BANK FOR INTERNATIONAL SETTLEMENTS

72nd Annual Report

1 April 2001–31 March 2002

Basel, 8 July 2002

BANK FOR INTERNATIONAL SETTLEMENTS

72nd Annual Report

1 April 2001–31 March 2002

Basel, 8 July 2002

Copies of publications are available from:

Bank for International Settlements
Press & Communications
CH-4002 Basel, Switzerland

E-mail: publications@bis.org
Fax: +41 61 280 9100 and +41 61 280 8100

ISSN 1021-2477
ISBN 92-9131-163-4
Also published in French, German, Italian and Spanish.
Available on the BIS website (www.bis.org).

Table of Contents

Page

Page

The chapters of this Report went to press between 11 and 18 June 2002.

List of Graphs (*) and Tables

Page

Developments in the advanced industrial economies

Developments in the emerging market economies

Monetary policy in the advanced industrial economies

Foreign exchange markets

Financial markets

The interaction between the financial sector and the real economy

Conventions used in this Report

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

Differences in totals are due to rounding.

72nd Annual Report

submitted to the Annual General Meeting
of the Bank for International Settlements
held in Basel on 8 July 2002

Ladies and Gentlemen,

It is my pleasure to submit to you the 72nd Annual Report of the Bank for International Settlements for the financial year which ended on 31 March 2002.

The net profit for the year amounted to 225.7 million gold francs, compared with 271.7 million gold francs for the preceding year. Details of the results for the financial year 2001/02 may be found on pages 171 and 172 of this Report under "Net profits and their distribution".

The Board of Directors recommends that, in application of Article 51 of the Bank's Statutes, the present General Meeting should apply the sum of 52.6 million gold francs in payment of a dividend of 380 Swiss francs per share.

The Board further recommends that 26.9 million gold francs be transferred to the general reserve fund, 3.0 million gold francs to the special dividend reserve fund and the remainder – amounting to 143.2 million gold francs – to the free reserve fund.

If these proposals are approved, the Bank's dividend for the financial year 2001/02 will be payable to shareholders on 15 July 2002.

Basel, 18 June 2002

ANDREW CROCKETT
General Manager

I. Introduction: unexpected resilience to unexpected events

The global economy and financial system have shown, over the last year or so, enormous resilience in the face of successive shocks. Taken as individual events, the continuing stock market correction, the attacks of 11 September, the war against terrorism, the failure of Enron, the collapse of Argentina's currency board and the conflict in the Middle East might each have been expected to have unpleasant economic side effects. Taken together, their cumulative impact could have been far more serious – interactions frequently generate outcomes greatly exceeding the sum of the parts. Moreover, these events came on top of a global economic downturn that, for a time, threatened to gather significant momentum.

Compared with what might have been expected, it is remarkable how well the system has coped. Far from continuing to contract, the global economy appears to have begun expanding again. And it is the United States that seems once more to be leading the way, in spite of its many perceived imbalances. The financial sector too has responded flexibly to these recent developments. Payment and settlement systems coped well, even with such an extreme event as the terrorist attack on the New York financial district itself. Credit has also generally continued to flow freely, albeit more expensively to those now judged to be less creditworthy. Explanations for this good performance would certainly include supportive macroeconomic policies, notably monetary policy. But we should also acknowledge the possibility that the many years of effort put into promoting financial stability have at last begun to bear fruit. In particular, the infrastructure underpinning the global financial system, and associated plans for continuity and backup, were vastly improved as a result of the attention they received prior to the turn of the millennium.

In spite of these very welcome developments, and the expectation that they are likely to continue, it would be premature to conclude that all must now be well. Some of the concerns raised above may yet be realised, and a number of last year's shocks may prove to have longer-lasting implications. One effect which is already all too evident has been a deep erosion of that sense of trust, in both market information and people, which fundamentally underpins a well functioning economy. In the Enron case, it became clear that the profit and debt figures were not at all what they seemed. This has led in turn to a growing distrust, not just of innovative accounting at other firms, but even of some of the accounting conventions themselves. These suspicions have already weighed heavily on the share prices of a number of companies, but could yet bear down further on overall market valuations. Moreover, the Enron developments called into serious question the professional competence and even ethical standards of many people in positions of great responsibility. Not one but a whole host of internal and external levels of governance failed. Conflicts of interest played a role at each level, but the common thread was the all too human reluctance to ask the right questions when the going was good.

In the case of Japan, the doubts have focused on the accuracy of current estimates of non-performing loans in the banking system, as well as on the reliability of market prices subject to government interventions of various sorts. In Argentina the sense of trust was also violated, not only by the depreciation and associated sovereign default, but by the particular way in which these events were handled. By choosing to rewrite legislation in ways that explicitly discriminated against creditors, the government raised fundamental questions about the applicability of the rule of law itself. In the light of all this, it will inevitably take some time before an appropriate degree of confidence and trust can be re-established.

Yet even here it is possible to see a silver lining around some of the economic clouds of last year. If, paradoxically, there may actually have been an excess of trust in recent years, the Enron affair has at least put paid to that. The Argentine experience also provides a salutary lesson about how the costs of failing to carry out needed policy changes can rise dramatically over time. And finally, it is notable that the Enron failure and the Argentine debt default were allowed to happen without the massive public sector intervention often seen in the past. It should now be crystal clear when confronting such troubled circumstances that the choice will no longer be between bailout and workout. Rather, the practical choice is between an orderly and a disorderly workout. Insofar as sovereign crises are concerned, this latter debate has arguably progressed further in the course of the last 12 months than in the last five years.

A down year for the global economy

The recent economic cycle has been unusual in several respects. The expansion in a number of industrial economies, but particularly in the United States, was underpinned by evidence supporting belief in a “new era” of higher productivity growth and associated increases in profits. Credit growth, asset prices and capital investment all rose rapidly, especially in those sectors thought likely to benefit the most from recent technological developments. When the economic downturn finally came, it too was unusual in that it was not primarily due to a classical tightening of monetary policy in the face of accelerating inflationary pressures. Rather, it was led by a sharp decline in profits in the United States reflecting limited pricing power and increases in employee compensation. In effect, the real gains in productivity ended up being appropriated by the household sector. Confronted with such circumstances, and further buffeted by rising energy prices, the corporate sector in the industrial economies liquidated inventories and cut capital investment on a massive scale in 2001.

The downturn was, however, attenuated by the extraordinary resilience of consumer spending. This was remarkable in that, globally, the consumer sector had become more exposed to the risks of a corporate downturn. There has been a marked expansion in the holdings of financial assets by households, not least in the form of defined contribution pension plans, which have lost no small part of their value since the spring of 2000. In many countries there has also been a shift towards employment contracts which make it easier to lay off workers and lower compensation in downturns. These contractionary influences seem to have been offset by continued increases in house prices in many countries, as well as the fact that the prices of many financial assets are still well above levels seen five or 10 years ago.

The synchronous downturn in the global economy and the apparent common recovery have been interpreted by some as evidence of increased globalisation. In a profit-driven cycle, one would indeed expect Europe and North America to move more in tandem, particularly given the scale of transatlantic mergers and acquisitions over the last decade. Furthermore, as noted above, common shocks have been a key feature of recent events in the industrial countries. Nevertheless, before concluding that the world has fundamentally changed, it should be recalled that synchronous cycles were also common in the 1970s and 1980s. Moreover, the long-standing recession in Japan could for a time give the illusion of a synchronous downward movement even if other economies had turned down for completely independent reasons.

Economic developments in emerging markets were largely explicable in terms of the same contractionary forces affecting the industrial countries. However, the size of the impact varied significantly. The negative effect on East Asia was particularly evident given the heavy reliance of many countries on exports of IT-related products. Latin American economies, with the notable exception of Mexico, are more closed and felt the external forces less keenly. Many central European countries seemed almost immune to the slowdown, while growth in Russia was actually stronger than expected under the influence of structural reforms and continued high oil revenues.

At the same time, developments in emerging markets had many idiosyncratic features, some for the better and others for the worse. The former would certainly include the sustained rapid growth in China and the slower but still substantial expansion in India. Even in Indonesia there were tentative signs last year that the economy might be regaining strength. These fortunate developments provided material benefits to a vast number of people, many still desperately poor. At the other end of the spectrum, the economic crises affecting Turkey and Argentina were both very costly but they exhibited some differences as well as fundamental similarities.

In Argentina as well as Turkey, the fundamental problem of long standing was the government's fiscal position. Moreover, in both cases it was the way in which an overly rigid exchange rate regime interacted with a banking system vulnerable to exchange rate changes that actually triggered the crisis of confidence. This led to a flight of capital, both domestic and foreign. In the Turkish case an acceptable and essentially traditional policy framework was quickly agreed with the IMF. However, the Argentine case has proved much more intractable given the high degree of dollarisation, the size of the debt default and the conflicts between the various arms of the Argentine government. The erratic and disruptive way in which the government then intervened in the operations of the banking system, largely foreign-owned, effectively brought both the payment system and the economy to their knees.

Financial resilience in the face of shocks

With these dramatic events as backdrop, it is hardly surprising that the global economy experienced a cyclical slowdown in 2001. Nevertheless, the picture emerging late in the first half of 2002 is that the downturn was relatively mild and that a broad-based global recovery may already be under way. Such signs are clearest in North America but are also evident in East Asia and Europe, and have been accompanied by upward revisions to the consensus forecast. While inventory swings, particularly in the IT sector, have played a crucial role both on the way down and on the way up, there are early indications that final demand may also be picking up along with productivity and profits. It is also noteworthy that there was very limited contagion from the Turkish and Argentine shocks to other emerging market economies. Some explanations for this, as well as other positive developments in the period under review, are considered below.

One reason for the positive economic outturn was the resilience of the global financial system. First of all, the infrastructure of the system proved strong. The events of 11 September affected the US equity, fixed income and repo markets for a week or so, but the global system functioned effectively, even in the immediate aftermath of massive disruptions in a leading global financial centre. Similarly, after the collapse of Enron, one of the world's biggest energy traders, the energy market continued to function normally. And in spite of all the extraordinary events referred to, the legal integrity of a whole range of new financial instruments, including special purpose vehicles and credit risk transfer mechanisms, proved robust.

The reaction in individual financial markets was also consistent with a sober assessment of changing circumstances. There was no panic flight to liquidity like that seen after the LTCM and Russian crises in 1998. Major equity markets in North America and Europe continued their long decline up until autumn last year but, soon after the post-11 September plunge, began to rise again as economic prospects brightened. Moreover, the rally persisted into 2002 before stalling, at very high historical valuations, under the joint influence of the Enron revelations and increasingly gloomy news on the profits front. Most other markets on both sides of the Atlantic showed similar gyrations. They fell, rose and then fell again as optimism about the US economy waxed and waned, while divergent European prospects were largely ignored. The overall effect, however, was that nominal borrowing costs in corporate bond markets fell to historically low levels last September and have changed remarkably little since.

In some other markets there were clearer signs of stress. The US commercial paper market was most affected, with lower-tier credits being effectively frozen out and others being asked to pay higher rates of interest. The decline in outstanding non-financial commercial paper over the last year has been the steepest on record. Yet many firms were still able to fall back on prenegotiated arrangements with their banks, even though banks were feeling increasingly uncomfortable in view of the credit losses they had already suffered in the downturn. The corporate bond market, however, was an even more willing provider of funds and bond issues rose to record levels. These long-duration bond issues, while more expensive than shorter-term paper, should help ease corporate liquidity concerns for some time.

