the second quarter were arranged for borrowers who typically meet a large part of their short-term financing needs in the money markets rather than the loan market. US commercial banks raised a record $24.3 billion. General Motors Acceptance Corporation, a large issuer in the commercial paper market, signed a $14.7 billion facility. IBM Credit and American Express, also active in the CP market, arranged facilities for $12 billion and $9 billion respectively.

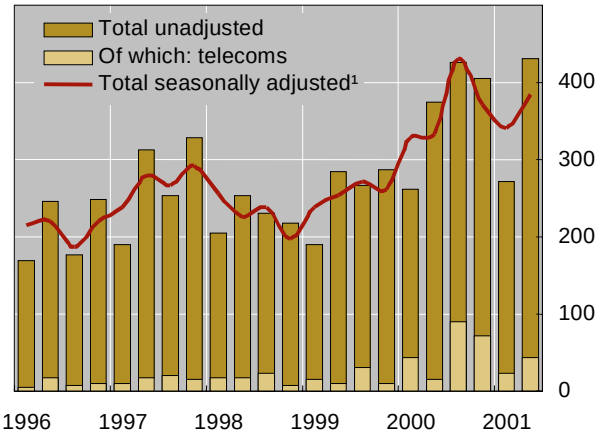
Telecommunications firms appear to have found bank financing more attractive than bond financing in the second quarter. Whereas bond issuance by telecoms slowed between the first and second quarters (see page 26), syndicated lending to telecoms almost doubled, to $43 billion. Nevertheless, signings remained substantially less than in the latter half of 2000. Most of the telecoms activity in the second quarter involved the rolling-over of facilities contracted in 1999 and 2000. For example, Vodafone AirTouch raised $13.3 billion to refinance part of a revolving credit signed in September 2000.

Lending to emerging economies remained low in the second quarter. Korean, Mexican and South African borrowers were the most active. Old Mutual, a South African insurance firm, raised $1.3 billion in the sterling market to finance a takeover bid. Despite their problems, Argentina and Turkey managed to raise small amounts of new funding, $200 million and $600 million respectively. The funding for Argentina was raised by a gas company to finance a maturing bond and carried insurance against political risks such as the imposition of capital controls. In Turkey, the central government raised funds to finance public works. The only non-government Turkish borrower to sign a facility was a firm supported by the International Finance Corporation, the World Bank's private finance arm. Turkish banks, which had raised a limited amount of financing in the syndicated loan market in the first quarter, were absent in the second.

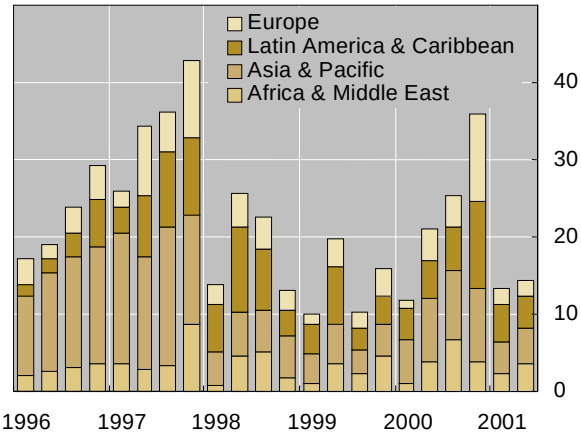
### Activity in the international syndicated credit market

In billions of US dollars

Signed facilities




Facilities for emerging economies




[1] Using the US Census Board's X12 Arima seasonal adjustment process.

Sources: Dealogic Capital Data Loanware; BIS.

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# 3. The international debt securities market

The global economic slowdown seems to have dampened demand for new international financing even in a market with receptive investors. Net issuance in the international debt securities market fell to $260 billion during the second quarter of 2001, down 15% from $305 billion in the previous quarter (Table 3.1). The second quarter witnessed a decline in net issuance of longer-term securities (bonds and notes) and a continuation of the slowdown of net issuance of money market instruments. There was a particularly sharp fall in net issuance by financial institutions. The main exception to the pattern of retrenchment was emerging market borrowers as a group, whose net issuance continued to recover during the second quarter of 2001 from an unusually depressed final quarter of 2000.

In sharp contrast to the behaviour of net borrowing, gross announced issuance of international bonds and notes, at $543 billion, remained strong during the second quarter of 2001 (Table 3.2). In fact, gross issuance for the first six months of the year was an all-time high. Much of the gross issuance in the two quarters was apparently driven by a demand for refinancing, with total repayments surging to a record amount over the same period. The refinancing might have reflected a desire amongst borrowers to lock in relatively low long-term financing costs at a time when access to commercial paper markets was difficult for low-quality issuers.

## Slower economic growth leads to declining net issuance

Net issuance of longer-term securities declines ...

Net issuance of longer-term securities (bonds and notes) fell to $249 billion during the second quarter of 2001 from $290 billion in the first. There was a particularly sharp fall in net floating rate issues, which declined by 27% to $57 billion, the lowest level since the final quarter of 1998. There was also a marked decline in the net issuance of straight fixed rate bonds and notes over the same time period, from $208 billion to $184 billion. Gross issuance of straight fixed rate bonds and notes also fell during the second quarter of 2001, but nevertheless remained near its all-time high (Graph 3.1, left-hand panel).

The fact that declining net issuance of bonds and notes was accompanied by a narrowing of credit spreads in long-term debt markets (see the

## Main features of net issuance in international debt securities markets

In billions of US dollars

| | 1999 | 2000 | | | | 2001 | | Stocks at end-June 2001 |
|---|---|---|---|---|---|---|---|---|
| | Year | Year | Q2 | Q3 | Q4 | Q1 | Q2 | |
| Total net issues | 1,230.1 | 1,233.9 | 319.8 | 304.5 | 323.2 | 305.1 | 259.7 | 6,698.8 |
| Money market instruments[1] | 66.4 | 86.5 | 24.4 | 14.9 | 45.9 | 15.5 | 10.3 | 356.1 |
| *Commercial paper* | *44.3* | *49.3* | *10.6* | *12.1* | *27.1* | *16.2* | *7.0* | *245.1* |
| Bonds and notes[1] | 1,163.7 | 1,147.4 | 295.4 | 289.7 | 277.3 | 289.5 | 249.3 | 6,342.7 |
| *Floating rate issues* | *334.1* | *386.2* | *110.1* | *89.9* | *102.6* | *77.5* | *56.6* | *1,645.7* |
| *Straight fixed rate issues* | *798.5* | *743.7* | *181.5* | *198.8* | *164.7* | *208.3* | *183.7* | *4,449.9* |
| *Equity-related issues* | *31.1* | *17.6* | *3.8* | *1.0* | *10.0* | *3.8* | *9.0* | *247.1* |
| Developed countries | 1,153.6 | 1,151.8 | 303.1 | 282.3 | 309.5 | 293.6 | 238.5 | 5,780.5 |
| *Euro area* | *508.2* | *555.6* | *149.3* | *129.9* | *145.1* | *136.5* | *94.0* | *2,332.3* |
| *Japan* | *2.7* | *– 29.9* | *– 1.3* | *– 9.0* | *– 6.3* | *– 6.4* | *– 0.8* | *267.3* |
| *United States* | *482.2* | *465.7* | *111.8* | *138.4* | *124.2* | *149.4* | *118.0* | *2,009.7* |
| Offshore centres | 11.1 | 18.8 | 3.8 | 6.7 | 6.7 | 7.2 | 5.5 | 86.3 |
| Emerging economies | 40.8 | 41.5 | 6.3 | 13.3 | – 0.9 | 6.4 | 9.9 | 464.1 |
| International institutions | 24.6 | 21.7 | 6.7 | 2.2 | 7.9 | – 2.2 | 5.7 | 367.9 |
| Private sector | 1,010.8 | 970.8 | 276.6 | 228.4 | 262.0 | 247.9 | 200.7 | 4,995.2 |
| *Financial institutions*[2] | *657.6* | *669.3* | *185.4* | *135.6* | *184.0* | *153.2* | *110.7* | *3,268.2* |
| *Corporate issuers* | *353.2* | *301.5* | *91.2* | *92.8* | *78.0* | *94.6* | *90.0* | *1,727.0* |
| Public sector[3] | 194.7 | 241.4 | 36.5 | 73.9 | 53.3 | 59.4 | 53.3 | 1,335.8 |
| *Central government* | *37.0* | *50.5* | *12.7* | *8.3* | *– 3.5* | *6.6* | *7.7* | *483.8* |
| *State agencies and other* | *157.7* | *190.9* | *23.8* | *65.6* | *56.9* | *52.8* | *45.6* | *852.0* |
| *Memo: Domestic CP*[4] | *341.7* | *256.3* | *72.1* | *39.7* | *114.8* | *– 56.9* | *– 66.9* | *1,916.6* |
| *of which: US* | *232.8* | *208.3* | *54.9* | *35.6* | *42.5* | *– 63.1* | *– 67.9* | *1,471.1* |

[1] Excluding notes issued by non-residents in the domestic market. [2] Commercial banks and other financial institutions. [3] Excluding international institutions. [4] Data for the second quarter of 2001 are preliminary.

Sources: Bank of England; Dealogic Capital Data; Euroclear; ISMA; Thomson Financial Securities Data; national authorities; BIS. Table 3.1

… as the demand for funds weakens …

Overview (Section1)) suggests that the decline was driven by a weakening of the demand for funds by borrowers during the second quarter of 2001. The behaviour of gross bond issuance across rating categories is consistent with this demand side story. Announced issuance declined during the second quarter of 2001 across all rating categories (Graph 3.1, right-hand panel), while the proportion of issuance in each category remained approximately the same as in the previous quarter. Thus, the decline in net issuance of longer-dated securities does not appear to be the result of decreased market access even for lower-rated borrowers. The share of bond announcements in the non-investment grade remained at 1% of the total, and that of announced AAA issues near 20%.

… leading also to a fall in money market financing

In contrast to the long-term securities market, the behaviour of issuance in the money market reveals the effect of both demand side and supply side forces. Net issuance of money market instruments in the international market declined further during the second quarter of 2001 to $10 billion from $16 billion in the previous quarter, with net issuance of commercial paper (CP), the largest component of money market instruments, falling by 57% to

$7 billion over the same period. There was also a continued contraction of domestic CP markets. Net domestic issuance in the United States fell by $68 billion between the first and second quarters of 2001, the largest ever decline. As noted in the previous issue of the *BIS Quarterly Review*, a number of credit downgrades, which prevented some firms from accessing the CP market, had previously contributed to a decline in net CP issuance. The protracted fall in net CP issuance suggests that this factor is continuing to have an impact on the market, in addition to the generalised decrease in the demand for funds associated with the global economic slowdown.

## Borrowing by financial institutions falls sharply

Fall in net issuance by financial institutions accounts for overall decline

Net issuance of international debt securities by the private sector fell from $248 billion to $201 billion between the first and second quarters of 2001. This decline accounted for most of the overall fall in total net issuance in the international debt securities market over this period. The contraction is almost entirely attributable to reduced issuance by financial institutions: during the second quarter of 2001, net issuance by financial institutions totalled $111 billion, down by 28% from the first quarter of 2001 and 40% compared

### Gross issuance in the international bond and note markets

In billions of US dollars

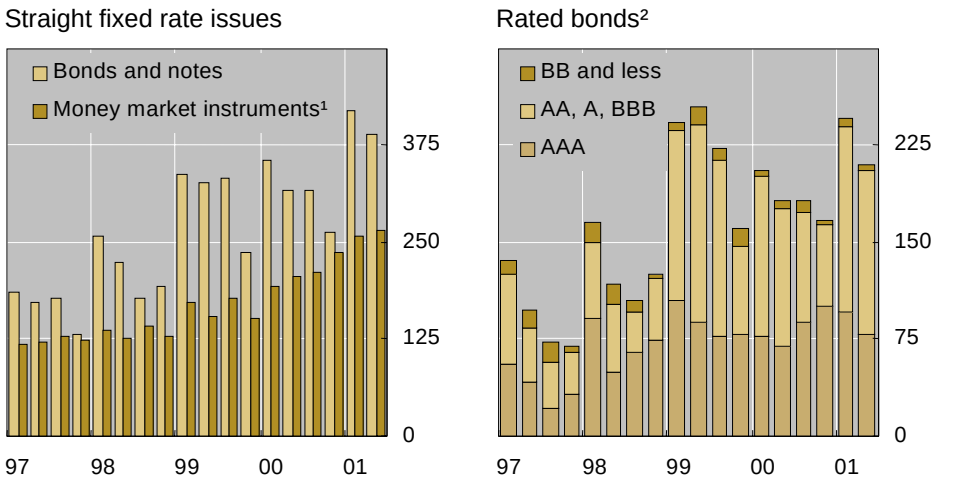
| | 1999 | 2000 | | | | 2001 | |
|---|---|---|---|---|---|---|---|
| | Year | Year | Q2 | Q3 | Q4 | Q1 | Q2 |
| Total announced issues | 1,766.6 | 1,933.2 | 484.5 | 502.2 | 438.3 | 570.2 | 543.3 |
| Floating rate issues | 483.8 | 624.2 | 157.0 | 168.3 | 161.0 | 139.9 | 138.9 |
| Straight fixed rate issues | 1,230.7 | 1,252.4 | 315.5 | 317.4 | 263.5 | 418.3 | 387.9 |
| Equity-related issues[1] | 52.1 | 56.5 | 11.9 | 16.5 | 13.8 | 12.1 | 16.6 |
| US dollar | 775.4 | 859.2 | 206.6 | 240.7 | 194.9 | 263.1 | 249.2 |
| Euro | 677.8 | 647.8 | 153.1 | 150.7 | 157.2 | 214.6 | 193.9 |
| Yen | 118.9 | 204.4 | 76.0 | 51.1 | 28.1 | 36.4 | 51.3 |
| Other currencies | 194.6 | 221.8 | 48.7 | 59.8 | 58.1 | 56.1 | 48.9 |
| Private sector | 1,374.6 | 1,500.5 | 397.3 | 380.1 | 347.8 | 427.7 | 408.5 |
| *Financial institutions*[2] | *900.0* | *1,021.3* | *251.8* | *249.6* | *243.9* | *274.1* | *253.0* |
| *Corporate issuers* | *474.6* | *479.2* | *145.5* | *130.5* | *103.9* | *153.5* | *155.5* |
| *of which: telecoms* | *84.3* | *115.7* | *46.7* | *25.0* | *19.3* | *49.2* | *32.4* |
| Public sector | 314.2 | 362.0 | 66.7 | 107.7 | 75.2 | 125.7 | 111.6 |
| *Central government* | *94.0* | *93.0* | *18.7* | *23.7* | *4.7* | *28.5* | *20.8* |
| *State agencies and other* | *220.2* | *269.0* | *48.0* | *84.0* | *70.5* | *97.2* | *90.8* |
| International institutions | 77.8 | 70.7 | 20.4 | 14.5 | 15.3 | 16.9 | 23.2 |
| Completed issues | 1,771.0 | 1,935.0 | 485.2 | 500.8 | 474.1 | 559.1 | 520.2 |
| Repayments | 607.3 | 787.6 | 189.8 | 211.1 | 196.7 | 269.6 | 270.8 |

[1] Convertible bonds and bonds with equity warrants. [2] Commercial banks and other financial institutions.

Sources: Bank of England; Dealogic Capital Data; Euroclear; ISMA; Thomson Financial Securities Data; BIS. Table 3.2

## Announced issuance by maturity and credit rating

International issuance, in billions of US dollars




¹ Excludes issues redeemed in the same quarter. ² Includes bonds issued under EMTN documentation.

Sources: Bank of England; Dealogic Capital Data; Euroclear; ISMA; Thomson Financial Securities Data; BIS. Graph 3.1

with the final quarter of 2000. In contrast, net non-financial corporate issuance fell only slightly between the first and second quarters of 2001, from $95 billion to $90 billion. That net issuance by non-financial corporations did not fall further is perhaps surprising given the reduced financing needs of telecommunications companies. Gross issuance by telecoms fell to $32 billion during the second quarter of 2001 from $49 billion in the previous one.

The decline in net issuance by financial institutions was limited to the developed countries, in particular the United States and Germany. Net issuance by financial institutions in the United States declined from $55 billion in the first quarter of 2001 to $35 billion in the second, and in Germany from $32 billion to $11 billion. In both cases, the fall in net borrowing was mostly attributable to a fall in new announcements rather than a rise in repayments.

