BANK FOR INTERNATIONAL SETTLEMENTS

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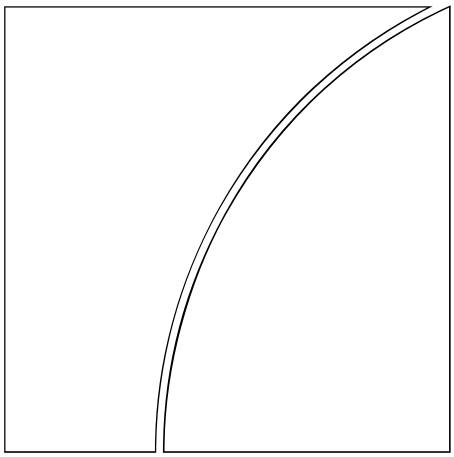
March 2002



International banking and financial market developments

BIS Quarterly Review
Monetary and Economic Department

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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

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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.

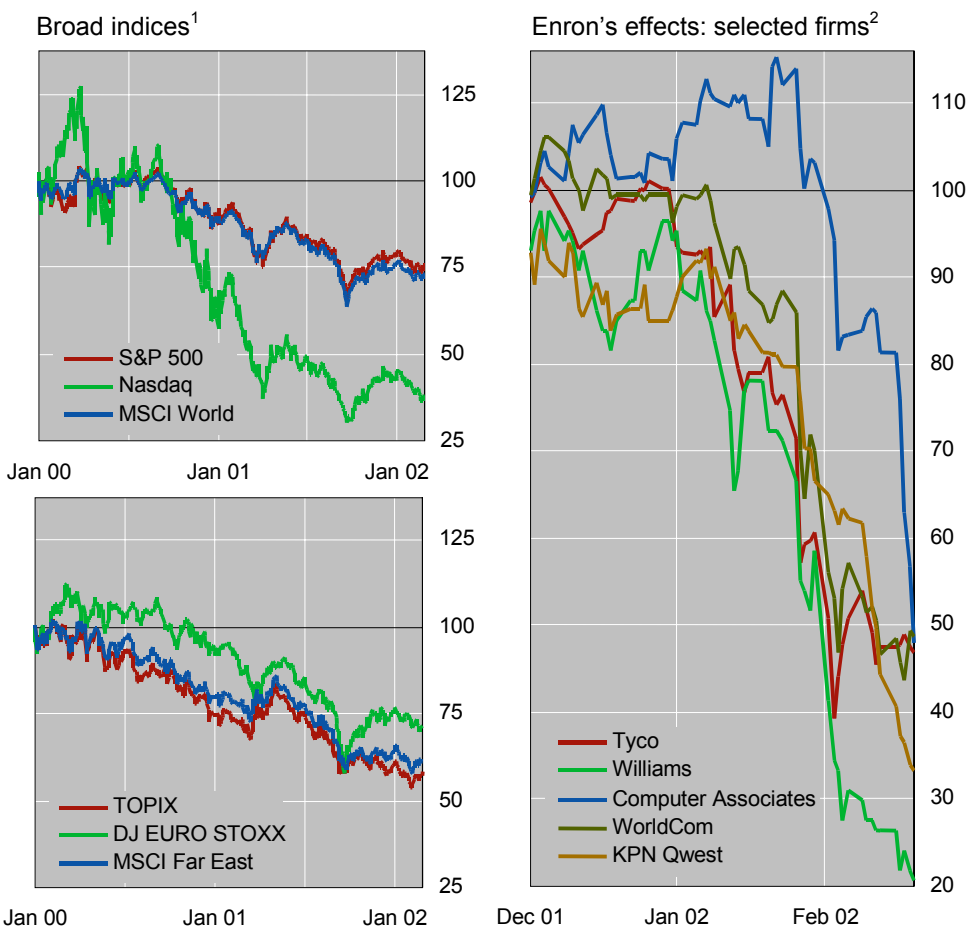
By early January 2002, both equity and bond prices in most countries incorporated expectations of a fairly strong recovery beginning around the middle of the year. Investors drew encouragement from the monetary easing by the Federal Reserve and the ECB, from macroeconomic indicators that gave tentative 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



[1] 1 January 2000 = 100. [2] 1 December 2001 = 100.

Sources: Bloomberg; Datastream. Graph 1.1

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.

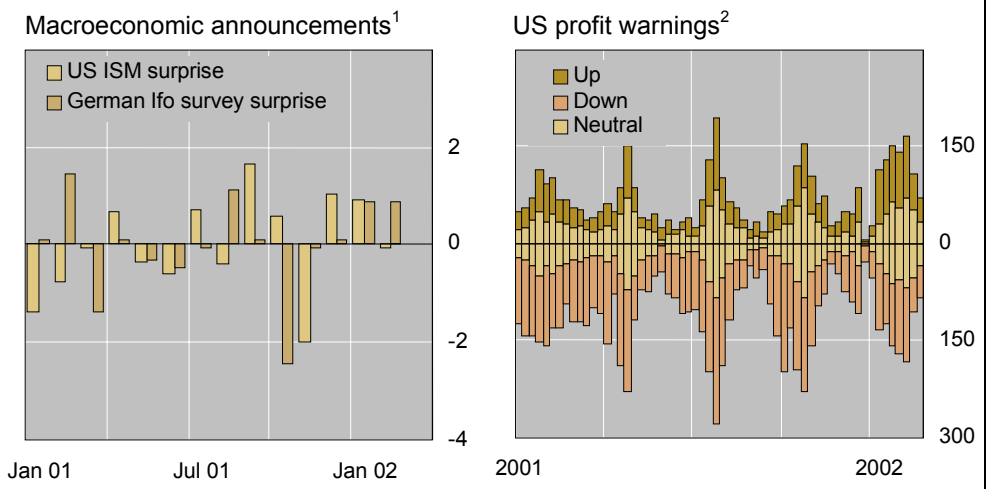
… despite initially disappointing macroeconomic news …

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

Macroeconomic and earnings indicators



[1] Normalised announcement surprises (with zero means and unit variances), based on the difference between released numbers and consensus forecasts. The US ISM index is a summary of five leading economic indicators compiled by the Institute of Supply Management (formerly the NAPM), 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.

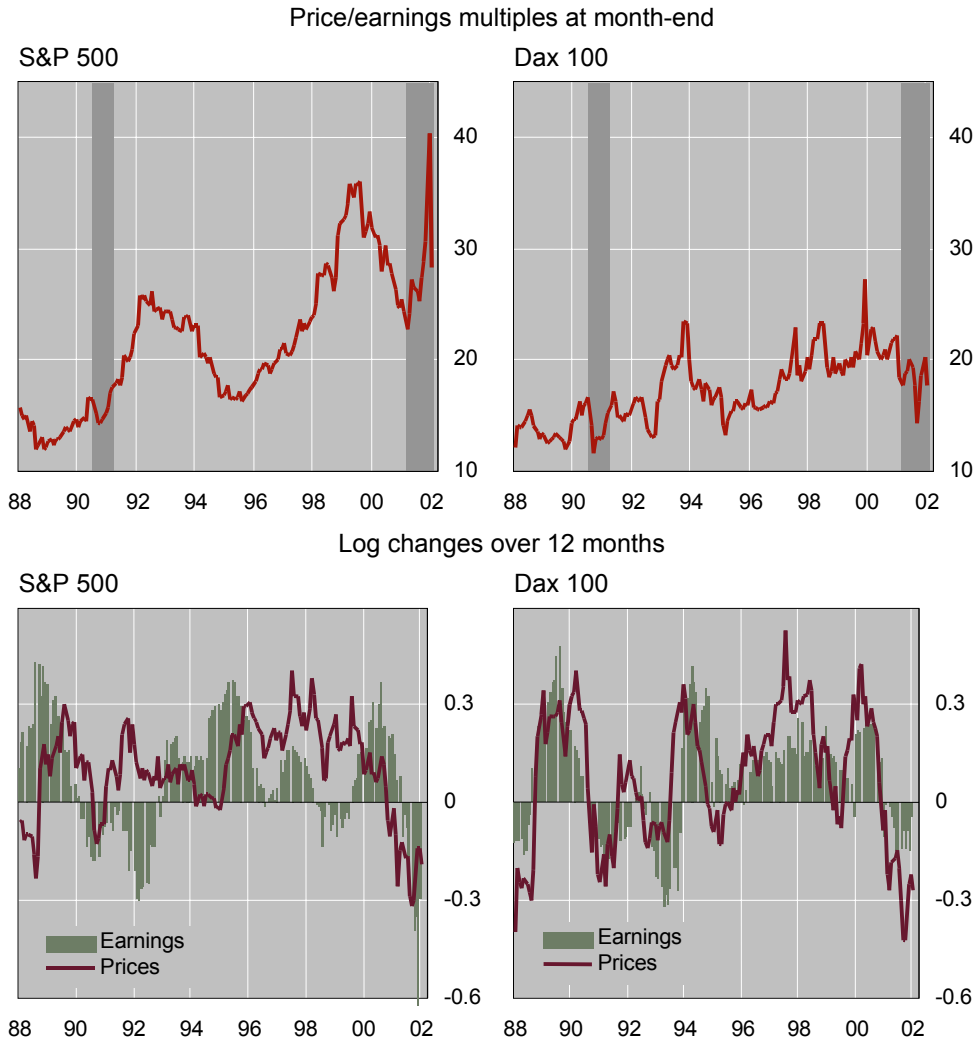
Sources: Bloomberg; BIS calculations. Graph 1.2

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.

High price/earnings ratios …

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

Stock markets: prices and earnings



Note: The shaded areas indicate periods of recession.

Sources: Datastream; BIS calculations.

Graph 1.3

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

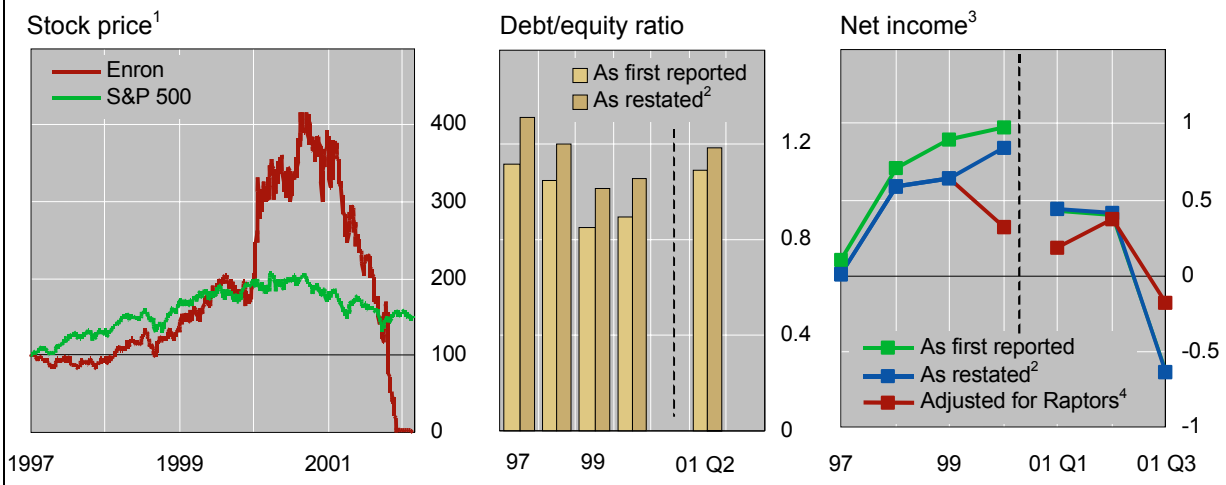
Three partnerships and their effect on Enron's reported earnings

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



[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 Dynergy, 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 Dynergy 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

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

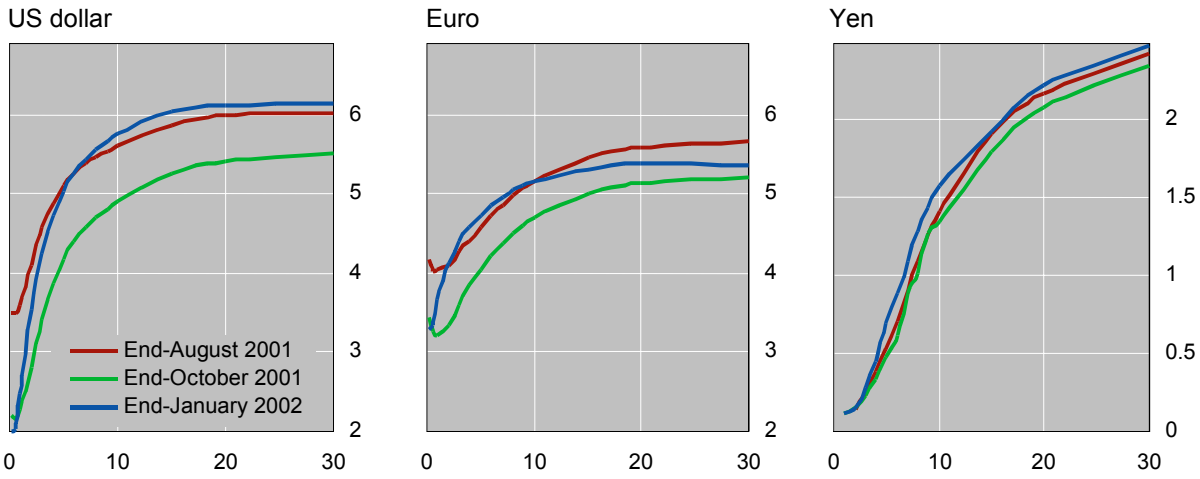
The optimistic mood in equity markets started to become evident in fixed income markets in early November last year, when the slopes of yield curves in the United States and the euro zone became unusually steep. From early September to the end of October, three-month US dollar yields declined by 120 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).

… and a reversal of safe haven flows

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.

Private yield curves[1]

In percentages



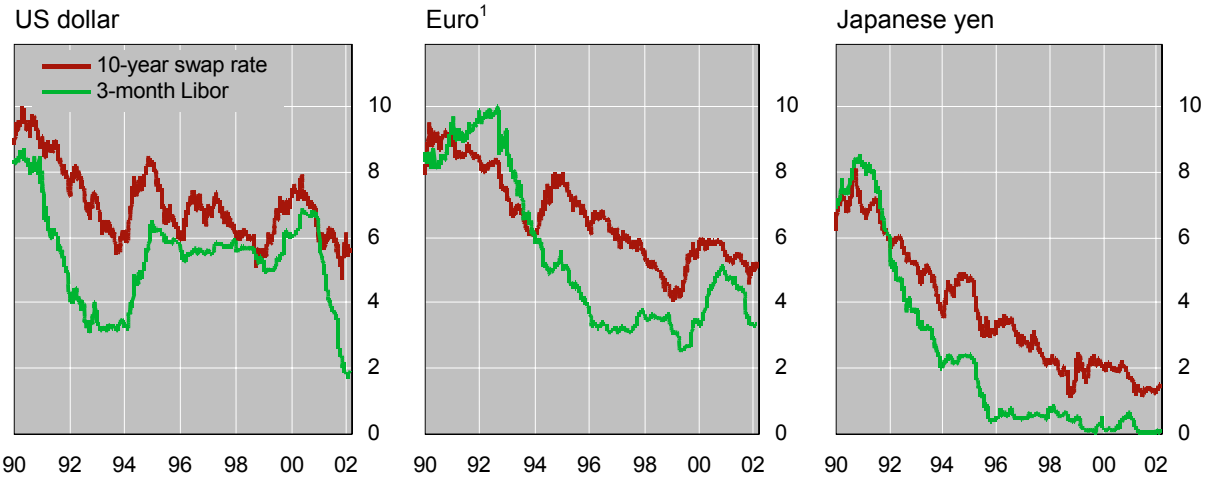
[1] For three-month, six-month and one-year maturities, Libor; for two- to 30-year maturities, interest rate swaps.

Source: Bloomberg.

Graph 1.4

Swap rates and Libor

In percentages



[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).

Supply factors play a role

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.

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.

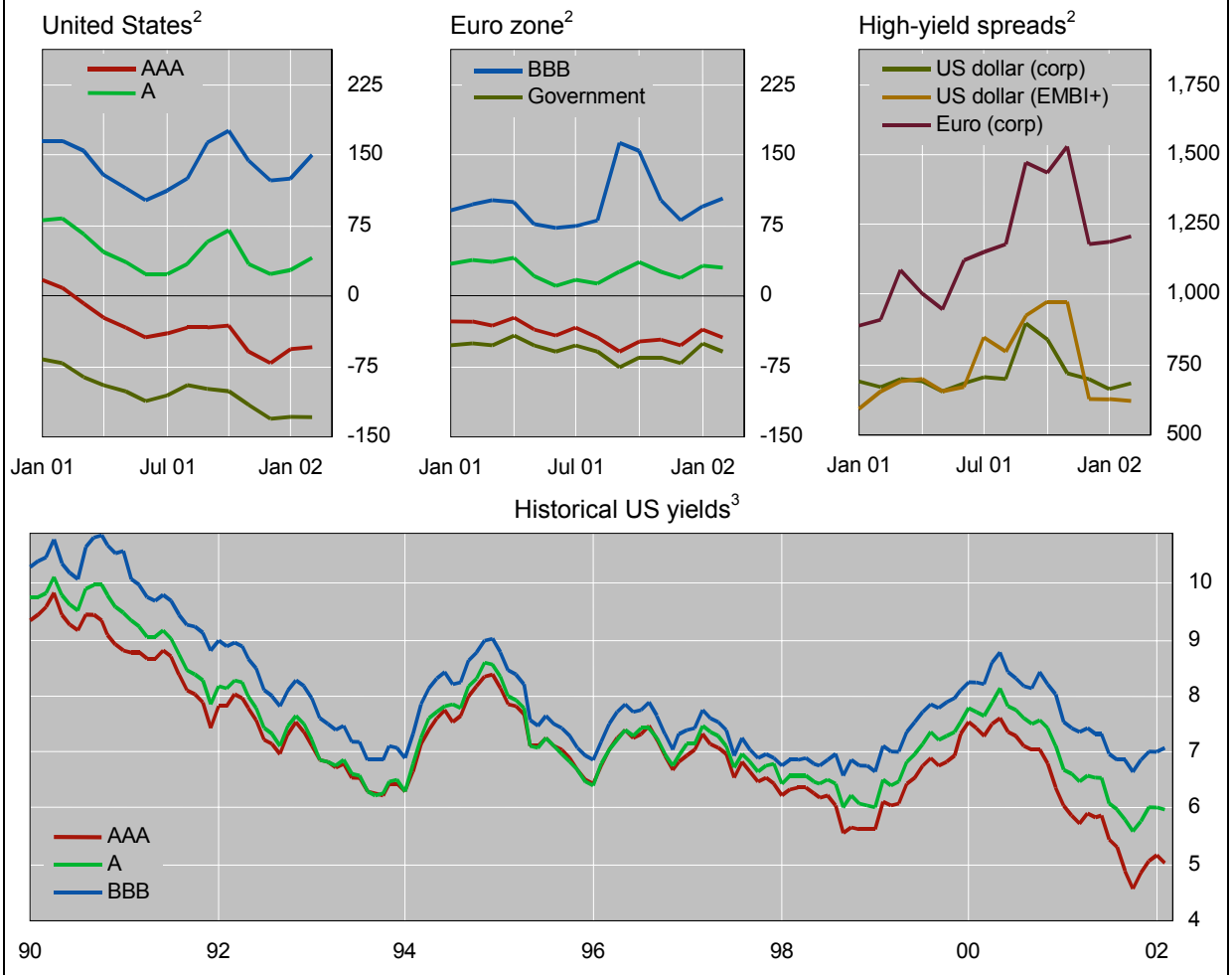
Steepening of the euro yield curve reflects transatlantic linkages …

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

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; BIS calculations.

Graph 1.6

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).

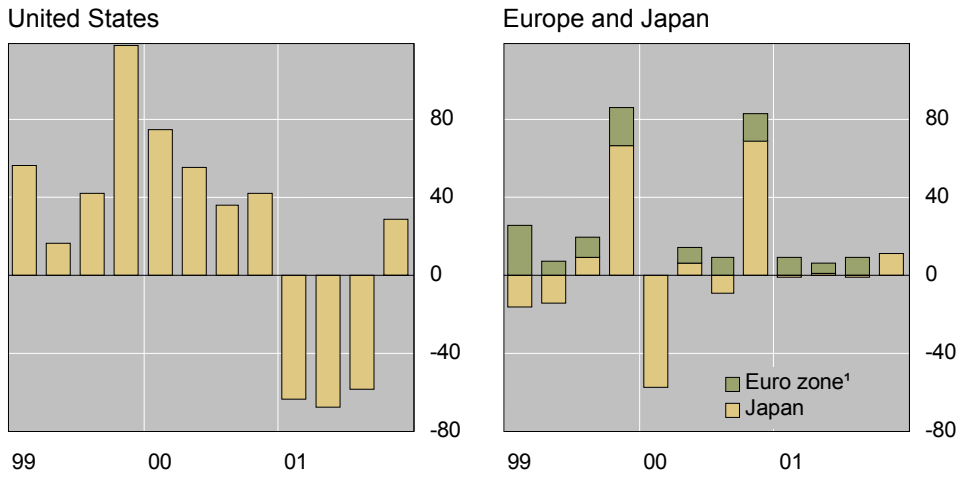
Long-term credit markets are strong while short-term markets are turbulent

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

Net commercial paper issuance in domestic markets

In billions of US dollars



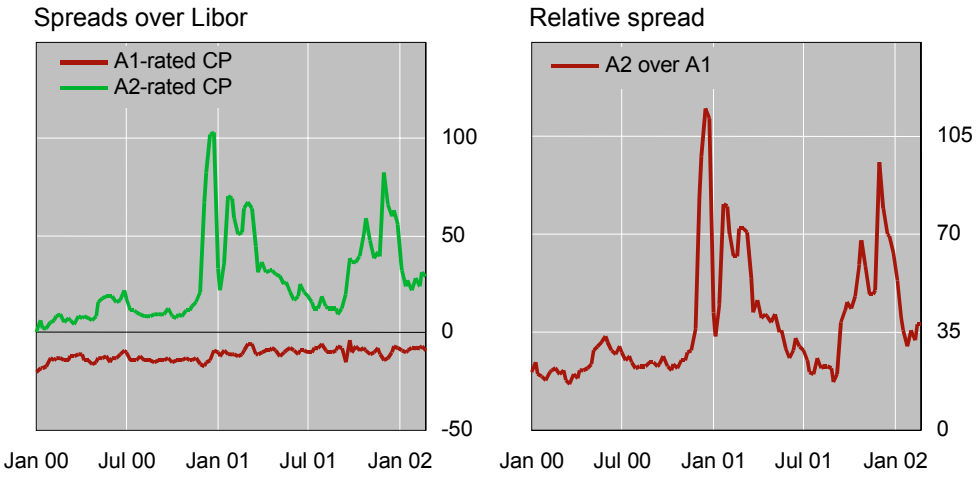
[1] Data for 2001 Q4 not yet available.

Source: National data.

Graph 1.7

US commercial paper spreads[1]

Weekly averages



[1] On 30-day yields, in basis points.

Sources: Bloomberg; BIS calculations. Graph 1.8

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.

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

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.

… as commercial paper markets show signs of turbulence

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

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 …

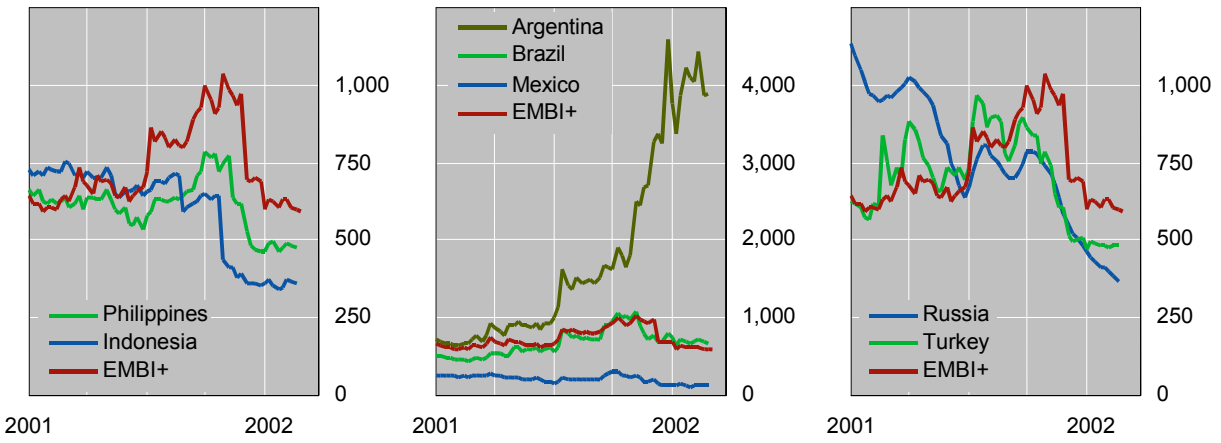
Increased confidence regarding prospects for a global recovery was also reflected during the fourth quarter in the prices of many emerging market securities, even as conditions in Argentina steadily worsened. In contrast to the third quarter, when investors had taken a cautious approach towards selected 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

Spreads of US dollar sovereign bonds over 10-year US swap rates

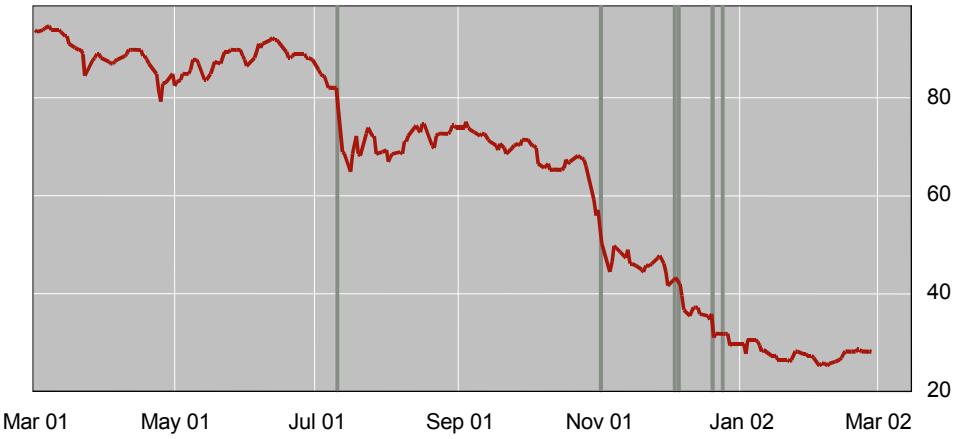
Weekly averages, in basis points



Sources: Bloomberg; BIS calculations.

Graph 1.9

Argentine government bond price[1]



Note: The vertical lines mark the following events: 10 July, the government faces high interest rates in bond auction; 1 November, Argentina announces debt restructuring; 2 December, the government imposes curbs on convertibility of bank deposits and foreign exchange controls; 5 December, the IMF refuses to release funds; 20 December, President de la Rúa resigns; 23 December, Argentina announces default.

[1] Republic of Argentina 11¾%, issued 1997, maturity 2017.

Source: Datastream. Graph 1.10

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.

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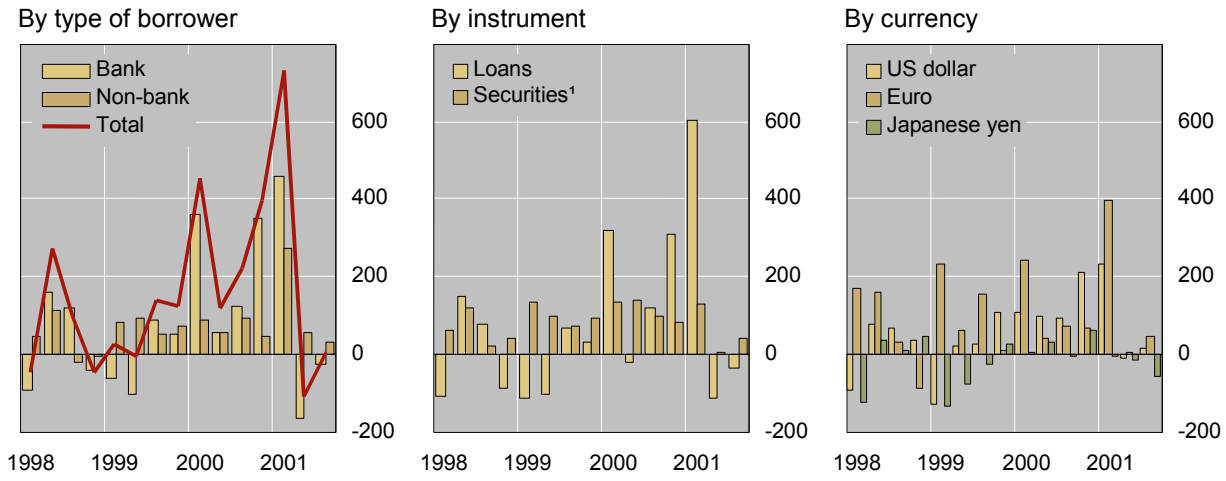
2. The international banking market

Activity in the international banking market remained weak in the third quarter of 2001. Following a sizeable contraction in the second quarter, the outstanding stock of cross-border bank claims was stable at $11.3 trillion in the third after adjusting for movements in exchange rates. Cutbacks in yen lending by Japanese banks contributed to a $26 billion decline in claims on banks, the second consecutive quarterly decline. Purchases of European government securities supported the continued growth of claims on non-bank borrowers, but at $30 billion the increase was the smallest in nearly three years.

Net flows from banks in the BIS reporting area to emerging economies turned positive for the first time since 1999, equalling $4 billion in the third quarter compared to –$35 billion on average in the first half of 2001. The turnaround, however, did not reflect a pickup in bank lending; claims on some countries increased but in aggregate emerging economies continued to pay down their external bank debt. Instead, the turnaround reflected a withdrawal of deposits from banks abroad. Oil-exporting countries and East Asian

Cross-border claims of BIS reporting banks

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



[1] Mainly debt securities. Other assets account for less than 5% of total claims outstanding. Data are partly estimated.

Graph 2.1

economies, which had previously placed large amounts with banks in the reporting area, began to withdraw them in the third quarter.

