

1. Overview: concerns about transparency cloud market optimism

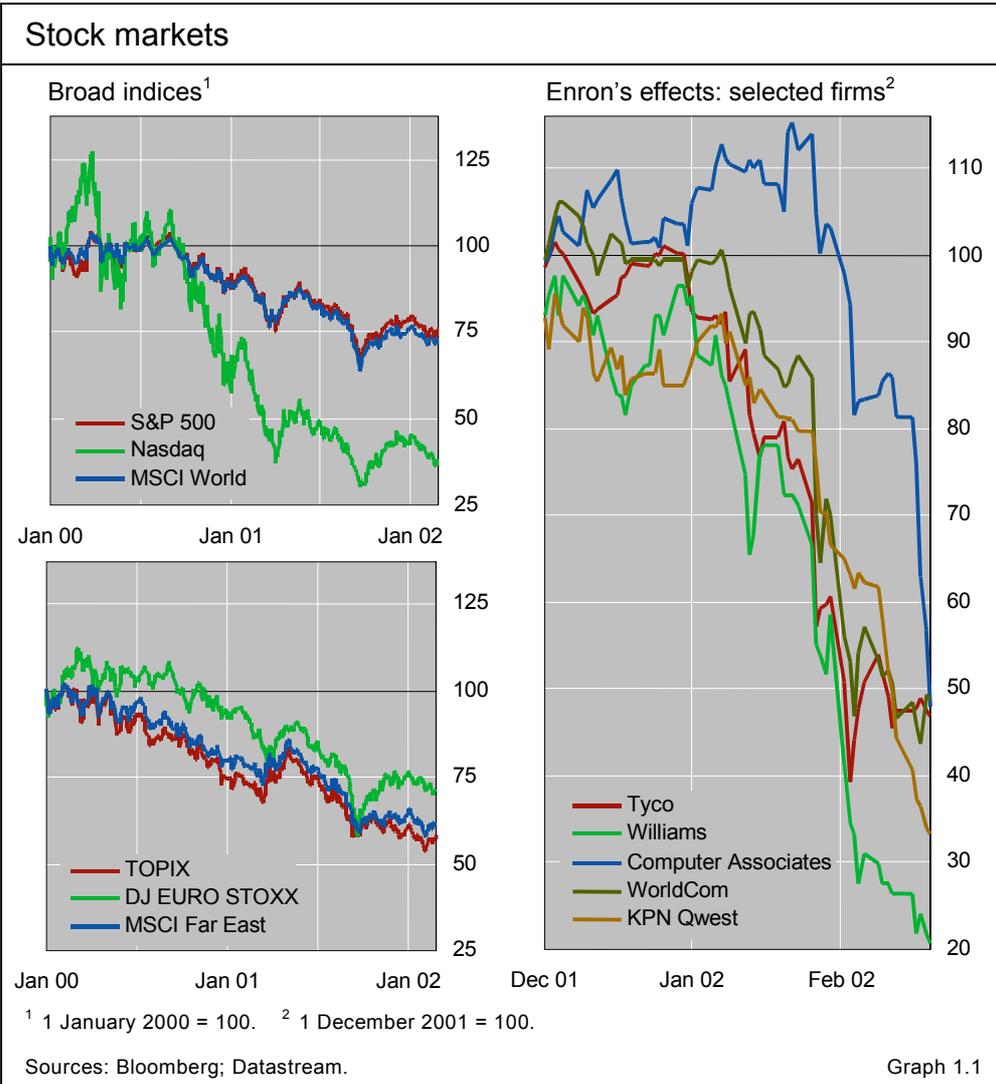
In the closing months of 2001, investors worldwide reversed the flight to quality and safety that had started in the summer and took positions in anticipation of an imminent economic recovery. The December 2001 issue of the *BIS Quarterly Review* noted the resilience of markets in the aftermath of the terrorist attacks of 11 September. In the ensuing weeks, resilience turned to optimism, and many of the major stock markets rallied in the closing months of the year, despite weak earnings reports and several prominent corporate defaults. Starting in early November, a similarly positive mood took hold in fixed income markets, resulting in narrower corporate credit spreads and steeper yield curves in the US dollar and euro markets. Equity and debt markets in emerging economies were also generally buoyant, with investors undeterred by problems in Argentina.

By early January 2002, both equity and bond prices in most countries incorporated expectations of a fairly strong recovery beginning around the middle of the year. Investors drew encouragement from the monetary easing by the Federal Reserve and the ECB, from macroeconomic indicators that gave tentative signs of improvement or had at least stopped deteriorating, and from unexpectedly rapid progress in the US-led military effort in Afghanistan. Among industrial countries, Japan did not share in the general turn towards optimism. In the first two months of 2002, investors grew increasingly sceptical about the prospects for significant financial restructuring and an end to recession in Japan in the near future.

In late January and early February, a stream of revelations about the circumstances behind the collapse of a large US corporation shook the confidence of market participants. Global markets gave up significant gains as concerns grew about the reliability of corporate disclosures on earnings and debt. As details emerged regarding aggressive accounting practices and flawed internal governance, they prompted broader doubts about the integrity of information supporting financial markets. Investors punished the stocks and debt of highly leveraged firms and of companies that showed relatively poor transparency in their accounting statements.

The first week of March 2002 saw signs of renewed optimism that extended even to Japan. In the United States and Europe, market participants turned their attention to a surprisingly strong revised US GDP figure for the fourth quarter that suggested an early recovery. In Japan, the fact that Sato Kogyo, a construction firm, was allowed to fail was taken as a sign of a healthy new process of corporate restructuring, and this helped buoy the equity market.

International debt and equity issuance rebounded in the fourth quarter compared with the third, though activity for 2001 as a whole was substantially below the levels seen in 2000. Large corporations continued to replace short-term borrowings with longer-term obligations, thus locking in stable financing but at a higher cost. Finding the commercial paper market inhospitable, some newly downgraded borrowers turned to the bond market. Despite the crisis in Argentina, public and private sector issuers in the emerging economies were able to access the international securities and syndicated credit markets, though the volume of flows remained limited because of the weak global economy.



Stock markets sustain a rally

Stock markets rally ...