## Emerging markets buck the trend

Issuance by emerging markets increases …

Emerging market borrowers as a group increased their presence in the international debt securities market during the second quarter of 2001. Their net issuance increased from $6 billion during the first quarter to $10 billion in the second. However, given the turmoil that hit emerging economies in July (see the Overview), the return to more normal levels of issuance by these countries is unlikely to be sustained. Moreover, the increase was almost entirely accounted for by the activities of Asian borrowers, whose net issuance rose to $1.2 billion during the second quarter after contracting by $3.3 billion in the first. China alone accounted for $2 billion of the increase in net borrowing

with $2.3 billion in new announcements. In contrast, Turkey was completely shut out of the international debt securities market during the second quarter.

... in some cases even in adverse market conditions

Some emerging market countries were able to float new issues, even while facing adverse market conditions. For instance, Argentina swapped $29 billion of debt coming due for longer-term securities. In July, the Federative Republic of Brazil raised ¥200 billion with a two-year samurai deal, which was priced with a semiannual coupon of 3.75%.

## European issuers avoid the dollar

Net dollar and euro issuance declines ...

The economic slowdown in North America and Europe contributed to declining net issuance of both US dollar and euro-denominated securities, which each fell by about 20%. Net dollar issuance by North American and European borrowers declined, in the latter case to a very low $11 billion, but rose among issuers based in other regions. Net euro issuance suffered a more broad-based decline, falling across all regions.

The sharp decline of US dollar issuance by European borrowers reflected in part the reduced financing needs of telecommunications companies. Between the first and second quarters of 2001, issuance by European telecoms, which often issue dollar-denominated securities, declined sharply along with issuance by telecoms generally.

... while yen issuance rises strongly

In contrast, net issuance of yen-denominated securities, after being negative for two quarters, increased strongly across all regions during the

### Net issuance of international debt securities by currency and region[1]

In billions of US dollars

| | | 1999 | 2000 | | | | 2001 | |
|---|---|---|---|---|---|---|---|---|
| | | Year | Year | Q2 | Q3 | Q4 | Q1 | Q2 |
| Europe | US dollar | 58.7 | 174.8 | 39.3 | 43.0 | 54.3 | 24.5 | 11.1 |
| | Euro | 503.0 | 406.7 | 106.8 | 74.2 | 112.6 | 119.9 | 96.8 |
| | Yen | 6.4 | 38.9 | 31.0 | 7.4 | – 3.5 | – 7.7 | 1.5 |
| | Other currencies | 75.4 | 87.3 | 15.9 | 24.5 | 26.2 | 15.9 | 10.2 |
| North America | US dollar | 434.5 | 380.6 | 91.1 | 116.3 | 100.5 | 121.9 | 94.8 |
| | Euro | 46.3 | 45.3 | 8.7 | 16.0 | 12.7 | 19.2 | 13.7 |
| | Yen | – 1.3 | 16.6 | 4.9 | 3.4 | 2.9 | 2.7 | 5.4 |
| | Other currencies | 16.5 | 15.5 | 1.0 | 3.5 | 8.4 | 4.1 | 3.3 |
| Others | US dollar | 52.8 | 63.0 | 17.5 | 14.1 | 7.9 | 3.9 | 14.9 |
| | Euro | 37.9 | 14.0 | 4.6 | 1.5 | 2.3 | 4.8 | 3.7 |
| | Yen | – 12.2 | – 22.4 | – 3.8 | – 2.9 | – 5.4 | – 4.5 | 4.1 |
| | Other currencies | 12.1 | 13.5 | 2.9 | 3.5 | 4.4 | 0.3 | 0.3 |
| Total | US dollar | 546.0 | 618.4 | 147.9 | 173.5 | 162.7 | 150.3 | 120.8 |
| | Euro | 587.2 | 466.0 | 120.1 | 91.7 | 127.5 | 143.9 | 114.1 |
| | Yen | – 7.0 | 33.1 | 32.1 | 7.9 | – 6.0 | – 9.4 | 11.0 |
| | Other currencies | 104.0 | 116.4 | 19.8 | 31.4 | 39.0 | 20.3 | 13.8 |

[1] Based on the nationality of the borrower.

Sources: Bank of England; Dealogic Capital Data; Euroclear; ISMA; Thomson Financial Securities Data; BIS. Table 3.3

second quarter of 2001 to reach $11 billion. Almost 75% of the increase in net issuance can be attributed to borrowers based in Europe and Japan. In the latter case net issuance of yen-denominated securities increased from –$3 billion to $3 billion. This paralleled a rise in net issuance generally by Japanese borrowers during the second quarter, but total Japanese net issuance nevertheless remained negative for the quarter.

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# 4. Derivatives markets

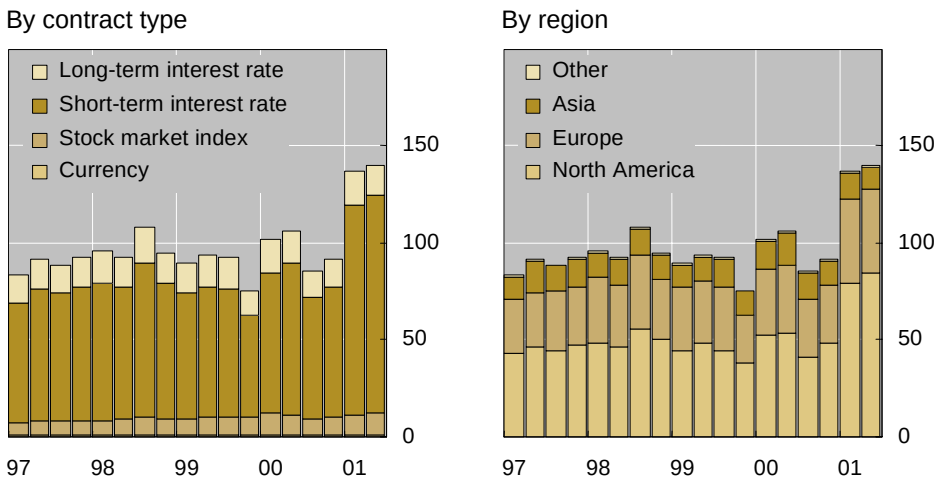
Aggregate turnover on exchange-traded derivatives markets reached a new high in the second quarter of 2001, with the dollar notional value of contracts monitored by the BIS rising by 3%, to $139.7 trillion. Although the markets' rate of expansion moderated sharply relative to the record increase seen in the previous quarter, business in fixed income instruments, particularly on US money market rates, remained exceptionally buoyant. While monetary policy easing appears to have been an important element in the high turnover of interest rate instruments, changes in risk management practices may have also played a role. In Japan, by contrast, turnover in most fixed income products remained on a downward trend.

## US policy rate cuts continue to support money market business

The pace of activity in interest rate contracts moderated significantly in the second quarter of 2001. Turnover expanded by only 2%, to $127.4 trillion,

**Turnover of exchange-traded futures and options**

Quarterly data, in trillions of US dollars




Sources: FOW TRADEdata; Futures Industry Association; BIS calculations. Graph 4.1

compared with an increase of 55% in the previous quarter. Business in money market instruments rose by 4%, to $111.3 trillion, while that in government bond contracts declined by 8%, to $16 trillion.

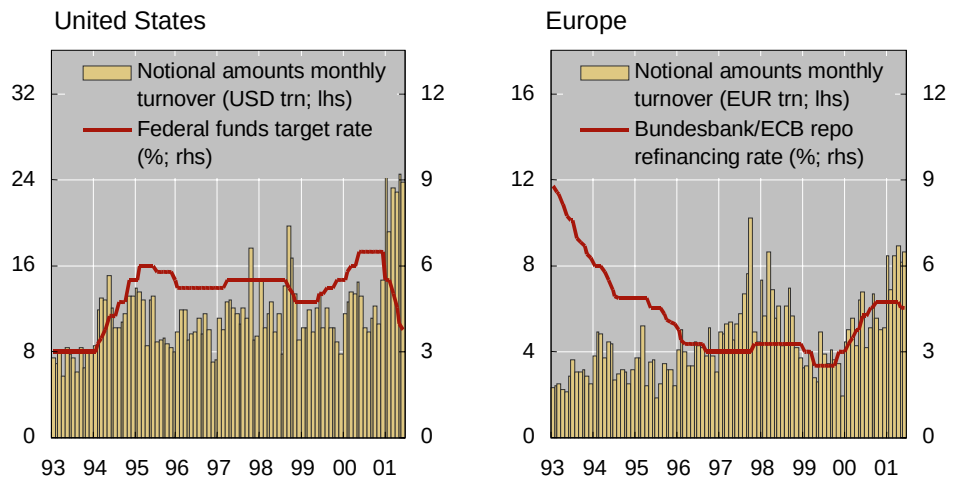
Buoyancy of short-rate US business seems related to US easing …

As in the first quarter, one of the key features of the second quarter was the exceptional buoyancy of turnover in US money market contracts. The ongoing strength of business in that market segment seems to have been related to attempts to hedge or take positions ahead of further US monetary easing. In particular, the 50 basis point inter-meeting cut in the federal funds target rate in mid-April, the second such reduction since January 2001, apparently once again caught market participants by surprise, creating uncertainty about the timing of additional easing moves. In the euro zone, expectations about the course of short-term rates were somewhat more stable than in the United States, but the ECB's decision to lower its policy rate by 25 basis points in May appears to have been unexpected. By contrast, short-term activity in Japan remained on a downward trend as the de facto return to a policy of zero interest rates since March, and a widespread market perception that monetary policy would continue to be accommodating, weakened the incentive to trade. This slowdown was in line with the lower volume of activity reported in Japan's underlying money market.

… and to a broader switch to Libor-based hedging

The sharp increase in the turnover of US money market contracts since the beginning of the year may also have reflected other underlying factors. For one thing, the first two quarters witnessed high levels of gross issuance of dollar-denominated corporate and agency debt (see Sections 1 and 3). This generated activity in the interest rate swap market and, in turn, in eurodollar futures since such instruments are commonly used in the hedging of swaps.

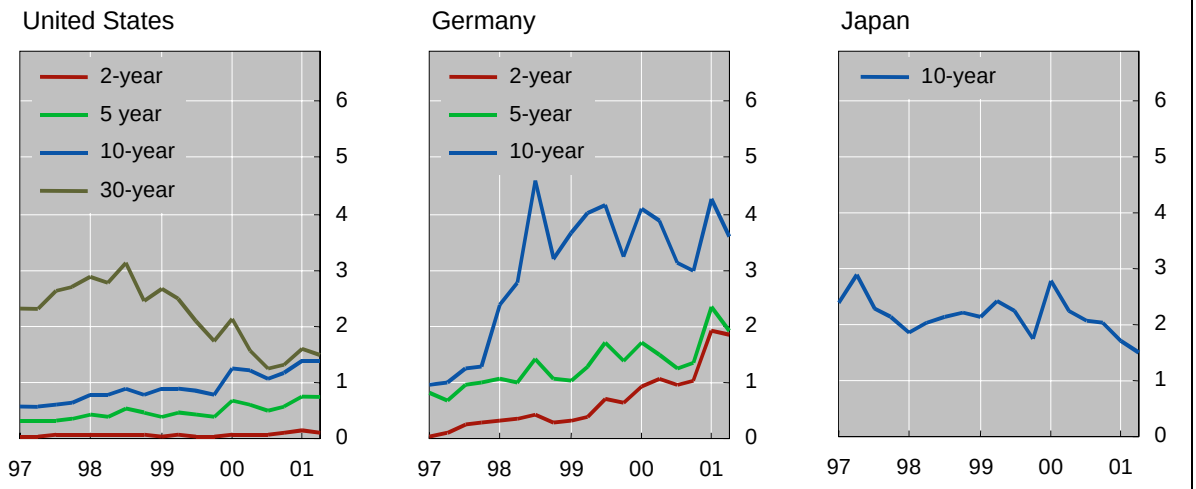
## Short-term interest rate contracts and central bank target rates




Sources: FOW TRADEdata; Futures Industry Association; BIS calculations. Graph 4.2

## Turnover in government bond contracts

Quarterly futures contract turnover, in trillions of US dollars




Sources: FOW TRADEdata; Futures Industry Association; BIS calculations. Graph 4.3

Activity may also have benefited from a broader movement of hedgers and traders away from the US Treasury yield curve and towards the Libor-based swap curve. Indeed, higher turnover in eurodollar futures and options was accompanied by an even more rapid expansion of shorter-maturity contracts (one-month Libor and one-month federal funds) in the first half of 2001. Although such contracts accounted for a small share of total turnover in US money market instruments (with about 10% of second quarter turnover), they may experience further expansion in coming periods as the US Treasury moves to the issuance of shorter-term liabilities.[1]

A drop in turnover of bond contracts

Meanwhile, a decline in activity in longer-term instruments contrasted with the buoyancy of money market business. Much of the drop resulted from a 13% contraction of turnover on Eurex, particularly in five-year and 10-year government bond contracts. This contraction represented a return to a more normal trading pattern, following the 50% increase in Eurex's fixed income contracts in the previous quarter. Matif (Euronext Paris) saw an even more pronounced decline in activity in its key bond contract. Market commentators attributed the 28% drop to the winding-down of a market support operation for the Euro Notional established by French banks in late 1999.[2] In the United States, activity in bond contracts proceeded at a steady pace as medium- and long-term US interest rates moved within a fairly narrow range. Since this subdued volume of business was somewhat at odds with that observed in the

[1] In May, the US Treasury announced that it would begin issuing four-week maturity Treasury bills to provide it with greater flexibility and efficiency in managing its cash balances.

[2] It should be noted that the drop seen on Matif occurred in spite of the reintroduction in mid-May of a five-year Euro Notional contract aimed at exploiting a window of opportunity created by the recent squeeze on Eurex's five-year German government bond contract (see the previous issue of the *BIS Quarterly Review*).

cash market for Treasury securities, where turnover has expanded sharply since the beginning of the year,[3] it may confirm anecdotal evidence that risk management is shifting away from the Treasury yield curve. In Japan, activity continued on a downward trend, with a 9% decline in the turnover of Japanese government bond contracts. Although long-term interest rates rebounded slightly in the early part of the quarter, the weakness of overall economic conditions probably led market participants to believe that long-term interest rates would not alter significantly.

Subdued activity consistent with shift to Libor-based instruments

## Growing market acceptance of new futures contracts on swap rates and single equities

One of the most notable developments in the second quarter of 2001 was the positive reception given to LIFFE's Swapnote futures. The contracts, which were introduced at the end of March 2001, are indexed on two-year, five-year and 10-year euro-denominated swap rates. Although business in Swapnote contracts accounted for only a marginal share of second quarter trading in fixed income instruments on LIFFE ($99 billion or 0.4% of such trading), activity progressed gradually during the course of the quarter, helped by a temporary elimination of transaction fees.

Market seems receptive to LIFFE's Swapnote contracts

Recent developments in European fixed income markets may have created a niche for swap-based futures. In particular, the introduction of European monetary union in January 1999 has led to a decline in the importance of European government bond markets as pricing benchmarks for fixed income securities. In spite of the high credit quality of European government bond markets, they remain heterogeneous, a situation that has been exacerbated by supply/demand imbalances resulting from declining government issuance in some countries. As a result, the swap curve has in effect become a homogeneous benchmark for European fixed income markets.[4] This could help ensure market acceptance of swap-related contracts.

Recent developments create a niche for swap-based futures

Moreover, Swapnote contracts could benefit from the recent squeezes that have affected trading in government bond contracts on Eurex (see the previous issue of the *BIS Quarterly Review*). They should be less prone to squeezes owing to their cash-settled nature and to the large size of the euro-denominated swap market relative to the stock of government securities underlying government bond futures ($16.6 trillion in notional terms, versus roughly $3.3 trillion at the end of 2000). Swap-based contracts could also receive an additional boost from the decision of some European national debt

Recent squeezes on Eurex could encourage trading in Swapnotes

[3] On the back of Federal Reserve easing, a steepening of the Treasury yield curve and record issuance of US dollar-denominated fixed income securities.