Japanese banks reduce their yen claims

The yen segment of the international banking market experienced a large contraction in the third quarter. Yen-denominated claims on all borrowers fell by $54 billion or approximately 7% (Graph 2.1). The decline wholly reflected a reduction in interbank claims (Table 2.1). In particular, banks in Japan cut back funds placed with banks in Europe, especially banks in the United Kingdom.

Large repatriation of yen funds to Japan ...

The fall in yen claims in the third quarter of 2001 was the largest since the first half of 1999. At that time, the contraction of yen claims was driven by the closure or scaling-back of Japanese banks' operations abroad.[1] In the third quarter of 2001, Japanese banks were again behind the contraction of claims. However, it was their claims on unrelated banks that accounted for most of the

Cross-border claims of BIS reporting banks vis-à-vis banks[1]

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

	1999	2000			2001			Stocks at end-Sep 2001
	Year	Year	Q3	Q4	Q1	Q2	Q3	
Total interbank claims	– 17.1	900.1	126.5	349.7	456.9	– 166.2	– 25.8	7,416.5
Claims on own offices	8.4	408.2	94.0	159.0	185.2	– 65.5	92.8	3,633.5
Loans and deposits	– 221.5	669.9	97.6	302.3	396.9	– 155.3	– 22.0	6,334.7
Securities[2]	204.4	230.2	29.0	47.5	60.0	– 10.9	– 3.8	1,081.8
Developed countries	200.3	870.0	106.6	280.3	424.3	– 118.6	– 26.1	5,951.7
Europe	291.4	608.1	61.3	197.8	424.4	– 79.8	– 29.1	4,235.9
Intra-euro area[3]	154.6	88.4	10.9	15.7	63.8	25.7	0.2	833.5
Japan	– 188.0	55.4	– 4.8	72.9	5.5	– 30.0	– 13.5	406.7
United States	87.7	185.5	53.2	– 7.1	– 12.2	3.2	10.6	1,142.4
Offshore centres	– 126.2	3.9	20.0	51.2	24.5	– 33.8	– 3.0	882.5
Emerging economies	– 52.1	3.8	– 9.1	8.0	– 6.6	– 13.2	– 2.2	384.1
Unallocated[4]	– 39.1	22.4	9.0	10.2	14.7	– 0.6	5.5	198.2
US dollar	– 108.3	387.7	69.0	152.6	93.4	– 41.3	7.1	3,171.1
Euro	274.3	272.1	20.6	47.1	270.3	4.0	5.3	2,105.4
Japanese yen	– 192.2	75.4	4.5	87.3	– 12.1	– 22.2	– 56.9	510.2
Other currencies[5]	9.1	164.9	32.4	62.7	105.3	– 106.7	18.7	1,629.8
Memo: Local claims[6]	*1.5*	*53.9*	*27.5*	*– 23.1*	*94.4*	*– 28.1*	*0.9*	*865.3*

[1] Including claims on own offices. [2] Mainly debt securities. Other assets account for less than 5% of total claims outstanding. Data are partly estimated. [3] Euro-denominated cross-border claims of reporting banks domiciled in the euro area on residents of the euro area. [4] Including claims on international institutions. [5] Including unallocated currencies. [6] Foreign currency claims on residents of the country in which the reporting bank is domiciled. Table 2.1

[1] See R N McCauley and Y K Mo, "Recent developments in the international banking business of Hong Kong", in *BIS Quarterly Review*, June 1999, pp 13–14. See also H Nakaso, *The financial crisis in Japan during the 1990s: how the Bank of Japan responded and the lessons learnt*, *BIS Papers*, no 6, October 2001.

Cross-border claims of BIS reporting banks vis-à-vis non-bank borrowers

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

	1999	2000			2001			Stocks at end-Sep 2001
	Year	Year	Q3	Q4	Q1	Q2	Q3	
Total claims on non-banks	303.3	289.4	94.9	45.5	274.0	57.6	30.1	3,854.9
Loans and deposits	103.0	59.2	23.7	8.5	206.2	50.0	– 11.6	2,262.3
Securities[1]	200.3	230.2	71.3	37.0	67.8	7.7	41.7	1,592.5
Developed countries	275.4	258.2	81.5	47.7	236.3	46.5	27.2	2,894.7
Europe	259.0	198.3	67.3	31.6	99.6	23.9	31.4	1,615.9
Intra-euro area[2]	147.8	55.2	10.2	4.8	53.5	6.1	13.3	616.3
Japan	– 64.4	– 67.5	– 10.3	– 33.5	– 7.1	4.9	– 10.9	106.3
United States	86.0	123.4	22.7	48.0	141.5	9.8	5.3	1,079.1
Offshore centres	24.6	47.0	7.2	16.0	25.5	7.0	11.0	384.5
Emerging economies	– 15.9	– 15.6	5.4	– 13.8	9.2	4.8	– 8.2	490.4
Unallocated[3]	19.1	– 0.2	0.8	– 4.5	3.0	– 0.7	0.1	85.3
US dollar	141.5	124.4	26.7	57.7	137.7	30.2	8.7	1,732.9
Euro	185.1	157.4	52.6	21.3	128.2	– 0.2	43.4	1,271.2
Japanese yen	– 7.0	19.3	– 8.6	– 25.8	6.1	7.4	3.2	269.7
Other currencies[4]	– 16.3	– 11.7	24.2	– 7.7	2.0	19.3	– 25.2	581.1
Memo: Local claims[5]	*27.1*	*144.6*	*– 3.1*	*40.7*	*27.6*	*– 3.6*	*– 2.4*	*716.3*

[1] Mainly debt securities. Other assets account for less than 5% of total claims outstanding. Data are partly estimated. [2] Euro-denominated cross-border claims of reporting banks domiciled in the euro area on residents of the euro area. [3] Including claims on international institutions. [4] Including unallocated currencies. [5] Foreign currency claims on residents of the country in which the reporting bank is domiciled. Table 2.2

contraction, not claims on their own offices. Japanese banks' yen-denominated inter-office claims fell by only $4 billion in the third quarter, compared to nearly $120 billion in the first half of 1999. Although most of the funds were withdrawn from banks domiciled in London, the nationality of the banks affected was diverse: Dutch-, German-, Swiss-, UK- and US-headquartered banks all experienced a loss of yen funding.

... owing partly to the unwinding of offshore loans

Several factors lay behind the repatriation of yen funds to Japan. First, offshore bookings of yen loans to non-banks in Japan continued to be unwound. Cross-border lending to non-banks in Japan contracted by $11 billion in the third quarter, and a portion of these funds were channelled through the interbank market back to Japan (Table 2.2). Second, some foreign banks shifted their yen positions from their offices abroad to their offices in Tokyo. Third, mergers among Japanese banks reportedly resulted in a reassessment of credit limits for monies placed with foreign banks and a consequent withdrawal of funds. In nearly all bank mergers, the credit limits established by the new entity are less than the sum of the credit limits of the participating banks (and, in a parallel fashion, counterparties typically reduce their credit limits on the merged entity).

Other possible explanations for the repatriation of yen funds include a decline in overseas demand for yen funding and the liquidity needs of

Japanese banks. However, these factors do not appear to have been important in the third quarter. While portfolio investment in Japan by non-residents slowed in the third quarter, yen-denominated loans by banks in the reporting area to residents of the countries in which the banks are domiciled remained more or less unchanged at $89 billion. Furthermore, the interest rate at which banks could borrow from one another in the Tokyo market has been stable since the second quarter of 2001, suggesting that liquidity was not a problem.

Banks step up purchases of European government securities

Euro claims continue to expand

In contrast to yen claims, euro-denominated claims of banks in the BIS reporting area continued to expand in the third quarter. Cross-border euro claims rose by $49 billion or approximately 2% (Tables 2.1 and 2.2). As in previous quarters, flows between the United Kingdom and the euro area accounted for most of this activity.

Although euro-denominated claims on banks increased by only $5 billion in the third quarter, the aggregate figure masks a sizeable change in interbank positions. Banks domiciled in the euro area increased their claims on banks in the United Kingdom and at the same time banks in the United Kingdom reduced their claims on banks in the euro area. On a net basis, therefore, there were large euro-denominated flows into the United Kingdom from banks in the euro area.

Whereas in past quarters flows from the euro area to the United Kingdom tended to be recycled in the London interbank market before being channelled back to banks in the euro area, in the third quarter the funds were onlent directly to non-banks. Banks domiciled in the United Kingdom lent $15 billion in euros to non-bank residents of the United Kingdom, including banks' securities subsidiaries, and invested some $20 billion in euro-denominated securities issued by non-bank residents of the euro area. A further $12 billion was invested in euro area non-bank securities by banks domiciled in the euro area.

Banks turn from corporate to government securities

Owing to such investments, flows to non-banks in Europe remained in line with the average of recent quarters. However, the ultimate recipients of these flows appear to have changed, with governments replacing corporate borrowers. Corporate demand for loans weakened along with the slowdown in economic growth in Europe and elsewhere. As discussed in the previous *BIS Quarterly Review*, new signings of syndicated credit facilities by European borrowers fell by 58% year-over-year in the third quarter. Banks do not appear to be cutting back on credit to corporate borrowers in Europe, but neither are they increasing their claims. The consolidated banking statistics suggest that instead, any new money is being invested in government securities. BIS reporting banks' claims on public sector borrowers in Europe were steady at 12% of international claims during the latter half of 2000 and first half of 2001, then rose to 13% in the third quarter. Claims on the German and Italian public sectors increased the most.

Lacklustre activity in the US dollar market

Activity in the US dollar segment of the international banking market remained lacklustre in the third quarter of 2001. Dollar-denominated claims of banks in the BIS reporting area rose by only $16 billion in the third quarter – equivalent to less than ½% of the outstanding stock of claims – after contracting by a similarly negligible amount in the second. This represents a marked slowdown from earlier quarters, when activity topped $100 billion (Graph 2.1).

Dollar interbank activity is weak despite 11 September

The terrorist attacks in the United States on 11 September appear to have had little impact on cross-border interbank activity. Even though demand for dollar liquidity increased following the attacks, dollar interbank claims stayed more or less unchanged. The Federal Reserve injected an unusually large volume of liquidity into the US banking system during September, and US-owned banks channelled some of this liquidity to their own offices in Europe and offshore centres. However, these funds were not recycled through the international banking market. Foreign banks appear to have found other sources of dollar funding. Japanese banks channelled dollar funds from Japan to their subsidiaries in the United States. Swiss and several other European countries' banks unwound dollar positions vis-à-vis their own offices in the United States. Dollar inflows from residents of the countries in which the banks are domiciled also picked up, as maturing short-term dollar loans were not renewed.

Claims on the US public sector fall

Another reason for the low level of activity in the dollar segment of the international banking market was the ongoing slowdown in flows to non-bank borrowers in the United States. Cross-border claims of BIS reporting banks on US non-banks increased by only $5 billion in the third quarter, the smallest increase in several years (Table 2.2). In contrast to the situation in Europe, the composition of banks' claims on US non-banks is shifting away from government securities and towards private sector borrowers. Claims on the public sector fell to 12% of international claims on US borrowers in the third quarter from 14% at the end of 2000. Purchases of US agency securities, in particular bonds issued by Fannie Mae and Freddie Mac, appear to be behind this shift. Owing to the decline in the outstanding stock of US Treasury securities, a perceived deterioration in their liquidity and low government yields, agency securities are an increasingly attractive alternative to Treasuries.[2]

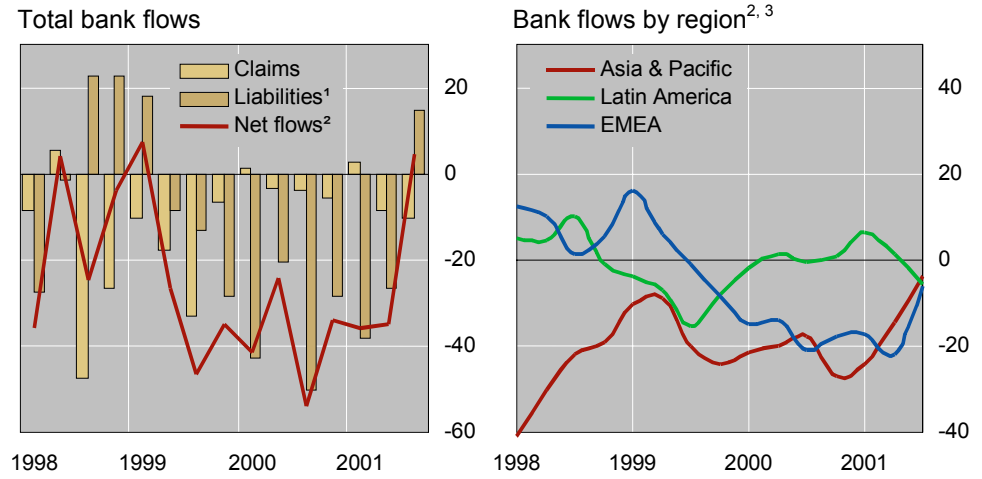
Flows to emerging economies turn positive

Net flows from banks in the reporting area to emerging economies turned positive for the first time in over two years (Graph 2.2). Residents of both the

[2] See Study group on fixed income markets, "The changing shape of fixed income markets", in *The changing shape of fixed income markets: a collection of studies by central bank economists*, *BIS Papers*, no 5, October 2001, p 18.

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. Graph 2.2

Asia-Pacific region and emerging Europe, the Middle East and Africa (EMEA) received more money from banks than they transferred to banks. Only in Latin America did flows from banks remain negative. However, the turnaround in flows did not reflect a renewed appetite for emerging market debt; in fact, bank claims continued to fall. The turnaround was instead driven by a withdrawal of deposits from banks in the reporting area.

Retrenchment from Turkey begins to abate ...

Banks stepped up their lending to some emerging economies and slowed the pace of cutbacks in others (Table 2.3). Claims on countries in accession negotiations with the European Union rose by $1.8 billion and claims on Taiwan, China by a similar amount. Repo transactions between Korean securities firms and US banks contributed to a $1 billion increase in claims on Korea. The retrenchment of international banks from Turkey began to abate. Banks in the BIS reporting area continued to reduce short-term credit to Turkish banks, even while signing $1.4 billion in new syndicated credit facilities for them. Cutbacks in interbank lending were partially offset by a rise in claims on corporate borrowers. Consequently, whereas claims on Turkey fell by several billion dollars in each of the first and second quarters, they fell by only $0.9 billion in the third.

... but overall claims on emerging economies fall sharply

Nevertheless, overall claims on emerging economies fell by $10 billion in the third quarter, the largest decline in two years. Claims on Thailand, mainland China and Indonesia fell by $2 billion or more. Short-term credit to Argentine banks fell by $1 billion, and claims on non-bank residents of Argentina by a further $1 billion.[3] Claims on Mexico, Chile and Brazil contracted by smaller

[3] For a detailed discussion of changes in banks' exposure to Argentina, see "BIS international consolidated banking statistics for the third quarter of 2001", BIS Press Release 03/2002E, 28 January 2002.

amounts.[4] However, borrowers in these three countries raised relatively large amounts (by the standards of recent quarters) in the international syndicated credit market in the fourth quarter, suggesting that the contraction in claims in the third quarter may prove temporary (see "International syndicated credits: record activity in the energy sector" on page 24).

Cross-border positions of BIS reporting banks vis-à-vis emerging economies

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

	Banks' position[1]	1999	2000			2001			Stocks at end-Sep 2001
		Year	Year	Q3	Q4	Q1	Q2	Q3	
Total	Claims	– 68.0	– 11.9	– 3.7	– 5.5	2.5	– 8.3	– 10.4	874.5
	Liabilities	32.6	141.5	50.2	28.2	38.4	26.7	– 14.8	1,090.0
Argentina	Claims	0.7	1.2	2.3	0.3	– 1.7	1.5	– 2.0	44.8
	Liabilities	0.1	3.2	3.7	– 1.0	– 6.0	2.3	– 1.8	34.9
Brazil	Claims	– 8.9	9.5	3.3	4.6	4.0	– 0.0	– 0.2	98.9
	Liabilities	2.2	– 4.6	2.3	0.7	– 2.6	2.2	4.8	51.8
Chile	Claims	– 1.7	0.3	0.4	– 0.5	0.5	0.4	– 0.5	19.1
	Liabilities	2.7	– 1.4	– 0.4	0.4	– 0.3	0.2	– 0.5	15.1
China	Claims	– 17.1	– 5.4	– 1.6	– 0.4	– 1.8	1.5	– 2.7	56.1
	Liabilities	– 4.1	35.7	5.2	8.1	0.6	3.5	– 6.7	98.8
Indonesia	Claims	– 7.1	– 3.6	– 0.3	– 0.4	– 0.8	– 1.5	– 2.3	36.8
	Liabilities	– 0.5	– 1.0	– 0.5	– 0.4	1.5	– 0.7	– 0.4	12.9
Korea	Claims	– 5.0	– 4.8	– 1.8	– 9.3	3.3	– 2.6	1.0	65.3
	Liabilities	– 4.5	– 1.7	– 3.4	– 6.9	4.6	– 2.2	– 2.4	27.3
Mexico	Claims	– 4.0	– 1.0	– 2.3	– 3.8	4.9	0.4	– 1.3	61.9
	Liabilities	4.1	7.1	0.2	– 1.6	3.2	0.6	4.9	62.8
Russia	Claims	– 6.5	– 6.6	– 3.3	– 0.6	– 1.2	0.3	0.2	34.9
	Liabilities	3.8	7.2	3.2	– 1.8	3.8	2.6	– 2.8	26.9
Saudi Arabia	Claims	2.1	0.1	0.0	1.4	– 1.9	0.1	– 1.6	22.7
	Liabilities	– 17.9	10.9	7.3	4.9	4.7	– 1.4	– 5.8	57.3
South Africa	Claims	– 0.8	0.6	0.8	0.6	0.5	– 0.6	0.9	19.2
	Liabilities	2.1	0.4	1.8	– 1.0	1.2	0.6	1.1	13.7
Thailand	Claims	– 17.4	– 7.8	– 1.0	– 3.3	– 1.0	– 0.8	– 3.1	22.3
	Liabilities	0.0	1.9	– 0.7	1.8	0.3	1.0	– 0.5	14.8
Turkey	Claims	5.9	11.3	2.5	3.4	– 2.2	– 5.1	– 0.9	40.7
	Liabilities	3.3	2.3	0.3	2.6	– 1.2	0.4	0.8	20.6
Memo:									
EU accession countries[2]	*Claims*	*5.2*	*5.2*	*2.5*	*2.9*	*3.4*	*– 0.5*	*1.8*	*70.1*
	Liabilities	*10.3*	*5.5*	*2.7*	*3.0*	*4.5*	*– 0.3*	*0.8*	*58.1*
OPEC members	*Claims*	*– 8.9*	*– 11.8*	*– 1.7*	*– 1.5*	*– 7.2*	*– 2.8*	*– 5.1*	*121.6*
	Liabilities	*– 19.4*	*37.8*	*17.2*	*7.6*	*13.2*	*2.0*	*– 9.9*	*238.6*

[1] Liabilities comprise mainly deposits. Other liabilities account for less than 1% of the total outstanding. [2] Countries in accession negotiations with the European Union, ie Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, the Slovak Republic and Slovenia. Table 2.3

[4] The merger of a foreign bank's non-bank subsidiary in Brazil with its bank subsidiary resulted in a $4 billion decline in claims on non-banks in Brazil and an offsetting increase in claims on banks.

Whereas in past quarters residents of emerging economies had added to the outflow of funds to banks in the BIS reporting area by placing deposits with them, in the third quarter of 2001 residents withdrew some of these funds. Banks' liabilities vis-à-vis emerging economies fell by $15 billion in aggregate, compared to average increases of $29 billion between the second quarter of 1999 and the second quarter of 2001. Only in Latin America did residents continue to place deposits with banks in the reporting area; in the Asia-Pacific region and EMEA, funds were repatriated.

Large withdrawal of deposits from reporting banks ...

Liabilities vis-à-vis residents of East Asia fell the most. Residents of mainland China withdrew $6.7 billion from banks in the reporting area, Korea $2.4 billion and Malaysia $1.5 billion. Members of OPEC also withdrew large sums. Saudi Arabia alone repatriated $5.8 billion. In Latin America, residents of Mexico and Brazil continued to channel funds to banks abroad. So too did non-bank residents of Argentina, who deposited a relatively large $1.4 billion with banks in the reporting area in the third quarter. However, these placements were more than offset by a $3.2 billion drawdown of deposits by Argentine banks. At end-September 2001, non-bank residents of Argentina held $18.6 billion with banks in the reporting area and Argentine banks $16.3 billion, virtually all denominated in US dollars.

... as emerging economies' current account position deteriorates

The deterioration in emerging economies' current account position explains much of the turnaround in net flows from banks. Emerging economies' current account surplus halved to approximately 1% of GDP in 2001 and is expected to turn negative in 2002. Slower export growth undermined East Asia's surplus, while falling oil prices reduced that of the oil-exporting countries. Declining interest rates in the United States and Europe also contributed to the outflow from banks by reducing the relative attractiveness of foreign currency bank deposits.

International syndicated credits: record activity in the energy sector

Jesper Wormstrup

Syndicated lending activity amounted to $322 billion in the fourth quarter of 2001, which constitutes a slight decline of 7% on a seasonally adjusted basis compared with the previous quarter. For 2001 as a whole, new signings of international syndicated credit facilities amounted to $1.4 trillion – only 6% less than the record high in 2000 and well above the average levels for the latter part of the 1990s, when the global economic situation was considerably more favourable.

Borrowing by entities in industrialised countries came to $297 billion. Firms in the energy sector were especially active and raised nearly one quarter of the total borrowing compared with a historical average of 12–13%. The Italian power company Enel (Ente Nazionale per l'Energia Elettrica) borrowed €5 billion, partly to refinance a facility arranged in November 2000. Italenergia, a consortium comprising Fiat and Electricité de France, borrowed €6.5 billion to support their bid for Montedison, an Italian conglomerate, and US energy provider First Energy Corp closed an acquisition-related facility for $4 billion.

Boosted by the activity in the energy sector, lending to finance mergers and acquisitions (M&As) remained stable at $35 billion in the fourth quarter in comparison with the previous quarter. However, with a total of $140 billion for 2001 as a whole, M&A lending declined by 33% compared with 2000 in tandem with the underlying drop-off in M&A activity.

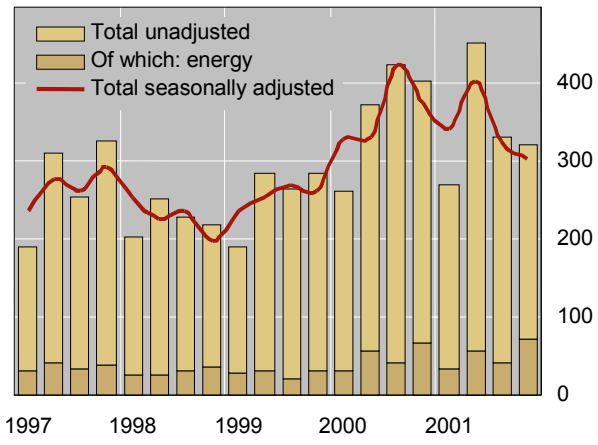
Activity in the telecommunications sector picked up in the fourth quarter, though to a large extent this involved the refinancing of facilities signed in 2000, when borrowing by telecoms peaked. The US firm AT&T closed a refinancing facility of $8 billion, amending and restating a larger facility arranged in December 2000. Italian Wind Telecomunicazione SpA rolled over earlier facilities for €5.5 billion. The UK wireless telecommunications company mm02, formerly a subsidiary of British Telecommunications, arranged a £3.5 billion facility. Following a number of recent ratings downgrades, telecoms companies generally faced higher borrowing costs than the year before, in some instances as much as 100 basis points more.

Syndicated lending to emerging economies slowed modestly to $20 billion in the fourth quarter. After an unusually low level of activity in the third quarter, Mexican borrowers – mainly phone companies and other conglomerates – were the most active, obtaining $4 billion. Brazilian entities raised $2.2 billion and South Korean ones $1.4 billion. Argentine borrowers managed to raise $0.5 billion despite the crisis there. More than half of this was accounted for by entities in the energy sector, and a large part of the remainder was for trade financing purposes. For 2001 as a whole, emerging economies raised $70 billion or 26% less than in 2000.

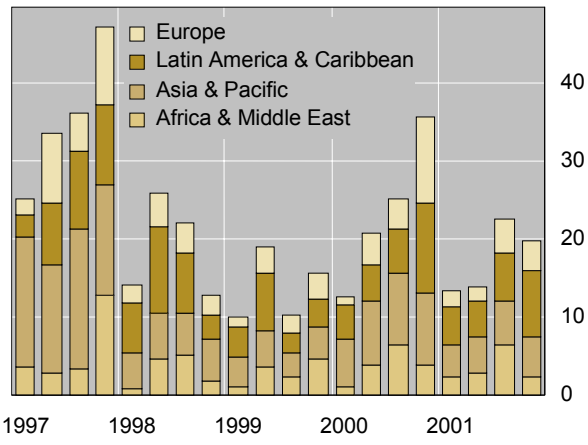
Activity in the international syndicated credit market

In billions of US dollars

Signed facilities



Facilities for emerging economies



Sources: Dealogic Loanware; BIS.

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3. The international debt securities market

Both gross and net issuance of international debt securities partially rebounded in the fourth quarter of 2001 from the steep decline of the third quarter. This may, in part, reflect a transfer of issuance to the fourth quarter from the third due to the disruption of capital markets by the attacks of 11 September. Interesting differences in issuing behaviour emerged along lines of nationality and currency at the end of 2001. Issuers of bonds and notes in both US dollars and pounds sterling exhibited a strong preference for straight fixed rates, while euro- and yen-denominated issues were tilted towards floating rate structures. An increase in net issuance by US nationals was due largely to a drop-off in repayment rates, but a surge of announcements was behind the sharp net increase in European issues. At shorter maturities, net issuance of international money market instruments remained negative in the fourth quarter, but the commercial paper subcomponent turned positive. Emerging economy net issuance recovered slightly, but remains deeply depressed from the levels of 1999 and 2000. As noted in the Overview, on balance, credit conditions in international securities markets appear to have eased over the course of the fourth quarter, but only by comparison to the severe conditions that existed in late summer.

Differences arise in issuance patterns by region and currency

International securities issuance rebounds ...

Net issuance of international debt securities in the fourth quarter increased by 53% to $270 billion, bouncing back sharply from the steep and perhaps aberrant decline of the third quarter (Table 3.1). Still, net issuance remains 13% below the average quarterly level for 2000. Announced issues of bonds and notes in the fourth quarter increased by 16% to $487 billion (Table 3.2).

... after being disrupted in the third quarter

There is substantial seasonal variation in gross issuance of international bonds and notes on a monthly basis, with September typically being one of the highest issuance months and August the lowest. As illustrated in Graph 3.1, September announcements of international bonds and notes were 27%, or $53 billion, below their expected level based on seasonal factors. This agrees with anecdotal evidence that issuance was disrupted by the 11 September terrorist attacks. Conversely, announcements in October, November and

Main features of net issuance in international debt securities markets

In billions of US dollars

	2000	2001	2000	2001				Stocks at end-Dec 2001
	Year	Year	Q4	Q1	Q2	Q3	Q4	
Total net issues	1,243.5	1,071.1	312.9	328.4	295.5	177.0	270.1	7,247.5
Money market instruments[1]	152.1	– 79.3	46.6	2.2	– 26.2	– 45.6	– 9.8	397.5
Commercial paper	*55.2*	*26.9*	*23.3*	*22.3*	*10.1*	*– 12.0*	*6.5*	*243.1*
Bonds and notes[1]	1,091.3	1,150.4	266.2	326.2	321.6	222.7	279.9	6,850.0
Floating rate issues	*359.2*	*306.1*	*90.7*	*86.4*	*72.0*	*75.0*	*72.8*	*1,745.2*
Straight fixed rate issues	*715.4*	*808.5*	*166.1*	*236.0*	*239.0*	*142.2*	*191.2*	*4,833.7*
Equity-related issues	*16.7*	*35.7*	*9.4*	*3.8*	*10.5*	*5.5*	*15.9*	*271.2*
Developed countries	1,163.1	995.2	302.8	314.0	256.1	164.0	261.0	6,287.5
United States	*467.2*	*483.6*	*125.9*	*153.3*	*121.2*	*94.8*	*114.4*	*2,225.8*
Euro area	*559.9*	*429.2*	*138.9*	*147.1*	*100.6*	*66.0*	*115.5*	*2,572.5*
Japan	*– 25.8*	*– 12.2*	*– 5.4*	*– 4.0*	*2.3*	*– 6.8*	*– 3.7*	*260.0*
Offshore centres	15.0	20.8	3.1	7.3	5.4	4.6	3.5	90.1
Emerging economies	42.8	39.1	– 0.7	8.9	28.4	– 2.6	4.4	486.5
International institutions	22.6	16.0	7.6	– 1.8	5.5	11.0	1.2	383.4
Private sector	975.6	807.7	253.1	267.0	219.2	121.7	199.8	5,418.8
Financial institutions[2]	*802.8*	*642.0*	*203.5*	*222.7*	*161.3*	*102.3*	*155.6*	*4,352.2*
Corporate issuers	*172.7*	*165.7*	*49.6*	*44.3*	*57.9*	*19.3*	*44.2*	*1,066.7*
Public sector[3]	245.3	247.4	52.2	63.2	70.7	44.4	69.1	1,445.3
Central government	*52.6*	*38.0*	*– 3.6*	*9.2*	*23.3*	*– 2.3*	*7.9*	*515.6*
State agencies and other	*192.7*	*209.4*	*55.8*	*54.0*	*47.5*	*46.7*	*61.3*	*929.6*
Memo: Domestic CP[4]	*255.9*	*–130.3*	*124.9*	*– 57.0*	*– 63.1*	*– 49.2*	*39.1*	*1,918.9*
of which: US	*208.3*	*–161.2*	*42.5*	*– 63.1*	*– 67.9*	*– 58.5*	*28.3*	*1,440.9*

[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 fourth quarter of 2001 are partly estimated.