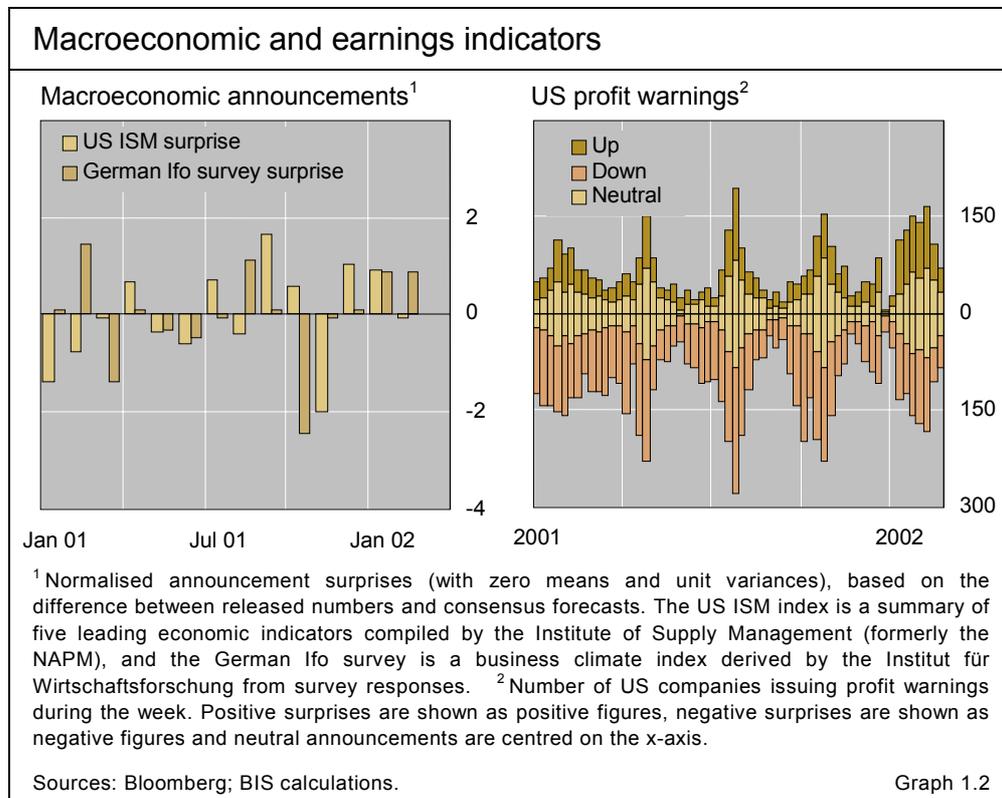
The stock market rally that started in late September 2001 and continued into early January 2002 was the longest sustained rally since April 2000 (Graph 1.1). The 11 September terrorist attacks had come after a series of unfavourable economic indicators had already caused severe weakness in global stock markets. After falling sharply in the two weeks following the attacks, stock prices had regained pre-attack levels by mid-October. By mid-November, the Nasdaq Composite had risen 33.5%, the S&P 500 Index 18.3% and the MSCI World Index 18.1% from their late September lows.

... despite initially disappointing macroeconomic news ...

The equity markets achieved these gains in spite of disappointing news about the global economy from the traditional indicators. The US non-farm payrolls figure released in early November, for example, showed a decline of 415,000 jobs in October, and the ISM survey for that month showed an unexpectedly low reading of 39.8 (Graph 1.2). In November, the National Bureau of Economic Research confirmed that the US economy had been in recession since March. Market participants seemed to interpret this announcement, in conjunction with the fact that the 10 US recessions from 1945 to 1991 averaged 10 months in length, as further evidence that the economy had reached bottom and a recovery was imminent.

... and are later supported by more upbeat figures

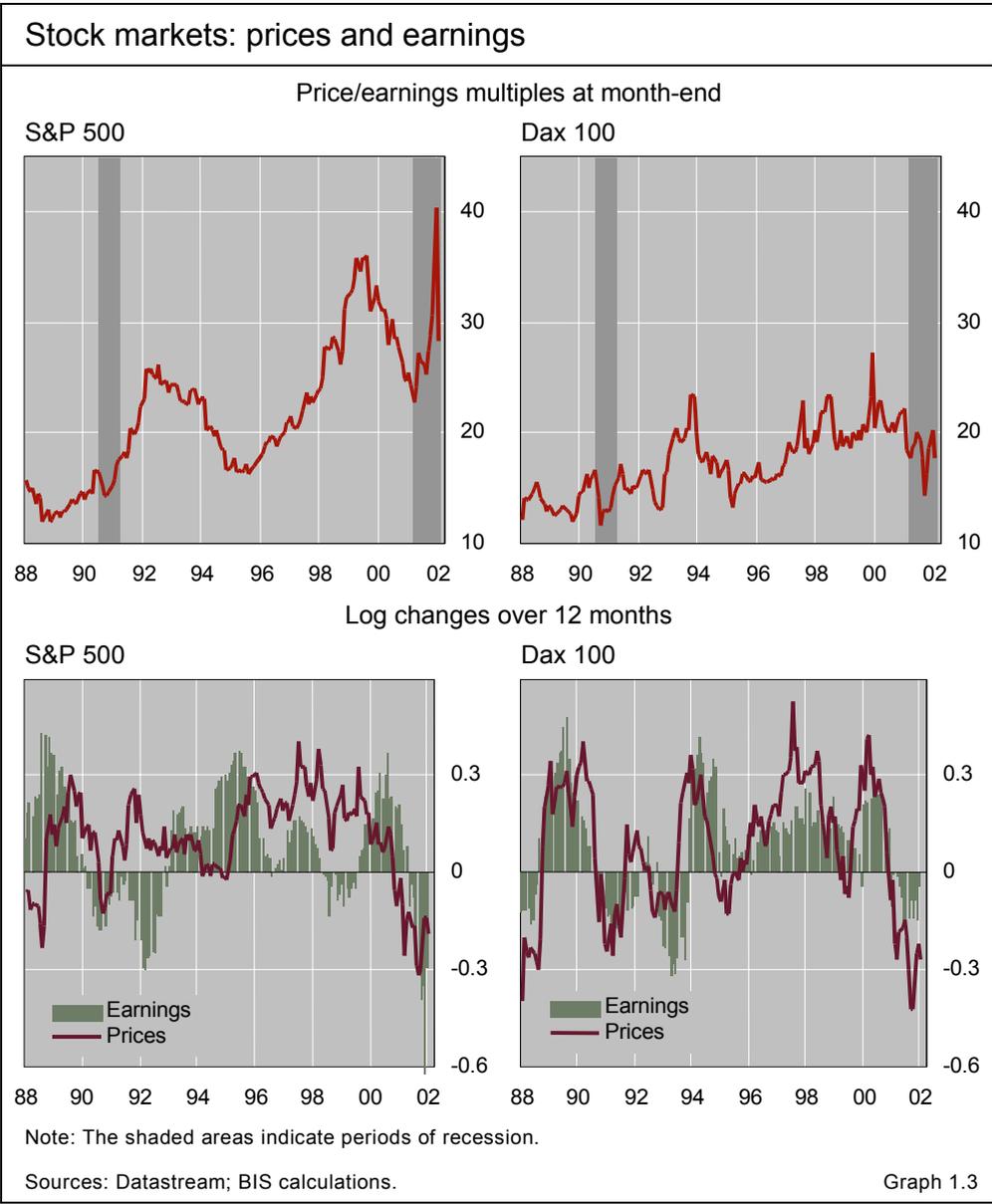
As the fourth quarter continued, investors grew increasingly confident that policy rate cuts by the Federal Reserve, the ECB and other central banks, as well as fiscal expansion in the United States, would ensure a prompt recovery. The Federal Reserve in particular had reduced its policy rate by a total of 150