[4] The impact of the introduction of the euro on European bond markets is discussed by Kostas Tsatsaronis and Gabriele Galati in "The impact of the euro on Europe's financial markets", *BIS Working Papers*, no 100, July 2001.

management offices to use interest rate swaps in the management of public debt.[5]

Introduction of swap-related contracts forms part of a broader "tipping" process

The growing trading and pricing role played by interest rate swaps in US financial markets, particularly in a context of long-term debt repayment by the US Treasury, could also provide fertile ground for the introduction of similar contracts in the United States. Indeed, the Chicago Board of Trade recently announced that it would launch futures and options contracts on five-year and 10-year dollar swap rates in the autumn of 2001. It should be noted that the introduction of swap-related contracts probably forms part of a broader "tipping" process in which market participants find it advantageous to shift away from reliance on government securities for hedging and positioning to private sector benchmarks.[6]

Swap futures could attract new participants

One of the difficulties faced by exchanges in developing swap-based contracts is that the swap market has traditionally been dominated by a narrow group of highly rated banks (generally AA/Aa). These banks have been able to maintain a central role in interest rate and credit intermediation by providing liquidity in plain-vanilla contracts, while at the same time offering a wide range of custom-made instruments. The development of liquid swap futures, achieved by the attraction of significant trading volumes through standardisation, price transparency and the interposition of a clearing house as central counterparty, could enable second-tier or lower-rated financial intermediaries to enter the swap market. Such an entry of new participants appears to have occurred with Swapnote contracts as regional European banks were reported to have represented an important source of trading demand. Although successful entry by lower-standing counterparties could have implications for the profit margins of existing market participants, it could also provide additional liquidity to the broader swap market, highlighting the growing complementarity of exchange-traded and over-the-counter markets.

Further expansion of trading in LIFFE's single stock futures

Another notable development in the second quarter was a further expansion of trading in single stock futures introduced by LIFFE in January 2001 (see "Recent developments in exchange-traded equity derivatives" on page 34). The number of listings increased from 25 companies to 65, with turnover rising to 611,000 contracts, or 30% of the volume of options on single equities. Encouraged by the development of single stock futures on LIFFE, the three largest US exchanges announced in May the creation of a joint venture for the electronic trading of single stock futures when such contracts receive final regulatory approval.

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[5] France and Germany recently announced that they would join Italy in using interest rate swaps for debt management purposes.

[6] The issue of benchmark tipping is developed in a special feature by Robert N McCauley, "Benchmark tipping in the money and bond markets", in the March 2001 issue of the *BIS Quarterly Review*, pp 39-45.

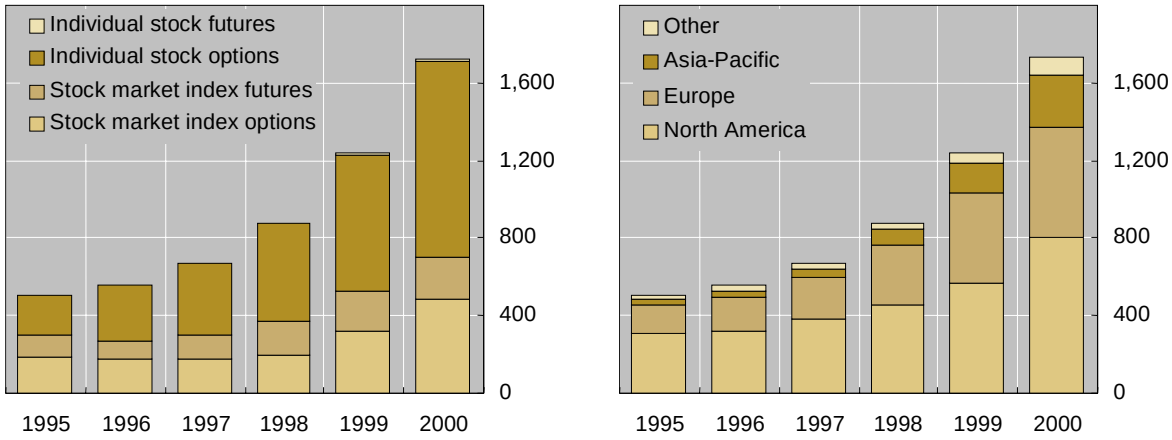
## Recent developments in exchange-traded equity derivatives

The equity bull market of the second half of the 1990s was accompanied by a rapid expansion of exchange-traded equity derivatives.[1] While much of that expansion was concentrated in a narrow group of contracts, the introduction of new types of instruments also helped boost activity. This box looks at the recent evolution of the different groups of equity-related instruments and describes some of the major innovations introduced by exchanges.

The graph below shows that growth in exchange-traded equity derivatives largely took place in options on single equities, particularly in North America and Europe. Such options have been actively traded in North America for almost three decades but have only recently become popular in Europe.[2] By contrast, global trading in stock index contracts has increased at a less rapid pace, with growth largely taking place in Asia and Europe. The volume of stock index transactions conducted on North American exchanges has barely increased, in spite of the introduction of many new contracts and the boost to turnover resulting from a reduction in the size of large contracts (which mechanically increases transactions).

### Total turnover of exchange-traded equity contracts

In thousands of contracts




Sources: FOW TRADEdata; Futures Industry Association.

Exchanges have devoted considerable resources to the development of new types of equity-related contracts. Some of the reasons for this include: evidence that established stock index instruments had reached the "mature" phase of their life cycle; a desire to capitalise on an expanding investor base (particularly given the growing importance of private pension plans and the development of a retail equity culture); and investors' demand for more precisely tailored trading instruments. Limited opportunities for the introduction of new fixed income and currency contracts, given the strength of competition from the OTC market, may also have played a role. The most significant innovations are reviewed below.

*Long-Term Equity Anticipation Securities (LEAPS).* LEAPS are long-term American-style options on specific stocks and stock indices. The first LEAPS were introduced in 1990 by the CBOE. They generally offer maturities of up to three years, rather than a few months as is the case with standard options, and become fungible with standard options when their remaining maturity reaches that of ordinary options. The time value of such options declines at a slower pace than is the case for regular options, giving investors extra time to make decisions about their positions.

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[1] This pattern is not reflected in the dollar value statistics produced by the BIS because coverage is limited to transactions in equity index contracts. Value data are not yet available for options on single equities. The production of such data would require the establishment of a comprehensive reporting framework for the tracking of a large number of individual transactions.

[2] They were introduced by the CBOE in 1973, well ahead of the first stock index futures and options, which were introduced in 1982 and 1983 respectively by the KCBT and the CBOE.

*Low exercise price options (LEPOS).* LEPOS are European-style call options whose exercise price is set very close to zero. They were first introduced in Switzerland in the early 1990s as a means of overcoming problems resulting from a stamp duty on securities transactions and of creating a risk transfer mechanism for shares that were not easily transferable. Since such options are deeply in the money, investors obtain an exposure that is nearly equivalent to that of the underlying securities (or to that of a forward transaction), with the exception that they forgo dividends and voting rights.

*Flexible exchange listed options (FLEX options).* FLEX options were introduced by the CBOE in 1993 in response to institutional investors' growing demand for a wider variety of terms as well as strong competition from the OTC market. FLEX options, which are generally designed for large transactions, enable investors to customise a number of features of individual or index stock options, such as the strike price, expiration date and exercise style. The introduction of a new customised feature leads to the creation of a new series of options, which is then listed.

*Futures and options on sectoral and regional indices.* The number of index instruments based on specific sub-segments of equity markets has expanded rapidly in recent years. Such contracts allow traders to take exposures to narrower market segments and to engage in a range of trading strategies in which one market segment can be traded against another. With the buoyancy of technology stocks in the second half of the 1990s, exchanges listed a large number of index instruments on such stocks. The introduction of the euro also led to the creation of several contracts based on pan-European indices.[3] Such contracts aim at capitalising on a shift of trading from domestic to pan-European equity benchmarks. A major potential benefit of pan-European index contracts is that traders can now take cross-country exposures with a single margin requirement and clearing house exposure.

*Online retail-targeted futures and options.* Another significant innovation has been the introduction of online retail-targeted contracts. The first such contracts were introduced in 1997 by the CME (with its E-mini S&P 500 futures and options). They are characterised by a smaller contract size than established index contracts, which makes them more accessible to small investors (since margin requirements are lower), and by their online access. Some of these contracts have met with an enthusiastic response, accounting for almost 25% of the value of equity index contracts traded on the CME in the last quarter of 2000.

*Futures on single equities.* More recently, exchanges shifted their focus to futures on single equities. For example, in November 2000 Euronext listed such futures on eight Dutch blue-chip stocks, while in January 2001 LIFFE introduced its Universal Stock Futures on 25 European and US blue chips. The large US exchanges have also announced plans to list such contracts. Futures on single equities should provide additional liquidity to cash and derivatives markets, including a new means of hedging equity options. Interestingly, such instruments have not yet developed to a significant extent in any part of the world. In the United States, fears that they would have an adverse impact on the volatility of underlying shares led to a ban on their trading in the early 1980s.[4] Although exchanges in most other countries were not encumbered by such restrictions, trading in single stock futures failed to develop on a large scale in countries where they were listed in the 1990s (including Australia, Spain and Sweden). This lack of interest might have been related to the development of efficient forward markets (such as contracts-for-difference) or to the ability of traders to synthetically replicate futures through exchange-traded options.[5] The recent authorisation of such contracts in the United States could help make them more popular.

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[3] See Kostas Tsatsaronis, "Market practices ahead of institutional structures in pricing euro area equities: country versus sector effects", *BIS Quarterly Review*, March 2001, pp 13-14.

[4] The SEC and the CFTC expressed fears that futures contracts based on the equity or debt securities of a single issuer might have an adverse impact on the cash market for the underlying securities. In December 1981, the two agencies reached an accord stipulating that the CFTC would not be allowed to approve futures trading on any municipal security or security registered under the Securities Act of 1933. The Shad-Johnson Accord of 1982 included a temporary ban on futures contracts on single equities, which was removed in December 2000 with the passage of the Commodity Futures Modernisation Act of 2000.

[5] An investor could replicate a futures contract by buying a call option and selling a put option at the same strike price (and delta ratio). While more expensive and complex than a single futures transaction, such a buy/sell strategy would offer greater flexibility to the investor since he could at any time react to changes in the volatility of the separate put and call options by selling one or the other segment.

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# To provision or not to provision

Provisioning practices have come under greater scrutiny …

Banks' provisioning practices have come under increased scrutiny over recent years from accounting and taxation authorities and from financial supervisors. In part, this scrutiny reflects the important role that provisioning for loan losses plays in enhancing the transparency of banks' balance sheets and the impact it has on the volatility and cyclicality of bank profits. Moreover, proposed reforms to the Basel Capital Accord have served to focus attention on the respective roles of provisions and capital in protecting a bank from credit losses.

This growing interest is evident in a number of recent policy proposals and initiatives. These include: the development of an International Accounting Standard that addresses loan valuation and provisioning (IAS 39); the issuing of guidance on sound practices for loan accounting by the Basel Committee on Banking Supervision; the introduction of statistical provisioning regimes in some countries; and proposals by the Joint Working Group of standard setters to introduce fair value accounting for all financial instruments.

… but perspectives tend to differ …

While there are common elements to these various initiatives, there are also some significant differences. Importantly, opinions differ over the extent to which an objective deterioration in credit quality needs to be identifiable in individual loans before a provision can be created, and over the effect of loan pricing on provisioning decisions. Opinions also differ as to the relevant horizon for measuring expected credit losses and the appropriate interest rate to discount future cash flows.

… between bank supervisors and accounting authorities

These differences of opinion reflect, in part, different perspectives. On the one hand, financial supervisors have tended to emphasise the role that provisions can play in ensuring that banks maintain adequate buffers against future deteriorations in credit quality. On the other hand, accounting authorities have stressed the importance of provisions in generating fair and objective loan valuations.

This special feature discusses the main characteristics of a number of the recent initiatives and proposals, paying particular attention to the tensions amongst them. It also lays out a simple framework within which various proposals can be embedded and considers a number of alternatives to the current arrangements.

## Provisions: issues and policy initiatives

Typically, the creation of a provision (or allowance) for impaired loans leads to a charge to the bank's current profits. It also leads to a writedown in the net asset value of the bank, most often through a reduction in the measured value of loans. In principle, provisioning should lead to a more accurate picture of both a bank's earnings and its assets than would be the case if all loans were measured at their outstanding value.

The way in which provisioning is actually conducted varies considerably around the world, although accounting practices commonly distinguish between specific and general provisions. Specific provisions are normally made against losses on individually assessed loans, while general provisions are made against portfolios of loans.

Specific provisions tend to be backward-looking …

A basic accounting principle that applies in most countries is that financial statements should reflect the outcome of events that took place before the balance sheet date, and should not attempt to reflect events that have not yet occurred. This principle makes it difficult for a bank to create a specific provision against an individual loan unless there is verifiable evidence that a loss is "probable". As a result, specific provisions tend to be backward-looking.

… while the approach to general provisions varies considerably across countries

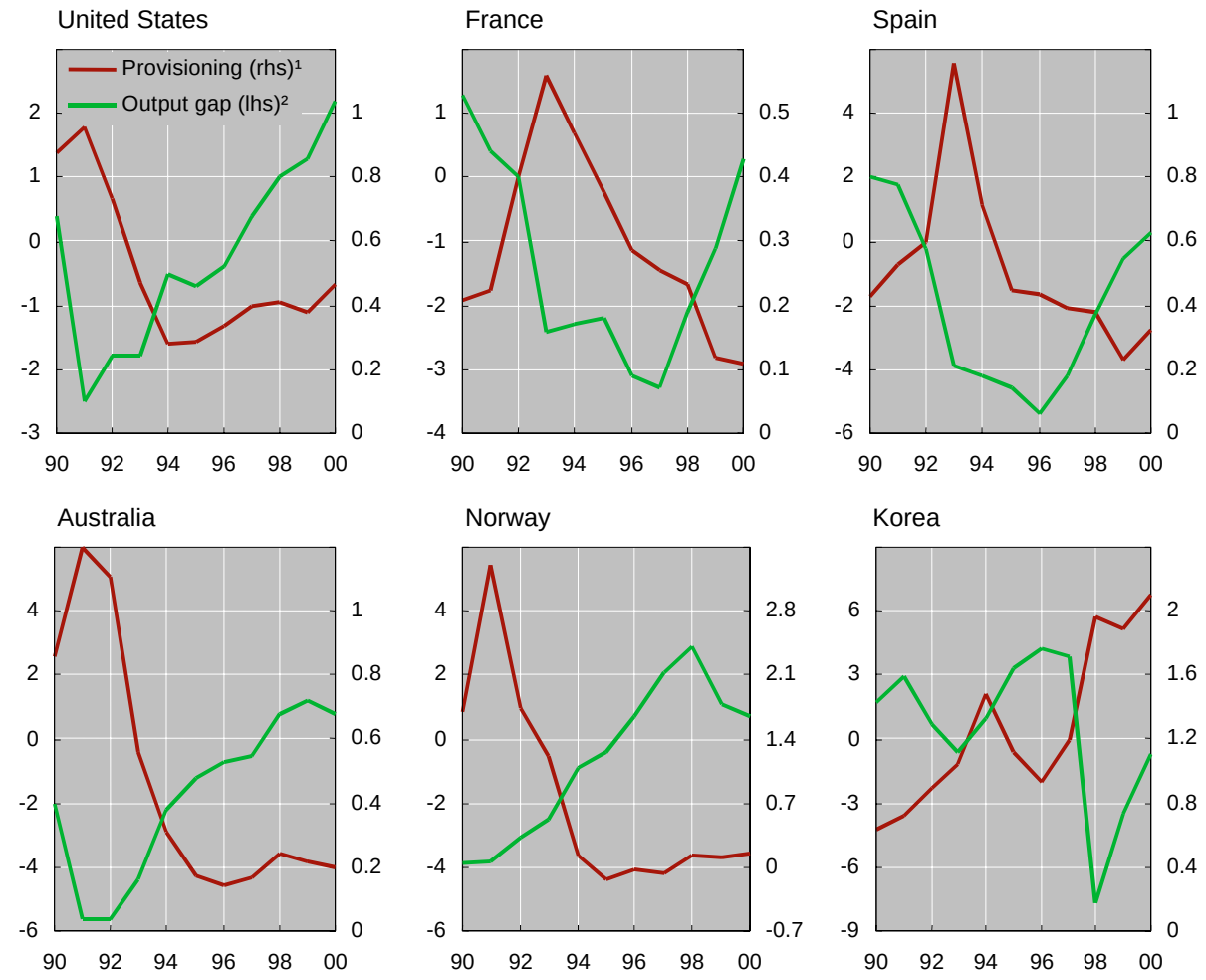
General provisions can be more forward-looking, although there is significant variation across countries. In some countries, banks have been able to base general provisions on their own statistical models of the average losses that are expected due to the non-repayment of contracted amounts. In principle, these models can take account of likely future developments, including business cycle effects. In other countries, the rules are more restrictive and can be thought of as analogous to those governing specific provisions, except that the credit evaluation is done on the basis of a portfolio, rather than on a loan by loan basis. In general, bank supervisors have been more supportive of liberal general provisioning regimes than have accounting and securities authorities. In a number of countries, supervisors have been instrumental in banks increasing their general provisions during periods of deterioration in the credit quality of loan portfolios.