Two other features of recent events also underline the resilience of the global financial system. The first was the extent to which consumers in many industrial countries gained greater access to consumer and mortgage credit. Moreover, they availed themselves of such credit to pay down more expensive debt as well as to increase consumer expenditures. While significantly less well advanced, a similar phenomenon has arisen in a number of large emerging market economies, including China, India, Korea and Mexico. In countries with initially low domestic saving rates, such developments had to be financed, in part at least, by inflows from abroad. In the United States in particular, government-sponsored mortgage agencies were extremely successful in selling bonds directly to foreigners.

The second remarkable aspect of recent financial events was also related to international capital flows. In global circumstances likely to increase investor risk aversion, external financing for countries with current account deficits might suddenly have proved harder to obtain. In fact, this was not the case. Among the industrial countries, the external funding requirements of the United States continued to be easily met. This was generally true for emerging market economies as well. To be sure, banks further reduced their cross-border lending. However, there had been a long-standing tendency for internationally active banks to rely increasingly on a domestic presence and domestic funding to extend credit in emerging markets. In contrast, most of those seeking funds in the international bond markets still had ready access. Sovereign spreads actually narrowed over the period under review for countries such as Korea and Mexico, deemed to have sound policies, although the opposite was true (and sometimes dramatically so) for countries like Turkey, Argentina and Venezuela. Moreover, foreign direct investment continued to flow into a number of favoured countries, in particular Brazil, China and Mexico, while equity prices in a range of emerging market countries were also on the rise. In sum, the outcome was – thankfully – a far cry from the indiscriminate contagion that some feared would arise from the Turkish and Argentine crises.

Factors supporting the resilience of the global economy

Why were the global economy and financial system so resilient? Policy initiatives appear to provide at least part of the answer. Stimulative macroeconomic policies clearly helped sustain aggregate demand. Perhaps more speculatively, the measures taken to promote financial stability over the past few years may have begun to prove their effectiveness. And, albeit still more in the background, many countries have acted in recent years to free up labour and product markets and improve productivity. The benefits of this were always expected to include more stable growth, as well as faster growth on average.

The most obvious policy measure was the sharp monetary easing almost everywhere. While the lagged effects of earlier oil price increases remained a source of concern for some, underlying inflationary pressures were generally viewed as subdued. This gave monetary authorities substantial room for manoeuvre which, moreover, many exploited aggressively.

Nowhere was this more evident than in the United States, where the policy rate was cut forcefully and repeatedly during 2001, and has been maintained at a record low level since. One conditioning factor may have been the perception that a number of the traditional channels through which monetary policy works were not operating as expected. As short rates fell, long rates dipped but then rose again, and the effective value of the dollar also appreciated. Equity prices continued to weaken, although presumably less rapidly than if policy had not eased. Even while recognising that some of these developments were also signs of the market's optimism about the future, the Federal Reserve clearly felt it had grounds for aggressive action. A second conditioning factor may have been lessons learned from the experience of Japan. There, with prices falling and nominal interest rates effectively at the zero lower bound, cumulative increases in real rates and debt deflation have become a real possibility. Moreover, a variety of other, less common monetary policy responses, including escalating levels of bank reserves, have so far failed to turn the Japanese situation around.

The ECB also cut its policy rate in response to the economic situation. The absolute reduction was, however, more limited in view of headline inflation which stayed stubbornly above target. In addition, for most of 2001, there was a rather more moderate deceleration of growth in the euro area than in the United States. The picture was similar in most of the inflation targeting industrial countries, as well as in many emerging market economies. In the latter, the spread of floating exchange rate regimes (albeit heavily managed in some cases) provided a new channel through which monetary easing might become effective. Of course, the extent to which this new freedom could be exploited depended very much on the credibility of the policy regimes in the countries in question. Broadly stated, and largely reflecting historical experience, central banks in Asia were less constrained than those in Latin America.

Stimulative fiscal policies also helped support the global economy. As a general rule, countries with a better fiscal track record were able to do more, while those with a less satisfactory history of debt accumulation had to content themselves with less. The spectrum ranged from significant structural deficit increases in the United States to active restraint in the case of Japan. Countries in the euro area felt able to complement the flexibility of the Stability and Growth Pact with tax cuts without compromising their long-run commitment to a broadly neutral fiscal stance. A similarly diverse state of affairs prevailed in emerging markets. While many governments in Asia eased fiscal policy significantly, a number of Latin American countries were constrained by exchange rate pressures or legislation directed towards ensuring fiscal responsibility after years of laxity. Mexico, for example, although much affected by the sagging US economy, had to match declining tax receipts due to lower oil prices in 2001 by expenditure cuts.

Why did financial markets respond as effectively as they did in the period under review? Lower policy rates surely contributed to this. But, in addition, financial markets in many countries are now much more varied and flexible due to deregulation over many years. Corporations, particularly in North America and Europe, had access to alternative sources of funds when initial sources dried up in the course of last year. Households in many countries were also able to alter the timing of their lifetime consumption path by tapping new markets to raise funds. This was in part a welcome by-product of rising house prices and the greater availability of collateral. However, it also reflected the increased capacity of financial institutions to use risk transfer instruments to lay off the exposures arising from these new credits. Moreover, derivatives markets, in particular rapidly growing markets for the transfer of credit risk, also allowed many economic agents to share with others the ramifications of the various shocks to which they had recently been subjected.

More broadly, financing needs have in the recent past been met more through markets than through financial intermediaries such as banks. This has limited the likelihood of collateral damage from shocks through the payment system, though it clearly did not eliminate it. The terrorist attacks of 11 September might conceivably have led to a complete collapse of market functioning had not the Federal Reserve, and in lesser measure other central banks, intervened with ample injections of liquidity to ensure that payment obligations could be met.

A closely related issue is why there was so little market contagion from the Turkish and Argentine crises. The principal reason must surely be the widespread adoption of floating exchange rate regimes. In addition, both crises built up over a rather lengthy period, allowing investors dedicated to emerging markets to reallocate their funds in a relatively orderly way. It also appears that, in the wake of earlier crises, there were far fewer highly leveraged investments in emerging market economies than before. This may have been related to the declining importance of large macro-directional hedge funds in recent years. But another important factor seems to have been the growing capacity of investors to discriminate between good and bad credits and to allocate funds accordingly.

This greater capacity to discriminate between borrowers reflects another fundamental change that has affected the behaviour of financial institutions over the last few years, and improved the functioning of markets in consequence. Financial institutions generally appear to have become much more risk-conscious, particularly as regards the dangers posed by lending on commercial property. They have developed new and better methods of measuring risk and have made significant progress in implementing systems to manage risk effectively. In countries where they had been pricing risk more accurately for some time, their balance sheets were significantly better prepared to withstand the economic slowdown.

Some of the credit for this change in risk culture must go to the Basel Committee on Banking Supervision, and associated efforts by its counterparts in the insurance and securities sectors. While the Core Principles for Effective Banking Supervision will continue to be reviewed and revised, and the New Basel Capital Accord is not yet finalised, the interactive process of developing these standards has already been immensely helpful. The active participation of the IMF and the World Bank Group in assessing compliance with such standards in emerging markets, and assisting their governments in making needed improvements, has been no less valuable. And complementary steps have also been taken to strengthen both market functioning and market infrastructure. That being noted, a great deal of work is yet to be done to address the financial vulnerabilities that remain. This issue will be returned to in the Conclusion of this Report.

Other means to improve cooperation among officials with an interest in financial stability, both nationally and globally, were also explored last year. The G10 central bank Governors and their non-central bank supervisory counterparts have begun to interact more regularly than before. A major expected benefit is better mutual understanding of the merits of focusing not only on the health of individual institutions, but also on the extent to which the system as a whole might be exposed to common shocks. These discussions are also a useful complement to those taking place in the Financial Stability Forum, which has established a still wider international network of officials concerned with such issues. Last year, the FSF also began organising regional meetings. One important purpose was to share views about vulnerabilities and the ways in which the adoption of international financial standards might help reduce them. A central idea behind the Forum's work has been that individual countries would derive enormous advantages from having efficient and stable domestic financial systems. It is this self-interest, rather than the need to contribute to some vague international effort, that is thought likely to provide the primary motivation for domestic financial reform. Nevertheless, the Forum is also working to improve the market's understanding of the importance of these standards so that it will, over time, increasingly reward the compliant and penalise the non-compliant.

Finally, and as paradoxical as it might seem in the light of the developments in Argentina, some progress was also made last year in establishing more orderly procedures for resolving sovereign liquidity crises. Indeed, the chaotic events in Argentina may well have contributed to this progress. After many years of disagreement between some of the major industrial countries, the most recent G7 and G10 communiqués indicate that a substantial degree of consensus now exists on how to move forward. While full agreement and implementation could well take years, and – as always – the devil is in the detail, there now appear to be greater grounds for optimism about achieving practical results than has been the case for some time.

II. Developments in the advanced industrial economies

Highlights

The advanced industrial economies experienced an unusually abrupt and simultaneous slowdown in the course of 2001, with the growth of global trade coming to a halt. The slowdown was driven by the corporate sector, where slumping profits and equity prices induced a sharp decline in fixed capital spending and inventories. Corporate financing conditions became more differentiated as companies with low credit ratings were forced to pay wider spreads. In contrast, household demand remained strong, particularly in the United States and other English-speaking countries. The strength of household spending was partly attributable to rising house prices and favourable borrowing conditions.

The performance of the global economy improved significantly in the early months of 2002, reflecting a slowing rate of inventory decumulation and strong policy responses. Business fixed investment has not yet recovered: profits are still weak and debt levels in some countries appear high for this stage of the business cycle. Inflation expectations seem to be well anchored at a low level despite higher oil prices, allowing policy rates to be kept low.

Slowdown in 2001

Sharp deceleration in global trade

Aggregate output in the main industrial countries began to decelerate from the middle of 2000 and continued to slow significantly last year (Table II.1). The first signs of the slowdown had emerged in the United States, notably in the high-tech sector. The ensuing deceleration in global trade was particularly sharp (Graph II.1), underlining the unusually synchronised nature of the downturn. An important feature of the slowdown was that it did not appear to have been triggered by monetary policy tightening. Rather, a severe downward correction of business inventories and investment took place, preceded and partly induced by a substantial fall in corporate profits. In contrast, private consumption and residential construction remained much stronger than during previous downturns. The divergent trends in corporate and household spending resulted, in part, from different fundamentals. Excess capacity and falling profits in the corporate sector contrasted sharply with increasing property prices and continued strong real household income. The relatively easy credit conditions for households favoured consumption and residential construction.

Growth and inflation						
	Real GDP			Consumer prices[1]		
	1991–2000	2001	2002[2]	1991–2000	2001	2002[2]
	annual percentage changes					
United States	3.2	1.2	2.8	2.8	2.8	1.6
Euro area	2.0	1.5	1.3	2.6	2.5	2.0
Japan	1.4	–0.4	–1.0	0.8	–0.7	–1.0
United Kingdom	2.3	2.2	1.8	3.2	2.1	2.2
Advanced industrial economies	2.5	1.1	1.7	2.4	2.1	1.4

[1] For the United Kingdom, retail prices excluding mortgage interest payments. [2] Consensus forecast published in May.