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

Table 3.1

December were on average 13% above their expected seasonal values, making a combined excess of almost $55 billion. This would suggest that much of the rebound in issuance in the fourth quarter was "make-up" issuance for the aberrantly low level of issuance in September, rather than a fundamental increase in demand for or supply of funds.

EU issuance grows sharply ...

On a nationality basis, net issuance by the European Union almost doubled to $143 billion, while announcements rose 20%. A near tripling of net issuance by the United Kingdom to $27 billion made a significant contribution to the surge, but issuance by euro area states was also quite strong. Net issuance of the euro area rose 75% to $115 billion, and announced issues increased by 19% to $345 billion. Dutch and Italian nationals led the growth in euro area issuance, while German net issuance went up by only 11% from the low level of the third quarter.

... as US repayments slacken

International issuance by US nationals, in contrast, fell 8% on a gross basis. A 21% increase in US net issuance to $114 billion was the result of a similar decline in repayments. Early repayments of US issues ceased almost entirely. Net Japanese issuance continued to be negative, though gross issuance edged up marginally.

The breakdown of issuance by currency largely mirrored national patterns (Table 3.3). Euro-denominated gross issuance rose 38% to $284 billion, nearly a record high; and net euro-denominated issues doubled from the third quarter. Gross issuance in pounds sterling did hit a record $78 billion, while net issuance increased by 160%. Dollar-denominated issuance, like issuance by US borrowers, fell slightly on a gross basis, but net issuance rose 22%.

Issuers in dollars and pounds sterling prefer fixed rates ...

A breakdown of fourth quarter issuance by both currency and rate structure reveals interesting differences in borrower behaviour (Graph 3.2). There was a marked preference on the part of issuers in dollars and pounds sterling for fixed rate bonds and notes, while euro- and yen-denominated issuance was weighted towards floating rate securities. The difference suggests that market participants may believe that the interest rate cycle has reached a trough in the United States and United Kingdom and that interest rates at all maturities are likely to rise from now on, while issuers of euro-denominated debt either are uncertain or expect euro area interest rates to

Gross issuance in the international bond and note markets

In billions of US dollars

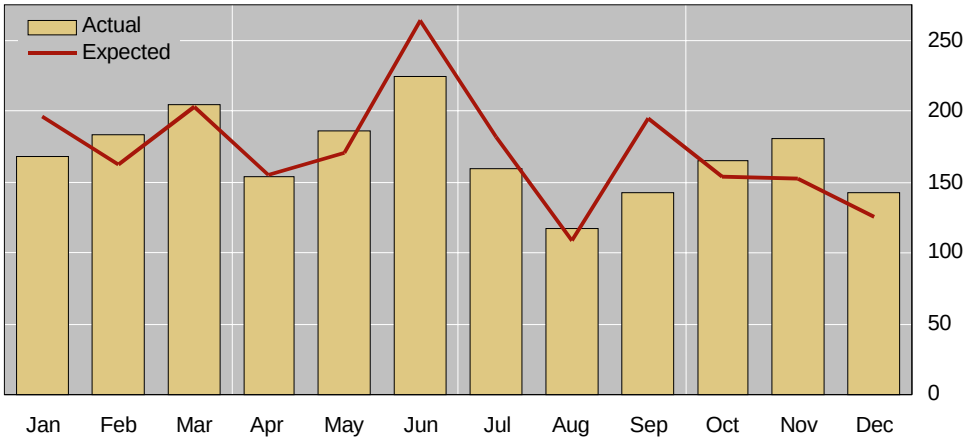
	2000	2001	2000	2001			
	Year	Year	Q4	Q1	Q2	Q3	Q4
Total announced issues	1,707.7	2,025.3	384.5	555.3	564.1	418.8	487.2
Floating rate issues	521.0	554.4	128.6	134.4	134.9	139.1	146.1
Straight fixed rate issues	1,130.2	1,403.3	242.1	408.8	410.9	268.7	314.9
Equity-related issues[1]	56.5	67.6	13.8	12.1	18.3	11.0	26.2
US dollar	794.5	980.1	179.5	261.1	286.1	222.9	210.0
Euro	582.7	721.7	134.8	214.8	191.8	123.6	191.4
Yen	129.1	119.5	19.2	27.5	36.0	32.0	24.0
Other currencies	201.4	203.9	51.0	51.8	50.1	40.2	61.7
Private sector	1,322.6	1,478.7	304.9	412.6	400.9	293.4	371.8
Financial institutions[2]	*1,090.4*	*1,173.0*	*252.4*	*333.1*	*308.4*	*244.5*	*287.0*
Corporate issuers	*232.2*	*305.7*	*52.5*	*79.5*	*92.6*	*48.9*	*84.8*
of which: telecoms	*115.3*	*133.3*	*19.6*	*49.2*	*29.2*	*15.9*	*39.0*
Public sector	316.0	472.1	65.1	125.8	140.4	105.3	100.6
Central government	*92.9*	*107.0*	*4.5*	*31.2*	*49.4*	*13.0*	*13.3*
State agencies and other	*223.1*	*365.1*	*60.5*	*94.5*	*90.9*	*92.3*	*87.3*
International institutions	69.2	74.5	14.5	17.0	22.7	20.1	14.7
Completed issues	1,709.5	2,023.3	420.3	543.7	553.4	429.0	497.1
Memo: Repayments	*618.1*	*872.9*	*154.0*	*217.5*	*231.8*	*206.4*	*217.2*

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

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

Actual and seasonally adjusted expectations of bond and note announcements in 2001

In billions of US dollars



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

Graph 3.1

decline further. Such expectations would be consistent with the yield curves shown in the Overview: strictly increasing in the United States and inverted in the near term in the euro area. Issuers of yen-denominated debt may be unwilling to pay the increasing term premium built into the yen yield curve as they expect short-term interest rates to remain low well into the future.

Straight fixed rate net issuance of bonds and notes in dollars rose 43%, while that in sterling doubled. On a proportional (though not on an absolute) basis, much of the rise in net dollar-denominated fixed rate issuance was due to a drop-off in repayments with a small increase in announcements; gross issuance of fixed rate notes and bonds in sterling jumped 134%. Conversely, announcements of floating rate bonds and notes in both dollars and sterling fell sharply (37% and 23%, respectively). Net dollar-denominated issuance of floating rate bonds and notes turned negative for the first time since early 1992. Floating rate net issuance in sterling remained positive, but fell by 14% from the third quarter.

... while issuers in euros and yen favour floating rates

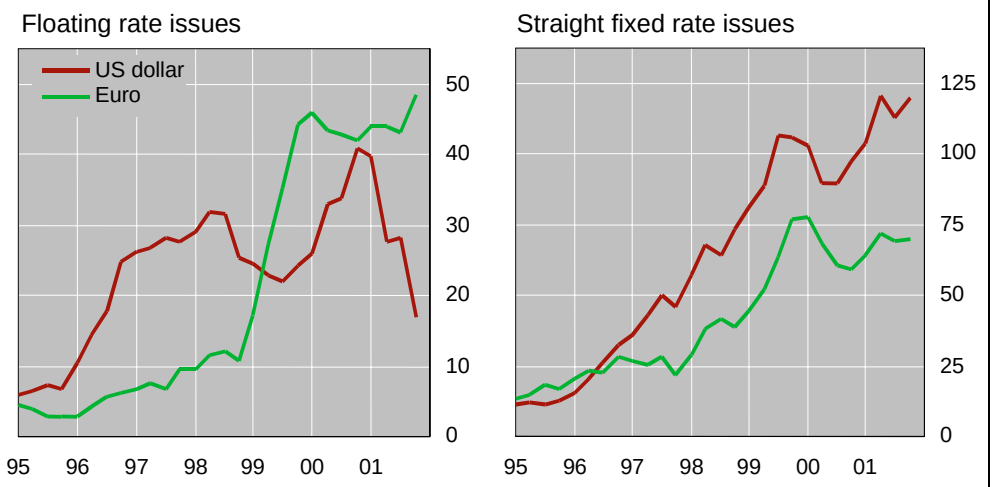
Euro-denominated issues tilted instead towards floating rate securities. Net issuance in euros of floating rate bonds and notes jumped 83% to $64 billion, surpassing both the level of net fixed rate issuance ($58 billion) and the rate of growth from the third quarter (36%). Yen-denominated floating rate net issues rose 25% from the third quarter, while fixed rate yen net issuance reversed from $2 billion to –$5 billion.

Issuance of equity-linked securities, especially in euros, surges

Issuance of equity-related bonds and notes also diverged along currency lines. A fivefold increase in net euro-denominated convertible issues brought total equity-related net issuance to a 12-year high of $16 billion (Table 3.1). Euro-denominated announcements of $16 billion, more than $4 billion of which was issued by France Telecom alone, brought total announcements to $26 billion (Table 3.2). Net issuance of equity-related securities in dollars, however, fell almost 70% from the third quarter.

Net issuance of international bonds and notes

Four-quarter moving averages, in billions of US dollars



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

Graph 3.2

Among international bonds and notes, the average maturity of issues in the fourth quarter lengthened to 9.7 years from an average of 7.2 years in the third quarter. The increase in maturity was in part due to the higher proportion of issues denominated in pounds sterling, which typically have a longer average maturity than issues in other currencies. Another factor was the simultaneous shift in preference towards floating rate euro-denominated issues coupled with an increase in the average maturity of that type of issue from 7.4 years in the third quarter to 12 years in the fourth quarter.

Corporate non-financial issuance leads a rebound of private sector issuance

Both public and private sector net issuance rose in the fourth quarter, but gross issuance by the public sector continued to contract (Tables 3.1 and 3.2). Public sector net borrowing in international securities markets rose 56% to $69 billion, primarily due to a 29% fall in repayments. Issuance by US government agencies continued to make an important contribution to the net rise in public sector issuance in international securities markets. Issuance by international institutions fell 89% on a net basis to just over $1 billion.

Corporate issuance jumps

Net issuance by the private sector bounced back by 64% from the third quarter, to $200 billion, as gross issuance increased by 15%. Still, private sector net issuance remains well below the average quarterly levels of 2000. Corporate issuers led private sector issuance, with a 34% rise in announcements and a 129% spike in net issuance. Many corporate issues were oversubscribed, especially in November and December. In the fourth quarter, financial institutions began to reverse the slide of the previous two quarters, increasing net issuance by 52%. However, US financial institutions deviated from this trend, with a 16% drop in net issuance in the fourth quarter.

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

In billions of US dollars

Region/currency		2000	2001	2000	2001			
		Year	Year	Q4	Q1	Q2	Q3	Q4
North America	US dollar	379.0	401.7	103.3	123.0	96.4	85.0	97.3
	Euro	44.6	64.2	10.8	20.9	15.6	7.0	20.7
	Yen	17.2	16.5	3.2	3.3	5.2	6.4	1.5
	Other currencies	18.6	7.6	8.9	5.1	3.3	– 1.5	0.7
Europe	US dollar	171.8	48.3	54.0	24.9	13.1	– 2.9	13.2
	Euro	412.5	399.1	104.8	128.3	103.4	57.2	110.1
	Yen	40.9	– 2.9	– 2.5	– 6.0	1.7	4.0	– 2.6
	Other currencies	86.7	67.6	23.7	19.0	10.3	11.8	26.5
Others	US dollar	62.5	55.0	4.9	7.7	36.6	9.4	1.2
	Euro	15.1	12.9	2.0	5.4	4.3	0.5	2.7
	Yen	– 20.4	– 2.4	– 4.6	– 3.3	4.5	– 2.5	– 1.0
	Other currencies	15.1	3.5	4.4	0.3	1.0	2.5	– 0.2
Total	US dollar	613.3	504.9	162.1	155.5	146.1	91.6	111.7
	Euro	472.1	476.2	117.7	154.6	123.4	64.7	133.5
	Yen	37.7	11.2	– 4.0	– 6.0	11.3	8.0	– 2.1
	Other currencies	120.4	78.8	37.1	24.4	14.6	12.8	27.0

[1] Based on the nationality of the borrower.

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

Net issuance of rated bonds continued to slide in the fourth quarter (Graph 3.3). More AAA-rated bonds and notes were issued on a net basis in the fourth quarter than in the third, but issuance of such paper remained below 1999–2000 quarterly average levels. Net issuance of other investment grade securities continued to shrink in the fourth quarter, while that by non-investment grade issuers turned negative. Non-rated securities issuance picked up, probably reflecting the relative increase in issuance by European entities that are less likely to have credit ratings than their American counterparts.

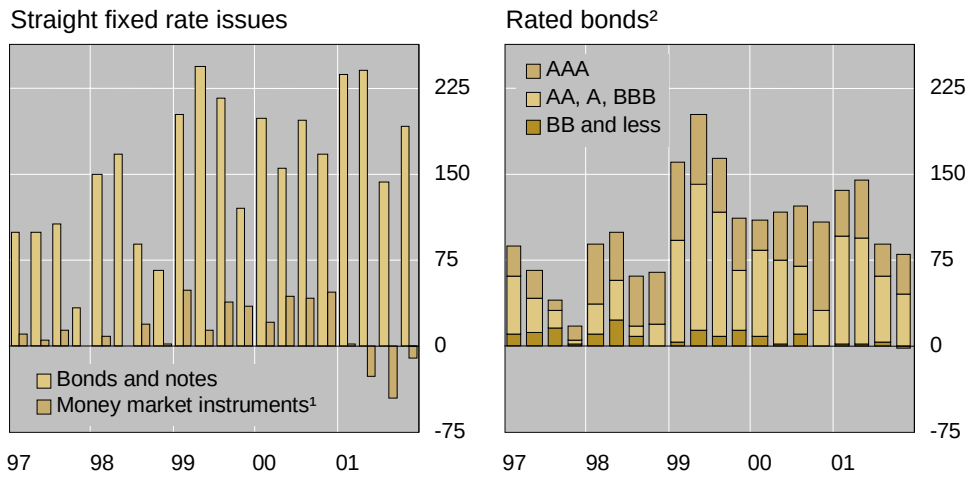
Net money market issuance remains negative ...

Net issuance of international money market instruments improved in the fourth quarter from the precipitous drop-off of the third, but remained negative (Table 3.1). This was largely due to a return to positive net issuance of commercial paper (CP) in international markets in the fourth quarter. Net CP issuance in the US domestic market turned positive, yet net issuance by US nationals of CP in international markets continued to be negative. Part of the weakness in issuance was due to rating downgrades of some of the traditionally big issuers. These firms found the bond market more hospitable. In both the US domestic and aggregate international CP markets, a strong pickup in net issuance by financial institutions made up for negative net issuance by non-financial corporations.

... but net CP issuance by financial institutions turns positive

Net 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; Euroclear; ISMA; Thomson Financial Securities Data; BIS.

Graph 3.3

Issuance in emerging markets remains depressed

Net issuance by emerging economies turned positive in the fourth quarter, but at just $4 billion remains at only a fraction of its average quarterly level in 1999–2000. This was so despite the large decline in risk spreads of emerging market debt noted in the Overview. Gross issuance partially rebounded as well, increasing by 43% from the third quarter to a level of $21 billion.

Much of the change in net issuance by emerging economies was due to two countries: Mexico and South Korea. A sharp fall in repayments by the Mexican government brought net issuance by Mexican nationals from –$6.9 billion in the third quarter to zero in the fourth. Private sector issuance boosted South Korea's net issuance from –$1.3 billion to $1.6 billion.

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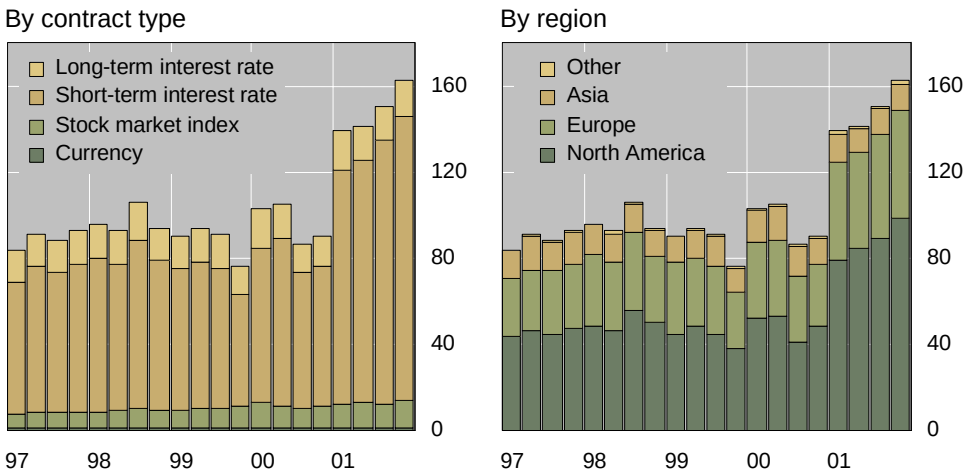
4. Derivatives markets

For the fourth time in a row, aggregate turnover of exchange-traded derivatives contracts monitored by the BIS reached a new record in the fourth quarter of 2001. The notional value of transactions rose by 8% to $163 trillion (Graph 4.1). Continued uncertainty concerning the extent of further monetary easing in the major industrialised countries and an abrupt reversal in the downward movement of government bond yields in the middle of the quarter were accompanied by an upsurge in the trading of fixed income contracts. Trading in money market contracts, which had been exceptionally buoyant since the beginning of the year against a background of monetary policy easing and changes in risk management practices, continued to be particularly robust. At the same time, transactions in stock index contracts also increased.

Activity for 2001 as a whole shows a spectacular increase in turnover in exchange-traded markets, with the value of transactions rising by 54% to $594 trillion. Business in money market contracts drove the upswing, with growth of 71%.[1]

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

[1] The box on page 37 discusses the major trends in exchange-traded markets during 2001.

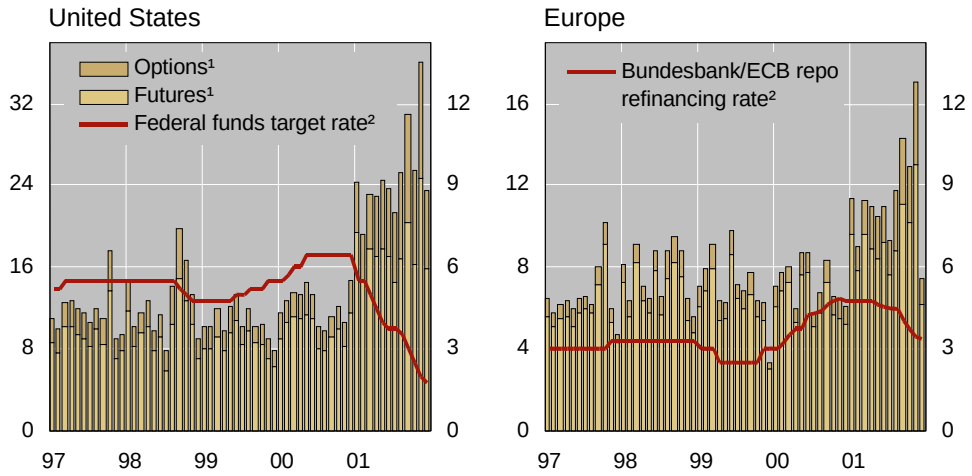
Expectations of turning point in interest rates fuel trading in money market futures

Activity in exchange-traded interest rate contracts expanded at a steady pace in the fourth quarter of 2001, with total turnover rising by 8% to $149.2 trillion. In contrast to the previous reporting period, when business in short-term instruments had increased by more than that in longer-term ones, there was no major difference in the outturn for short- and longer-term contracts.

Expectations shift in November

Trading in money market futures increased by 8% to $95.7 trillion in the fourth quarter (Graph 4.2). Expectations of further reductions in policy rates in the early part of the fourth quarter changed considerably in November on the back of a sustained recovery in global equity markets and perceptions that the US economy was reaching a trough. This led market participants to believe that monetary policy easing would moderate and perhaps even turn to tightening in 2002.[2] Such increasingly strong anticipations of a turnaround in the interest rate cycle, in the face of further reductions in official rates, appear to have been a major element in the record volume of activity seen in US money market futures in the fourth quarter. Although the easing of policy rates was somewhat less pronounced in Europe, the extent of uncertainty in world financial markets seems to have had an impact there as well, leading to record activity in European money market futures.

Short-term interest rate contracts and central bank target rates



¹ Notional amounts; monthly turnover in trillions of US dollars (lhs). ² In percentages (rhs).

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

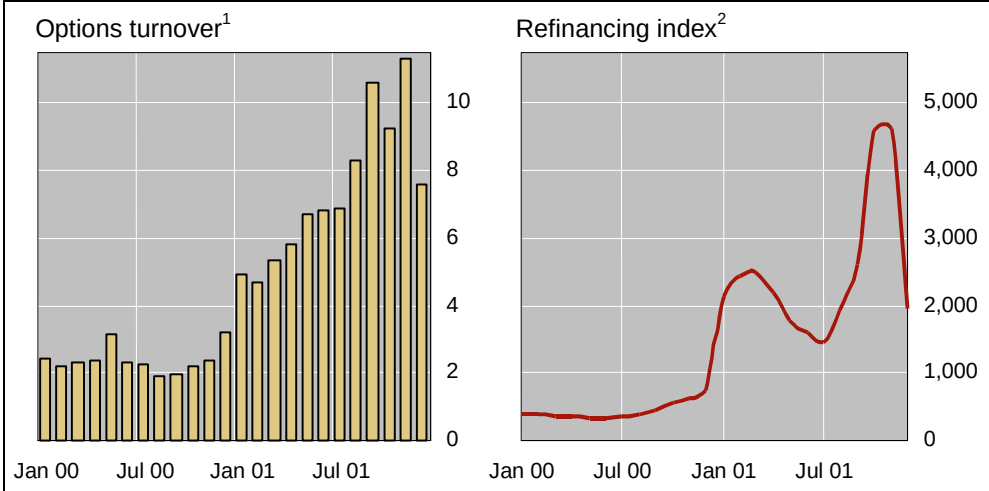
[2] This was reflected in the pattern of activity in eurodollar contracts, with front month contracts reaching record prices and deferred ones losing ground even as US policy rates were reduced.

Swings in US mortgage refinancing support activity in money market options

US mortgage market drives short-term interest rate options market

Meanwhile, the growth of turnover in money market options, a market segment that has also been particularly active since the beginning of 2001, moderated somewhat in the fourth quarter, with transactions expanding by 8% to $36.2 trillion. Once again, activity in short-term interest rate options appears to have been largely driven by developments in the US mortgage market (see the December 2001 issue of the *BIS Quarterly Review* for a more detailed discussion). Interest rate options and swaps are actively used by participants in the wholesale mortgage market to protect themselves against prepayment and extension risk.[3] As is illustrated by Graph 4.3, US mortgage refinancing applications dropped sharply following a record high in early November. This led to a major lengthening in the duration of MBSs with, in turn, an abrupt reversal of outstanding hedges and the establishment of new ones protecting against extension risk.[4]

Options turnover on US short-term interest rates and US mortgage refinancing index



[1] In trillions of US dollars. [2] Four-week moving average, 16 March 1990 = 100.

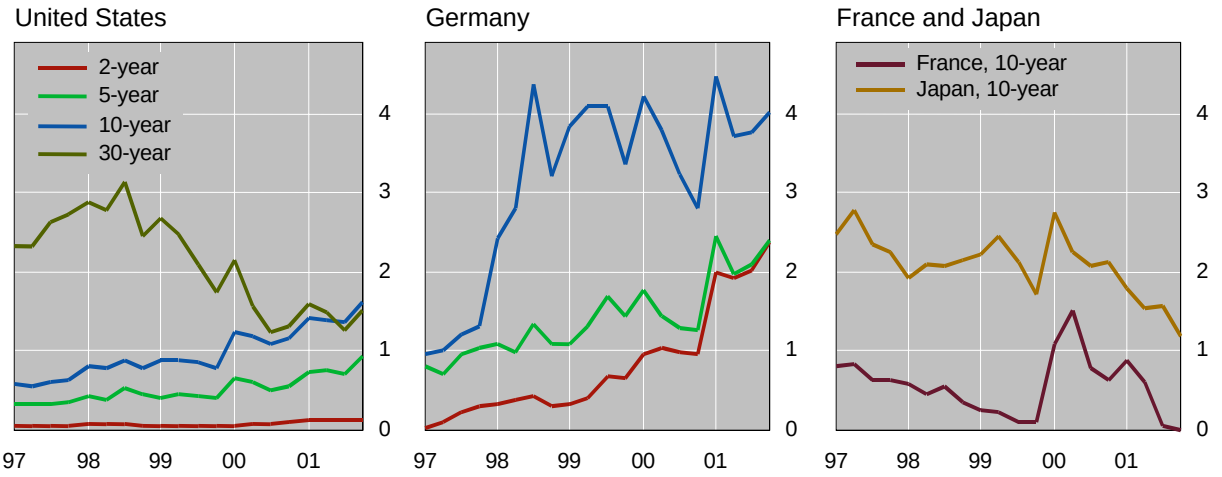
Sources: Financial Oxygen; FOW TRADEdata; Futures Industry Association; Mortgage Bankers Association; BIS calculations. Graph 4.3

[3] Investors in mortgage-backed securities (MBSs) face significant prepayment (or convexity) risks since the holders of the underlying mortgages enjoy certain prepayment privileges such as the ability to refinance the mortgages on more favourable terms when long-term interest rates decline. Such early repayments in turn lead issuers to call MBSs as the underlying pool of mortgages shrinks. The opposite is true when long-term interest rates rise, as reduced prepayments lead to an extension of duration.

[4] The aim of such new hedges was to shorten the duration of MBS portfolios. Some of these hedges involved the paying of fixed rates under interest rate swaps or the purchasing of payer (or put) swaptions.

Turnover in government bond contracts

Quarterly futures contract turnover, in trillions of US dollars



Sources: FOW TRADEdata; Futures Industry Association; BIS calculations. Graph 4.4

Trading in government bond contracts returns to expansion

There was a resurgence of trading in government bond contracts in the fourth quarter of 2001, following two consecutive quarterly declines. Aggregate turnover rose by 11% to $17.7 trillion. Of this total, futures rose by 9% to $15.2 trillion, while options jumped by 24% to $2.5 trillion.

Global bond market reversal leads to upswing in bond futures

The recovery of trading in government bond instruments was due to a number of general and idiosyncratic factors that pushed market volatility to very high levels. The broadest influence appears to have been the reversal in global bond markets in November. The US Treasury market, in particular, was buffeted by signs that the US economy was stabilising and by an unwinding of safe haven purchases made in the wake of the 11 September attacks. Moreover, concerns that the attacks would lead to a further increase in US corporate defaults, and the failure of Enron, triggered bouts of volatility in the corporate bond market, with the resulting movement of funds into Treasuries probably amplifying their volatility. These broad developments seem to have accounted for much of the 26% increase in the turnover of US bond contracts.

US Treasury announcement causes surprise

The various segments of the US Treasury market were also subjected to specific influences. The US Treasury's announcement on 31 October that it would halt sales of 30-year Treasury bonds appears to have taken market participants by surprise, sparking one of the strongest rallies ever in the Treasury market.[5] With a large number of traders reportedly holding yield curve steepening positions in US Treasuries,[6] the announcement triggered a round of

[5] In February 2001, the Treasury's Borrowing Advisory Committee had recommended that sales of Treasury bonds be ended, but the weakness of economic activity seems to have led market participants to discount that announcement.

[6] Involving long positions in short-term Treasury notes in anticipation of interest rate cuts and short ones in longer-term Treasuries on the assumption of additional supply.

short covering that played a major part in the steep price gains recorded at the long end. Activity in the US Treasury bond futures market, which had seen a gradual decline during the first three quarters of the year, sprang back to life (by 21%). At the same time, business in the 10-year contract, now the undisputed US benchmark, and the five-year futures also grew strongly. Activity in the two-year Treasury note contract, however, recorded a slight decline. Market sources have suggested that liquidity in the two-year area, a key maturity for position-taking on Federal Reserve actions, may have shifted to the cash market.

US Treasury bond futures spring back to life

Evidence of economic weakness in Europe also seems to have boosted turnover in European bond contracts, with business in German government bond contracts accelerating in the fourth quarter (by 11%). Although transactions in the 10-year bund contract rose appreciably (7%), expansion was once again more pronounced in the two-year and five-year maturities (Euro Schatz and Euro Bobl). This is thought to reflect the growing role of German government securities as European benchmarks.[7]

European economic weakness boosts bond futures

By contrast, activity in Japanese government bond (JGB) futures extended the downward trend observed since the beginning of 2000, with a 25% contraction in turnover. The downgrading of JGBs by a rating agency at the end of November and the weakness of overall economic conditions in Japan led market participants to sell some longer-term Japanese assets, including JGBs. This may in turn have reduced the need to use the futures market to hedge portfolios.

Lastly, trading in LIFFE's euro-denominated Swapnote contracts expanded at a much slower pace than in the previous quarter (2% versus 27%). Although activity in such contracts remains rather marginal, accounting for less than 2% of the value of turnover in German government bond futures, other exchanges believe that futures on swap rates hold promising prospects, as illustrated by the CBOT's introduction of a similar contract at the end of October (discussed on pages 38–40).

Slower growth in Swapnotes trading

Equity index business expands against a background of declining equity market volatility

Although volatility in global equity markets declined after reaching a peak in October, overall activity in equity index contracts expanded by 10% to $12.8 trillion. Business on Asian and North American exchanges rose by 40% and 7% respectively, while that on European exchanges dropped by 5%. The strong increase recorded in Asia resulted largely from the rapid development of option trading in Korea. This also explains why the volume of activity in Asian equity products has exceeded European business since the third quarter of 2001.

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[7] Meanwhile, trading in the Euro Notional contract on Euronext Paris (Matif) dried up, while the exchange's five-year bond contract, introduced in May 2001, did not meet expectations and was abandoned.

Exchange-traded activity soars in 2001

For the year 2001 as a whole, the aggregate value of turnover in financial products monitored by the BIS rose by 55% to $594 trillion. This was by far the largest yearly increase in activity since 1993 (the year the BIS began to compute value-based statistics for financial contracts). This upsurge reflected the nervous state of financial markets during much of the year. Forceful US monetary easing aimed at countering an economic slowdown combined with the turbulence caused by the 11 September attacks made 2001 one of the most volatile years since the 1950s.