Backward-looking rules reduce potential manipulation but can contribute to financial cycles

One rationale for the generally backward-looking nature of provisioning rules is that they limit the scope for bank management to manipulate a bank's accounts, either to minimise taxation or to obscure fluctuations in underlying earnings. However, these rules also mean that provisions typically increase in an economic downturn and only after a significant deterioration in credit quality has already occurred (Graph 1). This pattern is a major factor driving the strongly procyclical nature of recorded bank profits. Moreover, it can be seen as contributing to the overall cyclicality of the financial system and the macroeconomy more generally.[1]

[1] For a more detailed discussion of this issue, see Bank for International Settlements (2001), *71st Annual Report*, and C Borio, C Furfine and P Lowe (2001), "Procyclicality of the financial system and financial stability: issues and policy options", *BIS Papers No 1*, pp 1-57.

## Bank provisioning expenses and output gaps




[1] As a percentage of total bank assets. [2] As a percentage of potential GDP.

Sources: Fitch; OECD; national data; BIS calculations. Graph 1

Over recent years, these different perspectives have been reflected in actual and proposed changes to both national and international accounting standards. Table 1 provides a stylised summary of how the various approaches differ in some key dimensions. Each of these approaches is discussed below.

*IAS 39*

Accounting standards require objective evidence of impairment ...

At the international level efforts have been under way for some time to narrow differences in the national treatment of provisions. The effort by the accounting profession has been undertaken under the auspices of the International Accounting Standards Board and is reflected in the development of International Accounting Standard 39 (IAS 39). Under this standard, loans would normally be carried at their outstanding value unless there is "objective evidence" of impairment.[2] When such evidence exists, the carrying value of a

[2] The standard came into effect at the beginning of 2001. Loans held for trading purposes and loans available for sale are to be measured at their fair value.

loan should become the present value of the expected future cash flows discounted at the loan's original effective interest rate.[3] The difference between the outstanding value of the loan and this present discount value would then be charged to the income statement. In practice, this difference is called a provision (either general or specific) or an allowance.

... limiting the scope for forward-looking provisioning

The standard provides examples of what constitutes "objective evidence", with most of them being backward-looking. One possible exception is that the objective evidence test can be satisfied if a "historical pattern ... indicates that the entire face value amount of a portfolio of accounts receivable will not be collected". Given that a bank is unlikely to expect that all loans will be repaid in full, this condition may allow the establishment of provisions on a similar basis to that currently used in some countries to determine general provisions.

*Fair value accounting*

An alternative approach is to adopt full fair value accounting for loans as part of a more general move to fair value accounting for all financial instruments.[4] This approach has recently been advocated by the Joint Working Group of standard setters (JWG).[5] If it were to be adopted, the notion of provisioning for impaired loans would most likely disappear. Instead, loans would be recorded directly at

Approaches to provisioning and measuring expected losses

| | IAS 39[1] | Fair value accounting | Statistical provisioning | Proposed capital regulation (expected losses) |
|---|---|---|---|---|
| Trigger | Objective evidence | No | No | No |
| Horizon | Residual maturity for impaired loans | Residual maturity | Average default losses | One year |
| Discounting of cash flows | Discount expected cash flow using original effective interest rate | Discount contracted cash flows using market interest rate[2] | No discounting | No discounting |
| Pricing taken into account | Yes | Yes | No | No[3] |
| Provision at origination | No | Possible | Yes | – |

[1] IAS 39 allows provisions on a portfolio basis provided that individual loans are not of significant size and have not been considered individually impaired. [2] Equivalently, expected cash flows can also be discounted at the expected rate of return required by the market. [3] The Basel Committee is considering allowing banks to take account of loan pricing in calculating expected losses in the retail portfolio. Table 1

[3] If the loan has a variable interest rate, the effective rate is calculated using the current loan rate according to the contract. The effective interest rate is defined as the rate that exactly discounts the expected future cash flows to the outstanding value of the loan. In many cases, though, for loans originated by the bank the contracted cash flows are used in the calculation. The effect of this is to overstate the losses from impairment (see the box on page 44 for a simple example).

[4] Fair value is defined as the price that would be received if the loan were sold in an arm's-length exchange motivated by normal business considerations.

[5] See Financial Instruments Joint Working Group of standard setters (2000), *Draft Standard and Basis for Conclusions*, International Accounting Standards Committee.

their fair value with changes in fair value flowing through to a bank's income statement. Equivalently, one could retain provisioning, with provisions set to equal the difference between the outstanding value and the fair value of any loan.

Fair value accounting is forward-looking ...

This approach to loan valuation is clearly forward-looking. It is also often seen as objective, particularly given its reliance on market prices. However, where market prices do not exist, some subjectivity is inevitable given the need to estimate fair values using a pricing methodology. Key inputs into this process are likely to be the bank's estimate of the probability of default, as well as the appropriate market-based discount rate.

... but it might increase the volatility and cyclicality of bank profits

The JWG's proposals have generated substantial comment, particularly from within the banking industry. Many of the comments have expressed concern that fair value accounting will lead to a significant increase in the volatility of banks' reported profits. A related concern is that it could also increase the cyclicality of profits since the wave of optimism and underestimation of risk that is often associated with economic booms would be translated into an increase in the fair value of loans during good times. Conversely, any tendency by markets to overestimate risk in an economic downturn could artificially depress the fair value of loans in a recession. The end result could be an increase in the amplitude of the type of financial cycles that often lie at the root of financial instability.[6]

*Statistical/dynamic provisioning*

Another approach is for banks to base their general provisions on an estimate of the long-term average losses from defaults. This approach leads to comparatively higher levels of provisioning on loans with relatively high average default rates. This is despite the fact that the interest margin on such loans might be expected to cover the higher default rates (see below).

In some countries banks have been able to use their own estimates of default losses, and have even had the flexibility of adjusting their estimates for the state of the business cycle. In other countries financial supervisors have specified provisioning requirements for various types of loans.

Statistical provisioning can help reduce volatility ...

Spain has perhaps moved furthest in this latter direction.[7] Under rules introduced last year banks are required to take a charge to their profits for a so-called statistical provision, with the magnitude of the charge varying across

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[6] See Borio et al (op cit) on this issue. In addition, a number of other concerns have been raised regarding the JWG's proposals. These include reservations about the conceptual grounds for valuing instruments that are held to maturity on the basis of market prices, the exclusion of intangible assets from the fair value calculations, the difficulty and cost of applying fair value principles to all financial instruments and the ability of users of financial statements to interpret accounts prepared on a fair value basis.

[7] For a fuller discussion of the Spanish approach, see R Poveda (2000), *Reform of the system of insolvency provisions*, Bank of Spain. See also S Fernández de Lis, J Martinez Pagés and J Saurina (2001), "Credit growth, problem loans and credit risk provisioning in Spain", *BIS Papers No 1*, pp 331-53. Commission Bancaire (2001), *Annual Report 2000*, also contains a discussion of the merits of statistical provisioning.

types of loans.[8] Then, provided that the statistical fund is large enough, the charge for specific provisions that arises when loan impairment actually occurs (according to the standard definitions) is made against the statistical fund, rather than the current year's profits. The effect is to reduce year-to-year fluctuations in a bank's profits, with the provisioning charge being driven by average loss experience, not current experience.

Some supervisors see this approach as attractive, particularly given its effect on reducing the volatility of recorded bank profits. Moreover, they see it as contributing to the banking system building up financial buffers in good times that can be used to weather bad times. In contrast, accountants and many securities regulators tend to have a different view. They have argued that this form of provisioning can lead to the undervaluation of loans and to financial statements that fail to reflect the true volatility of a bank's profits. As such, it can make financial statements less transparent, increasing the difficulty that investors have in assessing the true health of a bank. A similar argument is sometimes levelled against the use of general provisions where these provisions are not used to cover the recognisable impairment of specific portfolios.

... but there are concerns about transparency

*Provisions and capital*

The treatment of provisions for purposes of bank capital regulation has also been a topic of considerable interest in recent times.

General provisions are an element of regulatory capital

Under current rules, some general provisions can be included in Tier 2 capital (up to a limit of 1.25% of risk-weighted assets). Moreover, under the proposed revisions to the Basel Capital Accord, capital charges under the internal ratings-based approach are calibrated to cover both expected and unexpected losses, where the expected loss is defined as the probability of default over the next year multiplied by the loss in the event of default.

Differences exist between supervisory and accounting concepts of loss

The banking industry has generally been critical of this approach, particularly given the view that the role of capital is to protect a bank from unexpected losses, rather than from losses in value that have already occurred due to deterioration in borrower quality. The industry has also noted that the expected loss concept used for capital purposes differs significantly from that which underlies the provisioning regime in IAS 39. For example, under the definition used by bank regulators, all commercial loans have an expected loss (regardless of pricing) while under IAS 39 losses are only recognised on loans that satisfy the impairment test. A number of banks have argued that these different concepts can potentially distort banks' capital and provisioning decisions.

[8] Initially, the provisioning charges have been specified by the supervisor, although it is envisaged that eventually these could be related to a bank's internal ratings system. The statistical provisioning charge is not tax-deductible.

## A simple framework

The different approaches to loan valuation and provisioning discussed above can perhaps be best understood as special cases of a more general approach.

To illustrate this, we begin by assuming that the value of a loan at any point in time can be represented by the present discounted value of the associated stream of future cash flows. There are two general approaches to conducting this calculation. The first is to discount the *contracted* cash flows using a *contracted* interest rate. The second is to discount the *expected* cash flows using an *expected* rate of return, rather than a contracted interest rate. In the usual situation in which there is a positive probability that the borrower will default, this expected rate of return is less than the contracted interest rate.

Loans can be valued on the basis of discounted cash flows ...

The former method is more commonly used, although obviously where the loan contract does not clearly specify the exact size and timing of all payments the second approach is more likely to be used. Both approaches, properly applied, should produce the same value (see the box).

... although discounting can be conducted in various ways

Within each method the discount rate can be determined by the market or can be bank-specific. The discount rate can also be fixed at origination of the loan or it can reflect the current risk profile of the loan.

For simplicity, in what follows we discount expected cash flows at an expected rate of return and consider a loan with repayment of principal at maturity. Using this approach, the value of a loan can be represented by the following:

One approach is to discount expected cash flows using an expected rate of return

$$V_t = \sum_j \frac{E(C_j)}{(1+y_j)^{j-t}} \qquad j = t,\ldots,T \qquad (1)$$

where $E(C_j)$ is the expected cash flows in period $j$, and $y$ is the expected rate of return used to discount these cash flows. The expected cash flow in each period (ignoring operating costs) is given by the interest and principal payments that are due according to the loan contract, *less* the expected losses from non-repayment of these contracted amounts. Denoting these expected losses in period $j$ as $E(l_j)$ and the contracted interest rate on the loan as $i$, and normalising the outstanding value of the loan to 1, equation (1) can be rewritten as:

$$V_t = 1 + \sum_j \frac{E(i_j - y_j)}{(1+y_j)^{j-t}} - \sum_j \frac{E(l_j)}{(1+y_j)^{j-t}} \qquad (2)$$

Now the appropriate level of provisions can be thought of as the difference between the outstanding value of the loan and the present discounted value of the cash flows. Thus the level of provisions (P) can be given by:

$$P_t = 1 - V_t = \sum_j \frac{E(l_j)}{(1+y_j)^{j-t}} - \sum_j \frac{E(i_j - y_j)}{(1+y_j)^{j-t}} \qquad (3)$$

At least conceptually, a provision is required if ...

The first term on the right-hand side is the present discounted value of expected losses arising from the non-repayment of contracted amounts. The second term is the present discounted value of the differential between the contracted loan rate and the expected rate of return used to discount the cash flows. This differential is sometimes referred to as the interest rate margin. This suggests that, in principle, provisions can be thought of as the difference between the present discounted value of expected losses and the present discounted value of margin income. It is important to note that this difference could be either positive or negative.

In what follows we refer to this difference as the *embedded* gain or loss in the bank's portfolio. It is useful to distinguish this concept of loss from that of the *expected* loss, which we use here to refer to the discounted value of the expected loss from the non-repayment of amounts due. Using this terminology, a loan could have a large embedded gain, while still having a large expected loss. This would occur if the interest margin on a high-risk loan more than covered the expected losses from default.

This general approach suggests that, in principle, the creation of a provision is appropriate in three different cases.

... a loan is mispriced at origination ...

The first case is where a loan is mispriced at origination, in the sense that the present discounted value of expected losses differs from the present discounted value of margin income. Such a situation could arise, for example, if a bank underpriced a loan for purposes of maintaining market share or cementing a relationship with the borrower. Conversely, if a bank were able to exercise market power and set a loan rate above the market rate, the value of the loan would exceed the outstanding amount (provided that discounting was conducted at the market rate). At least conceptually, in the latter situation a negative provision would be appropriate.

... or the creditworthiness of the borrower changes ...

The second case is where the credit standing of the borrower changes after origination (leading to a change in the present discounted value of expected losses) but where the pricing of the loan remains fixed. Changes in credit quality can be in either direction, so that both embedded gains and losses are possible. Accordingly, provisions could again be either negative or positive.

... or market interest rates change

The third case is where the differential between the lending rate and the discount rate changes, but the expected loss profile of the borrower remains fixed. This situation arises if the discount rate is allowed to change through time, such as in response to changes in market rates. Such movements generate either gains or losses for the bank (provided that the loan rate does not also move) and this would be recognised in the creation of a provision.

For *fair value accounting*, the discount rate used for valuation is that required by the market on a loan with the same risk characteristics of the loan being valued. If this discount rate is employed (and provisions are used to replicate fair value accounting within the context of a historical cost accounting system) a provision would be created in each of the three cases discussed

## Loan valuation and provisioning: some examples

This box provides some simple examples of the different approaches to valuing loans and their implications for the level of provisions.

For simplicity we consider a one-year loan of $100 on which all payments are due at the end of the year. The bank judges that there is a 98% probability that the loan will be repaid in full, and a 2% probability that the borrower will default, with the bank receiving nothing. We take the risk-free rate to be 7% and the risk premium for this type of loan as 0.8%. Accordingly, the bank should expect to earn a rate of return of 7.8%. This requires charging an interest rate of 10%.

The value of the loan can be obtained in two ways: discounting the contracted cash flows at a contracted interest rate (10%), and discounting the expected cash flows at the expected rate of return (7.8%). Both approaches give the same result.

$$V_0 = \frac{\text{contracted cash flow}}{\text{contracted rate}} = \frac{110}{1.1} = 100$$

$$V_0 = \frac{\text{expected cash flow}}{\text{expected rate of return}} = \frac{110 * 0.98}{1.078} = 100$$

Now consider the value of the loan assuming that immediately after origination the probability of default rises to 5% and that independently the risk-free rate rises by 0.7%, so that the required rate of return is now 8.5%. If the interest rate on the loan could be renegotiated, the new contracted rate would need to be 14.21% to generate this required return. In principle, this required rate of return could be bank-specific or the market rate.

The value of the loan can again be calculated using the two approaches:

$$V_0 = \frac{\text{contracted cash flow}}{\text{contracted rate (if the loan were renegotiated)}} = \frac{110}{1.1421} = 96.31$$

$$V_0 = \frac{\text{expected cash flow}}{\text{expected rate of return (if the loan were renegotiated)}} = \frac{110 * 0.95}{1.085} = 96.31$$

The appropriate provision is equal to 100 – 96.31 = 3.69. If the required rate used to discount is a market rate, this provision could be thought of as that needed to generate the fair value of the loan.