basis points in three moves within two months of the attacks. This view seemed to be borne out by surprisingly upbeat US and European macroeconomic figures released in November and December and by the preliminary estimate that US GDP had grown in the fourth quarter, albeit by a very small amount. Corporate earnings news also supported this shift in sentiment. In contrast to the experience during most of 2001, when announced earnings were more likely to be below expectations than above, there was a roughly equal balance between positive and negative earnings surprises at the end of 2001 and beginning of 2002.

A remarkable feature of the US market was the unusually high levels reached by price/earnings multiples. In early January 2002, the price/earnings multiple for the S&P 500 briefly exceeded the levels it had reached at the peak of the equity price boom in April 2000. One might expect price/earnings ratios based on lagged earnings to rise towards the end of a recession, as the market

High price/earnings ratios ...



anticipates a jump in profits during the recovery. However, even by this standard the ratios in early 2002 seemed unusually high. In the last three months of the 1990–91 US recession, for example, the ratio was only 18 (Graph 1.3).

... reflect one-time writedowns and forward-looking optimism

In contrast to earlier experience, the higher multiples in the fourth quarter of 2001 resulted from unusually sharp declines in earnings rather than rising stock prices. During the 1990–91 recession, earnings fell by roughly a third, compared with the 47% decline in earnings from December 2000 to December 2001. A significant portion of the sharp decline in earnings in the fourth quarter reflected “one-time items”, such as restructuring charges and writedowns of goodwill associated with earlier acquisitions. In other words, multiples were boosted not only by the optimistic mood but also by companies’ efforts to write off past unwise investments at a time when the market’s attention is focused primarily on the future outlook for operating earnings. The high price/earnings multiple thus pointed to two key assumptions underlying market valuations: first, that operating earnings would recover much more strongly than they had in past recoveries and, second, that future instances of investment overvaluation (necessitating eventual asset writedowns) would be less severe.

Enron shakes market confidence

Markets are sensitive to Enron-related news ...

The events that had the most pronounced adverse effects on stock markets in the fourth quarter were related to the worsening finances and eventual bankruptcy of the energy concern Enron. On 16 October, Enron revised its reported net income over four years by a total of \$591 million and reduced its shareholder equity by \$1.2 billion to reflect losses for transactions with various partnerships (see box on page 6). This news caused the Nasdaq Composite to fall by 4.4% and the S&P 500 by 1.9%. The markets dropped sharply again on 29 October, the Nasdaq Composite losing 3.9% and the S&P 500 2.4%, on news that Moody’s had downgraded Enron’s debt to Baa2. Still, this rating attached only a 0.16% probability of default within a year. Enron would in fact declare bankruptcy within little over a month.

... and to transparency issues more broadly

Releases in January and February of financial statements by various firms and reports of investigation by authorities prompted significant market-wide declines. Coming soon after reports that the auditing firm had shredded documents related to Enron, the declines seemed to reflect concerns about the transparency of individual disclosures and a more general unease about the integrity of the information underpinning financial markets. To market participants, one of the most disturbing aspects of Enron was the use of transactions with partnerships that were structured to produce favourable accounting results. Details about the nature of these transactions – which had apparently continued for four years – and allegations about the role of the auditing firm affected the Nasdaq market more than the S&P 500. Evidently, investors perceived that the technology firms constituting a large part of the Nasdaq were more likely to be aggressively managing their reported earnings,

Three partnerships and the rise and fall of Enron

Three months after the failure of Enron, it remains unclear when and how the US energy trading giant gained and lost from misstating its financial reports. To date, the most comprehensive information available is contained in the Powers Report, a 203-page report by a special committee of the company's board of directors. According to this report, Enron created entities that were structured to "accomplish favourable financial statement results, not to achieve bona fide economic objectives or to transfer risk."^① The discussion below draws largely on that report to characterise these entities and pieces together other information to reconstruct some of the events leading to the rise and fall of Enron.

Three partnerships

Enron created three main partnerships to enhance its financial statements (see summary table below). The first partnership, Chewco, was formed in December 1997. Its purpose was to keep off Enron's balance sheet a merchant investment, the Joint Energy Development Investment (JEDI). In June 1999, Enron formed a second partnership called LJM1. This partnership was used to create a special purpose vehicle (SPV), Swap Sub, which in turn served as a counterparty for hedging transactions. The transactions took the form of put options, which were supposed to protect Enron's investment in Rhythms, a privately held internet service provider. The last partnership, LJM2, was formed in October 1999 and was used to create four SPVs, called the Raptors, which served as counterparties for several hedging transactions. These transactions were supposed to hedge various merchant investments, including TNPC, a power delivery company.

The partnerships had in common a fatal flaw. Not one of them was truly independent of Enron. In the case of Chewco, its independence, from a technical accounting standpoint, required that outside partners contribute an equity stake of \$12 million. This stake was almost entirely financed by a bank loan. The loan, however, was secured by collateral of \$6.6 million in cash from Enron, effectively keeping the energy trading firm at risk. In the case of LJM1 and LJM2, Enron supported both partnerships by providing them with its own shares and options on the shares. The partnerships in turn relied on the shares and options to capitalise Swap Sub and the Raptors. This meant that the financial viability of these SPVs depended critically on Enron's shares maintaining their value. The SPV that Enron used as a counterparty for hedging its investment in TNPC was itself supported by warrants on TNPC, which ensured that it would be structurally unable to deliver on the hedge. In hedging with Swap Sub and the Raptors, Enron was in effect hedging with itself.