Business in interest rate contracts grew the most rapidly (by 60% to $543 trillion), with money market instruments driving the expansion (rising by 71% to $475 trillion). Money market business was fuelled by monetary easing as well as by broad changes in risk management practices (as discussed in previous issues of the *BIS Quarterly Review*). By comparison, business in government bonds increased at a more moderate pace (by 11% to $68 trillion).

Equity index business expanded at a rate comparable to that of bond market instruments (by 13% to $48 trillion).[①] The value of trading in such instruments has grown at a steady pace in recent years, supported by the introduction of new sectoral and retail-targeted products in established marketplaces as well as rapid growth of recently established exchanges in Asia. Meanwhile, activity in currency contracts increased modestly (by 8% to $2.8 trillion). With currency risk management remaining the preserve of the over-the-counter market, such business accounts for only a marginal share of exchange-traded activity.

Looking at aggregate activity on the major exchanges, one of the most notable developments was the upsurge of activity on the Chicago Mercantile Exchange (CME).[②] With the number of contracts traded rising by 78% to 412 million, the CME replaced the Chicago Board Options Exchange (CBOE) as second most active marketplace in the world.[③] The CME greatly benefited from the upswing in its flagship eurodollar contract, which became the most actively traded in the world (ahead of the bund). The CBOE, by contrast, witnessed a 6% decline in activity. Although the exchange benefited from a higher turnover of its equity index contracts, it witnessed a contraction of its single equity contracts. The CBOE had to face strong competition from other US exchanges and, in particular, from the recently established International Stock Exchange, the first fully electronic US equity option exchange. Meanwhile, Eurex maintained its position as the most active marketplace in the world, with business rising by 49% to 665 million contracts. Although the exchange capitalised on the continued popularity of its government bond contracts, expansion was largely driven by its equity products.

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① It should be noted that data on the turnover of equity index contracts are likely to understate the overall expansion of equity-related business because the BIS value data do not capture all market activity (eg the turnover of options on single equities is not included). ② Comparing activity between exchanges is not straightforward since business can be measured in terms of both the number of contracts traded and the dollar value of transactions. Most exchanges tend to report market activity in number of contracts traded. Although such a measure is imprecise it is the simplest way of establishing the relative levels of activity on exchanges. It permits a cross-market comparison with contracts for which no value calculations are readily available (principally options on single equities and commodity contracts). ③ Based on the number of contracts traded, the Korea Stock Exchange (KSE) would be the largest derivatives exchange in the world. However, given that the size of contracts traded on that exchange is considerably smaller than that of those traded on the major world exchanges, the KSE was not considered in our global ranking of exchanges.

Enron has limited impact on exchange-traded activity

Shift of trading away from Enron's platform

The proliferation of increasingly negative news reports concerning the financial situation of US energy trading firm Enron in November last year, followed by the company's bankruptcy filing in December, reportedly led to a shift of trading activity away from the company's trading platform to other trading venues, including other over-the-counter (OTC) energy trading platforms and regulated

exchanges. However, the 10% increase in energy-related business in the fourth quarter was not inordinately large by historical standards. In the absence of comparable data on OTC market activity, it is not possible to ascertain whether OTC trading platforms attracted a larger share of business than exchange-traded markets.

CBOT launches swap futures contracts

On 26 October 2001, the Chicago Board of Trade (CBOT) launched an interest rate swap futures contract.[8] The new contract, which is traded both on open outcry and on the exchange's electronic trading platform, is based on the International Swaps and Derivatives Association's benchmark rate for 10-year US dollar interest rate swaps (Table 4.1). It offers financial market participants a new vehicle for the hedging of interest rate exposure referenced to long-dated Libor.

Futures contract could benefit from growing importance of swaps ...

A number of market participants have recently noted that the growing role played by interest rate swaps in US financial markets could provide fertile ground for the development of futures on swap rates.[9] The global crisis that followed the default by Russia in August 1998 highlighted the risks inherent in the use of government bonds and related exchange-traded derivatives contracts to hedge positions in non-government securities, leading market participants to seek alternative instruments such as interest rate swaps. A reduction in the liquidity of US government debt following net debt repayment by the US Treasury between 1998 and 2001 reinforced this shift to swaps. The US government is projected to return to a negative fiscal balance in 2002, but the share of US Treasury instruments in the universe of US fixed income instruments is likely to decline further as non-government borrowers continue to expand their issuing activity. This means that financial market participants will continue to seek trading and pricing instruments that are more closely linked to "spread products".

... and from some of their limitations

Exchanges are trying to capitalise on the fact that the OTC swap market continues to face some of the limitations associated with decentralised and customised marketplaces. In such markets, participants tend to maintain a large number of bilateral counterparty relationships since each new transaction involves the writing of an additional contract with a dealer. Moreover, time and administrative costs tend to complicate the transfer (or "assignment" in market terminology) of contracts from one counterparty to another.[10] Finally, the

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[8] This section draws on information provided by the CBOT at www.cbot.com.

[9] The potential advantages of the new contract are discussed in detail in Gerald Lucas and Joseph Schatz, "CBOT 10-year swap futures", *Fixed Income Strategy*, Merrill Lynch, 24 October 2001; Laurie Goodman, "The new swap futures contract", *Mortgage Strategist*, UBS Warburg, 23 October 2001; and David A Boberski, "Swap futures launch at CBOT", *Bond Market Roundup*, SalomonSmithBarney, 5 October 2001.

[10] For example, although swaps can be transferred to any mutually acceptable counterparty, both original counterparties must first agree on a new one before the transfer can proceed, which involves some inconvenience.

offsetting of an existing position involves the pricing of a new swap at off-market rates, which can lead dealers to charge a slightly wider bid-offer spread.

Centralised trading would provide benefits

Active trading through a centralised futures exchange would provide several benefits. First, any early liquidation of contracts would be made administratively simpler since it would only involve an offsetting of transactions on the exchange (the contracts being identical). Second, the standardisation of exchange-traded contracts would enable traders to conduct transactions more rapidly and at a lower cost. Third, growing concerns about counterparty credit risks may encourage some market participants to seek exposure to a triple-A rated clearing house rather than to a lower-rated dealing bank. Fourth, the ability to trade swaps on an exchange should improve market access for participants who have been hampered for credit-related reasons. Non-rated or non-investment grade market participants often have to pay swap dealers a slight yield premium (in the form of a wider bid-ask spread) that depends on their credit quality. Trading on an exchange, where counterparty risk is minimised through strict margin requirements, would enable such participants to avoid this premium and thus conduct transactions at a single rate (that of ISDA, which is a mid-market quote on dealer-to-dealer transactions). Although successful entry by lower-standing counterparties could have implications for

Main features of the CBOT's 10-year interest rate swap futures contract

Trading unit

The trading unit is based on the notional price of the fixed rate side of a 10-year interest rate swap that has notional principal of $100,000, and that exchanges semiannual interest payments at a fixed rate of 6% per annum for floating interest rate payments based on three-month Libor.

Price quote

Prices are quoted in points ($1,000) and thirty-seconds of a point (1/32 or $31.25), based on the notional principal of $100,000.

Contract months

The first three consecutive contracts in the March-June-September-December quarterly cycle.

Delivery method

By cash settlement. The final settlement value will be determined as $100,000 * [6/*r* + (1 – 6/*r*)*(1 + 0.01**r*/2) – 20] where *r* represents the ISDA benchmark rate for a 10-year US dollar interest rate swap on the last day of trading, expressed in percentage terms. For example, if the ISDA benchmark rate were 5¼%, then *r* would be 5.25. The contract expiration price is the final settlement value rounded to the nearest quarter of one thirty-second of one point.

Settlement

The notional price of the trading unit on the last day of trading is based on the ISDA benchmark rate for a 10-year US dollar interest rate swap on the last day of trading, as published on the following business day by the Federal Reserve Board in its daily update to the H.15 statistical release.

Table 4.1

the profit margins of existing OTC market participants, it could provide additional depth and liquidity to the broader swap market.

CBOT contract should be useful in its own right ...

Aside from the benefits associated with trading on a centralised marketplace, the CBOT swap contract should be useful in its own right. First, the contract should potentially provide an effective hedge for non-government liabilities, minimising basis risk when used to hedge agency, corporate and mortgage-backed securities.[11] Second, swap futures should create opportunities to structure spread trades between swaps and other CBOT contracts with similar maturities. The design of the swap contract is very similar to that of a standard agency or government bond future, with the same notional size and coupon. Third, the swap contract should also supplement existing trading vehicles. The contract shares some of the features of eurodollar futures traded on the CME, with similar expiration dates and cash settlement. Eurodollar futures can be used to replicate the fixed or floating branches of swap contracts but only out to five years, after which liquidity drops sharply. The new swap contract should help fill a gap in market liquidity, with positive spin-offs for the broader swap market.[12]

... but much depends on how liquid it will become

Of course, much depends on whether the swap futures contract attracts sufficient liquidity. The CBOT has attempted to diversify out of US Treasury products in recent years by developing a number of potentially promising contracts, such as agency and mortgage futures. However, due to low liquidity, their usefulness as hedging and trading instruments has remained limited.

[11] The contract will not be affected by the idiosyncratic distortions affecting the US Treasury market such as supply and demand imbalances and specialness in the repurchase market.

[12] One of the particularly attractive features of the swap contract is that it exhibits the same convexity as cash bonds and interest rate swaps. This is in contrast to eurodollar futures, whose pricing structure imposes a linear duration (since the price of contracts is derived as 100 – rate = price).

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Globalising international banking[1]

Over the last generation, internationally active banks have shifted from international to global banking. Some banks, rather than taking deposits in one jurisdiction and lending in another, have pursued the strategy of taking deposits and offering consumer loans, mortgages and corporate loans *within* a variety of national markets through a local presence. Other banks have pursued a capital markets strategy, seeking to fund their portfolios of local securities locally as well. Whether adopting a global consumer or global wholesale model, banks are increasingly looking to serve customers through a local presence funded locally. The ambition to build a *global* (or multinational) bank so defined differs from that to build an *international* bank, defined here as a bank that takes deposits in one country and makes loans in another.

The first section below profiles this shift over time, across reporting banks of various nationalities and across markets. The second section outlines reasons for the shift. The third highlights the change in the balance of risks that accompanies the revised strategy. The last section poses questions regarding future developments. The box on the next page explains how global banking can be distinguished from international banking, given available data.

The shift from international to global banking

The shift to global banking is uneven …

Although the most comprehensive time-series evidence for the long-term shift in business from cross-border to serving local markets locally happens to cover US-incorporated banks, what follows demonstrates that a global strategy is by no means confined to banks based in the United States. Indeed, Canadian, Irish, Spanish, Swiss and UK banks are more globalised than US banks. Looking at the data by local banking market, the shift is very uneven, with Europe a major exception and Asian markets more globalised than they are generally considered to be.

[1] Judith S Ruud is on the staff of the US Congressional Budget Office. The views expressed in this article are those of the authors and do not necessarily reflect those of the BIS or the US Congressional Budget Office.

Distinguishing between international and global banking

The principal difference between international banking and global banking is the way in which a bank finances its foreign assets, ie its claims on borrowers domiciled outside the market in which the bank is headquartered. An international bank uses funds raised in its domestic market to finance its claims on borrowers in a foreign market. By contrast, a global bank uses funds raised in a foreign market to finance its claims on borrowers in the same foreign market. Put differently, an international bank concentrates on cross-border business and a global bank on serving local markets locally.

To illustrate, consider a bank headquartered in the United States with foreign assets consisting of loans to borrowers in Japan. The figure below outlines five different ways in which these loans could be funded. In examples 1 and 2, the funds are raised in the United States by taking deposits from US residents, and then lent to Japan. Most international banking transactions are variations on this theme (often routed through a third country such as a banking centre in the Caribbean). In example 3, a depositor in Japan places funds in a US bank that lends to an entity in Japan. Such round-tripping also qualifies as international banking. Global banking is exemplified by example 4: funds are raised in Japan by the Japanese affiliate of a US bank and lent by the same affiliate to borrowers in Japan. Example 5 illustrates another variant of global banking, where the funds are raised abroad but the depositor rather than the bank bears the transfer risk.

Few banks are either pure international banks or pure global banks. In particular, most global banks engage in significant amounts of cross-border business alongside their locally funded business. The importance of global banking relative to international banking is best gauged by comparing a bank's locally funded foreign assets to its total foreign (cross-border plus local) assets. The ratio of locally funded foreign assets to total foreign assets will equal one for a pure global bank and zero for a pure international bank. Most banks will lie somewhere between the two extremes.

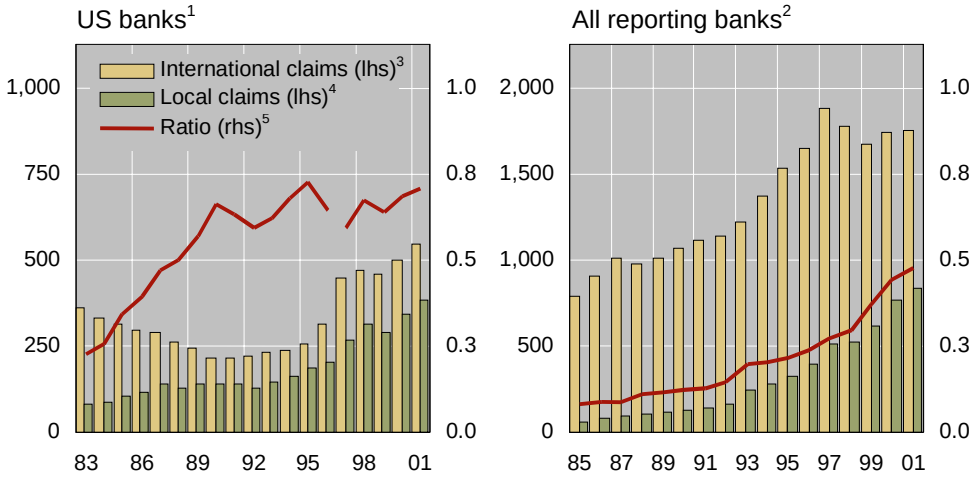
This ratio can be approximated using the BIS consolidated banking statistics. Ideally, locally funded claims should be measured as the lesser of local claims and local liabilities booked by banks' foreign affiliates. It is important to take the lesser of claims and liabilities because some local claims may be funded by head office, as in example 2, and some local liabilities may be channelled abroad. Banks contributing to the consolidated banking statistics report separately their local positions denominated in local currencies, but not their local positions in all currencies. Therefore, the shift from international to global banking cannot be measured precisely. In countries with dollarised financial systems, the consolidated statistics will tend to underestimate the importance of global banking, owing to the lack of information about local positions in foreign currencies.

Bank funding of foreign assets

Ways in which a bank headquartered in the United States can fund loans to a borrower in Japan

Type of banking	Residents of the United States			Cross-border	Residents of Japan		
1. International	Saver	Deposit →	Head office	Loan →		→	Borrower
2. International	Saver	Deposit →	Head office	Deposit →	Bank affiliate	Loan →	Borrower
3. International			Head office	← Deposit Loan →		← →	Saver Borrower
4. Global					Bank affiliate	← Deposit Loan →	Saver Borrower
5. Global	Saver	→		Deposit →	Bank affiliate	Loan →	Borrower

Foreign claims of BIS reporting banks



[1] Claims vis-à-vis all countries. Data for 2001 refer to end-September. Break in series in 1997 owing to the inclusion of derivative claims and the reclassification of local claims in foreign currencies as local claims rather than international claims. [2] Excluding claims on Canada, Japan, the United States and western Europe. Data for 2001 refer to end-September. [3] Cross-border claims in all currencies and local claims in foreign currencies, in billions of US dollars. [4] Local claims in local currencies, in billions of US dollars. [5] Local claims as a ratio of international claims.

Sources: US Federal Financial Institutions Examination Council; BIS. Graph 1

From international to global banking: a 20-year view

... but the overall trend is clear

While different banks have shifted from an international banking strategy towards a global banking strategy at different paces, the overall trend was already evident by at least the mid-1980s. Cross-border business, in particular lending to developing countries funded with eurocurrency deposits, had propelled the expansion of banks' foreign assets during the 1960s and 1970s. By contrast, during the 1980s and 1990s, locally funded business tended to expand more rapidly than cross-border positions.

Data covering banks incorporated in the United States illustrate the growth of foreign banks' locally funded business.[2] Whereas US banks' cross-border claims increased by 55% to $548 billion between 1982 and 2001, their local claims rose nearly 400% to $385 billion (Graph 1, left-hand panel), reaching a ratio of 0.7. Although it appears from Graph 1 that cross-border claims significantly outgrew local claims in 1997, this reflects a series break that year from the inclusion of derivative positions.[3] Since this break, the ratio has

[2] See Palmer (2000). This section draws on Ruud (2002).

[3] US banks' strategies from the late 1980s downplayed balance sheet growth and emphasised instead derivatives activity. This activity can be measured in terms of notional value or in terms of positive replacement value. For example, a derivative claim would arise if a customer entered into an interest rate swap arrangement with a bank to pay a fixed long-term interest rate and to receive an appropriate floating interest rate on the same "notional" sum. If long-term interest rates subsequently fell, the swap would have a positive replacement value (and therefore represent a claim of the bank on the customer). That is, the bank would have to pay a new customer to accept the old contract terms in the event of the customer's default. From 1997, such replacement values were included in both the cross-border and local claims as reported by the US authorities. Thus, the decline in the ratio in the left-hand panel of Graph 1

narrowed as the more broadly measured local claims have continued to grow faster than the cross-border claims.

Globalisation by nationality of bank

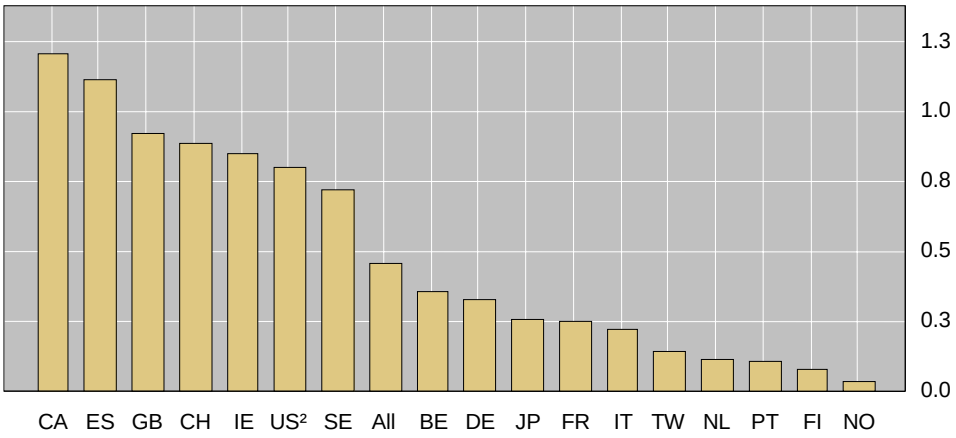
The growth of locally funded business has by no means been confined to US banks. Banks incorporated in other countries have expanded their local presence in foreign banking markets as quickly as US banks, if not faster. The expansion of non-US banks is less well documented, however. Only in 1999 were the BIS consolidated banking statistics extended to cover banks' foreign claims on all countries; prior to that, banks reported only their claims on countries outside the reporting area, mainly developing countries (Graph 1, right-hand panel).

Canadian and Spanish banks are the most globalised banks

The newly compiled data show that the US banking system has not become extraordinarily global when juxtaposed with its international peers; indeed, a handful of banking systems are more global than that of the United

Local claims of BIS reporting banks, by nationality of bank

At end-September 2001; as a ratio of international claims[1]



CA = Canada; ES = Spain; GB = United Kingdom; CH = Switzerland; IE = Ireland; US = United States; SE = Sweden; All = all reporting countries; BE = Belgium; DE = Germany; JP = Japan; FR = France; IT = Italy; TW = Taiwan, China; NL = Netherlands; PT = Portugal; FI = Finland; NO = Norway.

[1] Local claims in local currencies as a ratio of cross-border claims in all currencies plus local claims in foreign currencies. Data exclude derivative claims. [2] Local claims as a ratio of cross-border claims.

Source: BIS. Graph 2

with the inclusion of derivatives suggests that derivatives activity up to 1997 entailed relatively more cross-border exposure than did on-balance sheet claims. In addition to this series break, there was a conceptual shift. Before 1997, the US data distinguished between cross-border, foreign currency and local currency claims funded abroad, on the one hand, and local currency claims funded locally, on the other. Thereafter, foreign currency claims funded locally were no longer aggregated with cross-border claims but instead with locally funded local currency claims, and the new aggregate was dubbed local claims. (These local claims include the positive replacement value of derivatives, but these are not reported separately.) This conceptual shift reflected the increased presence of US banks in heavily dollarised banking systems abroad and the judgment that dollar claims booked and funded locally did not entail the same risk as cross-border claims.

States (Graph 2). The most recent consolidated banking statistics indicate that Canadian banks have a ratio of local claims in local currencies to international claims of 1.2. To a large extent, this reflects the large funding base of their branch and subsidiary operations in the United States, so it might be said that Canadian banks are as much regionalised as globalised. Spanish banks are also very global, funding much of their foreign claims locally, particularly in Latin America. UK, Swiss and Irish banks' local claims are nearly equivalent to their international claims. UK-headquartered banks are well represented in local markets not only in the western hemisphere but also in East Asia.[4]

Global and international banking by market

In the western European market, banks' cross-border claims still dominate

Turning from the banks behind the expansion of locally funded claims to the markets into which they have expanded, the balance between international and global banking varies across different regions. BIS reporting banks' local claims on Latin American countries rose sharply in the late 1990s and are now as large as international claims (Graph 3, left-hand panel; Table 1). In the Asia-Pacific region local claims are quickly approaching the level of international claims, and in North America the gap is not very wide. Local claims are half as large as international claims on countries in eastern Europe, the Middle East and Africa, but are rising rapidly. Only reporting banks' claims on western Europe still predominantly take the form of cross-border claims.

Foreign bank market share

Foreign banks' share of the Latin American market is more than double that of other markets ...

The picture changes somewhat when we expand the focus from just the balance sheets of banks incorporated in the BIS reporting area to their role in overall bank intermediation in various markets. Conventional measures of the market share of foreign banks (on the lending side) consider only their local claims as a share of overall bank credit extended locally. Such a measure shows that foreign banks' share of the Latin American market is more than double that of any other market (Graph 3, centre panel). Foreign banks' local claims account for nearly half of domestic bank credit in Latin America, compared to approximately 15% in North America and in eastern Europe, the Middle East and Africa. The Asia-Pacific region and western Europe lag at less than 10%.

A more comprehensive measure, however, takes into account cross-border lending as well. In particular, to the measure just examined it adds international claims on non-banks to the numerator and to the denominator. Not surprisingly, this measure shows foreign banks to have a noticeably higher share, particularly in western Europe, where cross-border claims are large relative to domestic bank lending (Graph 3, right-hand panel).

[4] This comparison actually understates the extent to which non-US banks have become global banks. Countries other than the United States include local claims in foreign currencies with international claims, while since 1997 the United States has aggregated locally funded claims in foreign currencies with locally funded claims in local currencies.

Claims of BIS reporting banks

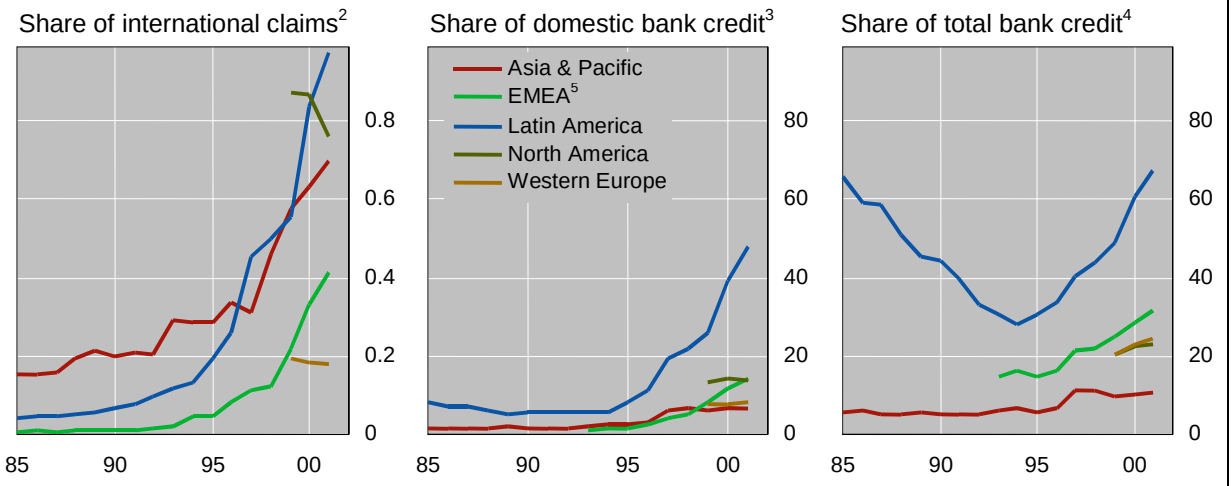
At end-September 2001

	International claims[1]		Local claims in local currencies	Local claims/ international claims[2]	Local claims/ domestic bank credit[3]	Foreign bank credit/total bank credit[4]
	Total	On non-banks				
	in billions of US dollars			ratio	in percentages	
All countries[5]	7,801	3,900	3,034	0.39	10	21
Asia-Pacific	904	395	631	0.70	7	11
Australia	85	38	67	0.79	19	28
China	54	27	5	0.90	0	2
Hong Kong SAR	106	64	169	1.59	71	88
India	19	16	16	0.85	7	14
Indonesia	36	32	4	0.10	5	39
Japan	365	104	224	0.61	4	6
Korea	54	23	20	0.36	5	10
Malaysia	20	17	28	1.39	27	41
New Zealand[6]	14	8	18	1.27	29	38
Philippines	16	12	5	0.34	13	35
Singapore	94	27	42	0.44	53	77
Taiwan, China	15	10	16	1.06	4	6
Thailand	24	18	17	0.72	15	29
EMEA[7]	196	131	81	0.41	14	31
Czech Republic	8	6	20	2.38	68	77
Hungary	18	12	9	0.50	40	71
Poland	25	20	34	1.33	52	72
Russia	39	20	1	0.30	2	27
South Africa	19	10	5	0.29	10	24
Turkey	38	28	1	0.20	1	26
Latin America[8]	270	223	263	0.97	48	67
Argentina	61	53	21	0.34	26	67
Brazil	72	53	66	0.91	30	45
Chile	20	19	22	1.08	48	66
Mexico	74	63	134	1.82	99	105
Venezuela	12	11	9	0.72	50	69
North America	1,578	1,068	1,197	0.76	14	23
Canada	158	66	63	0.40	12	22
United States	1,420	1,001	1,134	0.80	14	23
Western Europe[9]	4,854	2,083	862	0.18	8	25
Euro area	3,016	1,415	467	0.15	6	22
France	491	208	88	0.18	6	19
Germany	715	286	87	0.12	3	13
Italy	441	273	53	0.12	5	24
Netherlands	341	194	63	0.18	11	34
Switzerland	342	65	11	0.30	3	15
United Kingdom	1,235	490	366	0.30	18	38

[1] BIS reporting banks' cross-border claims in all currencies and their foreign affiliates' local claims in foreign currencies (from the consolidated banking statistics). [2] BIS reporting banks' local claims in local currencies as a ratio of their international claims. [3] BIS reporting banks' local claims in local currencies as a percentage of all commercial banks' local claims on non-banks. [4] BIS reporting banks' international claims on non-banks plus their local claims in local currencies, as a percentage of reporting banks' cross-border claims on non-banks plus all commercial banks' local claims on non-banks. [5] Sum of the regions shown in the table. [6] Excluding claims of Australian banks, which do not contribute to the consolidated banking statistics; Australian banks own several of the largest banks in New Zealand. [7] Eastern Europe, Middle East and Africa; countries shown plus Algeria, Bulgaria, Cyprus, Egypt, Israel, Morocco, Romania, the Slovak Republic and Tunisia. [8] Countries shown plus Colombia, Ecuador, Peru and Uruguay. [9] Euro area and countries shown plus Denmark, Iceland, Norway and Sweden.

Sources: IMF; BIS. Table 1

Local claims of BIS reporting banks, by residency of borrower[1]



[1] For a list of countries in each region, see Table 1. Data for 2001 refer to end-September. [2] BIS reporting banks' local claims in local currencies as a ratio of their international claims. [3] BIS reporting banks' local claims in local currencies as a percentage of all commercial banks' local claims on non-banks. [4] BIS reporting banks' international claims on non-banks plus their local claims in local currencies, as a percentage of reporting banks' cross-border claims on non-banks plus all commercial banks' local claims on non-banks. [5] Eastern Europe, Middle East and Africa.

Sources: IMF; BIS. Graph 3

... but their exposure to Asia is larger than that to Latin America

Combining the various perspectives allows some useful contrasts to be drawn between the Latin American and Asia-Pacific markets. First, BIS reporting banks have a much larger stake in the Asia-Pacific region than in Latin America, about $1.5 trillion as compared to $0.5 trillion (Table 1). Second, as noted above, the balance between cross-border and local claims in the two regions is not too dissimilar, and could be considered even closer if account is taken of the investments by a foreign consortium in the former Long-Term Credit Bank of Japan and in Korea First Bank, and foreign banks' minority stakes in other Korean banks (Graph 3, left-hand panel). And finally, this is true notwithstanding the fact that BIS area banks play a much larger role in Latin American banking markets than in the Asia-Pacific region (Graph 3, right-hand panel). This suggests that the scope for foreign banks to expand in Asia depends on economic growth and prospective market share gains, while expansion in Latin America depends more on economic growth and financial deepening in the region.

Explaining the shift

The shift from international to global banking reflects changes both in banks' strategies and in the constraints they face. An interesting question is why international banking seems to have yielded so little to global banking in the European market.

Bank strategies

The shift to global banking is explained by changes in business strategies ...