An alternative approach would be to discount using the expected internal rate of return at origination (IAS 39). As discussed in the text, this approach eliminates changes in value arising from changes in market interest rates. It produces a loan value of:

$$V_0 = \frac{\text{expected cash flow}}{\text{expected internal rate of return (at origination)}} = \frac{110 * 0.95}{1.078} = 96.94$$

Here, the provision would be equal to 100 – 96.94 = 3.06, which is smaller than the provision needed to replicate fair value accounting. If the risk-free rate had fallen, instead of increasing, the reverse would have been the case.

Another alternative is to discount expected cash flows at the loan's contracted rate. This approach is preferred by a number of banks given that the contracted rate is directly observable. In this example, it produces a loan value of

$$V_0 = \frac{\text{expected cash flow}}{\text{contracted rate (at origination)}} = \frac{110 * 0.95}{1.1} = 95.00$$

and leads to an understatement of the value of the loan. Correspondingly, it generates a provision (5) that considerably exceeds the fair value provision.

above. In particular, provisions would be created for changes both in the credit quality of borrowers and in market interest rates.

In contrast, under IAS 39, the discount rate is fixed through time (at least for fixed rate loans) and so does not change with the credit quality of the borrower or movements in market rates. This means that IAS 39 differs from fair value accounting in three important ways. First, irrespective of how a loan is priced, a provision would not be created at origination. By discounting expected cash flows using the expected internal rate of return at origination, the initial value of the loan is, by construction, its face value. Second, a provision could never be negative, since provisions are only created on impaired loans, with improvements in credit quality not being recognised. Third, movements in market rates have no effect on the appropriate provision, since the discount rate does not move with changes in the market. The only possible exception to this is if movements in market rates lead to changes in the loan rate itself.

## Key observations and policy options

The above discussion suggests a number of key observations and policy options. These are discussed in turn below.

*Pricing matters in determining the level of provisions*

A provision is not required on a correctly priced loan

If the expected rate of return on a portfolio of loans equals the required rate of return, then the current value of the portfolio should equal its face value. There are neither embedded gains nor losses (ie the portfolio is "correctly" priced). Risk premia aside, this means that the current value and the face value of the loan will coincide if the interest margin covers the expected losses from default. If this condition is met, a writedown of the portfolio's carrying value through the creation of a provision would lead to the portfolio being valued at less than its discounted present value.

An important wrinkle arises in situations in which a bank anticipates that the expected losses on a portfolio of multi-year loans will change over time and prices the loans accordingly at a fixed rate. This situation might occur if default rates are subject to a "seasoning effect" or, alternatively, the bank expects economic conditions to deteriorate over time. In both cases, the interest received initially should more than cover the initial losses on the portfolio from default, with the excess interest income being "compensation" for the fact that, in expectation, loss rates will be higher in the future. This means that even though the loan is correctly priced at origination (and nothing unexpected occurs), provisioning in line with equation (3) is needed to ensure that the bank's profits, and the value of its assets, are not overstated during the period of low default experience.[9] In effect, this approach amounts to accruing interest

[9] If there is no time profile to the expected losses and nothing unexpected happens, margin income would exactly match the credit losses in each and every period. The credit losses would need to be recognised in the profit and loss statement, but net asset values would not need to be adjusted downwards through the creation of a provision.

at the effective yield rather than the contracted rate, although the way the accounts would be presented is clearly different.

*Automatic provisioning at origination is problematic*

A provision at origination is only required if the initial expected rate of return is less than the "required" rate of return. Risk premia aside, this would only occur if the initial interest margin on the loan did not cover the expected losses from default. Given that a bank is unlikely to systematically make loans with an expected rate of return below the bank's own required rate of return (although in some cases the expected rate of return may be below the market rate), *automatic* provisioning on all loans at origination is problematic (see below).[10]

*The relevant horizon for provisioning is the life of the loan*

In determining the appropriate level of provisions, the relevant horizon is the residual maturity of the loan, not just the next year. This horizon will differ across types of loans and perhaps also through time. For many loans it will be longer than the one-year horizon that is often used for the purposes of determining a bank's capital.

*Provisions to cover expected losses for capital purposes?*

If provisions are set to cover embedded gains or losses, then the level of bank capital should be determined simply in relation to the potential for unexpected losses. However, to the extent that actual provisions deviate from the embedded losses given in equation (3), an adjustment to capital is required to cover the difference. This adjustment could be either positive or negative. Moreover, given the different concepts of loss being used for supervisory and accounting purposes, the required size of the adjustment is unlikely, save in exceptional circumstances, to equal the proposed adjustment to regulatory capital for expected losses.

Provisions should cover embedded losses and capital should cover unexpected losses

Looking forward, one possibility worthy of exploration is a clearer treatment of the relationship between provisions and regulatory capital. Conceptually, the most obvious way of doing this would be to exclude general provisions from capital and to set provisions so that they cover an estimate of the net embedded loss in a bank's loan portfolio. Capital could then be calibrated with respect to the variability in those losses (their "unexpected" component). How this could be done in practice would very much depend on the precise methodology for estimating the embedded losses.

[10] It is sometimes argued that a provision should be created at origination even on correctly priced loans given that default can occur before the interest margin has been earned. However, provisioning is about expected outcomes, and it cannot be the case that loans are expected to systematically default before the payment of interest. The possibility of an unexpectedly high number of early defaults should be covered by capital.

*Is forward-looking provisioning a viable alternative to fair value accounting for loans?*

As noted above, a move to fair value accounting for loans could add to the volatility and cyclicality of bank profits. Given this concern, one possible alternative, particularly for non-traded loans, is for banks to recognise changes in the credit quality of their loan portfolios through forward-looking provisioning, but not recognise changes in value that arise from movements in market interest rates.

All loans could be valued on a present discounted value basis ...

One way of doing this would be to value all loans on the basis of the present discounted value of expected cash flows, with discounting at a rate fixed at origination. This could be seen as extending the valuation approach used in IAS 39 for "impaired loans" to the entire loan portfolio. The effect would be to record all loans at par at origination, but then to allow loan values to change through time in line with changes in the creditworthiness of the borrower (to the extent that loan terms do not also vary correspondingly). One consequence of this is that if a bank's internal rating of a borrower with a fixed rate loan declined after origination, a provision would be created even though the loan may not be impaired according to the current definition. Similarly, one could envisage negative provisions being created in cases in which the internal rating of a borrower improved after origination.

... although this raises subjectivity concerns ...

This approach involves subjectivity both in the assignment of borrowers to grades and in establishing the appropriate discount rate at origination. Arguably, however, the degree of subjectivity is no greater than that involved in calculating the fair value of a loan portfolio in situations where market prices do not exist - all the more so since under the New Basel Capital Accord a bank's internal rating system will be subject to validation by supervisors. Moreover, this approach could serve as a measured intermediate step along the path to full fair value accounting, allowing time for some of the more complex conceptual and practical issues to be resolved before passing judgment on its adoption.

... and leaves unresolved the issue of interest rate risk

Adopting this approach would leave unresolved the issue of how to account for changes in loan values arising from fluctuations in market interest rates, if this were deemed useful. In principle, one possibility would be to adjust the discount rate established at origination for movements in risk-free rates. This could give rise to both provisions for embedded credit losses and embedded interest rate losses.

*Dealing with the procyclicality of provisioning*

A final, yet important, issue is whether changes to provisioning practices could reduce the procyclicality of bank profits and the financial system more generally.

Forward-looking provisioning might reduce financial cycles ...

One point of view is that a move to forward-looking provisioning for the entire loan portfolio, as outlined above, would lead to credit losses being recognised earlier in an economic cycle, mitigating the large fall in bank profits that often occurs in an economic downturn. The earlier recognition of losses

might also reduce the extent to which a bank's capital is subject to large and sudden declines in an economic downturn. As such, forward-looking provisioning might be expected to make a considerable contribution to reducing the cyclicality of bank profits and the terms and conditions under which credit is available.

… although misassessments of risk remain a concern

An alternative view is that while forward-looking provisioning would work in this direction, the impact is likely to be relatively small. This view reflects the idea that banks (and markets) tend to underestimate both credit losses and risk in an economic upswing, and perhaps overestimate them in a downturn. The underestimation in an upswing would be reflected in the (unintentional) mispricing of loans and consequently in too little provisioning even if provisioning was forward-looking. Moreover, the underestimation of risk might also be expected to contribute to banks holding too little capital during periods of strong economic growth.

Other options include enforced provisioning at origination …

One way of partly alleviating these concerns is for supervisors to require banks to create a provision at the origination of every loan. However, apart from the issue that in most countries supervisors do not set accounting rules, this approach is problematic for the reasons discussed above. In particular, it implies that loans are systematically underpriced, failing to recognise that the nature of any mispricing is likely to change over the course of a credit or business cycle. The approach could, however, be justified if it were agreed that financial statements should reflect more prudence and conservatism than might be warranted from an investor's perspective.

… and additional capital charges to cover potential underprovisioning

Another, perhaps quite radical, approach would be to *decouple* provisions for prudential purposes from those set by accounting authorities. In particular, supervisors could supplement capital requirements with a prudential provisioning requirement. One way of doing this would be to implement a system along similar lines to that recently introduced in Spain, but instead of having the annual statistical provisioning charge deducted from a bank's profit and loss statement, have it added to the bank's regulatory capital requirement for unexpected losses.[11] One possible advantage of this approach is that it would require banks to hold larger capital buffers against adverse events in good times, while at the same time allowing a move towards constructing financial statements on a basis supported by the accounting profession.

Implementing such a change to capital requirements would not be without its difficulties. It would also be at odds with the notion that capital was to cover just unexpected losses. However, one justification for the approach might be that it represents a safeguard against the type of costly financial cycles that can arise from the underestimation of risk in good times. Looking forward, finding ways of dealing with these cycles is likely to be an important challenge for bank supervisors and other policymakers.

[11] As in the current Spanish arrangements, there would need to be a cap to the additional capital requirement and the requirement would need to be reduced when specific provisions were created.

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# Analysing the growth of Taiwanese deposits in foreign currency

Demand for bank accounts denominated in foreign currency often arises from the experience of very high inflation. For example, in Argentina, Russia and Turkey, dollar and Deutsche mark notes and deposits represent a significant share of the money stock because of a history of very high inflation. Likewise, generally low inflation in East Asia in recent decades has gone hand in hand with a typically modest share of foreign currency deposits in the region, with the average share no higher than in industrial economies (Table 1). Leaving aside the financial centres of Hong Kong and Singapore, foreign currency deposits bulk largest in Indonesia and the Philippines, where inflation has tended to be exceptionally high by regional standards.

Even so, some recent developments in East Asia are at odds with this generally positive relationship between inflation and the scale of foreign currency deposits. One case is Taiwan, China (hereinafter referred to as Taiwan), where foreign currency deposits have shown very fast growth in recent years, notwithstanding low inflation.[1] This special feature analyses the growth of Taiwanese deposits in foreign currency and considers several explanations for their surge, such as country risk, credit risk, interest rate differentials and exchange rate expectations.

## The growth of Taiwanese deposits in foreign currency

Taiwanese deposits in foreign currency have been rising since 1995 ...

The stock of foreign currency bank deposits has shown several phases of growth in recent years. After remaining fairly constant at about 1% of M2 or NT$ 150 billion (about US$ 5 billion) until mid-1995, it started to trend

[1] Another case is mainland China, where a practically fixed exchange rate sustained through the East Asian crisis led to deflation and low interest rates. See Robert N McCauley and Y K Mo, "Foreign currency deposits of firms and individuals with banks in China", *BIS Quarterly Review*, August 2000, pp 35-9. Within the limits set by capital controls, demand for higher-yielding foreign currency deposits has in fact grown substantially faster than that for local currency deposits. In 2000, foreign currency deposits reportedly rose by 24.3% to US$ 128.3 billion, almost double the rate of growth of M2. A subsequent liberalisation of purchases of B shares, formerly restricted in principle to foreign residents, may dampen the growth of foreign currency deposits in banks in China.

## Foreign currency deposits and broad money in selected economies

At end-December 2000, in billions of US dollars

| Residents of | Foreign currency deposits of domestic non-banks | | | Memorandum items | |
|---|---|---|---|---|---|
| | With domestic banks | With banks abroad | Total | Broad money[1] | Foreign currency deposits as a % of broad money |
| Euro area | 112.1 | 400.9 | 513.0 | 4,725.6 | 10.9 |
| Belgium | 8.4 | 34.9 | 43.3 | 237.3 | 18.3 |
| France | 18.3 | 38.0 | 56.3 | 983.9 | 5.7 |
| Germany | 14.0 | 91.1 | 105.1 | 1,447.5 | 7.3 |
| Italy | 5.6 | 22.8 | 28.5 | 556.8 | 5.1 |
| Netherlands | 16.5 | 119.1 | 135.6 | 319.9 | 42.4 |
| Australia | 3.8 | 8.5[2] | 12.3 | 744.0 | 1.7 |
| Canada | 28.1 | 15.1[2] | 43.3 | 472.4 | 9.2 |
| Japan | 93.4[3] | 14.6 | 107.9 | 5,581.5 | 1.9 |
| New Zealand | 1.4 | 2.8[2] | 4.2 | 238.7 | 1.8 |
| Sweden | 6.1 | 5.5[2] | 11.5 | 99.7 | 11.5 |
| Switzerland | 73.3 | 54.2 | 127.4 | 289.2 | 44.1 |
| United Kingdom | 175.5 | 147.0 | 322.6 | 1,309.9 | 24.6 |
| United States[4] | ... | 139.4 | 139.4 | 7,143.5 | 2.0 |
| **Total euro area and other industrial countries** | **493.7** | **787.9** | **1,281.6** | **20,604.5** | **6.2** |
| Hong Kong[5] | 209.5 | 39.2[2] | 248.7 | 462.5 | 53.8 |
| China | 128.3 | 10.4[2] | 138.7 | 1,642.6 | 8.4 |
| India | – | 5.2[2] | 5.2 | 243.6 | 2.1 |
| Indonesia | 14.9 | 3.2[2] | 18.1 | 77.3 | 23.4 |
| Korea | 16.8 | 2.0[2] | 18.8 | 326.7 | 5.7 |
| Macau[6] | 7.8 | 1.1[2] | 8.9 | 10.7 | 83.4 |
| Malaysia | 2.5 | 2.7[2] | 5.2 | 91.6 | 5.7 |
| Philippines | 12.3 | 3.6[2] | 15.9 | 41.3 | 38.5 |
| Singapore | – | 18.9[2] | 18.9 | 98.7 | 19.1 |
| Taiwan, China | 34.1 | 18.6[2] | 52.7 | 571.2 | 9.2 |
| Thailand | 1.5 | 2.8[2] | 4.3 | 119.0 | 3.7 |

[1] Not seasonally adjusted. For Belgium, France, Germany, Italy and the Netherlands, end-December 1998. [2] Estimated as deposits with identified currency denomination; estimate should be viewed as a minimum. [3] BIS estimate. [4] The United States does not report foreign currency deposits with domestic banks; they are thought to be small in amount. [5] Holdings of foreign currency deposits by both resident and non-resident non-banks. [6] Data for end-June 2000.

Sources: National data; BIS. Table 1

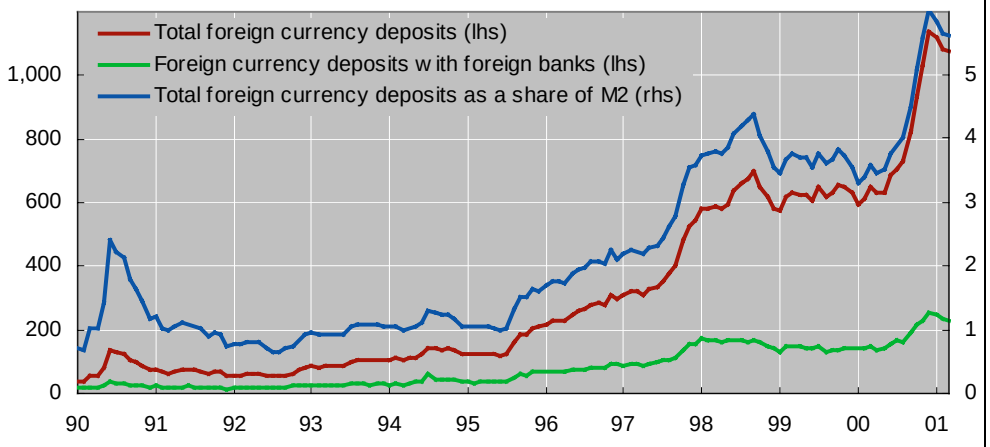
upwards. Its growth accelerated during the Asian crisis, with its share of M2 quadrupling by September 1998 (Graph 1). After falling for four months, the stock remained quite stable until mid-2000. Then it rose sharply again, almost doubling by the year-end to reach 6% of M2 or NT$ 1.1 trillion (about US$ 34 billion). These deposits fell again in early 2001.