Sources: © Consensus Economics; national data. Table II.1

International linkages

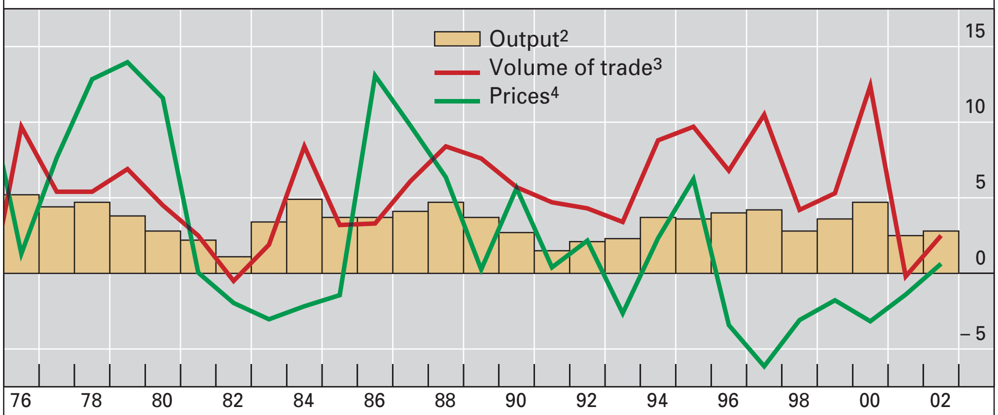
An important element in the most recent slowdown is the appearance of greater synchronisation than during the recession in the early 1990s (Graph II.2). This might suggest that business cycles have become more closely correlated as economic globalisation has deepened, although other explanations are also plausible.

Trade linkages

The most obvious way in which a shock in one country is transmitted to others is through trade. With greater specialisation in the various stages of production, trade flows represent an increased proportion of output in today's economies (Table II.2). Moreover, vertical integration implies that sector-specific shocks have similar effects in terms of aggregate output fluctuations across national borders. As reflected in growing flows of foreign direct investment throughout the 1990s, a second, and related, feature of globalisation is that companies have established themselves more firmly in foreign markets. This implies that disturbances in one major economy would

World output, trade and prices[1]

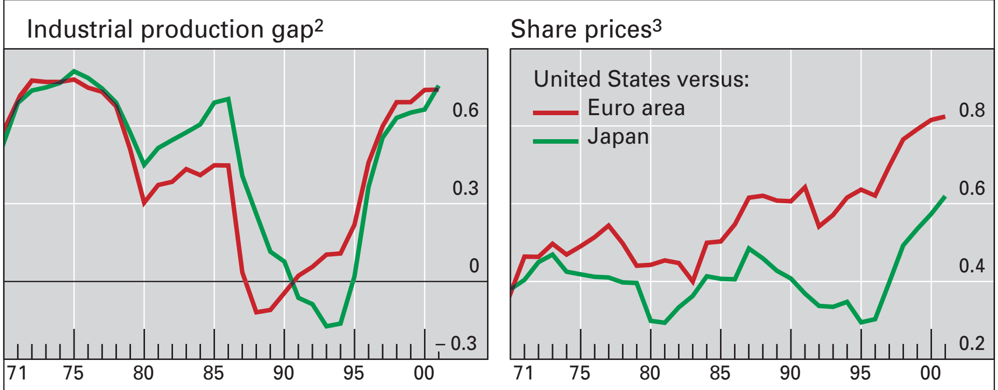
Annual percentage changes



[1] For 2002, IMF and OECD forecasts. [2] Real GDP. [3] Goods and services. [4] Export prices of OECD manufactures, in US dollar terms.

Sources: IMF; OECD. Graph II.1

Synchronisation of business cycles[1]



[1] Rolling correlations on an eight-year moving window. [2] Deviation of actual from trend data using a Hodrick-Prescott filter on monthly figures. [3] Based on monthly changes.

Source: National data. Graph II.2

depress aggregate profits of multinationals and lead to a global adjustment in their spending. In addition, a disturbance in one country could affect business expectations in its trading partners, triggering a quicker correction in inventories, investment plans and employment.

Financial channels

Financial channels may also have become more powerful. Long-term interest rates tend to move closely in step. Moreover, the correlation between equity prices in major industrial countries has risen over time. This may have increased the synchronisation of business cycles in two ways. As financial market prices react quickly to changes in macroeconomic conditions, they speed up the transmission of country-specific disturbances to other countries. Furthermore, recent decades have seen an increase in capital market financing. It is true that financial structures and balance sheets still vary greatly across countries and the influence of capital markets is typically higher in the English-speaking countries than in the euro area or Japan. Nonetheless, changes in increasingly correlated financial conditions are likely to have stronger and more synchronous effects on domestic demand than previously.

Foreign trade shares[1]

	1981–90	1991–2000	2000	2001
	as a percentage of GDP			
United States	9.3	11.4	13.0	11.9
Euro area[2]	14.8	15.0	19.3	19.3
Japan	11.3	9.1	10.0	10.1
United Kingdom	26.1	27.1	29.0	28.2
Canada	26.0	35.1	42.9	40.7
Australia	16.5	19.6	22.4	22.2
Sweden	32.2	35.7	44.5	43.5
Switzerland	35.8	36.1	44.0	44.2

[1] Average of exports and imports in goods and services. [2] Excluding internal cross-border trade.

Sources: ECB; OECD; national data. Table II.2

Temporary, and possibly reversible, common shocks were in play in 2001

Despite these secular trends, the underlying degree of economic synchronisation may be less than is suggested by developments in 2001. First, various temporary, and possibly reversible, common factors were in play during the recent slowdown. The increase in oil prices in 1999 and 2000 (Table II.3) raised import prices and depressed corporate profits, dampening both private consumption and business spending. Monetary policies were also tightened in most countries during 1999–2000. But perhaps the most important event was the bursting of the high-tech equity bubble, which led to a dramatic and synchronised deterioration in global capital markets. The resulting sharp decline in business fixed investment and inventories (demand components with a relatively high trade intensity) amplified the importance of the trade channel. Finally, the terrorist attacks of 11 September 2001 hurt confidence in all countries.

A return to the situation prevailing during the 1970s and 1980s?

Second, the recent downturn appears more synchronised by comparison with the recession of the early 1990s. Developments then, however, were rather unusual. Output fell in the United States and the other major English-speaking countries in 1991, but not until two years later in continental Europe and Japan. The absence of synchronisation in the early 1990s was mainly attributable to country-specific disturbances and events, notably German reunification and the end of the asset price bubble in Japan. The latter also led to protracted balance sheet problems which weighed on activity throughout the 1990s. The resulting decoupling of Japan from the business cycle in other industrial countries was reinforced by the Asian crisis in 1997–98. From this perspective, the synchronisation observed last year might simply reflect a return closer to the situation prevailing during the 1970s and 1980s.

Synchronisation in 2001 should not be overstated

Third, the synchronisation of business cycles in 2001 should not be overstated. Although growth everywhere was hit, macroeconomic developments in the major economies followed different patterns reflecting the influence of country-specific factors. The picture outside the United States was most favourable among other English-speaking countries, even those

World trade and prices[1]

	1991–2000	1999	2000	2001	2002[2]
	annual percentage changes				
Trade volumes	7.3	5.6	12.8	–0.7	2.6
Trade prices (in US dollars)	–0.8	–2.0	0.3	–3.5	–1.5
Manufactures	–0.9	–1.9	–5.1	–2.4	–0.5
Oil	2.1	37.5	57.0	–14.0	–5.3
Other commodities	–0.9	–7.0	1.8	–5.5	–0.1
Terms of trade					
Advanced economies[3]	0.2	0.1	–2.5	0.4	0.6
Developing countries	–0.0	4.5	7.4	–3.0	–1.6

[1] Goods only. [2] IMF forecast. [3] Advanced industrial economies plus newly industrialised Asian economies (Hong Kong SAR, Korea, Singapore and Taiwan, China).

Source: IMF, *World Economic Outlook*. Table II.3

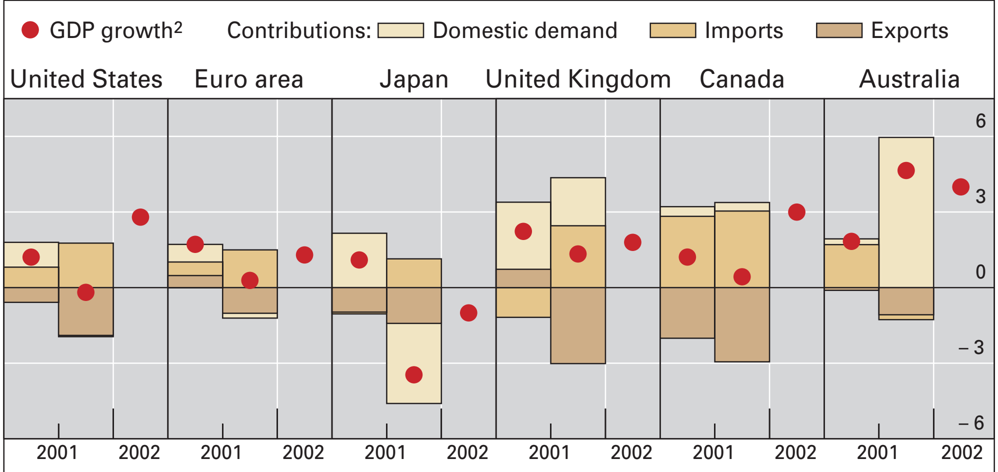
closely linked to the US economy (in particular Canada). The United Kingdom grew faster than any other G7 country in 2001, although output weakened towards the end of the year. This performance mainly reflected a mixture of buoyant consumption and strong growth of public investment. The Australian economy, despite its trade linkages with Japan and East Asia, expanded by 2½% last year, thanks to strong domestic demand, a competitive exchange rate and favourable supply side effects stemming from many years of economic deregulation (Graph II.3).

Other regions were more affected by the global slowdown than initially expected. Japan, already stagnating when the US economy was growing strongly, was the only advanced industrial country where GDP actually declined in 2001. A slump in exports aggravated the recession in the domestic economy, already hampered by difficulties in the banking sector, fragile corporate balance sheets and deflationary expectations. In the euro area, activity slowed substantially in the course of the year. In Germany, GDP actually declined during the second half of 2001, with domestic demand held back by a heavy correction of inventories and falling investment. Activity also slowed noticeably in Italy, reflecting sluggish domestic demand. Elsewhere in Europe, output decelerated markedly in Sweden, as consumption stalled in 2001, and in Switzerland, as export demand was hit by low global growth as well as by the appreciation of the Swiss franc.

On balance, it seems that the synchronised downturn in 2001 mainly represented the effects of common shocks, reinforced by the high trade intensity of the demand components most severely affected. To that extent, it was similar to the recessions of the early 1970s and 1980s. The principal implication is that the same degree of synchronisation might not be observed in the global recovery that appears to have been under way since the beginning of 2002 (see below).

Contributions to real GDP growth[1]

In percentages and percentage points



[1] Changes from previous period; for 2001, semiannual data, seasonally adjusted at annual rates. [2] For 2002, consensus forecast for the whole year, published in May.

Sources: ECB; © Consensus Economics; national data. Graph II.3

The role of the corporate and manufacturing sectors in the downturn

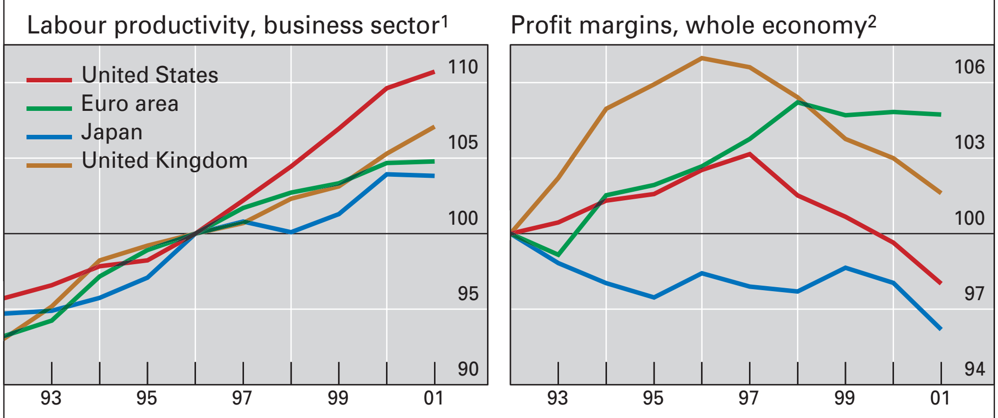
Contrasting developments in the corporate and household sectors

Besides its high degree of global synchronisation, a second feature of the downturn last year was the contrasting developments in the corporate and household sectors. This led to significant differences in performance between domestically and externally oriented sectors, particularly in those countries which had experienced marked currency appreciation in recent years. For instance, output in the manufacturing sector fell sharply in the United States and the United Kingdom, while activity in residential and public construction as well as in the service sector weathered the downturn relatively well.