The rise

At first, the accounting results provided by the partnerships seem to have had little discernible impact on Enron's stock price. In 1998 and 1999, the stock barely kept up with the US market as a whole (see graph). It was in 2000 that the firm's stock price began to surge. In the first three months of that year, Enron's stock rose by 72% while the S&P 500 Index went up by only 3%. This share

Three partnerships and their effect on Enron's reported earnings

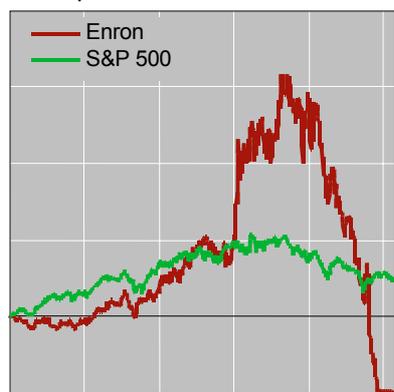
Creation date	Partnership/SPV	Related investments	Cumulative earnings overstatement
December 1997	Chewco	JEDI	\$405 million
June 1999	LJM1/Swap Sub	Rhythms	\$102 million
October 1999	LJM2/Raptors	TNPC and others	\$1,077 million

Sources: Powers Report; BIS calculations.

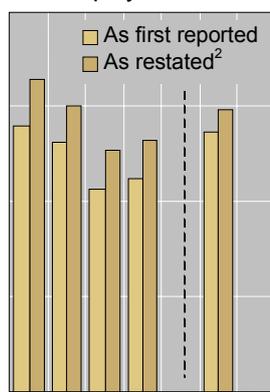
^① See *Report of investigation by the special investigative committee of the board of directors of Enron Corp* (the Powers Report), 1 February 2002.

Enron's accounting and stock price

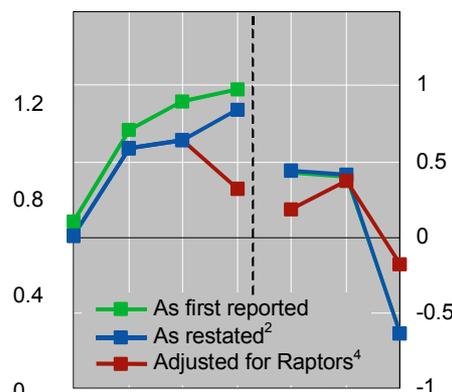
Stock price¹



Debt/equity ratio



Net income³



1997 1999 2001

97 99 01 Q2

97 99 01 Q1 01 Q3

¹ 1 January 1997 = 100. ² On 8 November 2001. ³ In billions of US dollars. ⁴ Based on the Powers Report, p 133.

Sources: Bloomberg; Enron SEC filing.

price would have reflected the earnings performance the company reported up to the end of 1999. For that year, it reported a 27% rise in net income. This rise, however, was in effect largely due to the role of both Chewco and LJM1 in hiding the losses sustained on the JEDI and Rhythms investments. If not for this accounting overstatement, income would have grown by only 9%, a third of what was reported. At end-1999, the company also initially reported debt of \$8.1 billion. An accounting restatement would push up this debt to \$8.8 billion, raising the debt/equity ratio from 0.85 to 1.01.

Even after the internet bubble started to burst in April 2000, Enron's stock continued to perform impressively. In July, the company announced a 20-year deal with Blockbuster, a large video rental firm, to provide video service over the internet. In August, Enron's stock price reached its peak. For 2000 as a whole, the stock gained 91% in value, while the S&P 500 lost 9%. For that year, Enron at first reported an earnings increase of 10%. Again this increase did not reflect losses that were accumulating in the three partnerships. This time, the bulk of the losses stemmed from TNPC and the other investments that were supposedly hedged through LJM2 and the related Raptors vehicles.

The fall

Enron's stock price started to slide precipitously in 2001. As the year began, some blamed the energy trading firm for a power crisis in California. In March, the video deal with Blockbuster was cancelled. As Enron's stock continued to decline, it became increasingly clear that the partnerships were no longer technically viable. On 16 October, Enron surprised investors by announcing an after-tax charge against earnings of \$544 million and a reduction in shareholder equity of \$1.2 billion. These adjustments served to recognise the losses hidden through LJM2 and the Raptors. Having already declined by 59% since the start of the year, the firm's stock price proceeded to drop by a further 72% over the next three weeks. On 8 November, Enron announced that it was restating its financial reports retroactively to 1997 to reduce its net income by a total of \$591 million over the four years. This restatement reflected losses that had been concealed through the Chewco and LJM1 partnerships.

In the ensuing 15 trading days, the stock price fell virtually to zero. On 9 November, Enron agreed to sell itself to Dynegy, a smaller competitor. On 20 November, the firm revealed a \$690 million loan repayment coming due. On 28 November, both Moody's and Standard & Poor's downgraded Enron's debt to "junk" status, and Dynegy called off the takeover deal. On 2 December, the company filed for bankruptcy.

particularly through the accounting treatment of acquisitions. Indeed, on 29 January 2002, the Nasdaq Composite fell by 2.6% on news of accounting questions about a number of firms. Nonetheless, some of the steepest price declines during the two-month period were suffered by such companies as Tyco (a diversified conglomerate), Williams (an energy pipeline company) and WorldCom (a global communications firm).

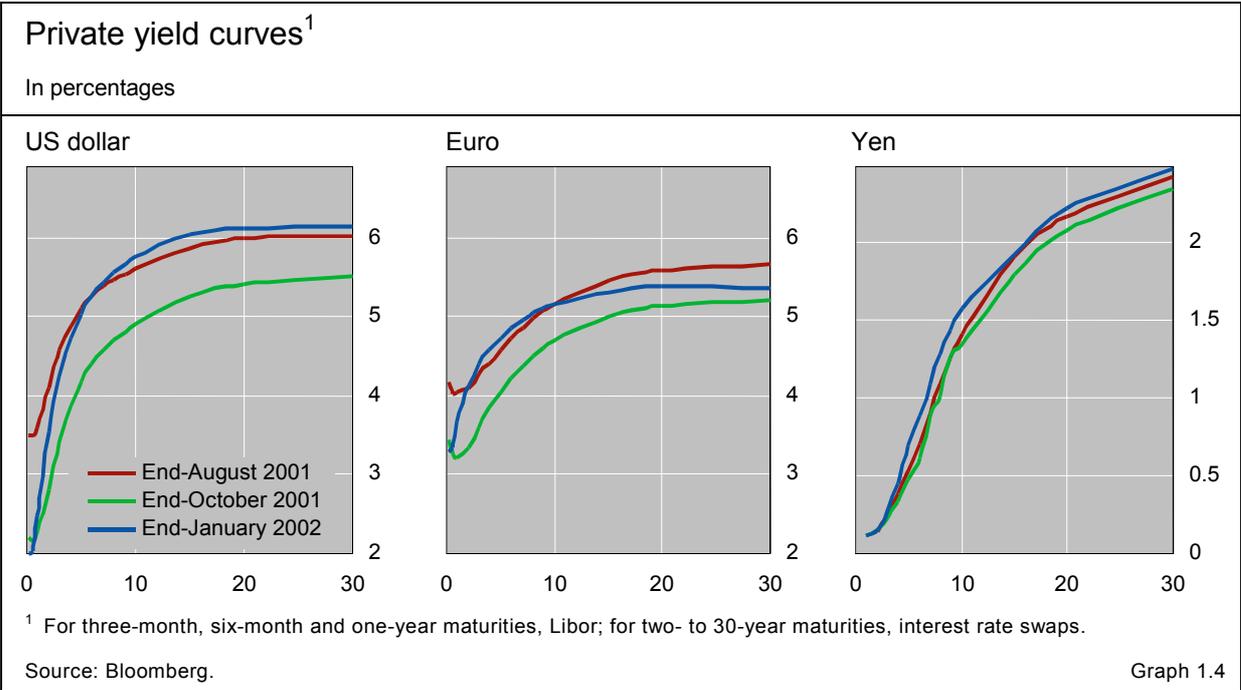
Yield curves reveal expectations of a strong recovery