... almost doubling in the second half of 2000

The breakdown of foreign currency deposits with domestic banks between demand and time deposits shows that the latter have been the main source of

## Foreign currency deposits

In billions of New Taiwan dollars (lhs) and percentages (rhs)




Source: CEIC. Graph 1

growth. This observation suggests that most of the increase in these deposits is for investment rather than transactions purposes.

## The policy response

In response to the increase in holdings of foreign currency deposits, the Taiwanese authorities shifted policy last year from in effect favouring them to penalising them. Prior to early December 2000, no reserves had been required against foreign currency accounts while reserve ratios on New Taiwan dollar deposits had ranged from 5 to 13.5%. Then the authorities raised reserve requirements on newly added foreign currency deposits in two steps to 5% and then 10% in the course of December. As a result, time deposits in US dollars came to attract a higher reserve requirement than the 6.25% applied to New Taiwan dollar time deposits.

Reserve requirements were imposed ...

The costs of the new reserve requirements on foreign currency deposits could be expected to be passed through to depositors to some extent in the form of lower yields. At US dollar interest rates above 5%, full pass-through of the costs would have entailed lower yields to new depositors of about 50 basis points (0.5%).[2] In the event, the interest rates on one- and three-month US dollar deposits with domestic banks dropped around 60 basis points in the wake of the increase in reserve requirements (after controlling for movements in Libor rates).

... resulting in lower interest rates on foreign currency deposits

As a result, the introduction of reserve requirements reduced the interest rate advantage of foreign currency over New Taiwan dollar deposits. In addition, the policy also increased the incentive to place foreign currency with banks in centres where such reserve requirements do not apply, including Hong Kong and the United States.

[2] No interest is paid on reserves against foreign currency deposits.

## Explanations

Four possible explanations for the growth of foreign currency deposits

The available evidence permits us to reject two possible explanations for the surge in foreign currency deposits in Taiwan in recent years, to accept another in part and to embrace a fourth. If Taiwanese depositors were acquiring dollars to avoid country risk, one would expect to see them placing foreign currency offshore. However, they did not favour offshore over onshore deposits. If Taiwanese depositors were acquiring foreign currency to avoid credit risk, one would expect them to place their deposits with more highly rated banks. However, they did not favour the more highly rated foreign banks over their local competitors. If Taiwanese depositors were acquiring foreign currencies for higher yield, one would expect to see the growth in deposits parallel the interest rate differential in favour of the US dollar.[3] Broadly, it did so. Finally, if Taiwanese depositors were acquiring dollars in anticipation of an appreciation of the US dollar against the New Taiwan dollar, then one would expect their deposits to rise and fall in line with the US dollar's strength (at least on the hypothesis of adaptive expectations). They did.

### *Country risk*

Country risk is rejected because most of the deposits remain onshore

It is not implausible that Taiwanese depositors might have reacted to the political uncertainties that arose after the presidential election in early 2000 by trying to move funds out of Taiwan. But available data show that, in fact, Taiwanese residents overwhelmingly favoured foreign currency deposits *in Taiwan*. While foreign currency deposits with banks in Taiwan grew by about US$ 15 billion in 2000, foreign currency deposits by non-bank residents of Taiwan with BIS area banks rose by only US$ 3.7 billion in 2000, from US$ 14.9 billion at end-1999 to US$ 18.6 billion at end-2000.

More generally, the evidence seems to suggest that foreign currency deposits are not particularly sensitive to political uncertainty. Offshore deposits had actually grown slightly more rapidly in 1999, a period in which political tensions were lower. Looking back to the previous major episode of strained cross-Strait relations at the time of the 1996 presidential elections, there was only a moderate rise in deposits by Taiwanese (non-bank) residents with BIS reporting banks.

### *Credit risk*

Credit risk is rejected since domestic banks received most of the new deposits

It is also not implausible that Taiwanese depositors might have reacted to heightened perceptions of credit risk in the banking system by shifting deposits into foreign currency deposits with foreign banks. Certainly, the year 2000 featured more active public discussion of the implications of the decade-long downward trend of asset prices and the decline of traditional industries like textiles and footwear for the health of Taiwanese banks. It is possible that the shift in the currency of denomination was a by-product of the shift of deposits

[3] Over 90% of foreign currency deposits are in US dollars.

towards foreign banks in Taiwan, rated a full grade higher than their Taiwanese counterparts.

Again, however, the facts do not support the notion that foreign currency deposits surged to avoid credit risk. In fact, households and firms placed the bulk of new foreign currency bank deposits in Taiwan with domestic banks (Graph 1). Domestic banks claimed about a two thirds market share in foreign currency deposits in Taiwan between 1990 and mid-1998, but in 2000 their share rose to more than three quarters. Far from minimising credit risk, depositors were attracted by a yield premium of at least 50 basis points to place foreign currency deposits disproportionately with domestic banks.

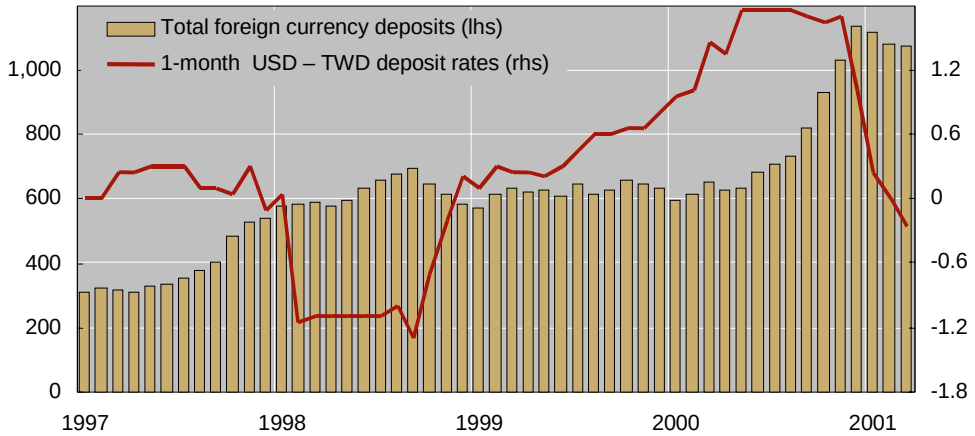
*Interest rate differentials*

Interest rate differentials can explain only the recent sharp increase

Until quite recently, the growth of foreign currency deposits could not be ascribed to an interest rate differential favouring the US dollar (Graph 2). During the Asian crisis, foreign currency deposits grew notwithstanding the interest rate differential moving against the US dollar (as measured by one-month US dollar rates less one-month New Taiwan dollar yields).[4] Then, beginning in 1999, the rate differential rose from around 0.25% to over 0.75% in favour of the US dollar, yet foreign currency deposits remained fairly constant. It was only after this yield premium reached 175 basis points in May 2000 that these deposits started to rise sharply. Early this year, the interest rate differential evaporated, and they fell.

## Foreign currency deposits and interest rate differentials

In billions of New Taiwan dollars (lhs) and percentages (rhs)




Sources: Central Bank of China; CEIC. Graph 2

[4] One-month deposit rates at First Commercial Bank.

*Exchange rate expectations*

Exchange rate movements have been closely correlated with the growth of foreign exchange deposits since 1997 (Graph 3). When the New Taiwan dollar depreciated against the US dollar from mid-1997 until autumn 1998, foreign currency deposits rose markedly from about NT$ 300 billion (US$ 12 billion) to almost NT$ 700 billion (US$ 20 billion). The subsequent strengthening trend of the local currency into the first half of 2000 saw foreign currency deposits remaining fairly stable. However, when depreciation set in again in mid-2000, these deposits rose sharply. With the recovery of the New Taiwan dollar in early 2001, they fell again.

Expected depreciation explains well the growth of foreign currency deposits ...

Comparing the two episodes of depreciation, that around the time of the Asian crisis and that in 2000, the responsiveness of Taiwanese households and firms to the exchange rate seems to have increased. In particular, the shift into foreign currency deposits, seen in relation to the scale of the exchange rate depreciation, seems much more pronounced in the latter episode. This may reflect an interaction between exchange rate expectations (based on recent realisations) and interest rate differentials. That is, in an environment of higher US dollar than New Taiwan dollar rates, depositors may respond more strongly to given expectations of exchange rate gains. Another way of making the same point is to note that during the Asian crisis extrapolative expectations of an exchange rate gain on foreign currency holdings had to be held firmly to overcome the certain loss on the interest rate differential. More recently, these same expectations offered possible gains on top of the sure premium on interest rates on US dollar accounts.

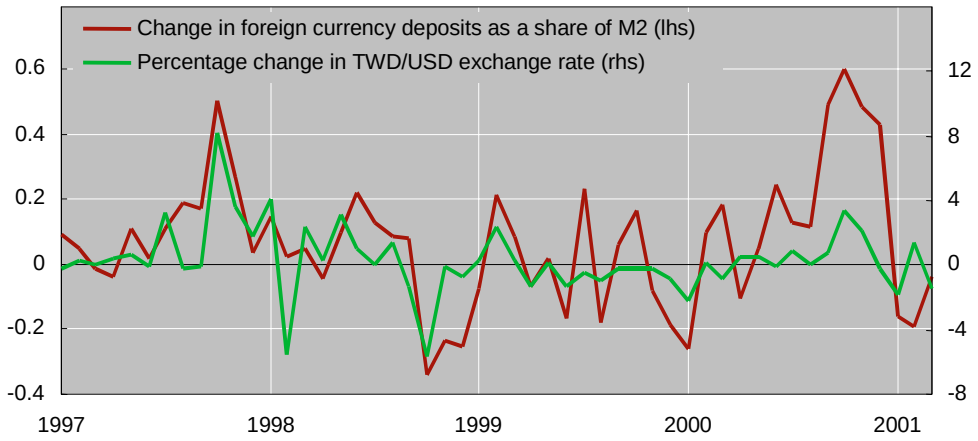
... especially when yields favour foreign currency

An alternative interpretation is that the shift into foreign currency deposits reflects the performance of the Taiwanese stock market (Graph 4). On this view, foreign currency deposits can produce capital gains and losses in local currency and thus may appear as a fairly risky asset class, less volatile but

The stock market slump may also have played a role

## Change in foreign currency deposits and the exchange rate

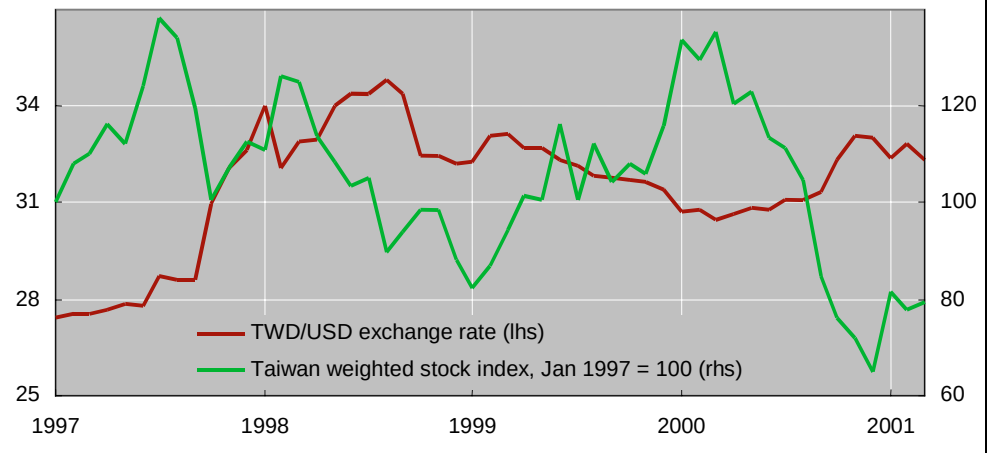
In percentages




Source: CEIC.

Graph 3

The exchange rate and stock market index




Source: CEIC. Graph 4

somewhat akin to an investment in equities. Thus, the shift into foreign currency deposits during the Asian crisis occurred against the backdrop of weak share prices and their growth in 2000 took place as share prices tracked the Nasdaq's sharp decline. Likewise, the bounce in the Nasdaq, the Taiwanese stock market, the New Taiwan dollar and capital inflows into Taiwan were all consistent with the decline of foreign currency deposits in early 2001. However, given the tendency of the currency to fall when non-resident investors withdrew money from a declining Taiwanese equity market, whether in 1997-98 or in 2000, this alternative is hard to distinguish in practice from the pure exchange rate view.

## Conclusion

Without the yield premium on US dollars, deposits may respond less to the exchange rate

Foreign currency deposits in Taiwan rose during the Asian crisis and again in 2000. There is no evidence that country or credit risk played a significant role in the recent rapid increase. The observed behaviour appears primarily to reflect exchange rate expectations interacting with interest rate differentials between foreign and domestic currency deposits. On this view, the sharp decline in US dollar interest rates, reinforced by the effect of reserve requirements on yields on foreign currency deposits in Taiwan, may make foreign currency deposits less attractive. In particular, the shift into foreign currency deposits in response to a given expectation of exchange rate depreciation may be less pronounced in the near future than in 2000. At the same time, however, these exchange rate expectations are likely to reflect global stock market performance and associated capital flows.

## What determines the growth of Taiwanese foreign currency deposits: some empirical evidence

We ran regressions to see whether the data supported our analysis that Taiwanese foreign currency deposits rose when the New Taiwan dollar was expected to depreciate, when the US dollar deposit rate was higher than the local currency deposit rate, and when the equity market declined. The regression coefficients reported below are of the right sign and significant, providing empirical support to the analysis.

Sample 1991:01-2001:03

$$F_t = \underset{(3.7)}{0.041} + \underset{(5.6)}{0.034}\, e_{t-1} + \underset{(2.4)}{0.212} RD_t - \underset{(-3.4)}{0.004} S_t$$

$R^2 = 0.29$ DW = 1.65

where

$F_t$ = Exchange rate adjusted change in foreign currency deposits as a share of M2
$e_{t-1}$ = Lagged percentage change in the TWD/USD exchange rate
$RD_t$ = Differential in interest rates (USD minus TWD one-month rates)
$S_t$ = Percentage change in the Taiwan weighted stock index

Note: t-statistics in parentheses

We also tested the hypothesis that the growth of foreign currency deposits was more responsive to a given exchange rate depreciation when the interest rate differential was in favour of US dollar deposits. We added a dummy variable $d_t$, which was equal to 1 when the US dollar rate was higher than the New Taiwan dollar rate and 0 otherwise, and considered regressions with the following additional terms one at a time: $d_t$ , $d_t(e_{t-1})$ and $d_t(e_{t-1}RD_t)$.

$$F_t = \underset{(3.3)}{0.036} + \underset{(4.0)}{0.026}\, e_{t-1} + \underset{(1.9)}{0.169} RD_t - \underset{(-3.3)}{0.003} S_t + \underset{(2.6)}{0.49}\, d_t(e_{t-1}RD_t)$$

$R^2 = 0.33$ DW = 1.83

Point estimates suggest that an interest rate advantage for foreign currency deposits accelerates the shift into them or makes them more responsive to recent exchange rate movements. These estimates, however, are significant only in the case of $d_t(e_{t-1}RD_t)$.

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# Collateral in wholesale financial markets

Over the past few decades, counterparty risks generated by wholesale transactions have increasingly been covered by bilateral collateral agreements. A report by the Committee on the Global Financial System (CGFS), often referred to as the Johnson report,[1] pointed to inadequacies in collateral practices as creating problems in the functioning of markets in autumn 1998. The CGFS followed up by setting up a working group to review trends in collateral use. The report of the Working Group on Collateral was published in March.[2] This article presents some of its main findings.

## Trends in the use of collateral

Use of collateral expanding ...

The use of collateral has expanded rapidly in recent years, spurred by growth in securities and derivatives trading, the development of secured payment and settlement systems, and the expansion of financial activity worldwide. Increased attention to risk management, reinforced by a series of market disturbances in the 1990s, has contributed to the growth of financial transactions in which collateral is used to help manage large credit risks, such as those between dealers, or counterparty risks in complex market risk exposures. Two distinct advantages of collateralisation, compared to other credit risk mitigation techniques, may help to explain its widespread use in trading markets. One is the relatively low transaction costs. Collateral arrangements are largely standardised, which makes them suitable for short-term transactions with a broad range of counterparties. The other advantage is that collateral, in contrast to other risk mitigation techniques such as guarantees or credit derivatives, provides funded protection.