Over the last generation, many banks have altered their business strategies. The new strategies have tended to lead to a balanced increase in local assets and liabilities. While the international departments of major banks spent much of the 1980s renegotiating loans made before 1982, bankers who had made their name developing consumer or securities businesses rose to leadership positions. An emphasis on consumer banking means trying to turn depositors into credit card users and mortgage customers, and vice versa. This naturally tends to lead to balanced growth of assets and liabilities in foreign markets. Similarly, the development of a securities business within a country tends to lead to a balance of assets and liabilities, for instance government bonds financed with repurchase transactions.

Similarly, banks' strategic shift from holding to originating and selling international claims has tended to reduce their cross-border footing. The renegotiations of the 1980s ended up creating a new asset class for institutional investors: originally Brady bonds and then more generally emerging market bonds issued by governments and companies. While international banks figure as holders as well as underwriters of such obligations, the widening of the investor base to include institutional investors has substituted for cross-border bank loans to some extent.

Specific lessons drawn from the experience of the debt crisis of the 1980s also led banks to favour global over international banking, particularly in riskier markets. In the early 1980s, foreign exchange crises led governments to impose payment moratoriums on cross-border loans (see below). Locally funded assets, while subject to credit risks at such times, did not involve a foreign exchange drain and so were not necessarily affected by payment moratoriums.

Banks have pursued their altered strategies by de novo entry into new markets, by organic expansion of existing operations and through cross-border acquisition. In acquiring banks across borders, they have been part of a larger wave of cross-border mergers and acquisitions. Cross-border mergers and acquisitions reached a record level of 8% of world GDP in the late 1990s (see UNCTAD (2001)). While in part banks have elected to follow their customers' example in order to have a balance sheet of sufficient size to serve their peak needs, bank expansion has also drawn on the same conviction that relatively large global players will dominate each business.

Altered constraints

Circumstances as well as strategies lay behind the shift to global banking. Among the most important factors determining the pace of foreign banks' expansion into local financial systems is financial sector liberalisation. Over the past two decades, many countries have moved from relatively closed and administered financial systems to more open ones. This has typically included the relaxation of restrictions on foreign ownership of local banks. For example, in Canada restrictions on foreign branch banking and on the market share of

foreign subsidiaries effectively led foreign banks to service customers from outside the country rather than through local affiliates.

... as well as changes in local banking markets

Liberalisation has at times been precipitated by financial crises.[5] Banks with global ambitions have found it attractive to buy local banks put up for sale following crisis-related nationalisations owing to loan losses. In addition, the weakness of local banks after a crisis offers competitive opportunities for multinational banks to expand their extant operations. In countries with state-dominated financial systems, liberalisation and the aftermath of crisis were often accompanied by privatisation, in which foreign banks could participate.

Another factor working to domesticate foreign banks' operations is the decline of unremunerated reserve requirements as a part of monetary control. For example, a foreign bank lending to a US corporation and funding the loan offshore could previously avoid the Federal Reserve's reserve requirement. In 1990, however, the Fed lowered this reserve requirement to 0%, removing much of the incentive to book loans offshore.[6]

The European exception

Europe has gone through many of the changes described above, yet lags other regions in terms of the proportion of banks' foreign business that is conducted locally. Why is Europe an exception?

One explanation is that Europe is home to several important financial centres. London is the largest, but Amsterdam, Dublin, Luxembourg and Zurich also host many financial services firms. The activities of these firms tend to boost cross-border intermediation. Yet, even if the cross-border activity in these financial centres is discounted, Europe still stands out.

A second possible explanation for the large amount of cross-border business is the integration of the interbank money market in Europe. Such integration had advanced quite far even before the euro and the introduction of the TARGET payments mechanism to serve the euro area as a whole. But again, even if one strips out interbank transactions, cross-border claims remain much more dominant in Europe than elsewhere.

The euro has strengthened international banking in Europe

The third factor is the combination of keen competition for Europe's larger corporate borrowers and increasing holdings of securities in one country of obligors in another country, in the context of limited presence of European banks in their neighbours' retail deposit markets. The mergers that have occurred in anticipation of, and in the wake of, the introduction of the euro have to date been mostly mergers *within* countries. If anything, the introduction of the euro seems only to have accentuated the relative strength of international banking in Europe by allowing the funding of claims on businesses and households in other European countries with euros raised in the home market.

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[5] See Hawkins and Mihaljek (2001).

[6] For some foreign banks, FDIC insurance continued to provide an incentive to book offshore. See McCauley and Seth (1992).

Risks arising from the shift to global banking

The shift from transfer to country risk

Seen through the broadest lens, the shift from international to global lending involves a shift from transfer risk to the broader one of country risk. Strictly speaking, transfer risk is the risk that a borrower is able to pay in domestic currency – so the credit judgment was valid – but is not permitted to exchange foreign currency against that domestic currency to make the payment. Country risk is a broader concept covering both the risk of a change in the legal environment and that of changes in taxes or economic circumstances within a country. Local deposit-taking and lending can avoid transfer risk, but remain subject to other kinds of country risk.

The distinction was illustrated in a classic court case arising from the Philippine international payment moratorium of 1983.[7] The Singapore subsidiary of one US bank had placed a dollar deposit with another US bank's branch in Manila. After the Philippine government imposed a moratorium on the repayment of such deposits, the depositor bank sued the other US bank in the US courts for repayment in the United States. Eventually, it was clarified that in such a case the depositor bears the transfer risk, leaving the bank that accepts the deposit and lends it out locally to bear the balance of country risk.

Recent events in Argentina have highlighted the risk borne by the bank that funds a dollar loan locally, especially if many such loans are made to those without dollar cash flows. The globalisation of banking reduces some of the risks of international banking but gives rise to new ones as well.

Questions for the future

The current state of the shift from international to global banking raises three questions. One concerns the persistence of the exceptional predominance of international banking in Europe. The second regards the extent of further globalisation of banking in East Asia, particularly given current account balances and China's accession to the WTO. And the third relates to the reactions of banks to recent events in Argentina.

Will global banking strengthen in Europe?

In Europe, competition among banks entered a new phase with the introduction of the euro. In-country mergers have sought to achieve scale economies and the amalgamation of banking and insurance.[8] This pattern of mergers has wrought little change in Europe's pattern of cross-border banking, while the introduction of the euro has eased trans-European competition in the loan market funded with home market deposits. Some observers expect a second phase featuring cross-border mergers (see White (1998)). Will the

[7] 936 F.2d 723; 1991 US App. The Supreme Court ultimately found in favour of the plaintiff, arguing that the deposit contract did not explicitly prevent the repayment in New York. US law was subsequently amended (Title 12, *United States Code*, section 633 (1994)) in effect to reverse this ruling so that, in the event of a moratorium, payment would be required in the United States only if the contract explicitly called for repayment in such circumstances.

[8] See Borio and Tsatsaronis (1999).

European banking market then join the rest of the world in the shift from international to global banking?

Will Asia continue to open up to foreign banks?

In East Asia, the recent shift to global banking reflects to some extent the distress of many banking systems resulting from the 1997 Asian crisis. While weakened banking systems also formed the background to the shift to global banking in Latin America, the current account surpluses that have arisen in East Asia in the wake of the crisis point to an important difference. East Asia is not generally accumulating net international liabilities and thus will not feel pressure from that side to permit an expanded foreign bank role in its banking system. With its entry into the WTO, China has committed itself to opening its banking market, including the local currency business, to foreign banks and many of these hope collectively to achieve rapid market share growth. Will East Asia continue to open its domestic markets to foreign banks even after local banks repair the damage sustained during the Asian crisis?

What will be the fallout from Argentina?

Finally, bank strategies may evolve in the light of events in Argentina. The prospect that US dollar assets and liabilities could suffer disparate treatment there could lead banks to re-evaluate the risks of locally funded foreign currency business. Were banks to attach a greater country risk premium to such business, they might insist on matching debt denomination to customers' local currency cash flows more closely. Such a reaction could render the international banking system more robust. Will banks' global strategy favour domestic currency banking in the future?

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International bank lending to emerging market countries: explaining the 1990s roller coaster[1]

One of the distinctive features of global financial market activity in the 1990s was the remarkable growth in international bank lending to developing countries and its sharp retrenchment following the financial crisis in Asia in the second half of 1997. The large scale of capital flows to emerging market countries and their subsequent reversal have generated extensive research since the early 1990s. Yet relatively few studies have focused specifically on the determinants of international bank lending, which has been the main component of these flows.[2] This special feature systematically examines the determinants of changes in the claims of BIS reporting banks on the largest emerging market countries in Asia and Latin America. The work is guided by the hypothesis that lending flows tend to be driven by economic fundamentals but that other factors can also at times be influential. Adopting a well known approach distinguishing between external ("push") and internal ("pull") determinants of lending flows, preliminary results show that both types of factors influence international bank lending. Additional tests suggest that international bank lending may have depended on the prevailing exchange rate regime.

What goes up can come down

Pronounced increase in bank lending ...

International bank lending to developing countries increased sharply between the end of 1990 and the end of 1997. The growth in bank lending was most pronounced in Asia, followed by eastern Europe and Latin America (Graph 1). By comparison, lending to Africa and the Middle East (not shown in the graph) was nearly stagnant.[3]

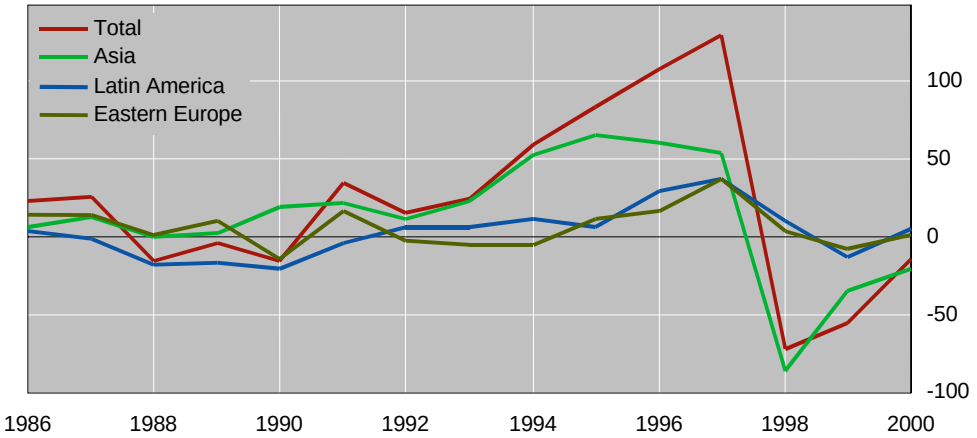
[1] We would like to thank Florence Béranger and Philippe Hainaut for their help in assembling and preparing much of the data used in this special feature. The views expressed in this article are those of the authors and do not necessarily reflect those of the BIS.

[2] Notable exceptions are Buch (2000) and Goldberg (2001).

[3] The broader issue of globalisation in the international banking market is discussed in a special feature on page 41 of this *BIS Quarterly Review*.

Bank lending to emerging market countries

In billions of US dollars



Source: BIS. Graph 1

... mainly in short-term claims

Much of the increase in lending over that period resulted from a pronounced rise in short-term claims (Graph 2). This trend has been attributed to a number of factors. These include the growth of trade financing, the liberalisation of financial sectors, the establishment of offshore centres, the advantages offered by short-term loans in the monitoring and management of international exposures, and the so-called "arbitrage" opportunities created by a combination of high local nominal interest rates and fixed or nearly fixed exchange rates.[4] It has also been suggested that the prevailing regulatory framework may have played a role in encouraging short-term lending flows.[5]

Short-term loans highest in Asia

The proportion of short-term loans was the highest in Asia, reflecting the rapid development of local and offshore banking systems and possibly interest rate "arbitrage" by international banks. By contrast, the share of short-term lending rose from a lower level in Latin America, owing to the higher proportion of long-term loans to public sector entities and the impact of earlier rescheduling agreements.

Sharp expansion of activity by European lenders

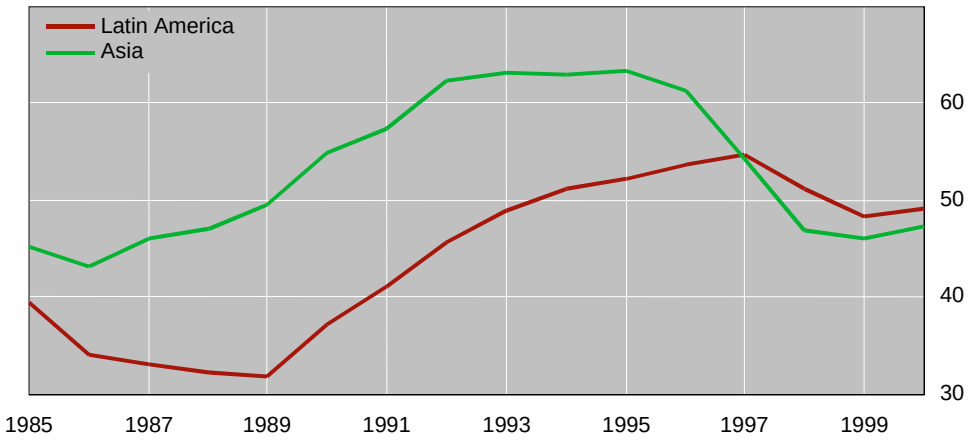
Another notable trend was the sharp expansion of activity by European banks (Graph 3). That expansion, particularly in Asia and Latin America, has been attributed to a desire on the part of European banks to diversify away from regions where they have traditionally played a dominant role (Africa, eastern Europe and the Middle East), the growth of foreign direct investment

[4] While such "carry trade" strategies were commonly referred to as "arbitrage", this is a misnomer since arbitrage transactions are by definition riskless. For a more detailed treatment of related issues, see Moreno et al (1998).

[5] One view is that the 1988 Basel Capital Accord may have encouraged short-term lending to developing countries. Under the Accord, international bank claims of up to one year to non-OECD countries carry a 20% risk weight for capital adequacy purposes, while longer-term loans carry a 100% weight. A working group of the Basel Committee on Banking Supervision (1999) did not find conclusive evidence to this effect.

Maturity distribution of international bank lending to emerging market economies

Short-term loans[1] as a percentage of total lending



[1] Loans with a residual maturity of up to one year.

Source: BIS. Graph 2

and trade by European companies, and low returns in traditional business activities in a context of weak European growth.[6] At the end of 1997, European banks had the highest exposure to emerging market countries. They were also the most geographically diversified.

Comparatively modest new lending by North American banks

Meanwhile, North American banks expanded their lending activity at a relatively modest pace. This cautious attitude probably resulted from the experience of the early 1980s, when their balance sheets were dramatically weakened by problem loans to Latin America. North American banks returned to more active lending to that area between 1992 and 1994 but slowed down again as the Mexican "tequila" crisis at the end of 1994 led to a major disposal of high-yielding Mexican short-term government debt securities. US bank lending to Latin America remained subdued thereafter, with banks focusing their efforts on areas where they had hitherto played a more limited role (such as Asia, Africa, eastern Europe and the Middle East).

Japanese lenders show reduced enthusiasm

The behaviour of Japanese banks contrasted sharply with that of other major groups. Although the stock of loans held by Japanese banks was initially large and increased in the early 1990s, their share of global bank claims followed a declining trend. Mounting losses on domestic loans and pressures to boost capital ratios reduced their eagerness for international lending. Japanese banks returned to more active international lending in 1994 and 1995 (largely to Asia). However, the appearance of a significant premium on the financial liabilities of Japanese banks, owing to growing concerns about the strength of the Japanese financial system, brought a renewed shift away from international

[6] In the case of German banks, low returns may also have resulted from strong competition from state-owned banks. Such banks reportedly capitalised on state support to achieve high credit ratings and, as a result, a lower cost of funds than banks not enjoying such support.

business. With almost 80% of their international loans being booked on Asian residents, Japanese banks had the largest exposure to Asia of any single national group of banks.

An initial cutback in lending to Asia in late 1997 ...

The Asian crisis that broke in July 1997 led to a worsening of conditions in the international banking market. Although total lending to emerging market countries reached a new peak at the end of 1997, retrenchment had already been set in motion. While banks quickly moved to reduce their claims on Asian residents from the second half of 1997 (largely through the non-renewal of short-term loans), they further increased their exposures to Latin American and eastern European borrowers in the first half of 1998. However, from the second half of 1998, all regions, except Africa and the Middle East, were affected by the retrenchment in international lending that followed the Russian debt moratorium. The decline in lending activity reflected not only a reduced willingness to lend but also a weaker demand for loans, particularly in Asia. In this region, the shift to current account surpluses, corporate deleveraging and inflows of equity investment made external bank financing less necessary. Overall, international bank lending contracted substantially from the end of 1997. While the reduction in claims was concentrated in Asia, lending to other regions stagnated. Lending activity has not recovered since.

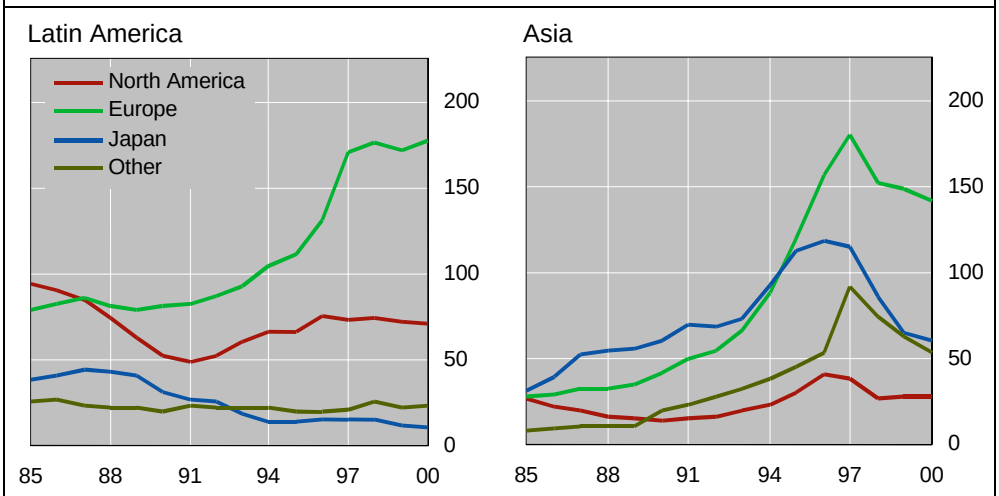
... is followed by a broader retrenchment

Recent crises show volatility of bank lending

The recent financial crises have challenged previously held views concerning the relative stability of various types of capital flows. Bank lending had long been assumed to be more stable than capital market financing, substituting for securities issuance during periods of market stress (World Bank (2000, 2001)). This had been attributed to the greater emphasis placed by lending banks on long-term economic fundamentals, not least owing to the limited potential to resell loans in the secondary market (Sarno and Taylor

Nationality distribution of the stock of international lending to emerging market economies

In billions of US dollars



Source: BIS.

Graph 3

Net capital flows to emerging market economies											
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total private capital flows	42.8	97.4	107.0	128.6	142.3	211.4	224.7	115.2	66.2	67.4	36.4
of which:											
Private direct investments	19.0	32.2	35.7	57.9	81.0	95.8	119.5	141.3	151.6	154.6	141.9
Private portfolio investments	– 0.9	25.1	62.7	76.8	105.0	41.4	79.6	39.4	0.3	4.8	17.3
Other private capital flows[1]	24.6	40.1	8.5	– 6.1	– 43.7	74.2	25.6	– 65.6	– 85.6	– 91.9	–122.8

[1] Includes bank lending.

Source: IMF, *World Economic Outlook*. Table 1

(1999)). However, the rising share of short-term bank lending in the first half of the 1990s critically undermined this assumed stability since the greater weight of short-term loans made it easy for banks to rapidly retrench their exposures (Table 1). Cutbacks in short-term credit lines contributed to the increase in market volatility seen during the Asian crisis, creating particularly acute problems for countries in the area.

Analytical framework

Extensive literature on determinants of capital flows ...

The large scale of capital flows to emerging market countries since the early 1990s and the extent of their reversal from 1997 have stimulated an extensive literature on the determinants of such flows. The surge in flows and their subsequent reversal have been attributed to the interaction between a number of factors, including: (a) changes in global macroeconomic conditions; (b) changes in the economic fundamentals of recipient countries; (c) herding behaviour among lenders; (d) the growing importance of securitisation and institutional investment; (e) the liberalisation of capital account restrictions and financial sectors in emerging market countries; and (f) underpricing of risk resulting from implicit or explicit government guarantees.[7]

... distinguishing between external and internal factors

While the theoretical literature has considered a wide range of possible factors, much of the empirical work has adopted a framework distinguishing between the external ("push") and internal/regional ("pull") determinants of capital flows (Calvo et al (1993), Chuhan et al (1998), Fernandez-Arias (1996), Montiel and Reinhart (1999)).

External factors are those outside the control of borrowing countries

External factors are those deemed to be outside the control of a typical borrowing country. They encompass structural and cyclical elements leading lenders and investors in mature financial markets to diversify their portfolios internationally. Such elements operate mainly through a temporary reduction in

[7] This special feature focuses principally on the first two sets of factors.

the attractiveness of industrial country assets, as may result from lower returns on investments or depressed cyclical conditions. Moral hazard considerations also come into play to the extent that implicit or explicit guarantees by lending country governments or international financial institutions can lead to an underpricing of the risk of liabilities issued by borrowers in emerging market countries.[8]

Internal factors relate to domestic policies and performance

Internal factors, which are generally related to domestic economic policies and performance, work through expectations of sustained improvements in the risk-return trade-off (increased rate of return or reduced risk) of investment projects in borrowing countries. These include broad improvements in macroeconomic policies, such as a stabilisation of inflation combined with fiscal adjustment, short-run policies that boost the expected rate of return on local financial assets, and institutional reforms that increase the openness of domestic financial markets.

While much of the evidence gathered in the first half of the 1990s found that US interest rates and cyclical conditions played a significant role in determining capital flows to emerging markets, later studies have generally failed to confirm this relationship (see, for example, World Bank (1997)).

More recent studies emphasise the complementarity of factors

More recent studies have rather tended to emphasise the complementarity of push and pull factors, with the first set of factors determining the timing and magnitude of flows and the second their geographical distribution (Montiel and Reinhart (1999), Dasgupta and Ratha (2000)). Some researchers, such as Eichengreen and Mody (1998), have also highlighted caveats concerning the determinants of capital flows, arguing that any study should consider both the price and the volume impact of changes in external determinants.

A smaller number of studies have adopted alternative frameworks, such as "gravity" models (Gosh and Wolf (2000), Portes et al (2001)). Such models generally posit that financial flows, just like trade flows, depend crucially on distance or relative economic importance, which act as a proxy for informational frictions and level of development respectively.

On balance, the prevailing view in the early 1990s was that cyclical factors were the driving force behind capital flows to emerging markets. However, work carried out in the second half of the decade suggests that structural forces, such as global financial integration, and more complex dynamics were at play as well.

Push or pull?

Both push and pull factors affect bank lending

As discussed in the box on page 59, our "baseline" equation shows that both push and pull factors had an impact on international bank lending in the period under consideration (1985–2000). Overall, our results contrast somewhat with

[8] Deposit insurance schemes in lending countries and implicit guarantees by borrowing countries in the form of fixed exchange rate regimes are examples of regulatory-induced push and pull factors.

those of the early literature on international capital flows to emerging markets but show some similarity with more recent studies.

Weak correlation between lending countries' GDP and banking flows ...

Looking at the various push factors, we find that real economic activity in major industrial countries shows a weak positive correlation with international bank lending. This positive relationship results from a combination of strong growth in the major lending countries in the 1990s (with the notable exception of Japan) and large lending flows until the end of 1997.[9] Such a finding would seem to indicate that robust economic activity in the major lending countries was expected to generate favourable spin-offs on emerging market countries, creating incentives among lenders to increase cross-border exposures. This result is in contrast with the hypothesis presented in earlier studies (such as Calvo et al (1993) and Hernandez and Rudolph (1995)), which posited that a deceleration of economic activity in the main lending countries led banks to seek external lending outlets.

... but strong positive impact of their real interest rates

In addition, there is evidence of a positive relationship between real short-term interest rates in lending countries and capital flows to emerging economies. Such a relationship is also in contrast with the findings of the early literature on capital flows to developing countries. The intuition behind this factor was that an economic slowdown in developed economies was associated with lower expected domestic returns, as proxied by real short-term interest rates. Under such circumstances, banks were assumed to seek higher returns through a diversification of their portfolios to higher-yielding emerging market assets. Our estimates seem to suggest that any such diversification effect was outweighed by global investor confidence resulting from the positive impact of robust lending country growth on emerging market country activity. Thus, while strong economic growth in lending countries created upward pressure on real interest rates, lending flows remained high for much of the 1990s. Moreover, the financial crises, which occurred at the end of the decade, were followed by a drying-up of new bank loans and some reduction in policy rates in the main lending countries. This probably also helps to account for the positive relationship between interest rates and lending.

Lenders' attitude towards risk also affects banking flows

International lending seems to be affected by shifts in risk aversion in lending countries. In our equation, the attitude of lenders towards risk is proxied by the risk premium on BBB-rated US corporate securities. A widening of the premium reflects greater risk aversion, which is systematically associated with a decline in lending flows. However, it should be noted that a wider risk premium is not exclusively related to a change in risk attitude since it could also reflect a broad increase in default risk resulting from an economic downturn in lending countries.[10]

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[9] Some studies have also used the output gap in industrialised countries but we found that it was highly correlated with real short-term interest rates. Given that this could have created problems of collinearity, we chose to use a Hodrick-Prescott decomposition of real GDP.

[10] Some authors provide evidence on the procyclicality of credit risk. See Borio et al (2001) for a more extensive discussion.

Empirical methodology and estimation results

Dependent variable

Our dependent variable is the change in international bank claims, as reflected in the BIS consolidated international banking statistics. These statistics are well suited to an analysis of the determinants of bank lending since they enable us to look at the pattern of exposures by nationality of lenders and borrowers. Such information is not available from other data sources on international lending, such as the IMF's balance of payments statistics[①] or the World Bank's debtor reporting system data.[②] Given that the BIS consolidated data consist of stock figures expressed in US dollar terms, flows were created by differencing the original semiannual stock numbers between 1985 and 2000.[③]

On the lending side, we only considered the most important lending countries, namely: the United States, Japan, the United Kingdom, Germany, France, Italy and Spain. The actual dependent variable used for estimation was an aggregate of loans by all lenders to each of the following countries: Argentina, Brazil, Chile, Indonesia, Korea, Malaysia, Mexico, the Philippines, Thailand and Venezuela. Claims on these countries accounted for about 55% of our lenders' total claims to developing countries at end-June 1997 (before the emergence of a full-blown crisis in Asia).

Explanatory variables

We assembled a set of explanatory variables, drawing from the empirical literature on international capital flows. In our analysis, we distinguished between push and pull factors.[④]

Push factors: (i) Based on the hypothesis that weaker economic activity in lending countries leads banks to seek external lending outlets, we used the dollar value of aggregate real GDP of all lending countries as an explanatory factor. In order to avoid potential estimation problems related to the non-stationarity of real GDP, we conducted a Hodrick-Prescott decomposition of the semiannual series. (ii) To account for lending banks' need to seek higher returns abroad, we used real short-term interest rates in lending countries. These are represented by a simple average of monthly data on three-month nominal interest rates in each lending country deflated by the relevant consumer price index. (iii) To test for whether the risk attitude of lenders is a determinant of lending,

Determinants of aggregate international bank lending

	Coefficient	t-stat	Significance level
Real GDP in lending countries	0.07	1.63	0.10
Real short-term interest rates in lending countries	0.22	2.84	0.00
Indicator of risk aversion[1]	– 0.30	– 5.39	0.00
Bilateral trade	0.36	4.77	0.00
Real GDP in emerging economies	0.09	2.28	0.02
Bilateral exchange rate volatility[2]	– 0.15	– 3.41	0.00
Brady operations	– 0.27	– 5.24	0.00
Ratio of external debt to GDP in emerging economies	– 0.11	– 3.12	0.00

[1] Spread between the yield on BBB-rated corporate bonds and that on US Treasury securities. [2] First lag of the variance of the bilateral exchange rate. The adjusted R-squared for this regression is 0.24 and the Durbin-Watson test is 1.67.

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① Despite their comprehensive coverage of aggregate capital flows, the IMF statistics do not reveal the source of the inflows. ② The World Bank data combine both debtor country data on long-term non-guaranteed private debt and creditor data on short-term debt exposures but again do not provide information on the origin of lending. ③ The lack of a currency breakdown does not allow exchange rate adjusted changes to be computed since the computed flows can result either from a genuine change in lending activity or from a change in exchange rates. ④ The data for explanatory variables come from various sources: *International financial statistics* (IMF), *Global development finance* (World Bank) and the joint BIS-IMF-OECD-World Bank statistics on external debt.

we created a "risk aversion" variable by taking the yield difference between BBB-rated US corporate bonds and US Treasuries.

Pull factors: (i) Trade financing has traditionally been one of the main avenues for the international expansion of lending. We constructed a bilateral trade variable by aggregating the quarterly trade flows of all lending countries to each of the borrowing countries. The flows were cumulated into semiannual series. (ii) Since rapid or improving growth in emerging markets may be viewed positively by lenders, we used the dollar value of real GDP in borrowing countries. The data were detrended through a Hodrick-Prescott decomposition. Given the lack of quarterly series for some emerging market countries, we conducted a linear interpolation of annual data to obtain semiannual series. (iii) The volatility of a borrowing country's bilateral exchange rate is an indicator of financial instability. This was represented by an average of the annualised variance of monthly bilateral exchange rates between each single borrowing country and each lending country. (iv) A high level of external debt is assumed to lead to lower bank lending. The ratio of external debt to GDP was chosen in preference to a measure of the current account deficit because of potential endogeneity problems. The series were obtained by interpolating the annual debt to GDP ratios of individual borrowing countries. (v) Lastly, to control for Brady debt reduction operations, we used dummy variables for Argentina, Brazil, Mexico, the Philippines and Venezuela. These dummies take a value of one in the years when Brady operations were implemented and zero in other periods.

Estimation methodology

Panel data techniques were used. In order to avoid the loss of efficiency resulting from covariances between lending flows, we estimated our model by seemingly unrelated regressions.[5] Moreover, to control for differences in the economic importance of countries and the magnitude of shocks, we normalised each variable by subtracting its mean value from its actual value and by dividing the resulting difference by the standard deviation of the variable.