The global slowdown was led by a steep decline in manufacturing output, notably of high-tech products. A key element was a substantial and rapid downward correction of business investment in response to declining profits. While most firms benefited from low interest rates and strong output growth in the 1990s, their profits have come under increasing pressure in recent years. The profit margins of US corporations have narrowed since 1997, as almost all productivity gains have been absorbed by labour compensation. Squeezed by the rise in oil prices and an earlier tightening of borrowing conditions in some sectors, margins fell further in the period just before the recent slowdown (Graph II.4). This deterioration, also evident in some other major industrial countries, was compounded by the build-up of excess capacity in several sectors, feeding deflationary pressures and constraining firms' pricing power.

Industrial production also fell because of a significant inventory correction (particularly pronounced in the United States). In Japan, by contrast, the ratio of inventories to shipments remained at a high level despite industrial production falling to a 14-year low by the end of last year. As mentioned earlier, the terrorist attacks of 11 September were another important global element. They not only disrupted output at the factory level but also shook business confidence worldwide and exacerbated the deceleration in international trade.

Labour productivity and profit margins



[1] Real value added per employed person; 1996 = 100. [2] Defined as the ratio of the GDP deflator to unit labour costs; 1992 = 100.

Source: OECD. Graph II.4

Corporate spending was further dampened by asset price developments and changing financial conditions, with firms trying to rebuild cash flows and reduce their financing requirement through spending cuts. First, corporate reported earnings were affected by sizeable write-offs following expensive acquisitions. Second, as expectations of near-term profits were revised sharply downwards, many companies also faced unexpected shortages of liquidity in a context of slow activity and restricted access to some credit markets. Third, while currency strength aggravated the problems faced by US and UK manufacturers, corporate spending in the euro area was particularly affected by excess capacity and a significant correction of equity prices in the telecoms industry.

Firms had to reduce their financing gap

The past 18 months have also seen a marked shift of financing within the corporate sector. Investment grade corporate borrowers benefited from the easing of monetary policy as well as from a shift to bond financing. Their issuance of debt securities remained at high levels, especially in the United States and the United Kingdom. As the slowdown deepened, investors became even more discriminating and spreads on non-investment grade corporate paper widened, counteracting the stimulatory effect of lower short-term interest rates. As discussed in Chapter VI, the creditworthiness of several classes of corporate borrowers deteriorated as the slowdown depressed earnings and led to more bankruptcies. Sector-specific risks played a particular role, notably after the September events, and some industries and firms faced a severe squeeze in their access to credit. These credit concerns were also reflected in a tightening of bank lending attitudes and the drying-up of the commercial paper market in the United States. In Japan, most of the decline in credit can be attributed to weak demand. At the same time, the rising stock of non-performing loans in a period of deflation and the growing number of bankruptcies reduced the ability and willingness of financial institutions to provide credit, especially to small and medium-sized enterprises.

More difficult access to credit for firms except for investment grade borrowers

Borrowing conditions, wealth effects and household spending

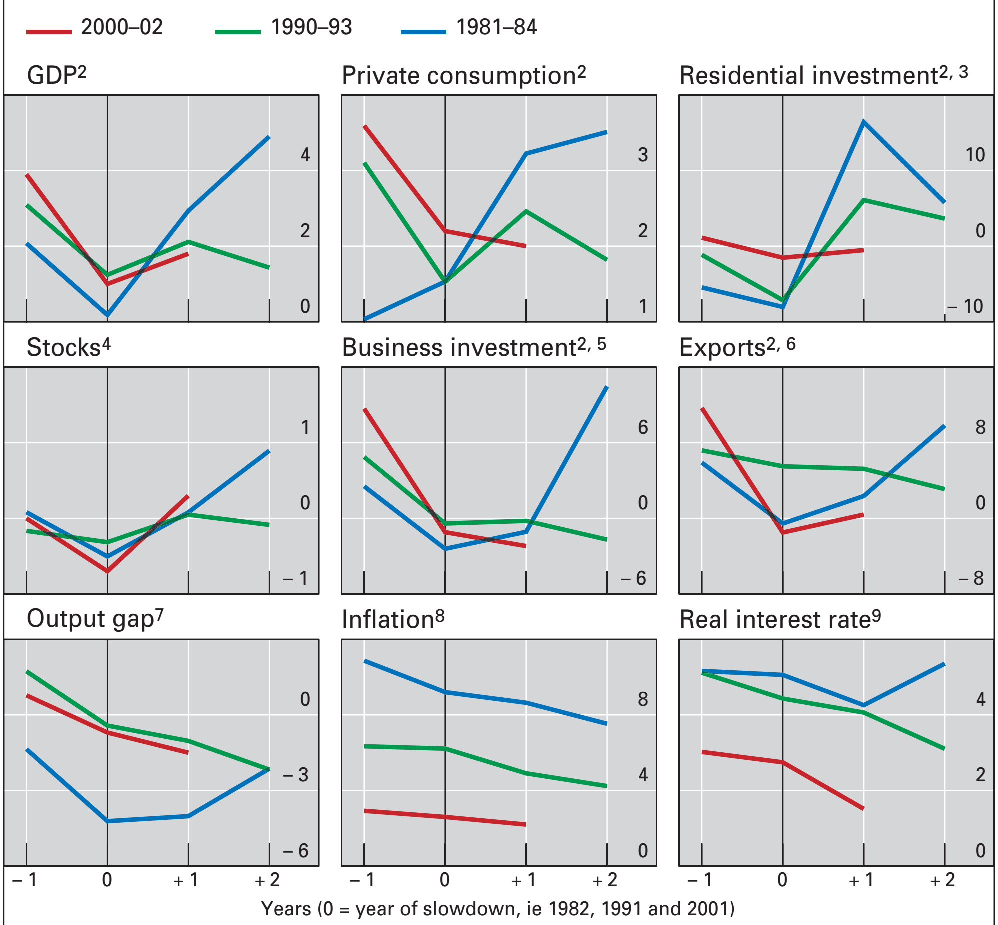
In sharp contrast to developments in the corporate sector, household spending was well sustained in most countries, despite high debt levels, declining equity prices and growing concerns about job prospects. Private consumption remained buoyant in the United Kingdom, and even strengthened in Australia. In the United States, increasing layoffs weighed on household income, but retail sales held up remarkably well. While household spending softened in the euro area overall, it remained strong in several countries, especially in Spain and France. In Japan, private consumption actually grew slightly in 2001.

Construction activity also followed an unusual pattern. In contrast to Germany (where it has continued to fall after the post-unification boom) and Japan (where public works spending has recently been reduced), construction was underpinned by public expenditures, particularly in the United States, Canada and the United Kingdom. In addition, residential investment was sustained by rising house prices in many countries. This strength was unusual, since residential investment in previous downturns had tended to fall sharply in response to higher interest rates (Graph II.5).

Resilience of household spending

One reason for the resilience of household spending was lower long-term rates and buoyant mortgage markets. The average household borrowing rate fell by 2 percentage points in the United States in the course of last year. These effects were amplified by low-cost financing available from US car manufacturers, which helped to sustain private consumption towards the end of 2001. Households in the other English-speaking countries also benefited from strong growth in mortgage financing. The lingering effects of earlier asset price increases may have been another supportive factor. The ratio of household net worth to income had risen steeply over the 1990s, by more than 100 percentage points in the United States, the United Kingdom and Italy. Most of this improvement was the result of rising prices of financial assets. The resultant "wealth effects" seem to have supported consumer spending during the 1990s, inducing an almost universal decline in household saving rates (most marked in the major English-speaking countries). The only – and

Most recent and previous slowdowns compared[1]



[1] OECD area. For 2002, OECD forecast. [2] In real terms; changes over one year, in percentages. [3] Private residential fixed capital formation. [4] Contribution to changes in real GDP, in percentage points. [5] Private non-residential fixed capital formation. [6] Goods and services. [7] As a percentage of potential GDP. [8] Annual percentage changes in private consumption deflator. [9] Short-term; deflated by private consumption deflator.

Source: OECD. Graph II.5

important – exception is Japan, where household net worth has actually declined since 1990 as both equity and land prices have fallen sharply from highly inflated levels.

Lower equity prices ...

Although equity prices began to fall in early 2000 and the decline continued in 2001, private consumption remained unexpectedly strong in the OECD area. It actually rose by more than 2% in 2001, while output growth was a meagre 1%. More puzzlingly, household spending was even resilient in countries where the dampening effects of lower equity prices might have been expected to be the strongest: for example, in the United States, Canada and the United Kingdom. One possible explanation could be the marked increase in real estate values since the mid-1990s, which showed no sign of moderating in 2001. Indeed, over the last five years, residential property prices have been rising at an annual rate of around 10% in real terms in the United Kingdom, Ireland, the Netherlands and some Nordic countries, and at almost 5% per year in most other industrial countries (see Chapter VII). The main exceptions have been Japan and Germany, where real residential prices have fallen, and Switzerland and Canada, where they have been broadly stable in recent years.

... but marked increase in real estate values

In theory, it is not clear that higher housing prices should affect consumption ...

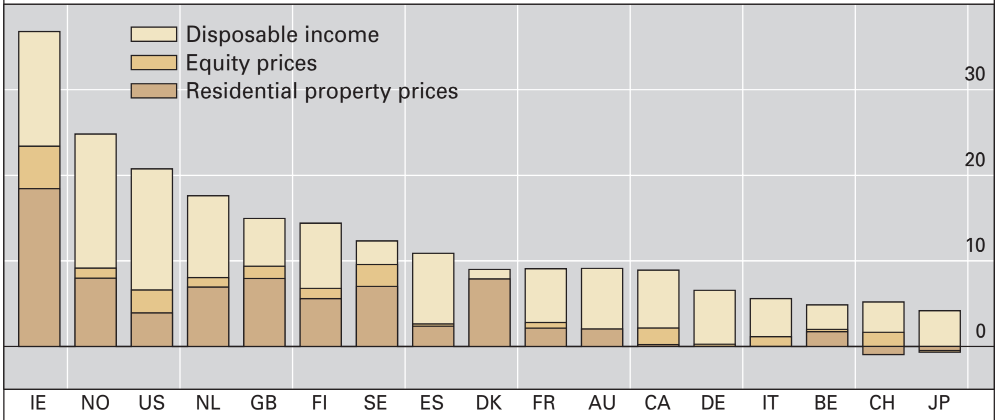
It is an open question how far consumer spending is likely to be supported by an increase in the nominal value of housing wealth given that the physical stock of houses changes only slowly. On the one hand, wealth effects are positive; on the other, housing rents tend to rise with house prices. While those owning a house may save less as prices rise, those living in rented dwellings must save more if they aspire to buy a house. Moreover, tangible assets are usually less liquid than financial wealth and capital gains are both more ambiguous (because information on housing prices is more scattered) and harder to realise. Whatever the impact on consumption of higher housing prices, it should differ according to the importance of housing wealth.