... in repo markets ...

Financial institutions such as banks or securities dealers use collateral mainly in three areas of their wholesale activities. The first is repurchase

[1] Committee on the Global Financial System (1999): *A review of financial market events in autumn 1998*, Basel, October.

[2] Committee on the Global Financial System (2001): *Collateral in wholesale financial markets: recent trends, risk management and market dynamics*, Basel, March. URL: http://www.bis.org/publ/cgfs17.htm. The Working Group on Collateral was chaired by Christine Cumming, Federal Reserve Bank of New York.

agreements (repos). Improvements in the financial infrastructure, in the legal framework and in risk management techniques have facilitated the use of repos and business has grown rapidly with the general expansion of trading (see Table 1).

... in derivatives transactions ...

A second area where collateralisation is common is derivatives markets. Collateralisation of exposures in derivatives markets allows financial institutions to manage market risk with limited counterparty risk. This facilitates the management and control of overall credit risk in trading operations and leads to a more efficient use of both economic and regulatory capital. In over-the-counter (OTC) derivatives markets, collateralisation has grown significantly, although uncollateralised transactions continue to be the norm. This partly reflects the fact that participants in OTC markets have generally had high credit ratings.

... and in payment and settlement systems

The third field where collateral is increasingly used is payment and settlement systems. In many countries, intraday credit for large-value real-time gross settlement (RTGS) systems is available from central banks on a fully collateralised basis only. Such systems allow prompt finality of payment, while covering debit balances with collateral protects the central bank from losses. The other relevant feature is that there is less need for participants to assess the creditworthiness of individual counterparties. This supports the functioning of payment systems, in which exposures may change rapidly and counterparties may not be known in advance.

## Repo market in selected countries[1]

| | Transactions with all counterparties | | | | | | | | Transactions with non-MFIs[2] only | |
|---|---|---|---|---|---|---|---|---|---|---|
| | United States[3] | France[4] | United Kingdom[5] | Japan[6] | Italy[7] | Germany[7] | Belgium | Sweden[8] | Euro area[9] | Nether-lands[9] |
| | USD | EUR[10] | GBP | JPY | EUR[10] | EUR[10] | EUR[10] | SEK | EUR[10] | EUR[10] |
| 1990 | 777.8 | | | | 11.0 | | | | | |
| 1995 | 1,520.4 | 240.3 | | 11,079.8 | 77.3 | | | | | |
| 1996 | 1,649.8 | 322.8 | | 11,945.5 | 85.2 | | | | | |
| 1997 | 2,194.5 | 320.2 | 74.9 | 9,979.5 | 87.4 | | | | 211.0 | |
| 1998 | 2,372.0 | 296.4 | 97.1 | 11,516.5 | 93.3 | | | | 183.9 | |
| 1999 | 2,517.1 | 159.1 | 102.5 | 20,798.6 | 122.5 | 81.2 | 111.7 | | 155.3 | |
| 2000 | 2,636.8 | 149.1 | 138.2 | 22,661.0 | 163.7 | 137.8 | 97.7 | 400.0 | 186.2 | 6.2 |
| in US dollars | | | | | | | | | | |
| 2000 | 2,636.8 | 240.0[7] | 206.0 | 197.2 | 137.8 | 119.6 | 90.9 | 42.2 | 173.3 | 5.8 |

[1] Amounts outstanding at end-year, in billions; for 2000, latest available data; converted at end-year exchange rates. Cross-country comparability of the figures is limited owing to differences in measurement concepts. [2] Monetary financial institutions. [3] Repurchase and reverse repurchase agreements of US government securities dealers. [4] Repurchase agreements of French government securities dealers. [5] Gilt repos and sell/buybacks; data refer to November. [6] Total amount outstanding in the bond repo market. [7] Repurchase agreements of domestic MFIs with other sectors. [8] Repurchase agreements on government bonds and mortgage securities; rough estimates. [9] Domestic repurchase agreements of MFIs. [10] For EUR, euro conversion rate applied also prior to 1999. Table 1

Broadening range of assets used as collateral

The preferred assets for use as collateral have traditionally been cash and government bonds.[3] With the demand for collateral growing and the available stock of government bonds declining, markets have evidently been forced to adjust. One response has been the broadening of the range of assets accepted as collateral. Equities belonging to major indices have to some extent also become accepted because of their high liquidity. Another way to adjust to changing demand/supply conditions is economising on the use of collateral. Large market participants are actively considering ways to reduce settlement exposures and thus to economise on the liquidity and collateral needed to support payment and settlement mechanisms. In particular, interest has increased in how to expand the role of central counterparty clearing houses in markets that now clear either slowly or on a bilateral basis.

## Exploiting the benefits of collateral: the role of risk management

Low-risk collateral relieves the load on risk management …

Collateral reduces the need for the collateral receiver to monitor the creditworthiness of a large number of counterparties. Instead, his focus will have to be on the risks of the collateral itself, in particular the creditworthiness of collateral issuers and the liquidity of collateral markets. The use of collateral with low credit and liquidity risk lessens the collateral risk management burden and thus the cost of collateral use. This explains the preference of market participants for government bonds and cash.

… but does not substitute for collateral risk management

But even the use of low-risk assets as collateral does not substitute for proper collateral risk management, as the collateral taker may face uncovered exposure although the value of collateral remains stable. In OTC contracts, the value of the collateralised position will usually change over time. Fluctuations in the market value of derivatives transactions, for example, are essentially random and can be quite substantial. Moreover, uncovered exposure may result from the time required to complete the operational steps of the collateralisation process.

Challenges posed by broadening the range of collateral assets …

Broadening the range of accepted collateral assets to include bonds of private issuers or equities increases the demand for risk management. Generally, assessing the potential exposure after taking on collateral becomes more difficult. The price volatility of the collateral may be high and variable, and low liquidity may make it difficult to estimate the liquidation value. Moreover, assessing the nature of the correlation between the collateralised position and the asset used as collateral introduces additional complexity. A negative correlation between the two increases exposure and credit risk because the value of collateral falls at the same time as the counterparty risk increases. Such a negative correlation might, for example, occur in a situation

[3] In theory, cash is the perfect collateral. The assets traditionally used as collateral, such as government bills and bonds, exhibit characteristics that make them close substitutes for cash. In practice, cash collateral is provided in the form of bank deposits and is thus subject to operational risks related to the transfer of these deposits or the risk that the depository institution will fail.

where doubts about the soundness of the banking system are emerging and bank bonds are being used as collateral.

… and possible adjustments in risk management

Collateral risk management can address such risks in three basic ways. One is to increase the buffer for higher potential exposures; that is, to apply deeper haircuts. Another approach is to choose collateral that generally moves in line with the value of the collateralised position. However, such protection may be sensitive to changes in market conditions and thus imperfect in consequence. A third method is to reduce the exposure period through adjustments in market conventions and improvements in market infrastructure, in particular recourse to more frequent margin calls. The reliance on increasingly sophisticated collateral management techniques has repercussions on the markets where positions are collateralised and on the markets for instruments used as collateral. For instance, more sophisticated systems tend to increase barriers to entry to collateralised trading markets, especially for dealers.

## Systemic impact of the use of collateral

Collaterisation enhances the overall efficiency …

The use of collateral enhances the efficiency of the financial system. Signalling creditworthiness by offering collateral reduces the problem of asymmetric information and mitigates credit rationing. As a result, collateralising transactions broadens access to markets. This has further positive effects on the functioning of markets because broader market participation tends to enhance competition and foster deep and liquid markets. Furthermore, the reduction of information costs promotes the development of sound payment and settlement systems as well as clearing mechanisms in markets where counterparties and exposures often change rapidly.

… and stability of the financial system

Reducing individual counterparty risk may also enhance the overall stability of the financial system. Many wholesale financial markets, such as international interbank markets and the OTC derivatives markets, do not discriminate effectively in their pricing between higher- and lower-risk counterparties.[4] These markets are prone to credit rationing and to the abrupt retreat of lenders, particularly in times of market stress. The funded credit protection provided by collateral may moderate somewhat this tendency of credit and liquidity flows in wholesale financial markets to seize up under stress, particularly if such markets are not at the epicentre of the initial shock. For example, repo markets and exchange-traded futures markets are often relatively resilient and subject to limited credit rationing in periods of market turbulence. A core precondition for these benefits to materialise, however, is the appropriate management of collateral risks.

Possible negative externalities

While these risk-reducing effects are undisputed, there may nevertheless be some undesirable externalities resulting from the widespread use of

[4] See Henri Bernard and Joseph Bisignano (2000): "Information, liquidity and risk in the international interbank market: implicit guarantees and private credit market failure", *BIS Working Papers*, no 86, March.

collateral in wholesale financial markets. One is a potentially negative impact on unsecured creditors. The other is a potentially destabilising effect on the financial system if collateral is not managed properly.

Impact on unsecured creditors

If collateral is pledged to secure existing positions, this has an impact on the collateral provider's unsecured creditors because the pledged assets are no longer available to cover other obligations. Moreover, since in wholesale markets generally only assets of relatively high quality are accepted as collateral, the average quality of the remaining assets will decline. As a result, unsecured creditors' claims are covered by fewer, less liquid and riskier assets. If collateral is used to support an expansion of business activity, the previously existing assets are still available to cover unsecured creditors' claims. Nevertheless, leverage has increased if the business expansion is not backed by an increase in capital, indicating higher risk for unsecured creditors. Generally, how the risk position of unsecured creditors has actually changed can only be assessed in a dynamic analysis that takes into account the effects of collateralisation on the collateral provider's business mix and earning capacity. If collateralisation allows for an expansion of activities into new, profitable areas, the risk exposure of unsecured creditors may even be improved.

Whatever the net effect on unsecured creditors in a dynamic perspective, collateral lowers the monitoring incentive for collateral receivers. If collateralised lenders rely on collateral and reduce their monitoring efforts, both secured and unsecured lenders will be affected if as a result an increase in the provider's default risk goes undetected.

## Collateral in times of stress

The following case studies of market stress events and the failure of an individual institution illustrate how the use of collateral can alter market dynamics.

*Financial market events, autumn 1998*

The effective default by Russia on rouble debt resulted in sizeable losses for some investors and triggered a re-examination of credit risk by market participants. The outcome can be characterised as a global flight to liquidity, spurred by a global margin call. As the term suggests, collateral-related dynamics played a key role in this process. Some of the positions affected were leveraged through collateralised financing arrangements such as securities lending, repurchase agreements and margin accounts at futures exchanges, which had to be marked to market daily. In an environment of heightened uncertainty and increased caution, many market participants reduced the scale of their activities and trimmed their risk exposures. At the same time, collateral requirements were increased in many market segments, reflecting heightened concerns about counterparty risk. As a result, liquidity in many markets declined sharply, with bid-ask spreads widening and large transactions becoming more difficult to complete.

The 1998 crisis made clear that substantial unsecured credit risk can result from potential exposures of collateralised positions and the need to liquidate them. It further revealed important linkages between leverage, market risk, funding arrangements, collateral practices and asset market liquidity. Looking more closely at collateralisation, three factors contributed to the severity of the crisis. First, collateral facilitated a degree of leverage that turned out to be excessive in

times of stress. Second, market participants relied too heavily on the protection implied by collateral and daily margining, underestimating the effect of large price changes on exposure levels. Finally, belated recognition of these effects triggered a tightening of collateral standards, which contributed substantially to liquidity pressures.

*Failure of the Granite fund, 1994*

The Granite fund pursued a strategy based on arbitrage in mortgage-backed securities (MBSs), which are highly sensitive to interest rate changes as their price also reflects the value of the prepayment option included in the underlying mortgages. In 1994, Granite's position deteriorated sharply in value as a result of a tightening of monetary policy by the Federal Reserve. As the deterioration continued, Granite faced a wave of margin calls. Many of its counterparties had not been monitoring their credit exposure and suddenly realised that they were undercollateralised. Others were overcollateralised, but refused to let Granite liquidate individual excess positions. Granite collapsed when dealers began liquidating its positions to satisfy margin calls. Markets for MBSs turned out to be very illiquid and dealers found that they could not easily unwind trades to get back the securities they themselves had used in repo transactions.

With respect to collateral management, the Granite case highlights three issues. Sharp changes in valuation can occur when securities used as collateral trade in a market with abruptly changing liquidity. Collateral arrangements did not take into account the correlations between the creditworthiness of the counterparty and the value of the collateral. The effects of these two factors were magnified by poor risk management: counterparties valued positions and collateral too carelessly and infrequently. The reaction of counterparties when they became aware of the problem was an abrupt tightening of standards that exacerbated distress.

*Aftermath of the US equity market crash, 1987*

The sharp decline in equity prices on 19 October 1987 led to very high demands for liquidity by brokers and investors. The origin of the stock market break was the heavy selling associated with "portfolio insurance". The selling in the cash, futures and options markets triggered dislocations that reflected collateral dynamics. Different margining practices were employed in the cash, futures and options equity markets. In normal market conditions, with price movements of modest size, market participants with offsetting positions in the cash and futures markets could easily manage the mismatch of cash flows arising from daily margin calls in the futures market and the cash market, where only initial margining was required. With the huge drop in prices, intraday and end-of-day margin calls became very large, triggering sizeable, unanticipated cash needs. The inability to liquify gains in one market to meet margin calls in another created enormous liquidity strains. Although collateral was not the origin of the problem, the forced sale of positions to meet margin calls contributed to excessive selling and overshooting of prices while divergent margining conventions proved to be a major source of liquidity strains.

Impact on financial market dynamics …

A number of episodes of financial market turbulence suggest that collateral practices may have an adverse impact on financial markets in periods of stress (see the box). These episodes have pointed to three shortcomings that may add to market dislocations. First, in the run-up to the crisis, market participants relied too heavily on the effectiveness of collateral and daily margining, overlooking the risk arising from excessive leverage by large counterparties and the potential for sharp movements in exposures when substantial price changes occur. Second, the rush to correct errors and tighten collateral standards exacerbated market turbulence. Raising margins and/or requiring deeper haircuts during market turbulence can add to liquidity pressures both at the financial institutions that have to raise additional collateral and in the markets where participants try to sell assets in order to raise liquidity. Third, differences in collateral practices across different market segments (eg cash, futures and options) may cause liquidity strains even for institutions with hedged positions. The problem is that they may face margin calls in one segment without in practice being able to match them with margins received in another.

… reflecting shortcomings in risk management

Although margin calls and a general tightening of collateral standards are likely to add to liquidity strains in a period of financial stress, some of the destabilising effects of collateral observed during the events described were closely related to deficiencies in the management of collateral and counterparty risk. Whereas margin calls seem to be the inevitable consequence of increased volatility in a collateralised market, excessive leverage and overreaction due to previous risk management deficiencies can, in principle, be addressed by appropriate risk management.

## Future perspectives

Increasing importance of credit risk mitigation

The uses of collateral and the supply of assets that can serve as collateral are likely to continue to evolve over the coming years. Over time, greater competition in both the financial system and the real economy have tended to narrow profit margins and have contributed to a decline in the average creditworthiness of both bank and non-bank counterparties. Shrinking margins in the financial sector create pressure to take more risks. This should favour an increase in collateralised transactions. Another factor affecting the use of collateral is consolidation both among financial institutions and in financial infrastructures, for example a growing reliance on central counterparties. A third factor affecting the use of collateral is the availability and cost of substitutes, such as securitisation or credit derivatives. Overall, greater attention to the mitigation of credit risk, together with broader participation in the financial markets, is likely to increase further the use of collateral.

Higher demand for collateral in payment and settlement systems

One area where continued strong growth in the use of collateral is evident is payment and settlement systems. In these systems, the need to use high-quality collateral to obtain intraday liquidity (particularly in systems where settlement takes place across accounts at a central bank) or to manage credit and liquidity exposures (as in many net settlement systems) imposes costs on

direct and indirect users. Transactions over these systems are large and continuously growing.

Changing pool of collateral assets ...