The optimistic mood in equity markets started to become evident in fixed income markets in early November last year, when the slopes of yield curves in the United States and the euro zone became unusually steep. From early September to the end of October, three-month US dollar yields declined by 120 basis points and 10-year swap yields by 75 basis points (Graph 1.4). In the last two months of the year, short-term yields continued to fall, spurred by cuts in the Federal Reserve’s target for the federal funds rate on 6 November and 11 December. Over the same period, yields at two years and above rose back to pre-11 September levels. By year-end, the gap between 10-year and three-month yields in US dollars was at its highest level since early 1994, even though long yields themselves remained close to the lows reached in the autumn of 1998 (Graph 1.5).

Steeper dollar and euro yield curves point to an anticipated recovery ...

The run-up in US long-term yields starting in early November was triggered by positive economic indicators, such as surprisingly strong growth in retail sales and declining unemployment insurance claims. In addition, the military successes of the anti-Taliban coalition in Afghanistan contributed to a reversal of safe haven flows and eased fears of a long and uncertain struggle.

... and a reversal of safe haven flows



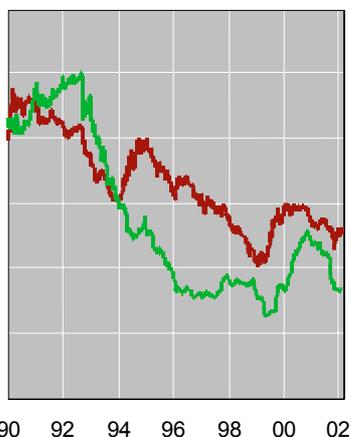
Swap rates and Libor

In percentages

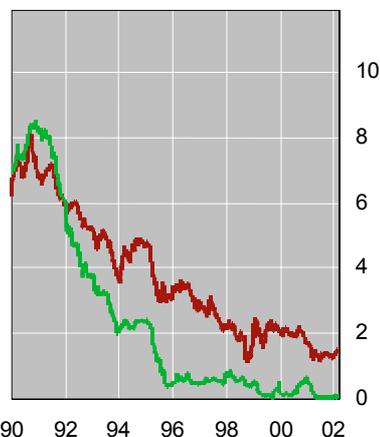
US dollar



Euro¹



Japanese yen



¹ Prior to 1999, Deutsche mark.

Sources: Bloomberg; Datastream.

Graph 1.5

The gap between two-year and three-month Treasury yields jumped from 40–60 basis points in October to around 140 basis points in December, indicating that market participants had brought forward the date at which they anticipated a return to a somewhat tighter monetary policy stance in the United States. Rising long-term yields on government bonds may also have reflected looser fiscal policy. However, the fact that swap yields rose even more than government bond yields in November and December suggests that factors more fundamental than supply conditions in the Treasury market were the primary source of the increase in yields in late 2001 and early 2002. The process by which dealers in mortgage-backed securities adjust the durations of their portfolio hedging positions in response to changes in bond yields may also have contributed to the sharp run-up in bond yields at the end of 2001 (see “Derivatives markets” on page 32).

An end-October rally in the 30-year US Treasury bond, while momentarily dramatic, in fact provided a further illustration of the complex role of supply factors in the fourth quarter. Thirty-year Treasury yields fell sharply after it was announced on 31 October that new issuance of the instrument would be suspended. However, this rally only caused the 30-year yield to catch up with post-11 September declines in the 10-year yield. As a result, the gap between 30-year and 10-year yields, which had widened considerably in late September as 10-year yields fell and 30-year yields did not, returned to the levels which had prevailed during the first eight months of 2001. Similarly, spreads between 30-year swap and Treasury yields widened sharply after the Treasury announcement, but only so far as to bring them back to pre-11 September levels.