Basic estimates

Our estimates, which are presented in the box table, suggest that both push and pull factors have an impact on international lending. The indicator of risk aversion in lending countries is a significant push factor. By contrast to earlier studies, we found that real GDP and real short-term interest rates in lending countries demonstrated a procyclical behaviour. The pull factors are all significant, and include bilateral trade flows between lending and borrowing countries, the economic cycle in emerging market countries, the volatility of bilateral exchange rates, and the ratio of external debt to GDP of emerging market countries. These results are discussed in greater detail on pages 57–62.

Testing for the impact of exchange rate regimes

We also investigated whether other explanatory factors, such as the type of exchange rate regime, may have encouraged lending flows. We modified the baseline equation by removing the exchange rate variance and replacing it with three new variables. The first variable is the differential between nominal short-term interest rates in lending and borrowing countries. The second is a dummy accounting for the type of exchange rate regime. To construct this variable, we used the methodologies developed by Calvo and Reinhart (2000) and Bailliu et al (2000), dividing such regimes into three categories: fixed, intermediate and floating. The third factor is an interactive dummy between the interest rate differential and the exchange rate regime. This framework enables us to analyse the marginal effect on lending of each factor, with the interactive dummy accounting for the relevance of carry trade strategies. Our results show that fixed and tightly managed exchange rate regimes tend to attract inflows, while floating rate ones inhibit them. Of note, carry trade strategies seem to have played a role in countries with tightly managed exchange rate regimes.

We conducted a range of additional tests, including whether there was a difference in the behaviour of short- and long-term claims, whether there was an asymmetry between inflows and outflows, and whether there was any evidence of bandwagon effects. These issues are discussed in greater detail in Jeanneau and Micu (2002).

[5] Using the generalised least squares estimator proposed by Zellner (1962).

Trade plays a role in explaining lending ...

With respect to the various pull factors, our results seem broadly in agreement with the existing literature. Bilateral trade between lending and borrowing countries is a significant explanatory factor. The positive correlation between trade and bank lending can be explained by the fact that trade financing has traditionally been one of the main avenues for the international expansion of lending. In addition, a stronger trading relationship helps in reducing potential informational asymmetries between lenders and borrowers, which would act to encourage lending.

... as does improving growth in borrowing countries ...

Higher economic activity in emerging market countries was positively related to international bank lending. There are two main channels through which this might operate. First, rapid or improving consumption, investment and trade tend to attract new lending. Second, better economic prospects are viewed favourably in country risk analysis. Of course, much depends on whether growth is perceived to be sustainable or not (something we did not test).

... while exchange rate volatility has a negative effect

Volatility of the nominal exchange rate in borrowing countries had an inhibiting effect on lending.[11] This is not surprising since unusual exchange rate volatility is likely to indicate that the country is experiencing instability or financial turmoil. In particular, a high foreign exchange exposure of banking systems in emerging economies increases their financial fragility.

Debt reduction operations are significant

The dummy variable for Brady debt reduction operations was highly significant in explaining aggregate lending. This does not mean that Brady-type operations lead to lower banking flows. Rather, Brady debt operations result in a writing-down of bank claims, which translates into lower or negative lending flows when the stock series are differenced.

High levels of external debt inhibit new lending

As expected, high levels of external debt in emerging market countries lead to a reduction in bank lending.[12] The ratio of external debt to GDP is an important measure of creditworthiness. The LDC debt crisis of the early 1980s and more recent crises in emerging market countries have had a significant impact on banks' assessment of country risk. In the wake of these crises, banks became much less enthusiastic about lending to high-risk countries. The risk associated with high levels of external debt refers to either the imposition of exchange rate controls or debt moratoriums, or to other political and social risks that could be associated with the likelihood of a default on external debt.

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[11] Exchange rate volatility can result from both strong inflows and strong outflows of funds. In order to correct for this potential endogeneity, we used the first lag of the variance of the foreign exchange rate.

[12] The level of external debt was chosen in preference to a measure of the current account deficit because of a potential endogeneity of the current account. Moreover, the current account is a less reliable indicator because of its unstable relationship to lending. Indeed, in cases where a current account deficit is combined with sustained economic growth and a favourable policy environment, one can expect to see an inverse relationship with international bank lending (ie a negative current account balance is associated with positive bank flows). However, in cases where lenders begin to fear that the current account is becoming unsustainable, bank lending can easily dry up.

The role of exchange rate regimes

In our baseline equation, we analysed the impact of exchange rate volatility on international bank lending and found that high exchange rate volatility had an inhibiting effect on lending flows. Since some countries maintained fixed rate regimes for much of the estimation period, we extended our analysis to see whether the type of exchange rate regime may have had an impact on lending.

A variety of exchange rate regimes

The countries considered in our study had a variety of exchange rate arrangements. Several countries had tied their exchange rates implicitly or explicitly to that of a large industrialised country (mainly the United States), while others had a variety of floating rate regimes (from tightly managed "crawling" pegs to fully floating rates). The financial crises in the second half of the 1990s led many countries to abandon de facto fixed rate arrangements (with the exception of Malaysia, which fixed its exchange rate and imposed exchange controls in 1998).

Fixed rate regimes may have encouraged lending ...

An analysis of the influence of exchange rate regimes is of interest because the existence of de facto fixed rate regimes in Asian countries could have created a type of moral hazard. Specifically, such exchange rate arrangements may have worked as an implicit guarantee that encouraged domestic investors to speculate on the often wide interest rate differential between domestic and international rates (or on booming local asset prices) by borrowing from banks abroad to invest in local financial markets.[13] Investment strategies involving borrowing in a low interest rate currency and investing in a high interest rate one, with a combined bet of exchange rate stability, may be characterised as "carry trades".

... which appears to be confirmed by our tests

We extended our baseline equation to account for the possibility of such moral hazard effects (a short description of the methodology is presented in the box). The results of this new regression show that the interest rate differential is by itself not a statistically significant explanatory factor (not shown in the box table). Nonetheless, it may be the case that investors were taking positions in other domestic assets for which expected returns were not captured by our interest rate differential variable. Moreover, fixed and tightly managed exchange rate arrangements appear to have encouraged lending flows, while floating rate regimes inhibited them. Our statistical tests also show that carry trade strategies seem to have played a role in countries with tightly managed exchange rate regimes. This was particularly true for the Asian countries considered in our study.

Tightly managed regimes also encouraged carry trades

Conclusions

This special feature investigated the role of push and pull factors in explaining bank lending to emerging market economies. We attempted to use the wealth of information contained in the BIS consolidated international banking

[13] Such lending strategies were probably more relevant for short-term than for long-term bank lending since long-term loans tend to depend more on fundamentals.

statistics, a source of data that has not yet been considered extensively in the empirical literature on international capital flows. The BIS statistics are particularly suited to this type of analysis because they provide information on the origin as well as the destination of funds.

Our preliminary results contrast somewhat with those of the early literature on international capital flows to emerging markets but show some similarity with more recent studies. We found that both push and pull factors had a significant impact on international bank lending. However, evidence concerning two of the most widely discussed push factors, namely real GDP and real interest rates in lending countries, shows that such variables exhibited a procyclical rather than a countercyclical influence on international bank lending. Stronger growth and higher short-term real interest rates in lending countries are associated with larger lending flows. Our findings concerning pull factors are broadly in line with those of other studies.

Moreover, other factors, such as the type of exchange rate regime, seem to have played an explanatory role. Additional tests show that fixed and tightly managed exchange rate regimes tend to encourage bank lending, while floating rates have an inhibiting influence. They also show that carry trade strategies appear to have played a role in countries with tightly managed exchange rate regimes.

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Do syndicated credits anticipate BIS consolidated banking data?[1]

Commercial data on international syndicated credit facilities are available three months earlier than the BIS consolidated banking statistics and provide information on many characteristics of the individual facilities. On the other hand, BIS data reflect actual loan drawdowns and repayments while syndicated loan data are based on announcements of facilities that may or may not be drawn. Nonetheless, syndicated loans account for a significant part of actual international bank claims and should thus contain information to complement the BIS data.[2] In this article we compare the two data sets, adjusting for conceptual and practical differences. The comparison allows us to better understand both the nature of the consolidated claims reported to the BIS and the way syndicated facilities are used. Moreover, we find that, under certain conditions and for certain classes of borrowers, the more timely syndicated credit data can provide some useful advance information about the consolidated data.

Filtering syndicated credits

Making the two data sets comparable requires filtering ...

A direct comparison of the two data sets is less than straightforward. As shown in Table 1, while syndicated credit data are a mixture of domestic and international lending facilities, the BIS banking statistics focus exclusively on international lending. The syndicated credits are gross announcements of loan facilities (ie loan commitments which need not be drawn down fully or immediately), while the changes in amounts outstanding in the BIS data are driven mainly by net new lending (actual disbursements). Since the BIS data are obtained from balance sheets, they give a more accurate picture of banks'

[1] The views expressed in this article are those of the authors and do not necessarily reflect those of the BIS.

[2] Estimated outstanding stocks of syndicated loans amount to about 50% of outstanding BIS bank loans to Latin America and developing Europe, but to around 100% of those to Asia and the Africa-Middle East region.

Differences between syndicated credits and the BIS consolidated banking statistics	
Syndicated credits	BIS consolidated banking statistics
Very few syndicated credits are extended to banks	All credits extended to banks as well as to non-banks are included
Credit announcements available on a weekly basis with a few day's lag	Balance sheet positions reported quarterly (semiannually up to end-1999) with a three-month lag
Limited to syndicated bank credit	Cover all (syndicated and bilateral) credits, include all on-balance sheet items
Include domestic bank lending to the extent that domestic banks join the syndicate	BIS reporting limited to banks' total cross-border claims in all currencies plus their foreign affiliates' local claims in foreign and local currencies
Gross announcements of loan facilities (always positive or zero)	Changes in stocks measure net new lending, including early repayments, payments of arrears and writedowns (can be negative)
Credit commitments	Actual balance sheet positions
Exclude repos	Include repos as collateralised lending
Sources: Dealogic Loanware; BIS.	Table 1

actual intermediation activity, taking into account early repayments, payments of arrears and writedowns.[3]

We reduce the differences in the two data sets by filtering the syndicated credit data to bring them conceptually as close as possible to the BIS consolidated banking statistics. The main adjustment we make is to include only those facilities in which the nationality of at least one of the syndicate banks differs from that of the borrower.[4]

... and building synthetic stocks of syndicated credits

Syndicated credit data from commercial providers (eg Dealogic Loanware) are not available as stocks but rather as announcements of loan facilities granted by bank syndicates. To approximate outstanding bank credit, we build up a stock of loans, which assumes new facilities are drawn at their announcement date and repaid at maturity. These are pseudo-stocks in the sense that we assume that the facilities are fully drawn and that no early repayments are made. To generate scheduled repayments for earlier loans, we extended backwards the filtered Loanware data (which start in 1992) with historical data from the Bank of England going back to the 1970s, which were

[3] The renegotiation of syndicated loans becomes more difficult as the number of banks participating increases. Early repayments may therefore be concentrated in non-syndicated traditional bank loans included in the BIS data. See Berlin (1996).

[4] For the coverage of international syndicated credit facilities, see the note to Table 10 on page A70 of the Statistical Annex.

collected using a similar, but not identical methodology. This ensures that the stock is complete and that amortisation of older loans (granted before 1992) is fully accounted for.

Announcements of syndicated loan facilities tend to be reported by Loanware within one week. In contrast, the process of reporting banks' worldwide consolidated end-of-quarter balance sheet totals to monetary authorities and then to the BIS currently takes up to 12 weeks to complete.

Because there is very little syndicated lending between banks, we restrict both data sets to the non-bank sector. We use the consolidated rather than the locational BIS banking data because the sectoral classification of consolidated non-banks is closer to that of the syndicated credit data. In contrast, at least 20% of lending classified as lending to banks in the locational statistics ultimately provides funds to non-banks. This result is derived from comparing the locational statistics with the consolidated statistics for developing countries. In the consolidated statistics, inter-office bank lending is netted out, and subsequent lending to non-banks is reported instead. Since banks' loans and holdings of securities are reported as a single aggregate in the consolidated data, we use the locational banking statistics to estimate the *loan* component of total consolidated lending to non-bank borrowers. Separate data on the loan component of the BIS locational statistics started to become available in 1993, so we begin our comparative analysis in the second half of that year.[5]

To establish the strength of the relationship between the two data sets, we compare semiannual and quarterly changes in stocks, depending on the availability of BIS data. These changes include similar exchange rate effects in both cases, since we convert the non-dollar components of the synthetic stock of syndicated lending into dollars at each end of period at current exchange rates, thus replicating the way in which BIS banking data are reported.

Comparison with the BIS consolidated banking statistics

Because the BIS consolidated banking statistics are available on a quarterly basis only as from end-1999, we compare semiannual changes in both data sets. We focus on lending to emerging markets, where the limited participation of domestic banks in syndicates makes our filtering more effective in identifying international lending.

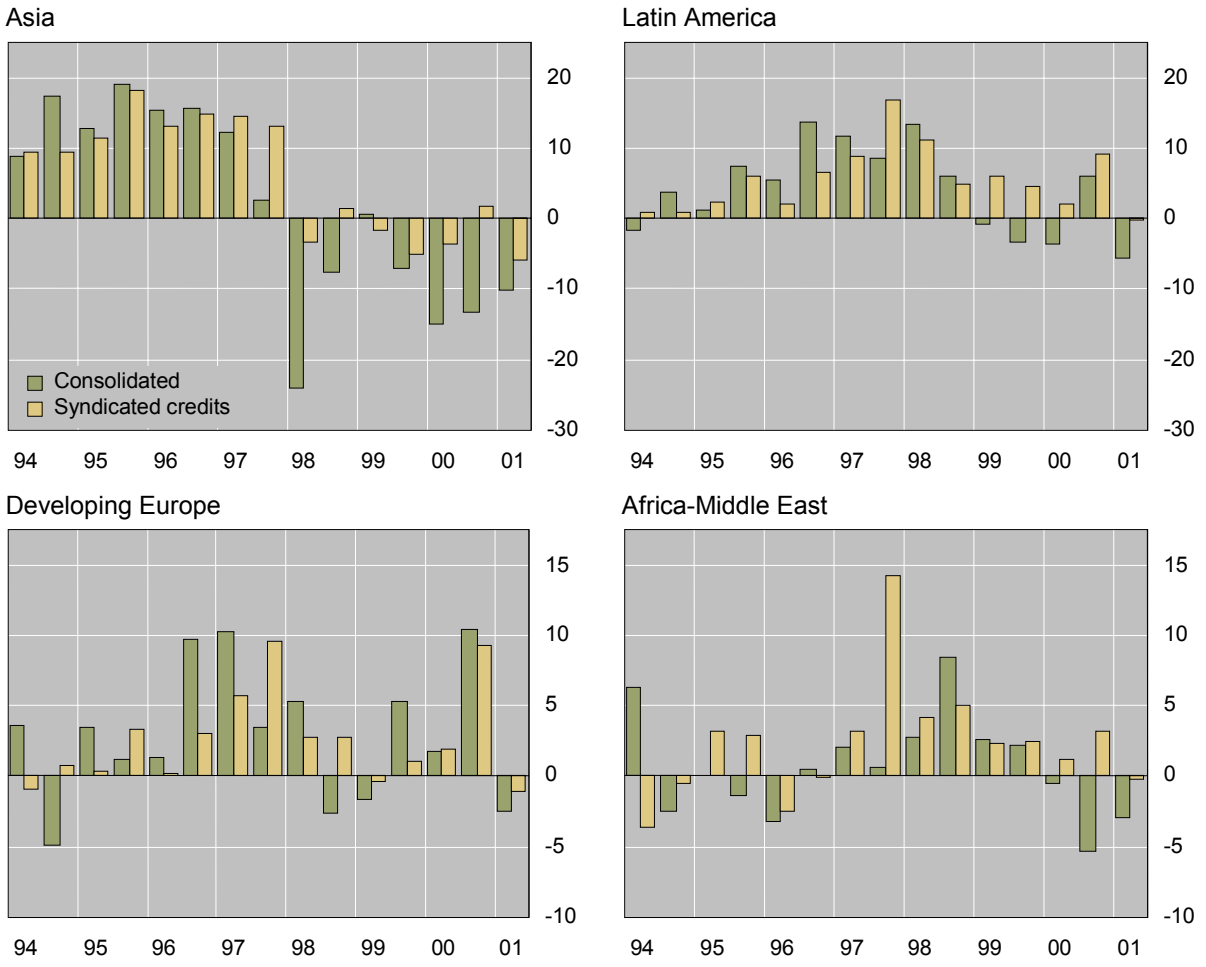
The two data series appear correlated

A visual comparison of the two adjusted data sets shows some correlation. In Graph 1 we have plotted the changes for four groups of emerging economies. Downturns are more pronounced in the consolidated banking statistics than in the syndicated credits series (see, notably, Latin

[5] For further discussion of the consolidated and locational BIS banking statistics, see Wooldridge, in this *BIS Quarterly Review*. The concepts underlying the two sets of BIS banking statistics are also discussed in the Introduction to the Statistical Annex (page A4).

BIS consolidated banking statistics and syndicated credits for selected borrowers

Total lending to non-banks in emerging economies, semiannual changes in stocks, in billions of US dollars



Sources: Bank of England; Dealogic Loanware; BIS international consolidated banking statistics. Graph 1

America in 1999 and 2000 or Asia in 1998) because decreases in the latter are limited to the assumed repayment of the full facility amounts at due date. Conversely, reductions in the former also cover called-in loans, write-offs and loans sold from banks' books. Changes may also appear in the BIS data later than in the syndicated credits, due to unusual delays between commitments and disbursements, such as during times of financial stress or turbulence (see, for instance, Latin America between 1997 and 1999).[6]

Detailed examination of individual credit facilities allows us to identify likely causes of some of the major discrepancies. For example, a liquidity

[6] We tested whether systematically excluding from the syndicated stocks all facilities granted for standby, commercial paper backup, refinancing, debt repayment and future acquisition purposes would improve the data correlation, since such facilities may not be drawn immediately or at all, and their undetermined drawdown pattern may be introducing noise. Although the amplitude of opposite moves is reduced when using the more restricted data set, the original data series are more closely correlated.

Methodology

Regression analysis allows us to quantify the strength of the relationship between the changes in stocks in the BIS banking statistics and those in syndicated credits. Progressing from the general to the specific, we found that one- and two-period lags of the syndicated credit variable did not contribute significantly to explaining changes in the BIS data. We then reduced the model to two parameters:

$$\Delta CONS_i = \alpha_i + \beta_i \Delta SC_i + \varepsilon_i$$

where:

- $\Delta CONS_i$ denotes semiannual changes[①] in consolidated BIS loan stocks to geographical area *i*, corrected for any breaks in series, the exact size of which is available in the BIS database.
- ΔSC_i denotes semiannual changes in stocks of syndicated credits outstanding to region *i*.
- ε_i is a randomly distributed error term.[②]

Parameters to be estimated:

- α_i corresponds to the average discrepancy in the two series for region *i* unrelated to any co-movements between the two.
- β_i estimates the proportional covariation between the two data sets for region *i*.

Regression of changes in BIS consolidated banking data on changes in stocks of syndicated credits

Sample period 1994 H1 to 2001 H1, 15 semiannual observations, in billions of US dollars

Change in consolidated lending (ΔCONS)	Constant	Change in syndicated credits (* ΔSC)	R^2	Standard error of regression	DW
All emerging markets	– 1.8	+ 1.02	0.50	5.7	1.33
	(– 1.94)	(7.67)			
Asia	– 6.6	+ 1.43	0.76	7.1	1.28
	(– 2.92)	(6.34)			
Latin America	– 0.8	+ 0.89	0.43	4.9	1.23
	(– 0.38)	(3.14)			
Developing Europe	0.9	+ 0.79	0.30	4.1	2.48
	(0.66)	(2.39)			
Africa-Middle East	0.4	+ 0.10	0.01	3.7	1.21
	(0.37)	(0.42)			

Note: t-statistics in parentheses.

Sources: Bank of England; Dealogic Loanware; BIS consolidated banking statistics.

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① Both syndicated credits and the BIS consolidated data are non-stationary in levels. Changes are stationary under a Phillips-Perron test at the 5% level of significance, with the exception of syndicated credits for Asia. ② Using the White test, we could not find any evidence of heteroskedasticity in the residuals of the regressions.

The table shows the semiannual estimation results for this model for the 1994–2001 period taking all regions together as well as each region separately. The slope coefficients for all regions except Africa-Middle East are significant at the 5% level or better, while only the constant for Asia is significantly different from zero.

We re-estimated this model using the available quarterly data for the 2000–01 period (not shown). Again, the constant for Asia is highly significant, but only the slope coefficient for developing Europe is significant in the quarterly estimation. R^2 values are generally lower, except for a 0.98 R^2 value for developing Europe consistent with the very close visual relationship between the two regional series in the most recent periods. For both regressions, the slope coefficients and their standard errors are plotted by region in Graph 2.

We tested whether timing differences in the recording of loans might have a larger impact on quarterly data relative to semiannual data, thus explaining some of the weaker performance of the quarterly regressions for most regions. However, shifting the quarterly intervals of the syndicated credits backwards or forwards by one month did not improve the fit.

The BIS banking data tend to be more volatile than the syndicated loans series because they include short-term repo transactions. Excluding short-term components (less than one year) from both quarterly data sets, we obtained an overall R^2 of 0.45 and coefficients similar to those yielded by the quarterly model including all maturities.

standby facility worth $2.5 billion granted to the government of Mexico may not have been drawn and probably contributed to the major divergence in the two Latin America data sets at the end of 1997. Likewise, loan refinancing worth $3.5 billion, arranged for an energy utility in Chile and having no net effect on the BIS data[7] but entering the syndicated credits as a new facility, may account for the opposite changes in Latin America in the second half of 1999.

Semiannual estimates

Next we try to quantify the strength of the relationship between the two sets of data. As discussed in the box on methodology, we relate semiannual changes in consolidated BIS loans to changes in the synthetic stocks of syndicated credits for all emerging economies together and then by region for the period from mid-1994 to mid-2001.[8] From this we expect answers to two questions:

- First, what is the average difference between the two series, unrelated to any co-movement between the two? This is measured by the regression constant. Its value should depend mainly on the amount of *non-syndicated* lending included in BIS data, but also on average early repayments and the average amount of announced syndicate loans not drawn down. This amount might be positive or negative, depending on which factor was dominant during the sample period.
- Second, to what extent do the two series move together over time? Given an increase of one dollar in the syndicated credits, will the BIS data on

[7] Assuming the refinanced debt was non-syndicated bank debt already included in the BIS consolidated banking statistics.

[8] For a discussion of the factors driving international bank lending during this period, see Jeanneau and Micu, in this *BIS Quarterly Review*.

average increase by more, by less or by exactly one dollar? For example (keeping other factors constant), if syndicated loans are only partially drawn down in each period, we expect this factor to be less than one. It will be negative if changes in the two series tend to move in opposite directions, eg if early repayments exceed net new syndicated announcements. If additional non-syndicated lending is generally proportional to syndicated lending, we expect a coefficient greater than one. These effects may partially cancel each other out and other factors may also influence the proportional relationships. Ideally, if changes in both data sets were identical, we would expect the regressions to estimate an exact dollar for dollar relationship.

The strength of the relationship differs by region ...

Regarding the first question, we found that, taking lending to the four emerging market regions (Asia, Latin America, developing Europe and Africa-Middle East) together, *on average* and for the period as a whole, the stock of BIS banks' lending declined by $1.8 billion more each half-year than could be inferred from the changes in syndicated lending. As is clear from Graph 1, this average is influenced by substantial early repayments in Asia during the post-1997 period. With respect to the second question, the proportional changes in both data sets seem to be closely linked, with the change factor significantly different from zero and virtually identical to one. On average, 50% of the variation in BIS bank lending to emerging market economies can be related to changes in syndicated credit facilities during the whole period in this simple model.

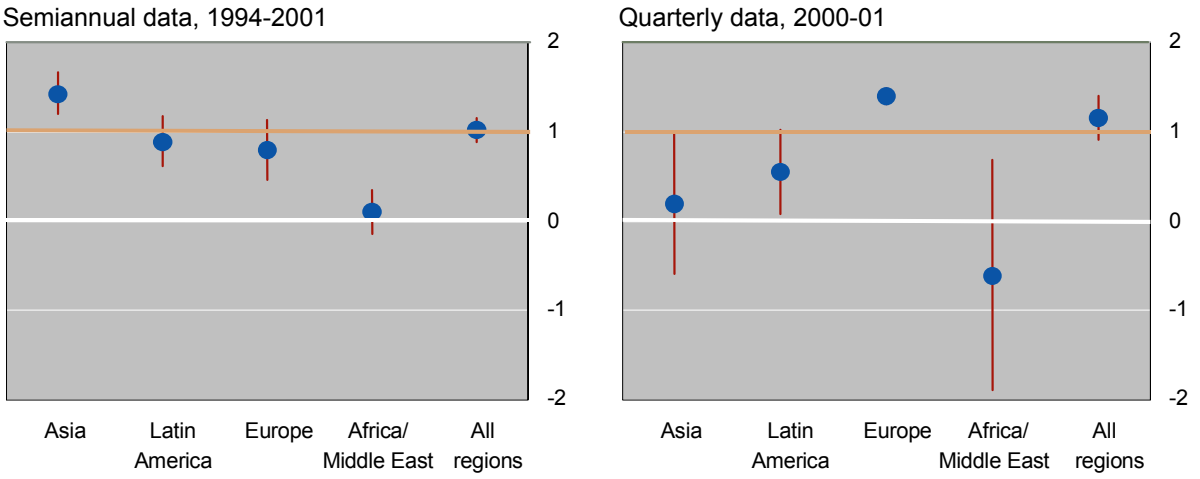
... and is influenced by early repayments and partial drawdowns

We then allow the constant and the proportional factors to be different for each region. The various regional constants (reported in the box) confirm that the large repayment constant noted above is due mainly to Asia, where heavy early repayments of bank credit are not reflected in the syndicated data. Thus, credit to Asia appears to have declined by $6.6 billion more each period than evident from the syndicated credits. The positive constant terms for developing Europe and Africa-Middle East indicate that in these regions the changes in the consolidated statistics exceeded those in syndicated credits by $0.9 billion and $0.4 billion per half-year respectively, although, statistically speaking, the latter positive amounts may be due to random fluctuations in the reported data.

The resulting proportional factors by region are shown in Graph 2 (left-hand panel). The length of the vertical lines reflects the degree of confidence in the estimates. The longer lines signal that the true underlying coefficient could be quite far removed from our central estimate. The proportional factors are all positive and in three regions significantly different from zero and close to one.[9] They indicate that, over the period, a one-dollar change in syndicated lending to Latin America and developing Europe tended

[9] There appears to be no statistically significant relationship between the two data sets in the Africa-Middle East region.

Average relationship between changes in syndicated credits and in BIS consolidated banking stocks vis-à-vis emerging economies



Note: The dots correspond to the central estimates of the proportional factors. The vertical lines show one standard error on each side; this measures the statistical reliability of the estimates, with two chances in three that the true underlying values lie within the bands. Graph 2

to be mirrored by a respective 90 or 80 cent proportional change in BIS consolidated banking data. The coefficient for Asia indicates that changes in syndicated lending were accompanied by more than proportional moves in the BIS data. This result is presumably driven by large early repayments following the Asian crisis (Graph 1).

Quarterly estimates

Recent quarterly data produce similar estimates in aggregate ...

The BIS consolidated banking statistics became available on a quarterly basis at end-1999. A re-estimation of the model with quarterly data for 2000 and the first half of 2001 produced similar results for emerging markets as a whole, compared with our earlier results for the whole period from 1994 onwards. Pooling all data for the four emerging market regions, we found that there was a constant quarterly decline of $2.7 billion in BIS lending, reflecting the heavy early repayments taking place during the estimation period that cannot be inferred from the changes in syndicated lending. The proportional changes in both data sets again seem to be closely linked, with the proportional coefficient close to one and highly significant with a low standard error. On average, 46% of the total variation in BIS bank lending to emerging market economies can be related to changes in syndicated credit facilities during this period.

... but regional proportional factors are not as strong

However, once we allow the constants and the proportional factors to be different for each region, there is a strongly significant and positive slope coefficient only for developing Europe,[10] indicating that total lending to that region exceeded syndicated lending during the estimation period. The other coefficients are rather low and not significant (Graph 2, right-hand panel). The

[10] The standard deviation of the estimated coefficient is very low for that region.

values and the significance of the regional estimates for the proportional factors are consistent with early repayments being most concentrated in Asia, less so in Latin America and least in developing Europe. Although 46% of the variation in BIS data is accounted for by changes in syndicated credits, some of the estimated factors are so close to zero that we cannot have statistical confidence in them. We conclude that, in the current climate of early repayments of loans and subdued new lending to emerging markets, with the exception of developing Europe, it is difficult to find in most regions relationships as strong as those evident in the past between syndicated lending and the BIS data derived from banks' balance sheets. Moreover, the limited run of available quarterly consolidated BIS data reduces the statistical reliability of the estimates for the time being.

Conclusion

It is clear that there are significant differences between the two data sets. Even after our adjustments the changes in the two data sets are not always of similar magnitude or even of the same sign. Over the estimation period, about 50% of the variance in international bank lending to emerging market economies can be explained statistically by changes in syndicated credits. This probably reflects in part the fact that the BIS consolidated banking statistics take account of actual drawdowns and early repayments, which cannot be identified in the constructed stocks of syndicated credits.

As a consequence of the weak relationship between the two data sets on a quarterly basis, there is little evidence that syndicated credits can be a reliable early proxy for consolidated bank lending in the near future. Once an additional timely source of early repayments data becomes available or once the level of early repayments shrinks again, this conclusion can be re-examined.

Still, at least in those periods where both data sets change by a similar amount, it may be helpful to look at the composition of the syndicated credit data to improve our understanding of BIS-reported bank lending to regions and individual economies. The purpose, maturity and pricing of most syndicated facilities are known, and we can distinguish between facilities entering and exiting the constructed stock of syndicated credits; therefore, we can analyse variations in the composition of net new lending. More generally, the data sets are complementary. Taken together, they improve our understanding of movements in international bank lending by more than if analysed in isolation.