Higher demand for collateral in the wholesale financial markets has already begun to be met with a changing pool of collateral in several major countries, and there is scope for a number of further adjustments. As prices for different classes of collateral adjust, incentives could emerge to increase the supply of low-risk collateral by securitising assets and creating other liquid securities with low credit risk. Adjustments with respect to the demand for collateral include accepting a broader range of assets as collateral or improving the efficiency with which the existing stock is used: for example, through greater use of netting and central counterparties.

... will trigger adjustments in collateral-related practices ...

Bearing in mind the potentially destabilising effects of inappropriate collateral management, the changes in the uses and sources of collateral require adjustments to the practices associated with the use of collateral. Broadening the range of assets used as collateral implies that the receiver of collateral faces higher price volatility and possibly also greater correlation with the collateralised position or with the counterparty's creditworthiness, which calls for careful risk management. Sound initial and ongoing evaluation of both collateral and counterparties is vital to risk management. It should include comprehensive stress testing of secured and unsecured exposures, of potential correlations between changes in collateralised exposure and in the value of the collateral itself, and an assessment of how market stress is likely to affect the liquidity and creditworthiness of major counterparties.

... for example through the use of central counterparties

The outsourcing of collateral risk management to central counterparties may help to overcome some problems: for example, by reducing exposures through netting arrangements or by entrusting a single, better informed, entity with the management and, if necessary, liquidation of collateral. However, heavy reliance on central counterparties may also raise new issues. The concentration of a wide range of risks within a single entity providing a key market service immediately raises the issue of operational risk. Moreover, the potential for contagion across markets as market exposures are combined for settlement could be significantly enhanced. Central counterparties, therefore, should not be seen as a universal remedy against counterparty risk in wholesale markets. Their advantages will only become fully effective if the risks related to their use are fully understood and properly managed.

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# Structural and regulatory developments

## Initiatives and reports concerning financial institutions

*April*

BCBS releases its 1999 survey of public disclosures

The Basel Committee on Banking Supervision (BCBS) released the results of its 1999 survey of public disclosures by banks. The survey forms part of ongoing efforts by the BCBS to promote effective market discipline in banking and capital markets through improved public disclosure.[1] As in previous years, it reviews the disclosure of both quantitative and qualitative information contained in the public reports of banks. The results show varying disclosure levels in the areas surveyed. Banks commonly disclosed capital-related items, credit risk allowances, diversification of credit risk and accounting policies. However, there was a lack of disclosure in areas related to credit risk modelling and the use of internal and external ratings. Disclosure was also lacking in the area of derivatives and securitisation.

Working group on disclosure issues recommendations

The Multidisciplinary Working Group on Enhanced Disclosure, a grouping sponsored by four international bodies with financial sector responsibilities,[2] issued a report recommending improvements to the disclosure practices of financial intermediaries worldwide.[3] The report, which is based on data collected from 44 financial institutions in nine countries, recommends inter alia that disclosures be consistent with firms' internal risk management practices. They should include: (a) intraperiod high, median and low, and period-end value-at-risk (VaR) of actively managed or marked-to-market exposures; (b) substantive qualitative discussion of funding liquidity risk; and (c) information about credit exposures broken out by type of exposure or business line, credit quality and maturity. In addition, the report notes that quantitative information

[1] Improved disclosure is also proposed as the third pillar of the new Basel Capital Accord, along with minimum capital requirements and the supervisory review process.

[2] The Basel Committee on Banking Supervision (BCBS), the Committee on the Global Financial System of the Group of Ten central banks (CGFS), the International Association of Insurance Supervisors (IAIS) and the International Organization of Securities Commissions (IOSCO).

[3] See *Final Report of the Multidisciplinary Working Group on Enhanced Disclosure*, BCBS, CGFS, IAIS and IOSCO, Basel, April 2001.

on certain areas, such as liquidity risks, would fill an important gap in financial disclosures. Nevertheless, it argues that further development of risk assessment concepts and methods would be necessary before a judgment could be reached on such disclosures.

European Commission proposes Directive on financial conglomerates

The European Commission presented a proposal for a Directive that would introduce group-wide supervision of financial conglomerates. The proposal, which would require closer cooperation among supervisory authorities across sectors, would align the rules for financial conglomerates with those for homogeneous financial groups so as to ensure equivalence of treatment. The proposal was prompted by continuing consolidation in the European financial services industry.

*May*

BCBS releases risk management principles for e-banking

The BCBS released a document discussing risk management principles for electronic banking.[4] Judging that detailed risk management requirements in the rapidly evolving area of e-banking might be counterproductive, the Committee expressed its guidance in the form of broad guidelines. It identified 14 principles to help banking institutions expand their existing risk oversight policies and processes in e-banking activities.

BCBS working group proposes framework for mutual cooperation between supervisors

A BCBS Working Group on Cross-Border Banking, which included selected members of the Offshore Group of Banking Supervisors, prepared a statement of mutual cooperation between banking supervisors setting out the essential reference elements for bilateral relationships between banking supervisory authorities in different countries (and, where appropriate, between banking supervisors and other financial regulators).[5] The statement is intended to provide a framework for an agreement between supervisors, leaving sufficient discretion and flexibility for additional details and responsibilities if they so wish.

European Union adopts Directive modernising accounting rules

The European Union's Council of Ministers and the European Parliament adopted a Directive to modernise EU accounting rules by introducing "fair value" accounting methods. The Directive amends the European Union's Accounting Directives to take account of market developments and new international accounting standards, making it easier for European companies raising capital worldwide to comply with financial reporting requirements in international capital markets. Although banks are included in the scope of the Directive, the Commission stated that the Directive was not about the introduction of "full" fair value reporting, a concept that it will eventually analyse on its own merits.

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[4] See *Risk management principles for electronic banking*, BCBS, Basel, May 2001. Available at www.bis.org.

[5] See *Essential elements of a statement of cooperation between banking supervisors*, BCBS, Basel, May 2001. Available at www.bis.org.

*June*

BCBS announces new timetable for New Basel Capital Accord

The BCBS announced a revised timetable for completion and implementation of the New Basel Capital Accord. The Committee will release a complete and fully specified proposal for an additional round of consultations in early 2002 and will finalise the New Accord during 2002. Accordingly, the BCBS envisions an implementation date of 2005 for the New Accord. The timetable was amended to allow the Committee to deal with the large number of comments received and to cooperate with the industry in achieving the best possible proposals. The BCBS highlighted several important decisions that it had taken with respect to the proposals. First, the Committee remains strongly committed to the three pillars architecture of the New Accord and to the broad objective of improving the risk sensitivity of capital requirements. Second, it reiterates its objective of maintaining an equivalent level of regulatory capital for the average bank under the revised standardised approach and its view that incentives between the standardised and internal ratings-based (IRB) approaches should encourage banks to adopt the more advanced approaches to credit risk. In particular, the Committee anticipates the need for reductions in the basic calibration of the foundation IRB approach, for both corporate and retail portfolios. Third, it notes that the target capital ratio for operational risk (20%) would be reduced in line with the view that it reflects too large an allocation of capital to this risk. Fourth, it believes that further efforts are needed to ensure that the new proposals deliver an appropriate treatment of credit exposures to small and medium-sized enterprises (SMEs). This is likely to lead to lower capital for SME lending compared to the January 2001 proposals.

Canada reforms its financial sector

The government of Canada introduced legislation reforming the country's financial sector. One of the key features of the legislation is a new definition of "widely held banks" that permits an investor to own up to 20% of any class of voting shares and 30% of any class of non-voting shares subject to a "fit and proper" test. This change would allow banks to engage in substantial share exchanges, including the ability to enter into strategic alliances and joint ventures.[6]

## Initiatives and reports concerning financial markets and their infrastructure

*April*

ISDA announces new documentation for credit swaps …

The Credit Derivatives Market Practice Committee of the International Swaps and Derivatives Association (ISDA) announced that it had reached a consensus on how to address documentation issues arising from debt restructurings under credit default swaps. A framework, including a supplement to the 1999 Credit Derivatives Definitions, was presented by ISDA at its Annual

[6] However, the Canadian Bank Act will continue to prohibit control of a large financial institution by any single shareholder or group of shareholders.

General Meeting in Washington, D.C. The new approach will allow for credit swaps to be traded both with and without restructuring clauses. For credit swaps including restructuring, the new provisions would, in certain circumstances, limit the maturity of the obligations that are deliverable after the occurrence of a restructuring, thereby limiting the "cheapest-to-deliver" option that has caused problems following recent restructuring events. They would also require all deliverable assets to be fully transferable and to include a pari passu provision requiring a protection buyer to deliver an obligation of the same seniority as the one on which the protection was originally written. The new framework should better shield sellers of protection in the event of a restructuring by safeguarding the value and transferability of deliverable assets under physically settled default swaps (the standard delivery procedure in that market). It should also restore liquidity to the credit default swaps market. With restructuring having been tackled, ISDA said that it was turning to remaining documentation issues, such as the question of the successor entity in the event of a firm's break-up.

… which limits the maturity of deliverable assets

*May*

The European Commission presented a proposal for a Directive on insider dealing and market manipulation. The proposal would improve standards for market integrity in the securities field throughout the European Union. It would also reduce potential inconsistencies and loopholes by establishing a basic framework for the allocation of responsibilities, enforcement and cooperation within the European Union. The European Commission also proposed a Directive introducing a new "single passport for issuers" so that, once a prospectus has been approved by the home country authority of the issuer, it would have to be accepted throughout the European Union for public offer and/or trading on regulated markets. The proposed Directive would simplify the submission of prospectuses and make it easier to raise capital throughout the European Union. These are the first two proposals for Directives to be submitted under the streamlined legislative process recommended by the Committee of Wise Men on the Regulation of European Securities Markets in February 2001, which distinguishes broad framework principles from detailed technical implementation (see below).[7]

European Commission proposes Directive on insider dealing and market manipulation …

… and another on a single passport for issuers

The US Commodity Futures Trading Commission (CFTC) and the Securities and Exchange Commission (SEC) announced proposals for joint rules in implementing new statutory provisions relating to securities futures. The Commodity Futures Modernization Act of 2000 (CFMA) lifted the ban on futures contracts on single stocks and narrow-based securities indices. It also established a framework for the joint regulation of securities futures by the CFTC and the SEC. While futures contracts on broad-based indices are under the exclusive jurisdiction of the CFTC, the joint rules proposed by the CFTC

US CFTC and SEC announce joint rules for securities futures

[7] See also the box on page 69 of the June 2001 issue of the *BIS Quarterly Review* for a summary of the report.

and the SEC relate to the distinction between broad and narrow-based securities indices.

*June*

FATF updates its list of non-cooperative countries

The Financial Action Task Force on Money Laundering (FATF) published its 12th annual report.[8] The document updates the list of "non-cooperative" countries and territories first published in June 2000, removing the Bahamas, the Cayman Islands, Liechtenstein and Panama following the adoption of significant reforms by those countries.[9] It also recommends the application of additional countermeasures (including the possibility of enhanced surveillance and reporting of financial transactions) as of 30 September 2001 with respect to Nauru, the Philippines and Russia unless their governments enact significant legislation addressing money laundering concerns.

European Commission creates two committees for securities markets

Following the recommendations of the Committee of Wise Men on the Regulation of European Securities Markets, the European Commission created a European Securities Committee (ESC) and a Committee of European Securities Regulators (CESR). The two advisory Committees will play a crucial role in assisting the European Commission in implementing the Financial Services Action Plan (FSAP) and speeding up the legislative process. The ESC will be composed of high-level representatives of member states. It will advise the European Commission on issues relating to securities policy. At a later stage, when implementing powers are devolved to it through a co-decision procedure, it will also act as a regulatory committee. The CESR was set up as an independent advisory body composed of representatives of the national authorities competent in the field of securities markets. It will advise the European Commission on the technical details of securities legislation. It will also help enhance cooperation between supervisory authorities so as to ensure more consistent day-to-day implementation of EU legislation in the member states.

FESCO publishes proposals for ATSs

The Forum of European Securities Commissions published proposals for common European standards for alternative trading systems (ATSs). The need for new standards arises from the fact that existing rules for the conduct of business do not fully address the particular risks posed by the specific nature of services provided via ATSs. The standards aim to ensure that users of ATSs are adequately protected and that market integrity is ensured, concentrating on the areas of authorisation/registration, transparency, reporting rules, and prevention of market abuse.

US SIA endorses best practice code for research analysts

The US Securities Industry Association endorsed a compilation of best practices to be followed by brokerage firms to ensure the integrity of securities research and analysis. The best practices were compiled by a committee of senior research professionals from the Association's 14 largest firms. The guidelines come in response to public criticism of the integrity of firms'

[8] The FATF is an independent international body and its secretariat is housed at the OECD.

[9] See the August 2000 issue of the *BIS Quarterly Review* for a more detailed treatment.

research and concern that the work of analysts is subordinated to the need to win underwriting mandates or corporate finance business. They address all aspects of the role of research departments within firms to ensure that research is objective, independent and of the highest integrity. Key recommendations of the report include that: research departments should not report to investment banking or any other business units that might compromise their independence; analysts should be encouraged to indicate both when a stock should be bought and when it should be sold; analysts should not trade against their own recommendations and should disclose their holdings in companies they cover; and analysts' pay should not be directly linked to investment banking transactions, sales, and trading revenues or asset management fees.

US CFTC approves new type of futures market

The CFTC announced that it had approved the application of BrokerTec Futures Exchange, LLC, for designation as a contract market. BrokerTec said that it would introduce futures on US Treasury notes in the third quarter of 2001. The Commission made the approvals under the Commodity Exchange Act, as amended by the CFMA. The new Act facilitates the establishment of contract markets in securities futures by national securities exchanges, national securities associations, or alternative trading systems.

Eurex introduces position limits on certain futures

Eurex, the German-Swiss derivatives exchange, introduced position limits for the September 2001 contracts in capital market futures. This measure was aimed at supporting the early rollover of open positions into the next contract cycle. The position limits, which were set in relation to the issue size of the cheapest-to-deliver bond, apply to long positions held by market participants (separated according to proprietary and customer trading positions). As an additional change favouring the flexibility of securities delivery, Eurex reduced the penalty for late deliveries in certain settlement cycles.

Spanish stock and derivatives exchanges unify their markets

Representatives of Spain's stock and derivatives exchanges, and of their clearing and settlement systems, signed an accord creating a new unified holding company to be known as Bolsas y Mercados Españoles. Creation of the holding company will require legislation and valuation of the separate entities. The holding company will eventually seek a stock market listing and perhaps seek an alliance with other European exchanges.

## Chronology of major structural and regulatory developments

| Month | Body | Initiative |
|---|---|---|
| April 2001 | Basel Committee on Banking Supervision | Releases the results of its 1999 survey of public disclosures by banks |
| | Multidisciplinary Working Group on Enhanced Disclosure | Issues a report recommending improvements to the disclosure practices of financial intermediaries |
| | European Commission | Presents proposals for a Directive on group-wide supervision of financial conglomerates |
| | International Swaps and Derivatives Association (ISDA) | The Credit Derivatives Market Committee of ISDA announces a framework for debt restructurings under credit default swaps |
| May 2001 | Basel Committee on Banking Supervision | Releases a document discussing risk management practices in e-banking |
| | Working Group on Cross-Border Banking of the Basel Committee on Banking Supervision | Releases a proposed statement on mutual cooperation between banking supervisors |
| | EU Council of Ministers and European Parliament | Adopt a Directive to modernise EU accounting rules |
| | European Commission | Proposes Directives on (i) insider dealing and market manipulation, and (ii) single passport for issuers |
| | US Commodity Futures Trading Commission and US Securities and Exchange Commission | Announce proposals for joint rules relating to securities futures trading |
| June 2001 | Basel Committee on Banking Supervision | Announces a revised timetable for completion and implementation of the new Basel Capital Accord |
| | US Securities Industry Association | Endorses best practice code for research and analysis by brokerage firms |
| | Government of Canada | Introduces legislation reforming the country's financial sector |
| | Financial Action Task Force on Money Laundering | Updates its list of non-cooperative countries in its fight against money laundering |
| | European Commission | Creates a European Securities Committee and a Committee of European Securities Regulators |
| | Forum of European Securities Commissions | Publishes proposals for common European standards for alternative trading systems |
| | US Commodity Futures Trading Commission | Approves the application of BrokerTec Futures Exchange as a US contract market |
| | Eurex | Introduces position limits for capital market futures and reduces the penalty for late delivery of securities |
| | Spanish stock and derivatives exchanges | Sign an accord creating a new unified holding company |