... but balance sheet effects could be important ...

Nevertheless, balance sheet effects might still provide an important transmission mechanism from house prices to consumption. An upswing in property prices raises the value of homeowners' fixed assets relative to their liabilities. Annual home sales were particularly high in the United States in 2001, allowing many households to realise capital gains from selling homes. But housing turnover is not the only way to take out equity in today's economies. As households can now borrow against unrealised capital gains – ie without selling their house – tangible assets have become much more liquid. Hence, intertemporal smoothing of consumption can be improved. The more efficient provision of mortgage credit over recent decades may well have accentuated this channel.

... as borne out by empirical evidence

At the empirical level, there is clear evidence that an increase in both financial and non-financial wealth has a positive and significant effect on consumer spending. The surge in house prices does appear to have strongly supported private consumption in the major English-speaking countries, the Netherlands and the Nordic countries (Graph II.6). Surprisingly, this seems more the case in countries where housing wealth is less important than financial wealth. One possible explanation is that the "financial deepening" of



AU = Australia; BE = Belgium; CA = Canada; CH = Switzerland; DE = Germany; DK = Denmark; ES = Spain; FI = Finland; FR = France; GB = United Kingdom; IE = Ireland; IT = Italy; JP = Japan; NL = Netherlands; NO = Norway; SE = Sweden; US = United States.

[1] Using elasticities estimated over the period 1975–2001; income and asset prices deflated by private consumption deflator.

Sources: OECD; national data; BIS calculations. Graph II.6

households' balance sheets (ie the ability to liquefy real estate wealth) has developed further in countries with market-based financial systems than in those primarily reliant on banks. The United States provided perhaps the most striking example in 2001: rapid home price inflation, allied with increased mortgage refinancing, significantly cushioned the negative effects of a declining stock market, the deterioration of the labour market and the shock to confidence following the 11 September attacks.

Signs of improving economic prospects in 2002

The outlook for the global economy has improved since the end of 2001 and a revival in world trade appears to be under way. US output rebounded in the fourth quarter of last year, and gained strength impressively in the first quarter of 2002, even though some indicators suggest that activity slowed somewhat thereafter. In the euro area, business confidence picked up (suggesting that a recovery is taking hold), but private consumption was sluggish in the early months of 2002, constrained by a significant rise in prices and weak employment. The near-term outlook for Japan has remained poor, even though business surveys and the latest export and industrial output data give some indication that the downturn may be bottoming out. However, with nominal wages still falling, the outlook for private consumption remains bleak.

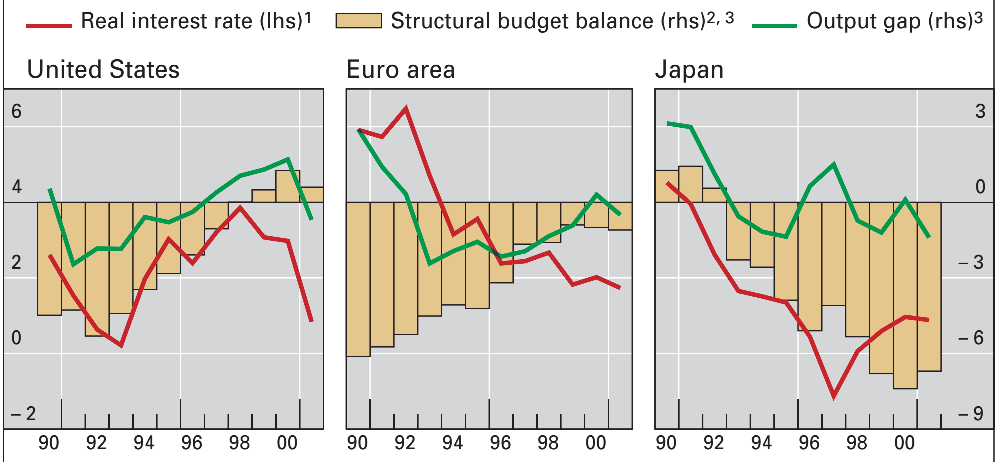
Factors supporting the current upturn

Supportive policies

Both monetary easing and a more expansionary fiscal stance have contributed to maintaining aggregate demand (Graph II.7). As the slowdown accelerated in the course of last year, short-term interest rates were eased considerably. This substantial easing has been particularly important in the United States,

Real interest rate, structural budget balance and output gap

In percentages



[1] Short-term interest rate deflated by annual consumer price inflation. [2] General government. [3] As a percentage of potential GDP.

Sources: OECD; national data. Graph II.7

where the Federal Reserve lowered policy rates rapidly, to levels last observed in the 1960s. In addition, the global fiscal stance has become more expansionary, with government expenditure especially buoyant in the United Kingdom. In the United States, sizeable tax cuts were implemented last summer and public expenditures have been rising strongly, particularly since the terrorist attacks. Although less extensive than previously envisaged, additional measures were adopted early this year. The easing of the US budgetary stance in 2002 is likely to amount to almost 1½% of GDP. Fiscal policy is also expected to significantly support demand in Canada, Norway and Sweden.

One-off factors have underpinned the recovery

Besides temporary fiscal stimulus, other one-off factors have also underpinned the recovery. First, lower oil prices up to the end of 2001 reduced headline inflation and thus helped sustain real disposable income. Second, the inventory swing strongly supported global output at the beginning of 2002, notably in the automobile and IT sectors. Meanwhile, recent indicators suggest that the US-led recovery may be spreading across more sectors and regions. Residential construction strengthened notably in early 2002 in the United States, as well as in other major English-speaking countries. Moreover, since high-tech products are estimated to have a relatively short economic life, existing capacity could rapidly become obsolete and raise the need for new equipment. US investment in information processing equipment and software rose in the first quarter of 2002.

Factors that might dampen the recovery

Potential constraints include financial market conditions …

Nevertheless, financial market conditions may moderate the recovery. Government bond yields did not follow the monetary easing last year and have been quite sensitive to changes in investors' perception of the recovery since October 2001. Rates increased late last year amid greater optimism about general macroeconomic prospects, heightened concerns about fiscal positions in some countries and expectations of an early monetary tightening (see Chapter IV). However, as investors became concerned about the strength of the recovery, bond rates fell again in April and May this year and corporate spreads narrowed slightly. Although this should help recovery, corporations' ability to borrow remains limited given greater investor caution after a series of high-profile bankruptcies in several countries.

... and corporate balance sheets

On the corporate side, an important question is how quickly profits can be restored. The ratio of profits to GDP has held up relatively well in the euro area. In Japan, the latest *Tankan* survey shows that Japanese firms expect profits to recover quite briskly in 2002. In the United States, a marked decline in unit labour costs has helped profits rebound strongly in the last few quarters, creating hopes that the dramatic decline in the profit share in 2001 could soon be reversed. However, any move to more usual interest rate levels would increase the cost of debt servicing and put further pressure on profit margins, possibly forcing firms to continue to correct their balance sheets before investment can pick up. Excess capacity could also undermine business investment over a prolonged period. Indeed, the current weakness in semiconductor prices suggests that excess capacity in the IT sector is still sizeable. Furthermore, the average rate of capacity utilisation in the whole manufacturing sector among OECD countries remains well below its 1990s level. An important exception is the euro area, where, outside the telecoms sector, the capacity overhang looks more limited.

Recovery may differ across countries

The strength of the apparent recovery in early 2002 has differed markedly across countries, perhaps because most of the forces responsible for the high degree of synchronisation during the downturn are absent.

Different speeds of recovery

First, the policy stance differs significantly across countries. One obvious factor is varying degrees of monetary ease. Given different inflation and output outcomes (see Chapter IV), short-term interest rates have fallen less in Europe than in the United States and have hardly changed in Japan as they were already close to zero. There are also striking disparities as regards fiscal policy. While the budgetary stance has turned clearly expansionary in the major English-speaking countries, public demand in the euro area has been more constrained by existing deficit and debt levels. Although automatic stabilisers were allowed to operate in 2001, cushioning the impact of the downturn, the fiscal stance may become slightly more restrictive in 2002. In Japan, a strict ceiling has been imposed on bond financing and the budget adopted for the fiscal year 2002 foresees a sizeable decline in government expenditure, in particular on public works.

Different underlying economic strengths

Second, and perhaps most importantly, the potential rate of growth seems to differ widely among the major industrial countries. This could imply a sharper cyclical rebound in the United States given the relative size of the current output gaps. Labour productivity in the non-farm business sector in the United States remained strong during the slowdown, growing by 2% per annum from 1996 to 2001 (Graph II.4). Combined with a faster rate of potential employment growth than in other industrial countries, this implies a relatively high rate of potential output growth, which would help sustain some combination of corporate profits and real wage gains. The performance of the other main industrial countries has been weaker. In Japan, the average rate of output growth recorded over the past decade has been very low and labour productivity has grown by only 3/4% per annum over the last five years. In the European Union, the growth of labour productivity has averaged 1 1/4% per annum for the last five years, and potential growth remains further constrained by stagnant labour force growth and structural rigidities in both product and labour markets. Nevertheless, structural unemployment has been reduced in some countries through incentives to hire young or unskilled workers. For example, France has cut social security taxes for low-skilled workers, while other European countries have encouraged their recruitment through increased labour market flexibility. Such measures might be expected to adversely affect labour productivity for a time, even as they increase potential growth in the longer run.

Medium-term prospects

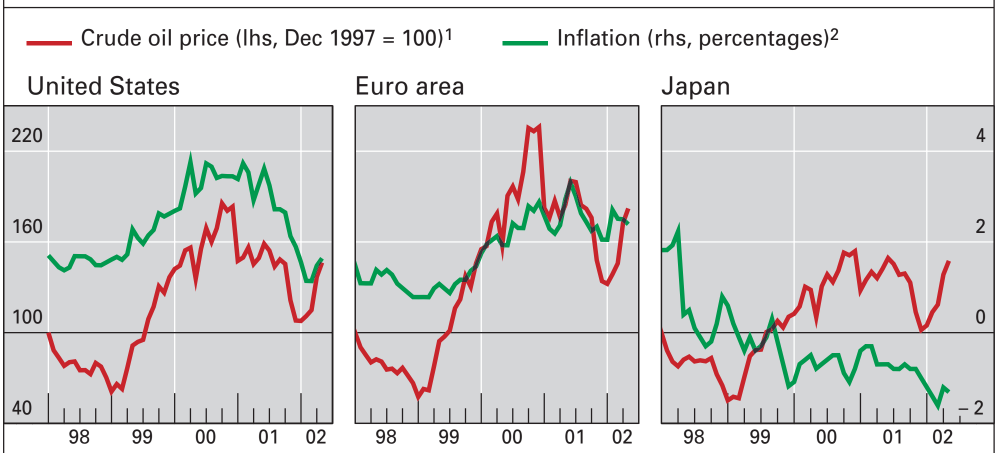
Looking beyond the next few quarters, the strength of the current global recovery is likely to depend mainly on the prospects for inflation, as well as on domestic and external financial balances.

Outlook for inflation

Global inflation is expected to remain low ...

As the global downturn intensified in the course of 2001, inflationary pressures eased in most countries. However, most of the deceleration in headline inflation was due to lower commodity prices (Graph II.8). Underlying inflation – that is, excluding food and energy prices – has been comparatively stable and in the euro area has actually increased to over 2%.

Crude oil price and headline inflation



[1] Unweighted average of the price of Dubai Fateh, UK Brent and West Texas Intermediate in the respective currencies. [2] Twelve-month change in consumer prices.

Source: National data.