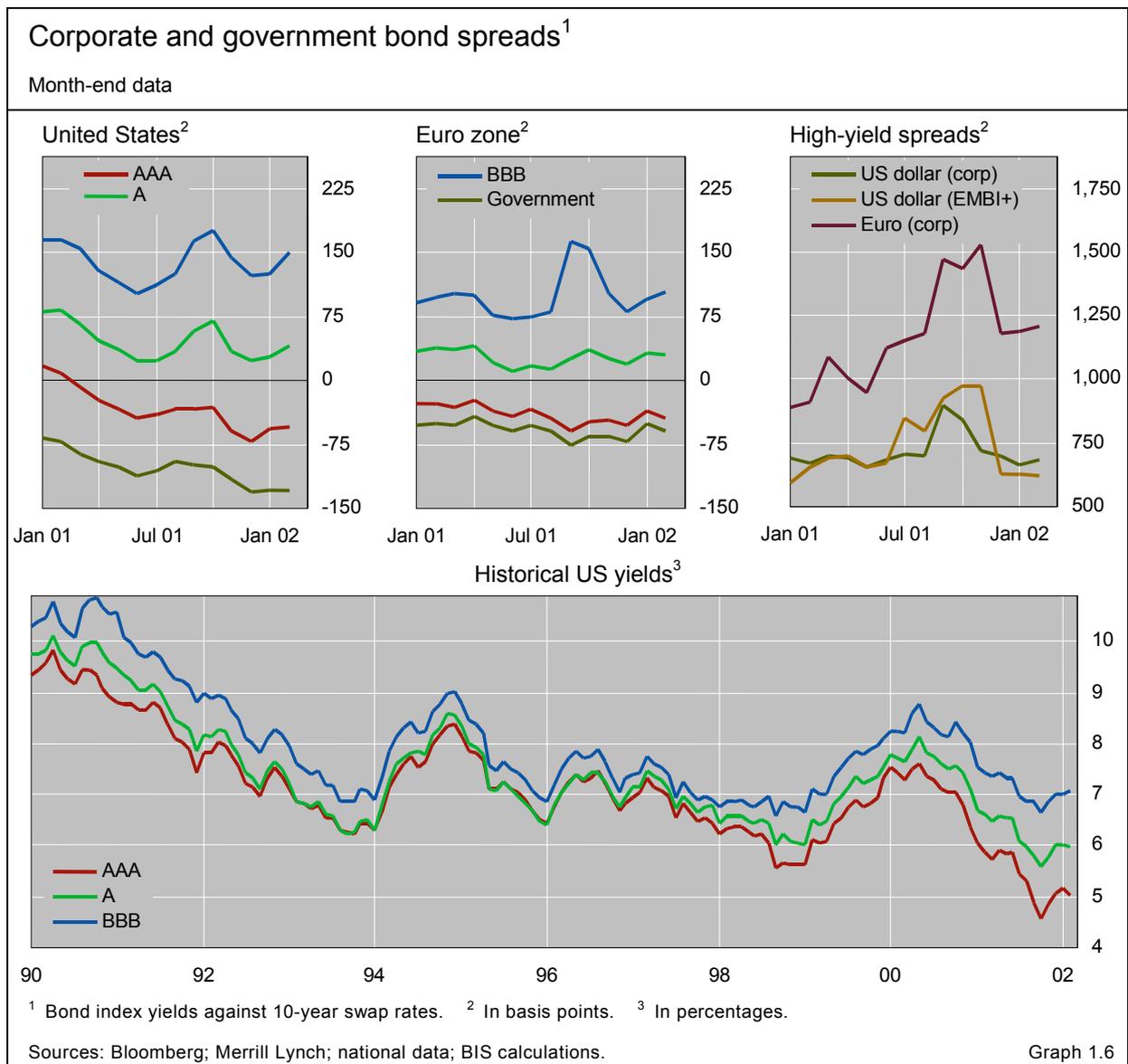
Supply factors play a role

Yields in the euro zone closely tracked those in the United States. This reflected the cut in the ECB's main refinancing rate on 8 November and the widespread perception that transatlantic macroeconomic developments would remain linked in the near future. However, the slope of the euro yield curve, in contrast to the dollar curve, was not unusually steep by historical standards (Graph 1.5). The weakness of the euro against the dollar, which became more pronounced in the new year, was also consistent with the widespread perception that recovery would occur later, and perhaps less strongly, in the euro zone than in the United States.

Steepening of the euro yield curve reflects transatlantic linkages ...

The yield curve also steepened in Japan. Ten-year yields rose 17 basis points, from a very low base, from the end of October 2001 to the end of January 2002, while short rates stayed virtually unchanged. In contrast to the United States and the euro zone, this did not seem to reflect optimism about recovery. Rather, there was renewed apprehension about the health of the