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Uses of the BIS statistics: an introduction[1]

The mandate of the BIS is to foster monetary and financial cooperation among central banks and within the international financial community. The compilation, publication and analysis of statistics on international banking and financial market activity make an important contribution to the fulfilment of this mandate.[2] Each quarter, the BIS publishes statistics on banks' international positions, issuance of international and domestic debt securities, turnover and open interest in exchange-traded derivatives, and international equity offerings. Twice a year, data are released on notional stocks and market values of over-the-counter (OTC) derivatives. And every three years, statistics are made available on turnover in foreign exchange and OTC derivatives markets.

The BIS statistics are referenced by a wide range of users for a wide range of purposes. This special feature focuses on a few of the key analytical uses of the statistics and in particular on how the statistics can be used in a complementary fashion, including for analysis of monetary and credit aggregates, external debt stocks and flows, banks' international risk exposures and changes in financial intermediation.

Each statistical series serves a specific purpose, and consequently the way in which each is compiled differs in important respects. An understanding of these differences is essential to any analysis of the statistics. While the following discussion touches on caveats to keep in mind when using the statistics, this article is meant to complement not substitute for more detailed descriptions of the BIS statistics. Numerous reports and publications cover the compilation of the statistics and the motivation for collecting them, the most recent being BIS (2000), BIS (2002a), BIS (2002b) and CGFS (2000).[3]

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[1] The views expressed in this article are those of the author and do not necessarily reflect those of the BIS.

[2] G10 central banks are charged with overseeing the BIS statistics. The BIS, in cooperation with central banks and monetary authorities worldwide, compiles and disseminates the statistics in accordance with the recommendations of the G10 central banks.

[3] The BIS statistics and various publications about them are available on the BIS website (www.bis.org).

Statistics published by the BIS

	Frequency/ first year available	Type of data	Breakdowns published	Source of data/ form of dissemination[1]
International banking markets				
Locational statistics	Quarterly/ 1983	Flows[2] Stocks (assets and liabilities)	Nationality and residency of reporter; residency and sector of counterparty; currency; instrument	Central bank survey/ QR Tables 1–8
Consolidated statistics	Quarterly/ 1985[3]	Stocks (assets only)	Nationality of reporter; residency and sector of counterparty; maturity; risk transfers	Central bank survey/ QR Table 9; press release
Syndicated credits	Quarterly/ 1992	Signings	Nationality of borrower	Commercial sources/ QR Table 10
Securities markets				
International debt securities	Quarterly/ 1962[4]	Announced[5] Completions Repayments Net issues Stocks	Nationality, residency and sector of issuer; currency; instrument; maturity	Commercial sources/ QR Tables 11–15, 17
Domestic debt securities	Quarterly/ 1989[6]	Flows[2] Stocks	Residency and sector of issuer; maturity	National data/ QR Tables 16–17
International equity securities	Quarterly/ 1983	Announced[5]	Nationality of issuer	Commercial sources/ QR Table 18
Derivatives markets				
OTC derivatives	Semiannual/ 1998	Stocks[7]	Sector of counterparty; category of risk; currency; instrument; maturity	Central bank survey/ QR Tables 19–22; press release
OTC derivatives	Triennial/ 1995	Stocks[7] Turnover	Residency of reporter; sector of counterparty; category of risk; currency; instrument	Central bank survey/ press release; report
Exchange-traded derivatives	Quarterly/ 1975	Stocks[8] Turnover[8]	Residency of exchange; category of risk; instrument	Commercial sources/ QR Table 23
Foreign exchange markets	Triennial/ 1989	Turnover	Residency of reporter; sector of counterparty; currency; instrument; maturity	Central bank survey/ press release; report

[1] "QR" refers to the statistical annex of the *BIS Quarterly Review*; data are also available on the BIS website (www.bis.org). [2] Exchange rate adjusted changes in stocks outstanding. [3] Prior to 2000, semiannual frequency. [4] Prior to 1993, data exclude money market instruments. [5] Announced issues. [6] Prior to 1993, annual frequency. [7] Notional principal and gross market values. [8] Notional principal and number of contracts. Table 1

Extension of monetary and credit aggregates

Banking statistics were first used to monitor eurocurrency markets

The BIS statistics facilitate the extension of domestic monetary and credit aggregates to capture cross-border and foreign currency positions. Indeed, this was the motivation for introducing the first set of statistics – the locational banking statistics – in the 1960s. The growth of the so-called eurocurrency markets (international deposit and loan markets) raised concerns among policymakers at the time about the possible macroeconomic consequences of the expansion of the money supply through these markets (Mayer (1979)). The BIS locational banking statistics greatly improved the monitoring of money and credit growth. Policymakers' concerns abated over time, as central banks reduced their focus on monetary targets and countries moved from closely regulated and administered financial systems to more open and competitive ones. Nevertheless, reference to broad measures of money and credit that include international positions remains as important today as in the 1960s for understanding domestic monetary and financial conditions.

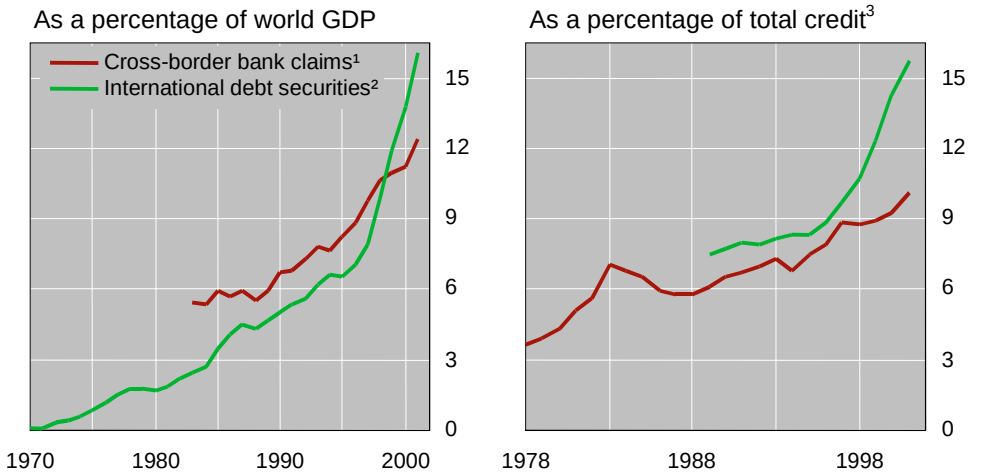
Data are available on banks' cross-border and foreign currency assets and liabilities

What makes the BIS statistics useful for extending monetary aggregates is the availability of data on banks' international liabilities. In the locational banking statistics, commercial banks in nearly 30 jurisdictions report their foreign currency liabilities to residents as well as their cross-border liabilities to non-residents.[4] Moreover, they report the currency in which these stocks are denominated, and whether the counterparty is a bank or a non-bank. This facilitates analysis of different measures of the money stock. Monticelli (1993) uses the locational statistics to derive six different monetary aggregates for the European Union, such as monetary assets held by EU residents regardless of the residency of the issuer and the currency of denomination, and monetary assets issued by EU-domiciled intermediaries regardless of the residency of the holder and the currency of denomination.

For the purpose of extending domestic credit aggregates, it is the availability of data on the international fund-raising activities of corporations and other non-bank borrowers that makes the BIS statistics useful. Domestic credit aggregates typically do not include cross-border borrowing by non-bank residents. The locational banking statistics capture cross-border credit – loans, deposits, debt securities and other assets – provided directly by banks. The international banking market was for several decades the largest source of cross-border funding to non-bank borrowers, and as of end-September 2001 the outstanding stock of cross-border bank claims on non-banks accounted for approximately 10% of total – domestic plus cross-border – bank claims (Graph 1). In many countries, this percentage is considerably higher: for

[4] As of end-December 2001, banks in 32 jurisdictions contributed to the locational banking statistics: Australia, Austria, the Bahamas, Bahrain, Belgium, Canada, the Cayman Islands, Denmark, Finland, France, Germany, Guernsey, Hong Kong SAR, India, Ireland, the Isle of Man, Italy, Japan, Jersey, Luxembourg, the Netherlands, the Netherlands Antilles, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Taiwan (China), Turkey, the United Kingdom and the United States.

International credit to non-banks



[1] Cross-border claims of banks domiciled in the BIS reporting area. [2] Money market instruments and bonds issued in the international market; prior to 1993, bonds only. [3] For cross-border bank claims, as a percentage of cross-border plus domestic bank credit to non-banks; for international debt securities, as a percentage of international plus domestic debt securities issued worldwide by non-banks.

Sources: Bank of England; Dealogic; Euroclear; IMF; ISMA; Thomson Financial Securities Data; national authorities; BIS. Graph 1

example, 31% in Mexico and 43% in Venezuela. Even in those countries where cross-border credit is not large as a proportion of total bank credit, it can be an important source of financing for specific sectors. Based on the locational statistics, McCauley and Seth (1992) estimate that in the early 1990s over 20% of total loans to commercial and industrial enterprises in the United States were booked offshore. From this, they conclude that more corporate funding was supplied by banks than was generally considered to be the case at the time.

The BIS statistics were expanded in the 1980s to include international issuance of money market instruments and bonds and later to include outstanding stocks of domestically issued debt securities. The international and domestic debt securities data sets compiled by the BIS are adjusted for known overlaps in issuance and so are broadly comparable. Nevertheless, they are not fully consistent because they are compiled using different methodologies. The international securities statistics are based on individual issues, whereas the domestic securities statistics are based on aggregated data from national sources. In addition, the domestic debt securities do not cover all countries, although those covered are by far the largest markets.

International bond markets are an increasingly important source of finance

Borrowers have increasingly turned to domestic and especially international capital markets to raise funds. Indeed, in 1999 the international debt securities market surpassed the international banking market as the most important source of cross-border credit to non-banks (Graph 1, left-hand panel). The outstanding stock of international debt instruments issued by non-banks reached $5.0 trillion by end-2001, equivalent to 16% of debt securities issued worldwide by non-banks. Banks purchased a substantial proportion of these securities, and so care must be taken to avoid double-counting when

combining the various BIS statistical series to extend domestic credit aggregates (see below).

The BIS also publishes data on international issues of equity securities. These refer to announcements and so signal borrowers' efforts to raise equity financing. However, because announcements frequently differ from actual issuance and no information is available about share repurchases, the BIS statistics are of limited use for precise estimates of net new financing raised in international equity markets.

Stocks and flows of external debt

The use of the BIS statistics to extend domestic credit aggregates suggests a further application: to monitor external debt. In its strictest sense, external debt refers to residents' contractual liabilities to non-residents.[5] Bank loans, deposits and debt securities typically make up the bulk of these liabilities. In addition, exposures to financial derivatives are becoming an increasingly important component. It is important to supplement this strict definition of external debt with other measures that more clearly identify the risks to which a country or sector may be exposed, such as the liquidity risk associated with short-term debt.

BIS contributes to joint statistics on external debt ...

To improve the availability of data on external debt, in the wake of the Asian financial crisis the BIS, IMF, OECD and World Bank began jointly to publish statistics on the external debt of developing countries. To these the BIS contributes data on bank lending and international debt securities. There are gaps and overlaps in the coverage of the joint statistics; therefore, they are not a substitute for data from national sources. Rather, they serve as a complement to national data by providing information about components of external debt from a creditor perspective. In addition, the joint statistics are sometimes more timely than national data and occasionally more accurate, which makes them helpful for highlighting trends.

External debt owed to banks

The BIS publishes three sets of statistics on international banking activity: locational banking statistics, consolidated banking statistics and syndicated loan statistics. The first of these is consistent with external debt measures compiled on a national accounts or balance of payments basis. Indeed, the locational statistics are used by many national statistical agencies to enhance their own balance of payments estimates (IMF (1992), Bach (2001)). The consolidated and syndicated loan statistics provide information about cross-border borrowing from banks. However, owing to differences in reporting

... and to balance of payment estimates

[5] The Inter-Agency Task Force on Finance Statistics uses the following definition: "Gross external debt, at any given time, is the outstanding amount of those actual current, and not contingent, liabilities that require payment(s) of principal and/or interest by the debtor at some point(s) in the future and that are owed to non-residents by residents of an economy" (BIS et al (2001), p 17).

conventions, the interpretation of these two sets of statistics is different from that of conventional measures of external debt.

Locational banking statistics are consistent with balance of payments data

What makes the locational banking statistics consistent with national accounts or balance of payments data is their compilation on the basis of the residency of the reporting bank. The locational statistics cover the cross-border positions of all banks domiciled in the reporting area, including positions vis-à-vis their foreign affiliates. By contrast, the consolidated statistics are based on the nationality of the reporting bank and net out intragroup positions.[6] Cross-border lending to banks' own affiliates in the locational statistics is instead captured as lending to end borrowers in the consolidated statistics.

In countries with little international banking business, the difference between external debt owed to banks based on the locational statistics and the same stock based on the international component of the consolidated statistics is often not large. For example, cross-border (locational) claims on emerging economies are in aggregate no more than 5% larger than international (consolidated) claims. The international component of the consolidated statistics captures, in addition to reporting banks' cross-border claims, their foreign affiliates' local claims in foreign currencies.[7] In many countries, such claims are funded from abroad by head office and so are a reasonable proxy for cross-border inter-office positions.

However, the difference between cross-border and international claims can be significant in individual countries. In dollarised economies, a large proportion of banks' local claims in foreign currencies are funded locally, and so international claims tend to be much larger than cross-border claims. In international banking centres, funds channelled to own affiliates are typically onlent to non-residents, and so international claims tend to be much smaller than cross-border claims. Cross-border claims on residents of offshore banking centres totalled $1.3 trillion at end-September 2001, but international claims on offshore centres only $666 billion; inter-office positions accounted for most of the difference.

Coverage is virtually complete

Coverage of international banking activity in the BIS statistics is virtually complete. The largest centres of international financial activity all contribute to one or both sets of banking statistics and, moreover, the reporting area is continually expanding. Nevertheless, it should be noted that the locational statistics do not include positions booked in non-reporting countries, and the consolidated statistics only partially cover the positions of banks headquartered

[6] As of end-December 2001, banks in 24 jurisdictions contributed to the consolidated banking statistics: Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong SAR, India, Ireland, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Taiwan (China), Turkey, the United Kingdom and the United States.

[7] Banks contributing to the consolidated banking statistics report international claims and local claims and liabilities in local currencies. International claims comprise reporting banks' cross-border claims in all currencies plus their foreign affiliates local claims in foreign currencies.

in such countries.[8] The locational and consolidated banking statistics may, therefore, understate debt owed to banks by individual countries. Korean banks, for example, reportedly purchased substantial amounts of Russian government securities prior to Russia's default in August 1998. However, such omissions are unlikely to be significant in most countries.

The currency breakdown in the locational statistics allows flows to be calculated

Banks contributing to the BIS locational and consolidated banking statistics report only stocks, not flows. Flows to individual countries are estimated as changes in stocks. For the locational statistics, banks report the currency in which their claims and liabilities are denominated, and this allows quarterly flow data to be calculated by adjusting outstanding stocks for currency movements during the quarter. Flows may have taken place at different exchange rates, and so exchange rate adjusted changes in outstanding stocks are not a perfect substitute for data on actual flows. Nevertheless, they are a far better approximation than unadjusted changes in stocks. A currency breakdown is not available for the consolidated statistics, and consequently exchange rate movements can result in changes in consolidated positions reported in US dollars even when underlying positions remain unchanged. The currency breakdown from the locational statistics can be applied to the consolidated statistics to adjust for exchange rate movements. The resulting estimates, however, should be regarded as no more than rough approximations.

Market access can be monitored with syndicated loan statistics

The syndicated loan statistics can also be used to monitor cross-border bank flows. Again, they are not a substitute for data on actual flows: they refer to signings, which may not be the same as disbursements, and information about repayments or outstanding stocks is not available.[9] Nevertheless, they are more timely than the other two sets of BIS banking statistics and provide details about the purpose, maturity and pricing of syndicated facilities, details which are helpful for understanding the nature of international bank lending. A feature article on page 65 finds that, under certain conditions and for certain classes of borrowers, the syndicated credit data can also provide some useful advance information about the consolidated statistics. Furthermore, the syndicated statistics are more useful than the other BIS banking statistics for monitoring borrowers' access to loan markets. Net figures do not necessarily indicate which debtors are the most active borrowers, because large borrowings could be offset by equally large repayments. Differences in

[8] The consolidated statistics cover the worldwide consolidated claims of banks headquartered in the BIS reporting area, and the unconsolidated claims of affiliates domiciled in the reporting area but owned by banks headquartered in countries outside the reporting area.

[9] The syndicated credit statistics will tend to overestimate gross cross-border loan flows. First, facilities arranged as support for commercial paper programmes or standby credits may never be drawn down. Other facilities may be only partially drawn down because of changes in the borrower's investment plans or a breach of loan covenants. Second, the syndicated statistics include a mix of instruments, such as multi-option facilities that are part loan and part security. Third, international lending within a given tranche is sometimes not readily identified because the exact amount provided by each institution, and in particular that provided by banks domiciled in the same country as the borrower, is unknown.

borrowing requirements and market access are revealed more clearly in gross figures (signings or disbursements).

External debt owed to non-banks

Debt owed to international banks is of course only one of several components of external debt. Other types of investors, including pension funds, insurance companies, hedge funds and retail investors, have become more active in global financial markets over the past decade, and as a result hold an increasing proportion of external debt. Unfortunately, little information is available from creditor sources about debt owed by individual countries to these non-bank investors.

External debt owed to non-banks can be proxied with securities statistics ...

External debt owed to non-banks can be approximated by referring to data on debt securities issued to international investors. The BIS statistics on international debt securities are the most comprehensive source of such data. Announcements, completions, scheduled repayments and early repayments are all tracked. The repayments data collected by the BIS are especially valuable because they allow refinancing needs to be monitored and net new issues to be calculated.

Banks are large players in the international debt securities market, as investors, underwriters and issuers, and so there is some overlap between the BIS banking statistics and the international debt securities statistics. This overlap can be eliminated by taking only banks' cross-border loans and deposits. A breakdown of banks' international positions by instrument – loans, deposits and securities – is publicly available from the fourth quarter of 1995 for the locational banking statistics.

... but less reliably than before

Issuance in the international debt securities market is no longer as reliable a proxy for cross-border portfolio flows as it once was. With more and more countries liberalising their capital accounts and financial markets, the distinction between international and domestic markets has become less meaningful over the years. As a result, the BIS statistics could over- or understate residents' external obligations. On the one hand, if investors domiciled in the country of the issuer purchase debt securities sold in the international market, the BIS statistics will tend to overstate cross-border portfolio flows.[10] Bond issues marketed to both residents and non-residents are in fact becoming more common. For example, whereas in 1995 less than 5% of net new issues by US government-sponsored enterprises such as Fannie Mae and Freddie Mac were classified as international in the BIS statistics, by 2001 nearly 50% were so classified. On the other hand, if non-residents invest in

[10] The international debt securities database covers three types of instruments: securities denominated in a currency different from that of the market in which they are issued ("eurobonds"); securities denominated in the currency of the market in which they are issued, but issued by non-residents (foreign bonds, such as "yankee" bonds in the US market); and securities denominated in the currency of the market in which they are issued, issued by residents, but targeted to non-residents. For this last type of instrument, tranches targeted to domestic investors are sometimes identified separately from those targeted to international investors, in which case the BIS statistics would not necessarily overstate portfolio flows.

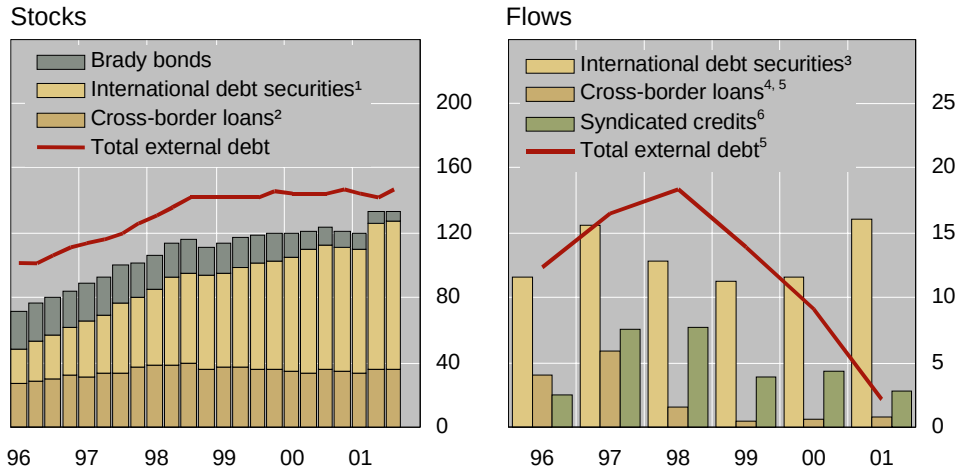
domestic securities markets, the BIS statistics will tend to understate cross-border portfolio flows. For instance, while most government securities are issued locally and so are not included in the international securities database, in many countries a sizeable proportion of government debt is purchased by non-residents. Graph 2 compares BIS data on cross-border loans and international debt securities, coupled with data on Brady bonds from the joint statistics, to national data on the external debt of Argentina.

The market value of derivatives is a growing component of external debt

In addition to loans, deposits and debt securities, financial derivatives make up an increasing (albeit in most countries still small) component of external debt. Futures, swaps, options and other types of derivatives give rise to contractual obligations that may involve cross-border settlement. For the purposes of measuring external debt, it is the market value (or net present value) of these contracts that is of relevance, not the value of the underlying instrument. The BIS publishes data on the gross market values of various types of derivatives traded in OTC markets. These data are of little use for measuring external debt, however, because only a global aggregate is available; dealers contributing to these statistics are not required to report the residency of their counterparties. Nevertheless, the OTC statistics indicate the potential size of liabilities arising from derivatives positions. As of end-June 2001, gross market values for all types of OTC derivatives totalled $3.0 trillion, equivalent to 8% of the outstanding stock of debt securities issued worldwide.

External debt of Argentina: loans and debt securities

In billions of US dollars



[1] Excluding Brady bonds. A debt exchange in June 2001 resulted in a one-time increase in the stock of international debt securities and an offsetting decline in the stock of Brady bonds and domestic debt securities. [2] Cross-border loans and deposits by banks in the BIS reporting area. [3] Net new issues. [4] Exchange rate adjusted changes in stocks outstanding. [5] Data for 2001 refer to the January-September period. [6] Signings, excluding repayments.

Sources: Argentine Ministry of Economics; Dealogic; Dealogic Loanware; Euroclear; ISMA; Thomson Financial Securities Data; World Bank; BIS. Graph 2

Risks of external borrowing

Conventional measures of external debt can in some circumstances be an unreliable indicator of potential vulnerabilities. Through guarantees, collateral, derivatives and other off-balance sheet transactions, risk may be transferred from a debtor in one country – the immediate borrower – to a debtor residing elsewhere – the ultimate obligor. Moreover, data disaggregated by maturity, currency, sector or creditor can help to highlight risks that may not be apparent in the gross figures.

While balance of payments measures of external debt are based on the residency of the immediate borrower, measures based on the residency of the ultimate obligor may sometimes be more useful, such as to monitor rollovers or initiate a restructuring. For example, borrowing by a bank's foreign affiliate in London or some other international banking centre will not be captured by external debt statistics. Yet, it could potentially result in liquidity problems at head office if the affiliate has difficulty rolling over its obligations. Alternatively, borrowing by the foreign subsidiary of a multinational corporation might be guaranteed by the parent, resulting in a contractually binding transfer of risk from one country to another. The consolidated banking statistics capture some of these risk transfers (see below).

Risks faced by debtors can be disaggregated by maturity ...

Another important indicator of vulnerability is the maturity structure of a country's external debt. Financial crises in various emerging markets in the late 1990s demonstrated that a rapid build-up of short-term debt can undermine financial stability even in countries with moderate levels of external debt (Hawkins and Klau (2000)). A maturity breakdown is available for the debt securities statistics and the international component of the consolidated banking statistics.[11] In fact, the consolidated statistics are one of the few sources of internationally comparable data on short-term external debt. The maturity breakdown for the consolidated statistics is reported on the basis of remaining maturity. The availability of a one- to two-year maturity bracket allows the proportion of short-term debt that was originally longer-term to be estimated.[12] The left-hand panel of Graph 3 illustrates the evolution of Argentina's short-term liabilities to banks.

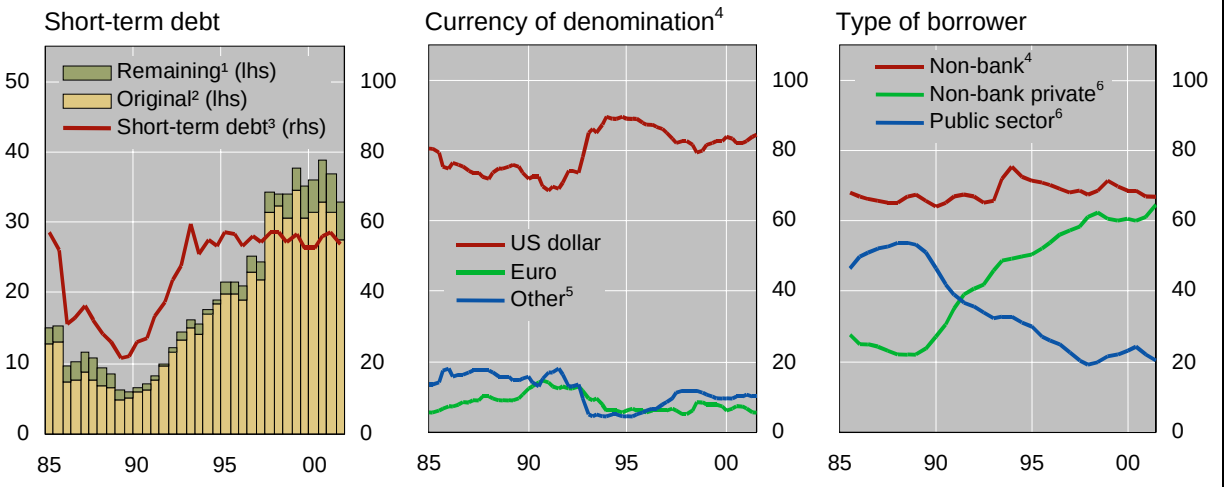
... currency ...

The currency breakdown available in the BIS statistics also helps to highlight risks. External debts denominated in foreign currencies are more likely to expose borrowers to liquidity or even solvency risk than debts

[11] A maturity breakdown is not available for the locational banking statistics. The breakdown from the consolidated statistics could be applied to the locational statistics to arrive at a measure of short-term bank debt consistent with balance of payments reporting principles. Alternatively, the instrument breakdown from the locational statistics could be applied to the consolidated statistics to minimise overlaps with the international debt securities statistics. Neither option is likely to give reliable estimates, however.

[12] This method will tend to underestimate the proportion of short-term debt that was originally longer-term because the United States and Luxembourg do not report a one- to two-year breakdown and Hong Kong SAR does not report any maturity breakdown.

External debt of Argentina: liabilities to BIS reporting banks



[1] Long-term liabilities with a remaining maturity of one year or less, in billions of US dollars. [2] Liabilities with an original maturity of one year or less, in billions of US dollars. [3] As a percentage of international (consolidated) bank claims. [4] As a percentage of cross-border (locational) bank claims; two-quarter moving average. [5] Including unallocated currencies. [6] As a percentage of international (consolidated) bank claims; two-quarter moving average.

Source: BIS. Graph 3

denominated in their local currency. For the international debt securities statistics, a full currency breakdown is available, making it possible to determine the proportion of international debt securities issued in the currency of the borrower. This proportion ranges from 86% for international issuers resident in the United States to 0% for issuers resident in all but a handful of developing countries. Banks contributing to the locational statistics do not report every currency in which their claims and liabilities are denominated, only the major currencies.[13] Using the available information, it is possible to estimate an upper bound on the amount of bank debt that might be denominated in the currency of the borrower, as well as to identify currency mismatches arising from, for example, the receipt of export revenues in one currency and the servicing of debts in another.

An important caveat when interpreting the currency breakdown available in the locational and debt securities statistics is that it covers only on-balance sheet liabilities. Issuers may hedge their foreign currency exposure with export revenues or external assets, or through derivatives. The BIS derivatives statistics show that OTC and exchange-traded foreign exchange contracts totalled $20.5 trillion in notional principal at end-June 2001, equivalent to a little more than half of the outstanding stock of debt securities issued worldwide. However, owing to the lack of information about the residency of counterparties, these data shed little light on hedging activity in individual countries.

[13] Banks report seven currency categories: the currency of their country of residence, US dollar, euro, yen, pound sterling, Swiss franc and other currencies.

... sector ...

The maturity and currency breakdowns can be further disaggregated by sector to identify those sectors most exposed to liquidity or foreign currency risk. The Asian financial crisis of 1997–98 highlighted the importance of monitoring the external positions of the financial and corporate sectors separately from that of the public sector (Financial Stability Forum (2000)). The locational statistics provide information about international banks' claims on the bank and non-bank sectors, and the consolidated statistics further split the non-bank sector into public and private sectors. The international debt securities statistics provide an even finer breakdown of the non-bank sector. While the maturity breakdown in the consolidated statistics cannot be combined with the sectoral breakdown, the breakdowns available for the other statistics can be disaggregated by sector.

... or creditor

A further source of potential vulnerability is through a common creditor. A borrower which relies on a heterogeneous group of creditors for external financing is less likely to be affected by contagion. The distribution of bank claims by nationality of bank is available from the consolidated banking statistics. The distribution of bank claims by residency of bank is available from the locational banking statistics, but residency is a less meaningful basis upon which to judge the heterogeneity of creditors than nationality. The heterogeneity of a country's creditors can also be assessed by comparing the amount of financing provided by banks to that provided through the international debt securities market.