Graph II.8

Headline inflation declined markedly in the United States, from almost 4% at the beginning of 2001 to just 1% a year later. Consumer prices continued to fall in Japan, at a somewhat faster pace in the second half of 2001. In the United Kingdom, headline inflation went down rapidly, mainly due to lower mortgage rates; excluding this effect, inflation dropped less markedly and was just below the Bank of England's target. In Switzerland, currency appreciation pushed headline inflation close to zero by the end of 2001. By contrast, consumer prices rose sharply in the euro area in the first half of 2001, reflecting a combination of higher indirect taxes (in Germany and the Netherlands), temporary increases in food prices, and the lagged impact of higher oil prices and a lower exchange rate. However, inflation declined during the second half, although it remained slightly above the Eurosystem's announced target.

... in response to secular forces, despite short-term risks

Global inflation is expected to remain low during 2002, particularly given the current softness of labour markets. The pricing power of firms everywhere remains constrained by the still high level of excess capacity and increasingly competitive international markets. Nevertheless, some inflation risks remain. In those European countries with rigid labour markets, employees might react to improving growth prospects by seeking higher wages. The potential impact would be greater were unions also to seek compensation for past real wage losses. In addition, energy prices have risen recently and could rise further in an unstable political climate. Major oil producers have committed themselves to adjusting supply to maintain stable prices, but whether this will be sufficient to prevent a significant upward move in energy prices remains to be seen. Other potential inflationary pressures may exist in countries where there is a danger of a sharp fall in the exchange rate or where house prices have surged.

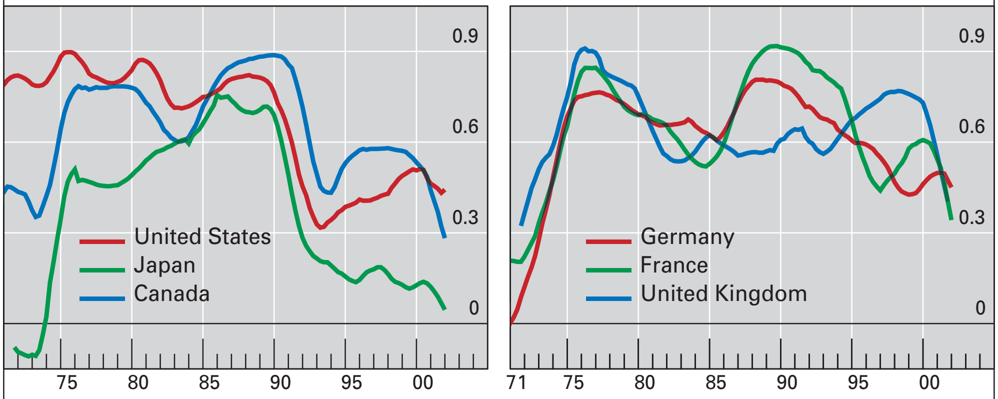
Main features of inflation in advanced industrial economies[1]

	Period	Mean	Dispersion[2]	Variability[3]	Persistence[4]
United States	1970–1989	6.3	3.2	0.5	0.8
	1990–2001	3.0	1.0	0.4	0.6
European countries[5]	1970–1989	8.3	4.1	0.5	0.8
	1990–2001	3.1	1.6	0.5	0.6
Japan	1970–1989	5.8	5.4	0.9	0.7
	1990–2001	0.9	1.4	1.6	0.3
Canada	1970–1989	6.9	3.1	0.4	0.8
	1990–2001	2.3	1.6	0.7	0.4
Australia	1970–1989	9.1	3.4	0.4	0.5
	1990–2001	2.8	2.2	0.8	0.2
Advanced industrial economies[5]	1970–1989	7.1	3.9	0.6	0.8
	1990–2001	2.7	1.4	0.6	0.5

[1] Calculations based on annual percentage changes of quarterly seasonally adjusted consumer price indices (for short-term persistence, changes over one quarter). [2] Measured by standard deviation. [3] Ratio of standard deviation to arithmetic mean. [4] First-order autocorrelation coefficient of quarterly changes; lower values in the 1990s indicate that short-term persistence has decreased. [5] Weighted average based on 1995 GDP and PPP exchange rates.

Source: National data. Table II.4

Inflation persistence[1]



[1] Rolling first-order autocorrelations, on a 10-year moving window, of quarterly changes in seasonally adjusted consumer prices; two-year moving average.

Source: National data. Graph II.9

Better anchored inflation expectations

Fortunately, the risk that such inflationary pressures might endanger price stability over the medium term seems to have been reduced by recent changes in the behaviour of inflation. There is some evidence that, following the impressive decline in both the level and volatility of inflation in the 1990s (Table II.4), inflation expectations seem to be better anchored. More specifically, in the new environment of low and stable inflation, economic agents appear to have become more forward-looking and seem to be gearing their expectations of inflation more to monetary policy than to past rates of inflation (see Chapter IV). In particular, short-term persistence of changes in inflation has noticeably diminished during the last decade (Graph II.9). This change, which has been particularly evident in many countries with inflation targeting regimes, implies that past inflation has become less important in explaining today's inflation.

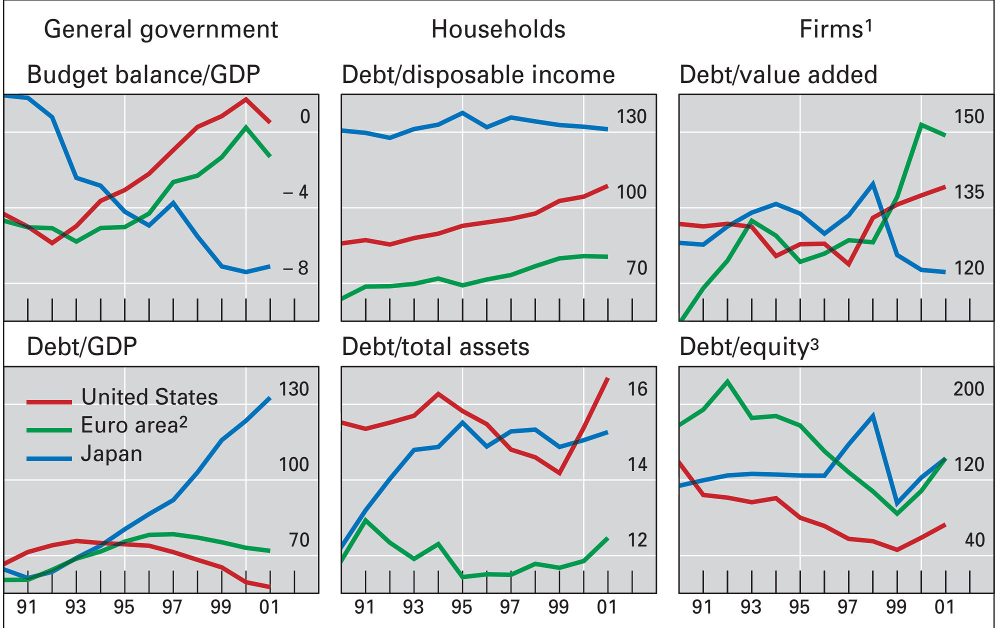
Domestic imbalances

The level of indebtedness is a second factor that could influence the medium-term sustainability of the recovery. Private sector debt rose sharply during the 1990s, and corporate and household balance sheets did not improve during 2001 as much as in previous downturns. This issue has attracted a great deal of attention. Will high debt levels require a deeper correction of balance sheets and, at some point, entail sharp cuts in spending? This is not easy to answer, not least because different indicators point to different conclusions (Graph II.10).

Significant fall in household net saving

Looking first at the development of net saving (ie the difference between saving and investment), households in most countries saw a significant decline during the 1990s (Graph II.11). Surpluses were sharply reduced in Japan and turned into deficits in the United States. In the latter case, one contributing factor was that lower nominal interest rates and strong wealth gains induced households to finance increased spending by taking on more debt. Developments in mortgage markets have been particularly important in this respect. They not only reduced liquidity constraints but also allowed households to limit the rise in debt servicing costs. In 2001, for instance,

Sectoral indebtedness
In percentages



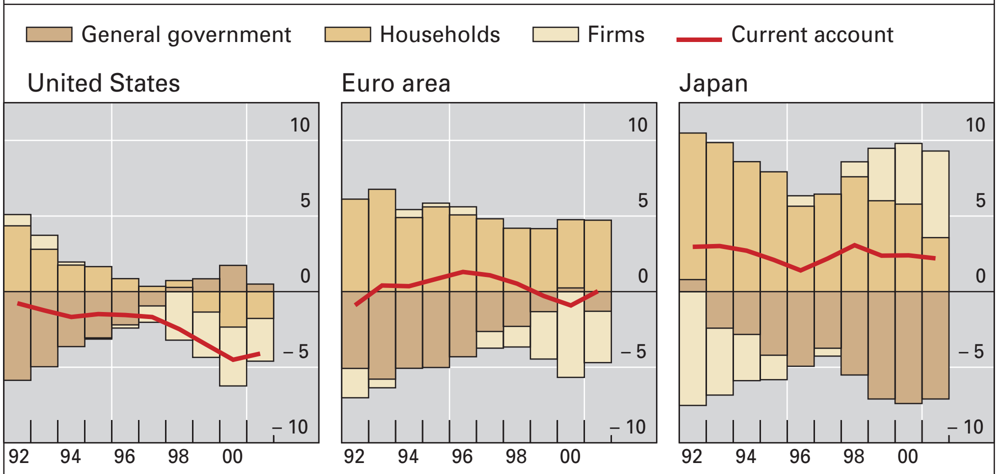
[1] Non-financial corporations. [2] For households and firms, weighted average of Germany, France and Italy. [3] Equity defined as the market value of outstanding equities.

Sources: ECB; OECD; national data. Graph II.10

households actually improved their financial balance and reduced interest payments by substituting mortgages for other sources of debt.

Non-financial firms in Japan have cut back on investment spending and used an increasing saving surplus to unwind substantially their large debt built up in the past. In contrast, a widening saving deficit has emerged for firms in the euro area, though partly as a result of tax incentives to reduce retained profits. The financial deficit of US corporations, which had increased during the 1990s, fell last year as firms cut investment expenditure and

Net sectoral financial balances
As a percentage of GDP



Sources: ECB; OECD; national data. Graph II.11

reduced inventories. Consequently, their ratio of interest cost to cash flow is now much lower than on the eve of the 1990–91 recession.

Private debt levels are high ...

Turning to measures of debt, the ratios of both household and corporate gross debt have generally increased in the advanced industrial countries since the mid-1990s. Both ratios are now higher than is usual at the beginning of an upturn. Outstanding liabilities represent more than 100% of household disposable income in the G7 countries, an increase of more than 10 percentage points since the previous economic downturn. The ratio of the debt of non-financial corporates to GDP reached almost 90% in the G7 countries in 2001, against about 80% 10 years ago. A particular cause for concern is debt levels in the high-tech and telecoms equipment sectors, where companies face the challenge of improving their balance sheets in an environment of excess capacity and falling prices.

... but modest in relation to current asset price levels

Yet debt stocks still look relatively modest when asset values are taken into account. Indeed, rising asset prices throughout the 1990s have increased households' net wealth in most G7 countries. Debt is now equivalent to only 15% of household gross wealth, about the same percentage as at the beginning of the 1990s. In addition, corporate debt/equity ratios have declined over the past decade. However, Japanese corporate debt/equity ratios increased in 2001, as falling equity prices outweighed the effects of very sizeable debt repayments.