... while a steeper yen yield curve points to greater risk aversion

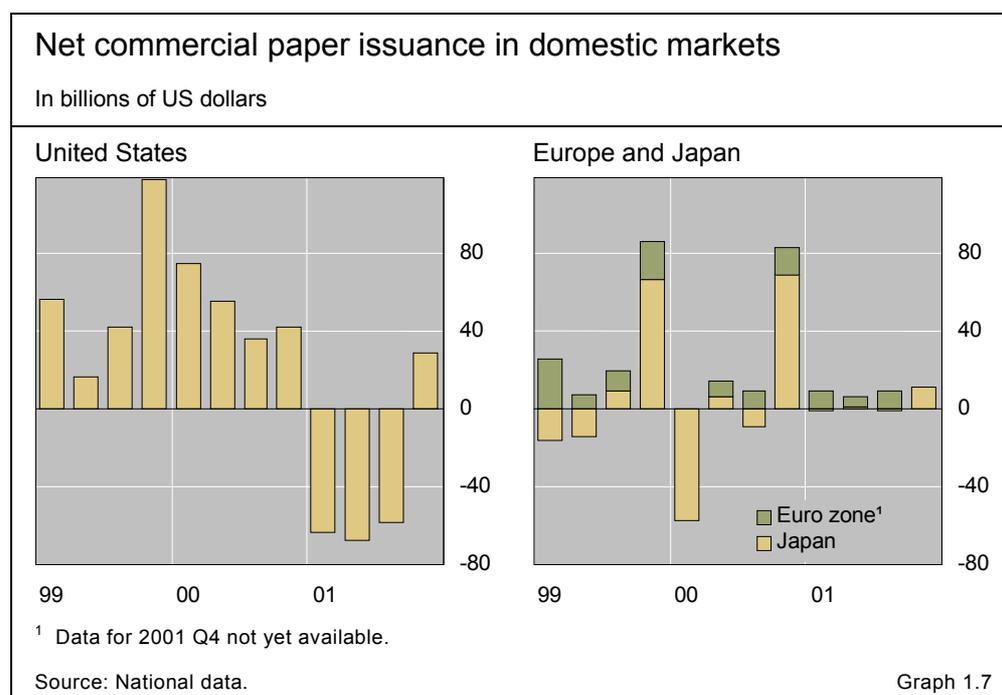


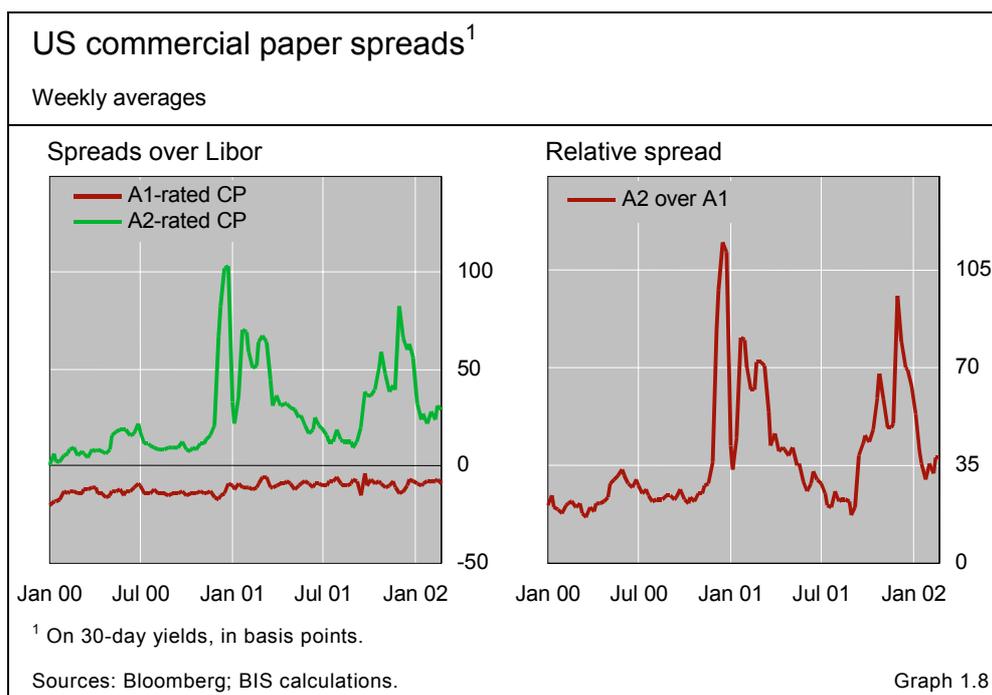
banking sector, given the negative impact of declining stock prices on bank balance sheets and uncertainty about the consequences of the scheduled reduction in the coverage of bank deposit insurance after 31 March. As a result, some investors appear to have adopted a more wary stance towards yen assets, including long-term government bonds. The major credit rating agencies also became increasingly sceptical. Moody's decided on 4 December to lower Japan's domestic debt rating by one notch, then announced on 13 February that it was considering a further two-step downgrade. Following the failure of Enron and problems in Argentina, Japanese investors became very reluctant to purchase foreign securities denominated in yen, with the result that net issuance of yen-denominated international debt securities turned negative in the fourth quarter (see Table 3.3 on page 30).

Long-term credit markets are strong while short-term markets are turbulent

Optimism contributes to narrower corporate credit spreads

Despite several prominent corporate defaults and rating downgrades, corporate credit spreads narrowed over the last two months of the year, reversing the trend towards wider spreads that had dominated the third quarter (Graph 1.6). Moody's reported that the default rate continued to rise up to December, but also forecast that defaults would stabilise early in the new year and then decline. Investment grade borrowers, even those such as Ford and AT&T which had been downgraded by credit rating agencies, had no difficulties issuing long-term debt in the fourth quarter. Net issuance of international debt securities grew strongly relative to the previous quarter (see "The international debt securities market" on page 25). In late January and early February, credit





spreads widened again somewhat after a series of corporate defaults and revelations about questionable accounting practices at Enron. The debt of complex conglomerates and heavily leveraged borrowers was affected especially strongly.

Continuing a pattern noted in previous issues of the *BIS Quarterly Review*, net issuance of short-term debt on the international market was weak in the fourth quarter of 2001, even as long-term issuance, particularly by European borrowers, grew strongly. The outstanding stock of commercial paper (CP) in the US domestic market rose by \$28 billion in the fourth quarter, when issuance is typically strong, but declined \$161 billion during 2001 as a whole (Graph 1.7). This trend appears to have continued into the new year. In part, the decline in short-term debt issuance reflected the reduced needs by large corporations for inventory finance, given the cyclical downturn. The opportunity to lock in relatively low long-term yields, even at the cost of paying a premium over extremely low short-term rates, has also played a role.

For several large borrowers, however, CP issuance had become prohibitively expensive because of rating downgrades and increased investor risk aversion in the money market. Some of these borrowers turned to the bond market even for short-term funding needs. Credit spreads on CP, which had already grown volatile in the aftermath of the terrorist attacks in September, widened sharply after the default of Enron in November. They narrowed again in early January and were essentially stable thereafter (Graph 1.8). Some observers noted that banks, which traditionally support the functioning of the CP market by providing backup liquidity lines, have become more reluctant to do so recently. The reasons for this reluctance may have included the heightened riskiness of such commitments in a period of recession and, more

Borrowers continue to replace short-term debt with longer-term issues ...

... as commercial paper markets show signs of turbulence

generally, the increased attention that banks have begun to pay to the management of their potential credit risk exposures.

Credit derivatives markets seem to have responded smoothly to the large corporate defaults and to that of Argentina. These events represented perhaps the most significant test so far of this young market's ability to transfer default exposure effectively from protection buyers to protection sellers. Some questions had arisen as to whether Argentina's earlier exchange offer constituted an event of default, and whether securities received in an earlier exchange were deliverable under the contract terms. Nevertheless, participants appeared confident that issues such as these would be resolved and that the wider systemic impact would be small.

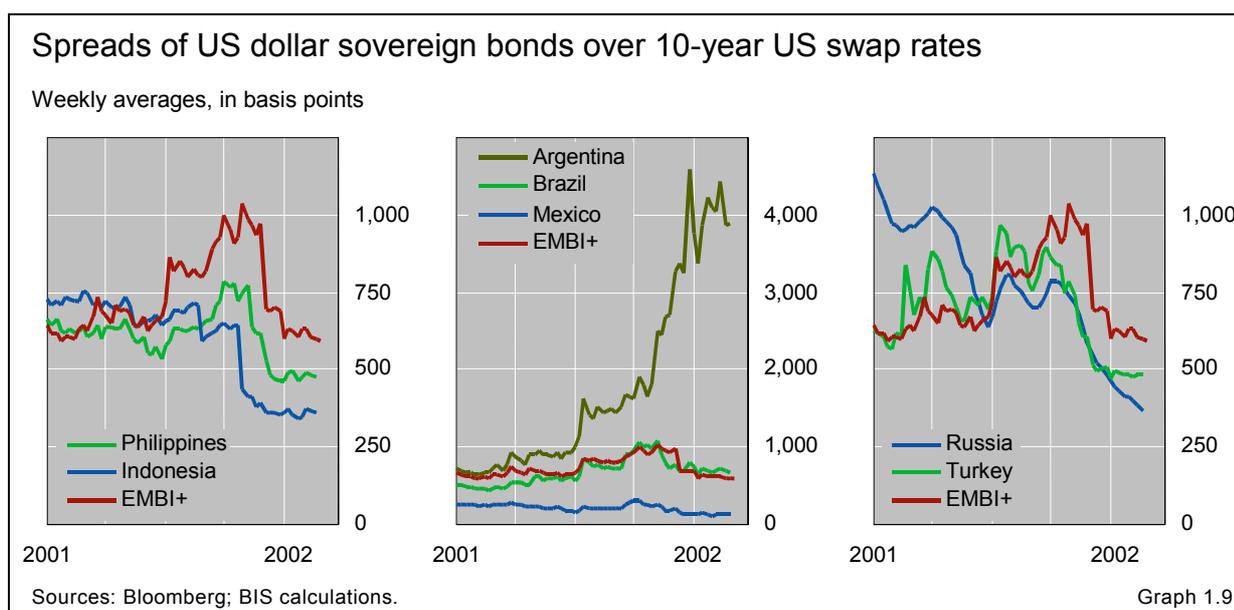
Sovereign spreads narrow despite Argentine default