Liabilities might be offset by deposits and other foreign currency assets

Finally, liabilities alone give an incomplete picture of a country's potential vulnerabilities. Even if liabilities are small or stable, a country's external position can still be undermined by capital flight. In addition, residents frequently have foreign assets available to meet a sudden need for liquidity, although those holding the assets may differ from those borrowing abroad. Funds placed with banks abroad are covered by the locational banking statistics. Owing to such assets, countries with large external debts may in fact be net creditors. For example, at end-September 2001 emerging economies' liabilities to international banks totalled $875 billion, yet outstanding cross-border deposits and other assets placed with international banks by residents of the same countries totalled $1.1 trillion.

Risk exposures of creditor banks

The consolidated statistics measure banks' foreign exposure

What is a debt to a borrower is of course an asset to a creditor. Indeed, it was the desire to monitor banks' foreign assets – not countries' external debt – that led to the introduction of the consolidated banking statistics following the Mexican debt moratorium of 1982. Changes in banks' foreign assets are visible in the locational banking statistics. However, owing to the residency principle on which the locational statistics are based, it is not possible to assess the exposure of national banking systems to individual countries. In particular, the locational statistics do not capture positions booked in non-reporting countries, and do not allow the breakdown by residency of the counterparty to be combined with the breakdown by nationality of the reporting bank. In contrast,

the consolidated statistics focus explicitly on banks' foreign credit risk exposures, in that they measure on a worldwide consolidated basis the foreign claims of banks headquartered in the reporting area.[14]

The focus was initially on transfer risk ...

At the time that the consolidated statistics were introduced, authorities in the reporting area were especially concerned about transfer risk, ie the risk associated with policy measures that have a territorial jurisdiction, such as capital controls or payments moratoriums.[15] As a result, the consolidated statistics measured only claims on an immediate borrower basis (also referred to as contractual claims). Furthermore, the focus was on the international component of consolidated claims, ie reporting banks' cross-border claims in all currencies plus their foreign affiliates' local claims in foreign currencies. The other component of consolidated claims – local claims in local currencies – was typically funded locally and so did not incur transfer risk. The rationale for including local claims in foreign currencies together with cross-border claims was that they were likely to be funded from abroad, and so would be subject to transfer risk.

Financial crises in Asia and other emerging markets in the late 1990s and changes in the structure of international banking led to a re-evaluation of the information conveyed by the consolidated banking statistics. Owing in large part to the growing globalisation and sophistication of banking and financial markets, contractual claims have become a less accurate measure of banks' credit risk exposures. Off-balance sheet transactions can significantly modify on-balance sheet claims. Derivatives are one such transaction. The inclusion of derivatives claims boosted US banks' cross-border exposures by nearly 20% at end-September 2001. Owing to the way in which the value of derivatives claims is measured, the impact of derivatives may be even larger during periods of abnormal volatility in market prices. Between June 1997 and December 1997, following the flotation of the Thai baht, the amount owed to US banks by counterparties in Thailand via foreign exchange and derivatives products nearly quadrupled to $2.5 billion, rising from 15% of on-balance sheet claims to 89% (Ruud (2002)).

Another important way in which on-balance sheet claims can be altered is through guarantees, collateral and other credit risk transfers. For example, lending to the subsidiary of a foreign bank in London may be booked as lending to a UK counterparty, but the ultimate obligor is likely to reside elsewhere. Reallocations of claims from the immediate borrower to the ultimate obligor can significantly increase banks' exposures to some countries and reduce them to others. For instance, claims on Germany on an ultimate risk basis are 20%

[14] Foreign claims comprise BIS reporting banks' cross-border claims plus their foreign affiliates' local claims.

[15] The counterparty breakdown available in the consolidated statistics was at first limited to developing countries. This reflected monetary and financial authorities' concern about the large amount of bank lending to developing countries, a concern that heightened following Mexico's declaration in August 1982 of a moratorium on its external debt payments. In the second quarter of 1999, the statistics were expanded to cover all countries.

higher than contractual claims, whereas claims on the United Kingdom are nearly 25% lower.

... but has shifted to country risk

In addition to the growing globalisation and sophistication of markets, cross-border mergers and acquisitions have altered the risks faced by banks. In particular, the growing share of locally funded business in banks' foreign claims shifts the balance of risks away from transfer risk and more towards country risk, ie the risk associated with the economic, business, political and social environment in which the debtor operates. Whereas transfer risk is associated with cross-border claims, all foreign claims – cross-border and local, foreign currency and local currency – are subject to country risk.[16] When the consolidated statistics were first introduced, local claims accounted for a small proportion of banks' foreign claims; this is no longer the case. In 1985 local claims in local currency accounted for only 6% of reporting banks' foreign claims on emerging economies. By 2001 this proportion had risen to 37%. A feature article on page 41 explores this shift from international to locally funded business.

Consolidated statistics are being expanded to capture off-balance sheet exposures

The consolidated statistics were expanded in June 1999 to capture risk transfers. As currently reported, consolidated claims measured on an ultimate risk basis reallocate guaranteed claims to the country of residence of the guarantor and transfer claims on legally dependent bank branches to the country of residence of the parent bank. In accordance with the recommendations of the Committee on the Global Financial System (CGFS (2000)), the consolidated statistics will be further expanded by end-2004 to capture all relevant aspects of banks' credit risk exposures, including all off-balance sheet financial contracting.

Changes in financial intermediation

A final use of the BIS statistics is to document changes in financial intermediation. Many of the statistics published by the BIS can be disaggregated by instrument, type of counterparty and residence of reporting institution. Therefore, in addition to monitoring the growth of various market segments, the BIS statistics allow changes within these segments, such as the relative importance of non-financial customers in derivatives markets or of the Caribbean as a financial centre, to be examined. The inter- and intramarket changes that could be examined are too numerous to discuss in detail, and so the following paragraphs focus on only a few possible ways in which the BIS statistics could be used to monitor changes in financial intermediation.

One obvious use of the BIS statistics is to measure the size, growth and structure of different market segments. This is done regularly in the sections on

[16] The BIS recently changed the presentation of the consolidated banking statistics to give greater emphasis to country risk exposures and to enhance the comparability of the statistics across national banking systems. Whereas previously the focus was on BIS reporting banks' international claims, now the tables in which the consolidated banking statistics are presented focus on total foreign claims.

BIS statistics can be used to monitor the size, growth and structure of markets ...

market developments in the *BIS Quarterly Review*. Innumerable analytical studies use the BIS statistics to make a variety of other comparisons. Alworth and Andresen (1992) use the locational banking statistics to examine the linkages between the origin and destination of cross-border deposits. The Study group on fixed income markets (2001) combines the domestic and international debt securities statistics to compare and contrast the US dollar, euro, yen and sterling markets. Kambhu et al (1996) exploit the triennial survey to examine the role of derivatives markets in the transfer and trading of risk. The various statistical series published by the BIS are broadly comparable if account is taken of the different way in which each is compiled. Nevertheless, features or characteristics of different markets may complicate direct comparisons. For example, in exchange-traded derivatives markets, the reversal of an initial position leads to a decline in notional stocks because contracts are offset through a centralised counterparty. By contrast, in OTC markets positions are usually reversed by writing a new contract, resulting in an increase in notional stocks.

... the constellation of market players ...

Information about the constellation of players and strategies active in markets can also be gleaned from the BIS statistics. The importance of banks relative to non-banks as both borrowers and lenders in international markets can be derived using the BIS banking and securities statistics. The foreign exchange and OTC derivatives statistics can be disaggregated into dealers, other financial institutions and non-financial customers. If coupled with information from other sources, this may even make it possible to identify more precisely the types of players behind changes in activity. For example, Dixon (2001) illustrates how the BIS banking statistics can be used to help monitor intermediation via offshore financial centres, including borrowing by hedge funds. McCauley and von Kleist (1998) refer to the locational banking statistics to assess the importance of carry trade strategies.

... off-balance sheet activity ...

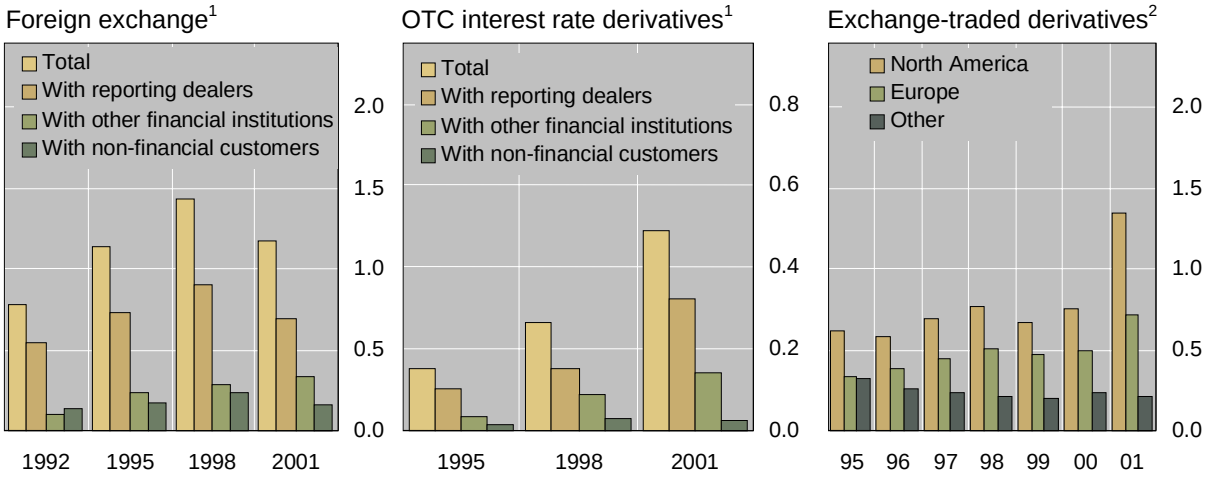
The off-balance sheet activities of market participants can also be monitored using the BIS derivatives statistics. The exchange-traded derivatives statistics, which are based on commercial data, and the semiannual OTC derivatives statistics, which are taken from survey data collected by central banks, measure the notional principal of the underlying contracts. Various breakdowns are available, including by type of instrument, category of risk, currency, or some combination of type, risk and currency. Market values and credit exposures, ie market values after taking into account legally enforceable bilateral netting agreements, are also available for the OTC statistics. Data on credit exposures exclude cash positions – which could offset exposures associated with derivatives positions – and so potentially overstate participants' ultimate exposures.

... or liquidity

Another use of the BIS statistics is to measure changes in market liquidity. Turnover in exchange-traded derivatives markets is available from the exchange-traded derivatives statistics, and turnover in OTC derivatives and foreign exchange markets from the triennial survey. Graph 4 shows turnover in

Turnover in foreign exchange and derivatives markets

Daily averages, in trillions of US dollars



[1] Adjusted for local and cross-border double-counting; daily averages in April. [2] Annual daily average.

Sources: FOW TRADEdata; Futures Industry Association; BIS. Graph 4

different markets and between different counterparties. Turnover is just one of several dimensions of liquidity and, moreover, can at times be a misleading indicator because it is also influenced by volatility (CGFS (1999)). Therefore, trading activity should be considered alongside other measures of market liquidity. Galati (2001) concludes that even though turnover in foreign exchange markets declined in 2001, it is not clear that liquidity deteriorated.

Future improvements to the BIS statistics

The BIS statistics have evolved with the changing policy concerns of monetary and financial authorities and the changing structure of banking and financial markets. The first set of statistics – the locational banking statistics – focused on monetary stability, but subsequent series have gradually shifted towards a focus on financial stability. Improvements continue to be made to the statistics to reflect financial innovations. Consolidated banking statistics on an ultimate risk basis with a detailed sectoral breakdown and including off-balance sheet positions will begin to be published in 2005, providing a better measure of the country risk exposures of internationally active banks. Efforts are also under way to expand the country and instrument coverage of the domestic and international debt securities databases.

As markets change, so too will the possible uses of the statistics

Although the statistics were originally compiled with a specific purpose in mind, they nevertheless have a wide range of possible uses. These uses include extending monetary and credit aggregates, monitoring external debt, analysing banks' country risk exposures and documenting changes in financial intermediation. As markets change, so too will the possible uses of the statistics. However, it is neither feasible nor perhaps even desirable to accommodate changes in markets and uses by constantly refining the way in

which the statistics are compiled and disseminated. The costs to institutions contributing to the statistics of constant refinements would be too high and could discourage their participation. Providing that their limitations are recognised, the currently available or planned statistics are sufficiently flexible to give insights into many aspects of banking and financial markets.

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Structural and regulatory developments

Initiatives and reports concerning financial institutions

Basel Committee on Banking Supervision (BCBS)

BCBS issues guidance on customer due diligence ...

In October, the BCBS issued guidance to banks and banking supervisors on customer due diligence processes.[1] The BCBS noted that supervisors are increasingly recognising the importance for banks of adequate controls and procedures for customer identification. This is necessary not only to comply with anti-money laundering legal requirements, but from a wider prudential perspective. Without due diligence, banks can become subject to reputational, operational, legal and concentration risks, which can result in significant costs. To guard against these risks, the report recommends that banks develop policies and procedures in key areas such as customer acceptance, customer identification and monitoring of high-risk accounts.

... and publishes working paper on treatment of specialised lending exposures

Also in October, the BCBS published a working paper[2] proposing a specific internal ratings-based (IRB) treatment of "specialised lending" (SL) exposures.[3] An underlying tenet of the proposed IRB approach for corporate exposures is that the source of repayment of the loan is based primarily on the ongoing operations of the borrower, rather than the cash flow from a project or property. In this context, assets pledged as collateral serve as a risk mitigant and as a secondary source of repayment. So defined, the corporate exposure class does not encompass loans whose repayment depends principally on the cash flow generated by the asset rather than the credit quality of the borrower. Banks have pointed out that historical loan performance data for SL exposures are scarce. Many banks therefore face difficulties in establishing credible and reliable estimates of key risk factors, including the probability of default (PD).

[1] See *Customer due diligence for banks*, BCBS, Basel, October 2001. Available at www.bis.org. An earlier version of the report was issued for consultation in January 2001, and a number of comments have been incorporated in the final paper.

[2] See *Working paper on the internal ratings-based approach to specialised lending exposures*, BCBS, Basel, October 2001. Available at www.bis.org.

[3] Referred to as "project finance" in the January 2001 consultative package.

As a result, there is no common industry standard for a rigorous and risk-sensitive approach to economic capital estimation of SL exposures. The proposed IRB framework for SL therefore supplements the Foundation and Advanced IRB methodologies with a simpler methodology based on supervisory estimates of PD as well as loss-given-default and exposure-at-default.

BCBS issues working paper on treatment of securitisations ...

Finally, the BCBS also published in October a working paper on two sets of proposals initially outlined in its January 2001 consultative package.[4] The first proposal is for an IRB treatment of securitisations, and the second is a general approach to synthetic securitisations. The objective of the BCBS is to develop a comprehensive framework for securitisation that is risk-sensitive and provides banks with the proper incentives to move from the standardised to the IRB approach. The paper was issued to encourage further dialogue with the industry on the development of a minimum capital requirement for securitisations.

... publishes results of impact study on New Accord proposals ...

In November, the BCBS published the results of a quantitative impact study (QIS2) involving a range of banks across the G10 and beyond.[5] The objective of the study initiated in April 2001 was to gather the data necessary to allow the BCBS to gauge the impact of the January 2001 proposals for capital requirements. The results of the QIS2 exercise and the feedback received from banks have led the BCBS to consider several modifications to the proposed New Capital Accord. These modifications are intended to help the Committee achieve its objectives of maintaining equivalence on average between current required capital and the revised standardised approach, and providing modest incentives regarding the aggregate level of required capital under the Foundation IRB approach. However, before finally deciding on the modifications to be made, the BCBS will require statistical information on the effect that such revisions would have on different banks. In order to gather this information, the Committee has asked a number of banks to participate in an update to QIS2 (QIS2.5) entailing a recalculation of the Foundation IRB capital requirements to account for the various modifications.

... and announces additional review of impact of New Capital Accord

In December, the BCBS announced that it would undertake an additional review aimed at assessing the overall impact of a New Capital Accord on the banking system before releasing its next consultative paper. The Committee's work during this “quality assurance” phase will focus on three issues: balancing the need for a risk-sensitive Accord with sufficient clarity and flexibility to ensure that banks can use it effectively; ensuring that the Accord leads to appropriate treatment of credit to small and medium-sized enterprises; and finalising calibration of the minimum capital requirements to bring about a level

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[4] See *Working paper on the treatment of asset securitisations*, BCBS, Basel, October 2001. Available at www.bis.org.

[5] See *Results of the second quantitative impact study*, BCBS, Basel, November 2001 and *Potential modifications to the Committee's proposals*, BCBS, Basel, November 2001. Both documents are available at www.bis.org.

of capital that, on average, is approximately equal to the requirements of the present Accord, while providing some incentive to those banks using the more risk-sensitive internal ratings-based system. The BCBS had previously planned to undertake a comprehensive impact study simultaneously with the next consultation period, but now believes that performing the impact assessment first will help to make the consultation period more constructive. This additional review means that the Committee's next consultative paper will not be issued in early 2002, as previously indicated. Instead, the BCBS will first seek to specify a complete version of its proposals in draft form. Once this has been completed, the Committee will undertake a comprehensive impact assessment of the draft proposals. The BCBS will then release these proposals for a further formal consultation period with a view to finalising the Accord. The Committee does not believe that this additional review process will be a lengthy one and therefore has not revised its schedule for completion of the Accord. However, it is prepared to revise its timetable if necessary.

BCBS publishes paper on sound practices for management and supervision of operational risk

Also in December, the BCBS published a paper on the development of sound practices for the management and supervision of operational risk.[6] The paper outlines a set of principles, which provide a framework for the effective management and supervision of operational risk, for use by internationally active banks and supervisory authorities when evaluating operational risk management policies, procedures and practices. While the approaches to managing operational risk are evolving rapidly, the Committee recognises that there is still much work to be done. For example, progress towards a standard definition is hampered by differences in interpretations across banks. Therefore, the BCBS believes that an active exchange of ideas between supervisors and the industry is key to the development of guidance for managing operational risk exposures.

BCBS/IOSCO/IAIS

Joint Forum issues reports on financial industry rules and practices

In November, the BCBS, the Technical Committee of the International Organization of Securities Commissions (IOSCO) and the International Association of Insurance Supervisors (IAIS) released two reports prepared by the Joint Forum. The first report contains cross-sectoral comparisons of risk management practices and regulatory capital, and the second puts forward core principles developed by the three groups for their respective sectors.[7] The first report responds to the parent groups' request to compare these approaches to gain a better understanding of current industry practices in all three sectors. The second compares the core principles issued by the three bodies by identifying their common principles and differences.

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[6] See *Sound practices for the management and supervision of operational risk*, BCBS, Basel, December 2001. Available at www.bis.org.

[7] See *Risk management practices and regulatory capital*, BCBS, IOSCO and IAIS, Basel, November 2001 and *The Joint Forum Core Principles – cross-sectoral comparison*, BCBS, IOSCO and IAIS, Basel, November 2001.

Group of Twenty

G20 adopts action plan on terrorism financing

In November, at a meeting in Ottawa, the finance ministers and central bank governors of the G20 countries adopted a comprehensive action plan of multilateral cooperation on terrorism financing, which included the following steps: rapid ratification and implementation of UN conventions and resolutions on the suppression of terrorism financing; cooperation with the relevant international bodies in promoting standards to combat abuses of the financial system; enhanced exchange of information between the G20 countries; provision of technical assistance to countries that need help in implementing laws and policies to combat terrorism financing; support to the activities of the UN Counter-Terrorism Committee; and surveillance through the Financial Action Task Force (FATF) and other international bodies.

Initiatives and reports concerning financial markets and their infrastructure

FATF

New emphasis by FATF on combating terrorism financing

At an extraordinary plenary meeting on the financing of terrorism held in Washington on 29 and 30 October 2001, the FATF expanded its mission beyond money laundering.[8] It will now also focus its energy and expertise on the worldwide effort to combat terrorism financing. The FATF agreed a set of recommendations on terrorism financing which commits members to: take immediate steps to criminalise the financing of terrorism; freeze and confiscate terrorist assets; report suspicious transactions; provide assistance to other countries' law enforcement investigations; impose anti-money laundering requirements on alternative remittance systems; strengthen customer identification measures; and ensure that entities, in particular non-profit organisations, cannot be misused to finance terrorism. In order to secure a swift and effective implementation of these new standards, the FATF agreed on a comprehensive plan of action.

International Swaps and Derivatives Association (ISDA)

ISDA issues its opinion on deliverability of convertible bonds under credit default swaps

In October, ISDA reiterated the position expressed in the final draft of the user's guide to the 1999 ISDA Credit Derivatives Definitions that bonds that are convertible at the option of the bondholder satisfy the "not contingent" deliverable obligation clause and should be deliverable under credit default swap contracts.[9] The issue of deliverability was raised by the refusal of some sellers of protection on Railtrack PLC to accept delivery of the firm's convertible bonds following the UK government's decision to put the company into administration. The issue revolved around a standard provision of

[8] Measures taken by the US government in October last year were discussed in the December 2001 issue of the *BIS Quarterly Review*, page 74.

[9] See www.isda.org.

European convertible issues providing trustees with responsibility for exercising conversion rights if the bond's converted equity value exceeds its par value at maturity. Market participants were concerned that such a clause could imply that holders of the bonds did not have full rights over their disposal (making them a "contingent" security) and that the securities would therefore not be deliverable under standard default swap contracts.

ISDA defines successor entity under credit derivatives contracts

In November, ISDA announced that it had finalised and published the supplement relating to successor and credit events to the 1999 ISDA Credit Derivatives Definitions.[10] The supplement revises the definition of successor in the event of a merger, consolidation or transfer by replacing the "all or substantially all" wording in the Definitions with a numerical threshold such that if a reference entity succeeds to 75% or more of the bonds and loans of the original entity, then that entity would be the sole successor. The supplement outlines alternative approaches in the event that the 75% threshold criterion is not met. It also amends the definitions with respect to certain credit events to the effect that only admission in a judicial, regulatory or administrative proceeding or filing constitutes a credit event, meaning that an acceleration of repayment is no longer considered a credit event. This amendment was felt to be necessary to reduce the possibility of moral hazard.[11]

virt-x

virt-x announces creation of pan-European CCP for equity trading

In October, virt-x, the electronic stock exchange resulting from the merger of Tradepoint PLC and the Swiss Stock Exchange, announced plans for the creation of a pan-European central counterparty for equity trading. The new entity will be formed in cooperation with the London Clearing House (LCH) and x-clear, a subsidiary of Swiss Financial Services Group. x-clear will handle transactions involving Swiss counterparties, while the LCH will process other European transactions.

Committee on Payment and Settlement Systems (CPSS)/IOSCO Technical Committee

Committees issue recommendations for securities settlement systems

In November, the CPSS and the IOSCO Technical Committee released a report setting out 19 recommendations defining minimum standards for securities settlement systems.[12] The recommendations are designed to encompass systems for all types of securities and to cover domestic as well as cross-border trades. They deal with the design, operation and oversight of such systems and aim to promote the worldwide implementation of measures that

[10] See www.isda.org.

[11] Banks that purchase protection on some loans they have extended could use the acceleration clause to trigger payment under credit derivatives.

[12] See *Recommendations for securities settlement systems*, CPSS and IOSCO, Basel and Madrid, November 2001. Available on the BIS website (www.bis.org) and IOSCO website (www.iosco.org).

can reduce risks, increase efficiency and provide adequate safeguards for investors.

European Union

European Union upgrades money laundering directive

In November, the Council of Ministers adopted a proposal to upgrade the EU money laundering directive, the final stage in the EU legislative process.[13] The new directive extends the scope of the current directive on money laundering by obliging EU member states to combat laundering of the proceeds of all serious crime. The directive currently in force applies only to the proceeds of drug offences. The amendment also extends the coverage of the current directive to a series of non-financial activities and professions that are vulnerable to misuse by money launderers.

European Commission issues report on cross-border clearing and settlement

Also in November, the European Commission published the first of two reports on cross-border clearing and settlement arrangements in the European Union.[14] The objectives of the report are to assess current cross-border arrangements and to identify the main sources of inefficiency. The report concludes that fragmentation in clearing and settlement complicates cross-border securities transactions. Complications arise because of the need to access many national systems, whereby differences in technical requirements/market practices, tax regimes and legal systems act as barriers. Efficiency could be significantly improved by market-led convergence in some of the technical requirements/market practices across national systems. On the other hand, the report notes that removal of barriers related to taxation and legal certainty is the responsibility of the public sector. A second report, scheduled for release by mid-2002, will focus on policy aspects and examine possible models for more efficient clearing and settlement.

ECOFIN adopts two directives on cross-border investment

In December, the Council of Economics and Finance Ministers of the European Union (ECOFIN) adopted two directives on undertakings for collective investments in transferable securities (UCITS). The first directive removes barriers to the cross-border marketing of UCITS by broadening the range of assets in which they can invest. The second directive gives management companies a "European passport" to operate throughout the EU and widens the range of activities they are allowed to undertake. It also introduces the concept of a simplified prospectus, which will provide investors with more easily accessible information.

Italian parliament

Italian parliament suspends withholding tax on government bonds

In November, the Italian parliament approved a decree suspending the imposition of a withholding tax on non-resident holdings of Italian government bonds as of 1 January 2002. However, non-resident investors based in tax

[13] See www.europa.eu.int.

[14] See *Cross-border clearing and settlement arrangements in the European Union* (the Giovannini Report), European Commission, Brussels, November 2001. Available at www.europa.eu.int.

havens will continue to face withholding tax. The elimination of bureaucratic complications in obtaining refund of the withholding tax could encourage investment in Italian government bonds.

US Securities and Exchange Commission (SEC) and Commodity Futures Trading Commission (CFTC)

Regulatory pledge on US security futures

In December, the SEC and CFTC pledged to seek prompt adoption of final rules relating to margins on security futures products and on protection of customer funds, pursuant to authorisation of such products by the Commodity Futures Modernization Act of 2000 (CFMA). The adoption of final rules would allow public security futures trading by the second quarter of 2002. The agencies also agreed to move forward promptly with regard to foreign security index products.

SEC issues cautionary advice on "pro forma" accounting

Separately, the SEC in December issued cautionary advice that companies should consider when releasing "pro forma" financial information. Pro forma reporting departs from Generally Accepted Accounting Principles by allowing companies to exclude certain expenses and gains from their earnings and operating results under certain assumptions or pending contractual obligations not yet completed. Because pro forma accounting can make it difficult for investors to compare an issuer's financial information with other reporting periods and with other companies, the SEC reminded investors that it should be viewed with appropriate scepticism.

European clearing houses and exchanges

EuroCCP offers services for Nasdaq Europe

In December, European Central Counterparty Limited (EuroCCP), a wholly owned subsidiary of The Depository Trust & Clearing Corporation, announced that it was ready to provide clearing, settlement and risk management services for Nasdaq Europe. EuroCCP is the first central counterparty to offer cross-border services on a pan-European basis, including services for US securities traded in Europe.[15] According to its promoters, the netting of transactions through EuroCCP will lower the cost of clearing and settlement and enable members of Nasdaq Europe to reduce their capital requirements. If EuroCCP meets its stated opening target, it will begin its operations before a competing system being developed jointly by virt-x and European clearers.

LSE and LCH plan straight through settlement

Also in December, the London Stock Exchange (LSE) and the London Clearing House (LCH) agreed to develop straight through settlement with Euroclear for LSE trades cleared by LCH. The arrangement will encompass trading, clearing and settlement for both UK and non-UK securities traded on the LSE. The new service, which should be available in the second half of 2002, will increase choice and competition for settlement services, while helping to reduce the cost of cross-border transactions. It will complement the services already offered by CRESTCo to LSE members. Securities transfer

[15] A central counterparty helps manage the costs and risks of trading by standing between buyers and sellers to ensure that money and securities change hands smoothly and efficiently.

with CRESTCo will be a seamless process due to the link already in place between Euroclear and CRESTCo. The agreement between the LSE and the LCH follows the recent decision by rival clearer Clearstream to reject a takeover proposal from Euroclear in favour of exclusive negotiations with Deutsche Börse (DB), which wants to acquire the 50% of Clearstream it does not already own. An eventual agreement between Clearstream and DB would create a "vertically integrated" firm (a "silo" in market parlance) encompassing trading, clearing and settlement. By contrast, the approach favoured by Euroclear involves a process of "horizontal integration" through partnerships with other clearers. Euroclear has already established links with Euronext, virt-x and Nasdaq Europe.

Chronology of major structural and regulatory developments

Month	Body	Initiative
Oct 2001	BCBS	Issues guidance on customer due diligence
	BCBS	Publishes a working paper on the IRB treatment of specialised lending exposures
	BCBS	Publishes a working paper on the IRB treatment of securitisations
	FATF	Expands its mission beyond money laundering
	ISDA	Reiterates position on the deliverability of convertible bonds under credit default swap contracts
	virt-x	Announces plans for the creation of a pan-European central counterparty for equity trading
Nov 2001	BCBS	Publishes the results of a quantitative impact study of its new proposals for capital requirements
	BCBS, IOSCO Technical Committee and IAIS	Release two reports prepared by their Joint Forum on a cross-sectoral comparison of risk management practices and risk capital
	G20	Adopts a comprehensive action plan on terrorism financing
	CPSS and IOSCO Technical Committee	Release report setting recommendations on minimum standards for securities settlement systems
	EU Council of Ministers	Adopts proposal to upgrade the EU money laundering directive
	European Commission	Publishes report on cross-border clearing and settlement arrangements in the European Union
	ISDA	Announces finalisation and publication of supplement on successor and credit events to 1999 ISDA Credit Derivatives Definitions
	Italian parliament	Approves decree suspending imposition of withholding tax on non-resident holdings of Italian government bonds (as of 1 January 2002)
Dec 2001	BCBS	Announces additional review of the impact of its proposals for a New Capital Accord
	BCBS	Publishes a document on the development of sound practices for the management and supervision of operational risk
	Risk Management Group of the BCBS	Publishes a working paper on the regulatory treatment of operational risk
	US SEC and CFTC	Pledge prompt adoption of rules relating to security futures
	US SEC	Issues cautionary advice concerning pro forma financial information
	ECOFIN	Introduces two new directives on cross-border investment
	European Central Counterparty Limited	Announces readiness to provide clearing, settlement and risk management services for Nasdaq Europe
	London Stock Exchange and London Clearing House	Agree to develop straight through settlement with Euroclear