The fact that there is no clear indicator that debts are "unsustainable" does not mean that financial considerations pose no risks to future growth prospects. First, a significant part of the improvement in corporate cash flow observed in 2001 reflected inventory adjustment and reductions in investment. Cash flow could deteriorate anew once the inventory adjustment ends or if investment picks up before profits. Second, there has been a widespread worsening in credit quality in many sectors. The heavily indebted borrowers in the European telecoms sector, obliged to borrow still more to put needed infrastructures in place, are facing higher risk premia. Third, current levels of certain asset prices – which make private debts look relatively modest – could be excessive.

Some commentators fear that house prices could fall back while others contend that the recent rise is not out of line with fundamentals. More importantly, price/earnings multiples for equity have remained relatively high through the downturn (see Chapter VI). Should the earnings assumptions priced into equity valuations be disappointed, some downward adjustments could be triggered. Particularly important in this latter respect are long-term prospects for productivity, which appear to have been improving mainly in the United States. Moreover, increasingly competitive product markets continue to squeeze profit margins and wage earners might also be expected to absorb some of the productivity gains. Consequently, even with continued high productivity growth and a strong recovery, it might be difficult for US companies to restore their share of national income to the level of its previous peak in 1996–97.

Public sector issues

Recent developments in the public sector also give cause for concern. Despite improvements in the United States and Europe, ratios of public debt to GDP have remained high, suggesting that governments have not yet done enough to restore their room for manoeuvre after the excesses of the 1970s and 1980s. This failure is particularly serious in that ageing populations will raise debt ratios sharply over the medium term. Furthermore, fiscal policies were allowed to ease during the recent downturn, implying the need for some reversal in the future. The fiscal surplus in the United States quickly disappeared following the economic downturn and the implementation of sizeable tax cuts. Long-term budgetary prospects have also deteriorated and could worsen further in the light of the 11 September events. Military expenditures, whose decline was one of the main factors underpinning the strengthening of the US fiscal position over the past decade, are now budgeted to expand once again.

In the euro area, the aggregate government budget was in deficit in 2001, even though output was close to potential. In some of the countries, the deficit/GDP ratio approached the 3% ceiling, straining confidence in the Stability and Growth Pact. The fiscal situation in Japan is a matter of particularly serious concern. Given the high and rising public debt level, credit rating agencies have recently downgraded the country's long-term sovereign debt. Moreover, a significant further rise in non-performing loans could weaken the credibility of financial institutions and also necessitate an injection of public funds into the banks.

External imbalances remain

A final issue with potential implications for financial markets and future demand growth is the persistence of large external imbalances. The size of the global current account discrepancy and its recent widening create some uncertainty about precise magnitudes (Table II.5). Nevertheless, global imbalances have remained large and there are even some grounds for thinking that they pose a more serious problem than in the past.

The US current account deficit is around 4% of GDP

Attention has centred on the United States, which has acted as the locomotive of the world economy in recent years and is now running a current account deficit of more than $400 billion. This is equivalent to around 4% of US GDP and close to 8% of total saving in the rest of the world. Moreover, the

Current account balances in major regions

	1997	1998	1999	2000	2001	2002[1]
	in billions of US dollars					
United States	–140	–217	–324	–445	–417	–435
European Union	107	62	5	–28	29	30
Japan	97	119	115	119	89	110
Other advanced industrial economies	9	–5	8	54	55	47
Emerging Asia	20	115	107	92	99	78
Rest of the world	–95	–164	–63	45	2	–43
World[2]	–2	–90	–152	–163	–143	–213

[1] IMF forecast. [2] Reflects errors, omissions and asymmetries in balance of payments statistics.

Source: IMF, *World Economic Outlook*. Table II.5

US net international investment position has steadily worsened in recent years, showing net liabilities equal to 22% of GDP in 2000 (at market values). This is roughly the same as in Canada, a traditional capital importer, but is well above the ratio in the United Kingdom (8%). Furthermore, it stands in sharp contrast to the net foreign assets recorded in Japan (24%) or in the main euro area countries (4% on average). This naturally raises the question of whether global investors wish to increase their holdings of US assets in line with the widening current account deficit. This could have implications for the dollar exchange rate (see Chapter V). The answer is uncertain as recent developments and longer-term assessments give conflicting signals.

The first positive point to note is that the US current account deficit declined last year. Compared to the recession of the early 1990s, the decline may seem disappointingly small. However, this comparison gives a false picture. Much of the change between 1990 and 1991 (1½% of GDP) can be attributed to special transfers related to the Gulf war. Moreover, in contrast to the early 1990s, the latest slowdown was global. This meant that exports and imports slowed at broadly similar rates and that the US trade deficit remained relatively high.

Second, prospects depend critically on relative productivity growth. Trend productivity in the United States has increased noticeably in recent years, and both potential growth and the rate of return on capital are projected to remain well above those of other countries. Even if US output growth may not be fast enough to prevent a further rise in the external debt/GDP ratio, the favourable productivity figures, if confirmed in the longer run, would suggest that the United States could remain attractive for foreign investors. Hence, long-term capital inflows could continue to finance a widening current account deficit without undue pressure on exchange rates and interest rates.

Third, recent capital movements can also be interpreted as relatively encouraging. Even though the United States was leading the downturn, and despite the turmoil after the 11 September events, long-term capital inflows to the United States continued to exceed the current account deficit. However,

Balance of payments in the three major economic areas

	United States			Euro area			Japan		
	1999	2000	2001	1999	2000	2001	1999	2000	2001
	in billions of US dollars								
Current account	–324	–445	–417	–28	–65	1	115	119	89
Goods	–345	–452	–427	59	11	73	122	116	71
Services	84	76	79	–4	–5	3	–54	–48	–43
Income	–14	–15	–19	–39	–26	–32	58	61	69
Current transfers	–49	–54	–50	–44	–45	–43	–11	–10	–8
Net long-term capital	370	485	445	–228	–86	–33	–7	–35	–73
Direct investment	146	135	2	–125	26	–93	–10	–23	–32
Equities	–2	94	19	–71	–235	126	71	–21	28
Bonds	226	256	424	–32	123	–66	–68	9	–69

Sources: ECB; national data. Table II.6

net inflows of foreign direct investment and foreign purchases of US equities fell sharply, while foreign acquisitions of US bonds, notably agency and corporate bonds, rose (Table II.6). While the latter relieved pressure on US corporations to improve cash flow and contributed significantly to the resilience of the housing sector, the shift from equity to debt financing increases the future debt service burden.

Turning to more worrying features, the first point to note is the failure of US saving to pick up during the investment boom of the late 1990s. In fact, the ratio of national saving to GDP fell by nearly 3 percentage points from 1998 to 2001, as a steep decline in household saving more than offset the improvement in government saving. However, the fact that investment in other major regions has remained weak relative to saving may also have played a role. Hence, the US trade deficit has widened and is likely to widen further if growth in the United States continues to run well ahead of growth in Europe and Japan.

Trend decline in both the US trade and net investment income account

The continued deterioration in the US net investment income account is a second worrying point. Even though the decline in global interest rates eased the debt servicing burden last year, the deficit on the income account widened as profits from US-owned foreign companies declined. In the past, net foreign direct investment income has provided a positive contribution to the US current account balance. However, a continuation of this trend looks uncertain. By the end of 2000, the stock of US-owned foreign direct investment at market values was already below the stock of foreign-owned US assets. Moreover, if the relative return to capital continues to change in favour of investment in the United States, it will be increasingly difficult for US-owned foreign firms to outperform foreign-owned US firms. The outlook for net interest payments is equally worrying. Because of the continued rise in net foreign liabilities, the United States is increasingly exposed to changes in global interest rates and financial market sentiment.

Will growing US liabilities be "matched" by current account surpluses in the rest of the world?

In the longer run, it is also relevant to consider whether growing US external liabilities will be easily "matched" by the accumulation of current account surpluses in the rest of the world. Do the surpluses implied by the global accounting identity seem consistent with likely developments in saving and investment balances in other countries? From this perspective, the euro area is currently almost in balance, as a small private sector saving surplus more or less offsets public sector dissaving. According to current forecasts, this situation is likely to remain unchanged in the foreseeable future.

The Japanese current account surplus remains substantial, and Japan is the principal source of financing for the US current account deficit. This in large part reflects a sizeable financial surplus of the corporate sector, which has continued to grow as firms have increased saving and reduced investment in response to unsustainably high levels of debt and excess capacity (Graph II.11). Over the medium term, however, Japan, being at a relatively advanced stage in the global ageing process, may gradually become less attractive as a location for production and thus will be more reliant on repatriated income from Japanese-owned foreign enterprises and foreign financial assets held by Japanese institutions.

Among the emerging market regions currently recording a surplus, the transition economies are likely to attract increasing amounts of foreign investment as they establish better governance and continue to modernise their capital stock. They will then be more likely to require funding than to be a source of funds. In the Middle East, the main influence is oil prices, but the growing population of some major oil producers is likely to weigh on current account surpluses in the long run. A key region will be Asia, which has become a major source of funding for the US deficit in recent years. As discussed in the next chapter, investment rates fell sharply following the 1997 crisis, and, with saving rates remaining high, the region has accumulated very large current account surpluses. While there had probably been some excess capacity prior to the crisis, investment is more likely to recover than fall further over the medium term. Investment opportunities opened up by China's accession to the WTO can only accelerate that process. If saving rates remain high and Asian countries continue to promote exports as the main driver of growth, the region could conceivably remain an important source of financing for the US deficit.

However, greater emphasis on domestic demand in Asia could involve a shift from investment in foreign assets to investment in domestic assets, lifting potential rates of growth. Similarly, the reduction of structural rigidities in Europe could increase business investment spending as well as long-term growth. Faster growth of domestic demand and higher rates of investment outside the United States would both reduce net capital flows to the United States and allow a steady decrease in the current account deficit without putting global growth and financial stability at risk.

III. Developments in the emerging market economies

Highlights

Growth fell in almost all emerging market economies in 2001 as a result of the downswing in the industrial countries, the accompanying decline in world trade, volatile financing conditions and lower commodity prices (Table III.1). Despite widespread easing of monetary and fiscal policies, the withdrawal of external stimulus was only partly offset by the growth in domestic demand. The slowdown was pronounced in Latin America, partly owing to uncertainties related to the Argentine crisis. East Asia was hurt by the sharp drop in world demand for electronics and the Middle East by lower oil prices. Growth in Africa accelerated, however. Inflation slowed in most emerging market economies, but rose in countries whose currencies depreciated more rapidly last year. Current account imbalances generally narrowed.

Private capital flows to emerging markets increased slightly in 2001, but their overall level remained low. Foreign direct investment (FDI) accounted for the bulk of the increase in flows and continued to be directed to larger countries. Bank lending on the whole declined further but turned positive in several countries towards the end of 2001. Equity flows were affected by generalised uncertainties in financial markets, outflows from crisis-afflicted Argentina and Turkey, and the global shock of 11 September. Bond flows remained stable, although investors increasingly discriminated between better performing and crisis economies.

In late 2001 and early 2002, indicators of activity in many emerging market economies strengthened. In particular, increasing evidence of a turnaround in the United States has led to significant upward revisions of growth forecasts for Asian countries with large high-tech export sectors. Commodity prices have also recovered. However, in several Latin American countries political uncertainty has unsettled financial markets.