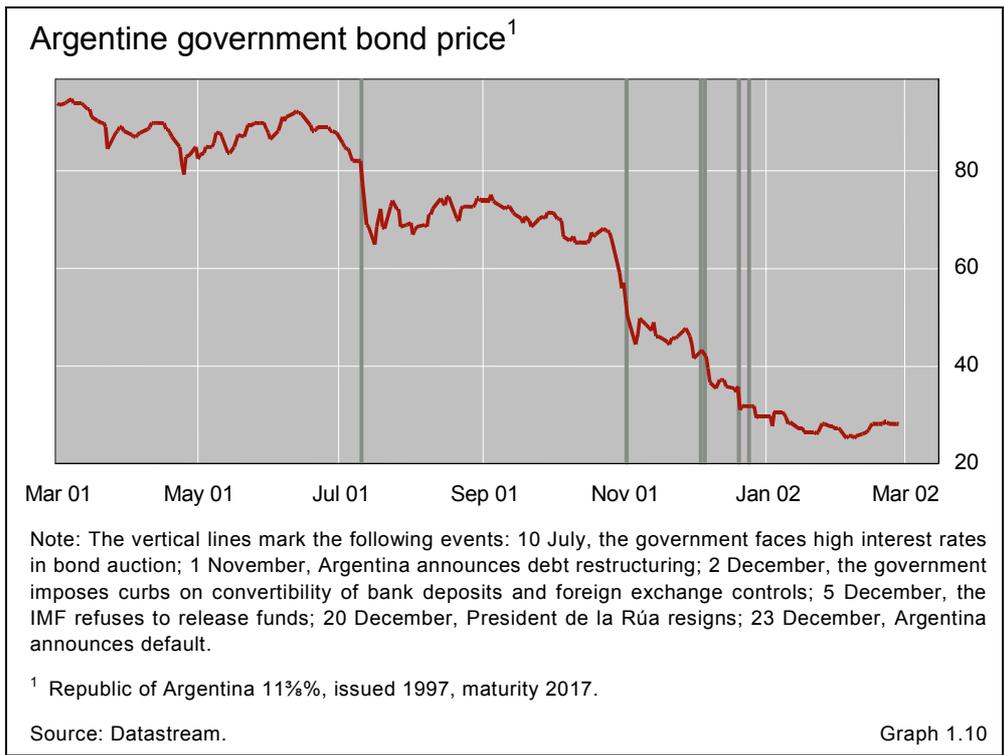
Emerging market sovereign spreads narrow ...

Increased confidence regarding prospects for a global recovery was also reflected during the fourth quarter in the prices of many emerging market securities, even as conditions in Argentina steadily worsened. In contrast to the third quarter, when investors had taken a cautious approach towards selected borrowers such as Brazil and the Philippines, spreads in the fourth declined for nearly all of the emerging sovereigns (Graph 1.9). In part this reflected the continuing rebalancing of portfolios out of Argentine obligations by emerging market-oriented investors. The fact that there does not seem to have been a substantial repricing of risk by these investors in response to the Argentine developments is significant.

... with new issuance by several Latin American countries ...

Indeed, some emerging economies were strongly favoured by investors throughout the unfolding of the Argentine crisis. While overall net securities issuance by emerging economies continued to be limited in the fourth quarter, several Latin American sovereigns were successful in bringing new issues





to the international market, including Chile, Colombia and Mexico. Mexican and Brazilian private sector borrowers also had little trouble obtaining syndicated bank loans (see “International syndicated credits: record activity in the energy sector” on page 24).

Investors also became more optimistic about the prospects for the East Asian economies, and in particular about a muted impact of the slowdown in the technology sectors on Asian exports. Korea’s stock market rose 33.2% in 2001, and 38.6% from 1 October onwards, while Taiwan’s stock market also showed strong gains. In the third quarter, net debt securities issuance by East Asian borrowers had been negative, announced international equity issuance had slowed, and loans to borrowers in the Asian emerging markets had contracted. Several Asian countries had also drawn down their deposits with overseas banks (see “The international banking market” on page 16). By contrast, in the fourth quarter international equity issuance by countries in the region recovered and net debt issuance was slightly positive. Korean private sector entities were especially active borrowers on the international bond and syndicated loan markets in the fourth quarter.

... and private sector entities in Korea

One reason for the limited impact of developments in Argentina on financial conditions in other emerging economies was the fact that markets had already priced in a high probability of sovereign default by Argentina for several months before the actual event (Graph 1.10). This stood in contrast to the case of Enron, where the extent of the company’s problems was not apparent until shortly before its default. The material probability of an Argentine default had been recognised by markets at least since 10 July 2001, when the government found itself obliged to pay unexpectedly high interest rates at a domestic bond auction. The country’s most actively traded bond fell by 5.1% on that occasion.

Developments in Argentina have a limited impact ...

... both in the run-up to the default and in its aftermath

The perceived risk of default rose further in November, when plans for the restructuring of the outstanding stock of government bonds were met with a negative investor response. It climbed again in early December, when bank accounts were frozen and the IMF, citing the slow pace of fiscal reform, delayed the further disbursement of funds under an earlier support agreement. The announcement in late December that the country would suspend payments on its foreign debt of \$132 billion followed strenuous attempts to defend the country's currency board and banking system, and a period of social and political turmoil.

In the first quarter of 2002, the new government struggled to craft a new policy framework involving, at first, a dual exchange rate regime and, subsequently, a freely floating (and much depreciated) currency. Yet despite the uncertain outlook, Argentina's problems did not seem to spread to other Latin American countries, nor did they cause significant disruption to the global financial system. Businesses with large exposures to Argentina, particularly foreign banks, would no doubt need to write down a portion of their operations. Nevertheless, most of the country's creditors appeared to have been successful in reducing their exposures to acceptable levels in the months preceding the default. As a result, they were able to absorb the default without having suddenly to sell off a large number of other sovereign bonds to cover Argentina-related losses.