International linkages and domestic performance

Growth linkages have strengthened in recent years

The simultaneous slowdown of growth in industrial and emerging market economies in 2001, coming after two years of concurrent expansion (Graph III.1), has highlighted the importance of international economic and financial linkages. Co-movements of output of the industrial and emerging economies have generally strengthened over time. In part this is fortuitous since the industrial country slowdown in the early 1990s was not synchronous (see Chapter II), diluting the impact on emerging economies. Since the mid-1990s, however, output fluctuations in all three major emerging market regions do seem to have become more closely synchronised with those in

Growth and current account balances

	Real GDP[1]				Current account balance[2]			
	Average 1994–99	2000	2001	2002	Average 1994–99	2000	2001	2002
Asia[3]	6.9	6.7	5.0	5.7	1.3	3.4	2.4	2.0
China	9.4	8.0	7.3	7.3	2.1	1.9	1.5	1.1
Hong Kong SAR	2.7	10.5	0.1	1.8	–0.2	4.8	5.3	5.9
India	6.6	4.0	5.4	5.7	–1.1	–0.9	–0.5	–0.4
Korea	5.6	9.3	3.0	5.6	0.8	2.5	2.0	1.4
Singapore	5.3	10.0	–2.0	4.0	19.7	23.6	20.9	18.9
Taiwan, China	5.9	5.7	–1.9	3.0	2.6	2.9	6.7	5.5
Indonesia	2.1	4.8	3.3	3.4	–1.1	5.2	3.6	2.7
Malaysia	5.6	8.5	0.4	4.2	–0.3	10.6	8.2	7.2
Philippines	3.8	4.0	3.2	3.6	–0.8	12.2	6.3	5.3
Thailand	2.5	4.4	1.8	3.4	–1.4	7.5	5.4	4.8
Latin America[3]	2.9	4.5	0.6	0.5	–3.1	–2.3	–2.9	–1.7
Argentina	2.9	–0.5	–4.5	–12.2	–3.7	–3.6	–1.6	9.6
Brazil	2.8	4.5	1.4	2.1	–3.2	–4.1	–4.6	–4.0
Chile	5.6	5.4	2.8	2.9	–3.5	–1.5	–2.0	–1.6
Colombia	2.1	2.8	1.6	2.0	–4.3	0.4	–2.0	–2.8
Mexico	3.1	6.9	–0.3	1.7	–3.0	–3.1	–2.9	–3.0
Peru	5.1	3.1	0.2	3.3	–5.8	–3.0	–2.2	–1.6
Venezuela	0.3	3.2	2.8	–2.6	3.5	11.0	2.5	2.8
Central Europe[4]	2.8	3.8	3.5	3.2	–3.4	–4.9	–4.4	–4.3
Czech Republic	1.6	2.9	3.5	3.2	–4.0	–4.5	–4.7	–4.2
Hungary	3.2	5.2	3.8	3.5	–4.9	–3.2	–0.9	–2.8
Poland	5.6	4.0	1.1	1.3	–2.2	–6.3	–4.0	–3.9
Russia	–3.3	8.3	5.0	3.7	2.9	18.5	11.0	7.2
Turkey	2.3	7.5	–7.4	2.2	–0.4	–4.8	2.3	–0.3
Israel	4.5	6.4	–0.6	1.7	–3.9	–1.3	–2.7	–1.7
Saudi Arabia	1.1	4.5	2.2	1.2	–3.4	8.3	4.7	–1.3
Africa	3.3	2.9	3.7	3.4	–2.9	0.2	–0.6	–2.8
CFA zone	4.1	2.3	4.7	5.3	–5.4	–4.1	–5.7	–5.7
South Africa	2.6	3.4	2.2	2.2	–1.1	–0.4	–0.1	–0.7
Memo: G7 countries	*2.8*	*3.6*	*1.0*	*1.7*	*–0.2*	*–1.6*	*–1.5*	*–1.0*

Note: Figures for 2002 are based on May 2002 consensus forecasts and *World Economic Outlook*.

[1] Annual percentage changes. [2] As a percentage of GDP. [3] Average of the countries shown, based on 1995 GDP and PPP exchange rates. [4] Average of Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia.

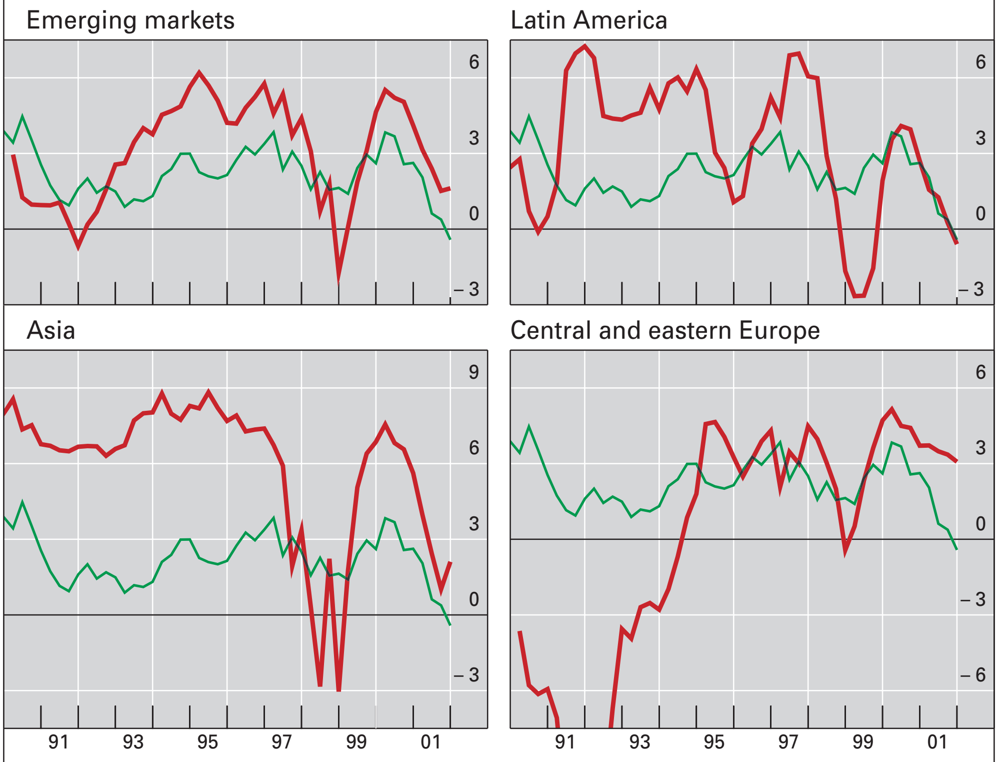
Sources: IMF; OECD; © Consensus Economics; national data; BIS estimates. Table III.1

industrial countries. This is particularly evident for central and eastern Europe, for which the correlations have become stronger and the lags shorter, reflecting the profound transformation and integration with western Europe following the start of the transition in 1990.

Simple regressions for the 20 largest emerging market countries suggest that a 1 percentage point increase in aggregate real GDP growth in the United States, the European Union and Japan is associated with higher growth in the emerging market economies of ⅓ percentage point. In addition, a

Real GDP

Annual percentage changes



Note: The green line represents real GDP growth in the industrial countries. In central and eastern Europe, GDP declined by nearly 20% in the fourth quarter of 1991.

Sources: IMF, *International Financial Statistics*; national data. Graph III.1

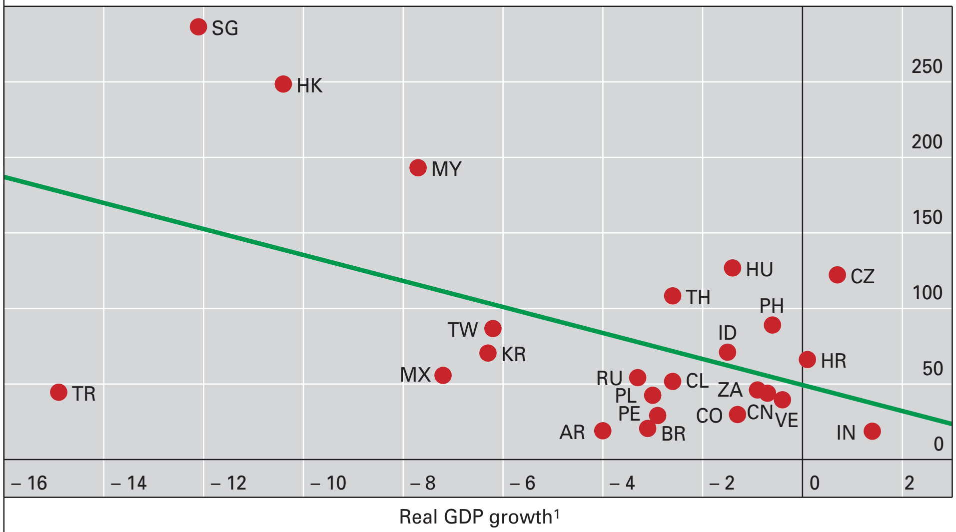
1 percentage point decline in Libor appears to increase growth in the 20 largest emerging economies by nearly ¼ percentage point. The growth rates of industrial production in the advanced and emerging economies are even more strongly correlated (elasticity of nearly 0.75), particularly between the Asian economies and the United States and Japan, and between central and eastern Europe and the European Union.

Growth and trade linkages

Slowdown depended on the degree of trade openness …

The slowdown in the industrial countries caused world trade to decline last year, following an expansion of over 12% in 2000. As a result, real output in those emerging market economies that are highly open decelerated sharply. In Singapore, Hong Kong SAR (hereinafter Hong Kong) and Malaysia, the decline was as much as 8–12 percentage points (Graph III.2). Mexico is another country with strong trade linkages with industrial economies. There, after growing by an impressive 7% in 2000, real GDP contracted by 0.3% in 2001, largely reflecting the fall in US import demand. Korea and Taiwan, China (hereinafter Taiwan) also experienced sharp swings in output growth because of falling US import demand. In contrast, growth in the more closed economies of India and China remained relatively high, driven primarily by domestic factors. Domestic factors also played a major role in Brazil, Indonesia and Poland (see below).

Growth slowdown and trade openness



AR = Argentina; BR = Brazil; CL = Chile; CN = China; CO = Colombia; CZ = Czech Republic; HK = Hong Kong SAR; HR = Croatia; HU = Hungary; ID = Indonesia; IN = India; KR = Korea; MX = Mexico; MY = Malaysia; PE = Peru; PH = Philippines; PL = Poland; RU = Russia; SG = Singapore; TH = Thailand; TR = Turkey; TW = Taiwan, China; VE = Venezuela; ZA = South Africa.

[1] Percentage point change between 2000 and 2001. [2] Sum of exports and imports as a percentage of GDP; average over 2000–01.

Sources: IMF, *International Financial Statistics*; national data. Graph III.2

… and relative reliance on US market

The performance of the emerging market economies was also significantly influenced by the direction and composition of trade last year. Asian and several Latin American economies with strong bilateral trade ties with the United States (Table III.2) experienced an unusually sharp decline in

Major export markets and products[1]

	Asia[2]	Latin America[3]	Central and eastern Europe[4]	Africa and Middle East[5]	All emerging market countries
Export markets[6]					
United States	21	39	4	16	20
Japan	13	4	1	4	6
Euro area	16	16	60	44	34
Intraregional	31	17	16	3	17
Others	19	24	19	33	24
Products[7]					
Food	8	24	8	14	14
Agriculture	2	4	3	3	3
Fuels	5	21	8	38	18
Metals	2	15	5	5	7
Manufactures	82	36	74	39	58
High-tech	40	18	17	6	20

[1] As a percentage of total exports; for country groups, unweighted average. [2] China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan (China) and Thailand. [3] Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. [4] Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, Russia, Slovakia and Turkey. [5] Algeria, Egypt, Israel, Kenya, Morocco, Nigeria, Saudi Arabia, South Africa and Tunisia. [6] 2000. [7] 1999.

Sources: IMF, *Direction of Trade*; World Bank. Table III.2

growth and export demand. The central and eastern European economies trade predominantly with the euro area, where the fall in imports was less pronounced. Consequently, their industrial production and exports remained relatively strong (Graph III.3).

Sectoral composition of trade also mattered

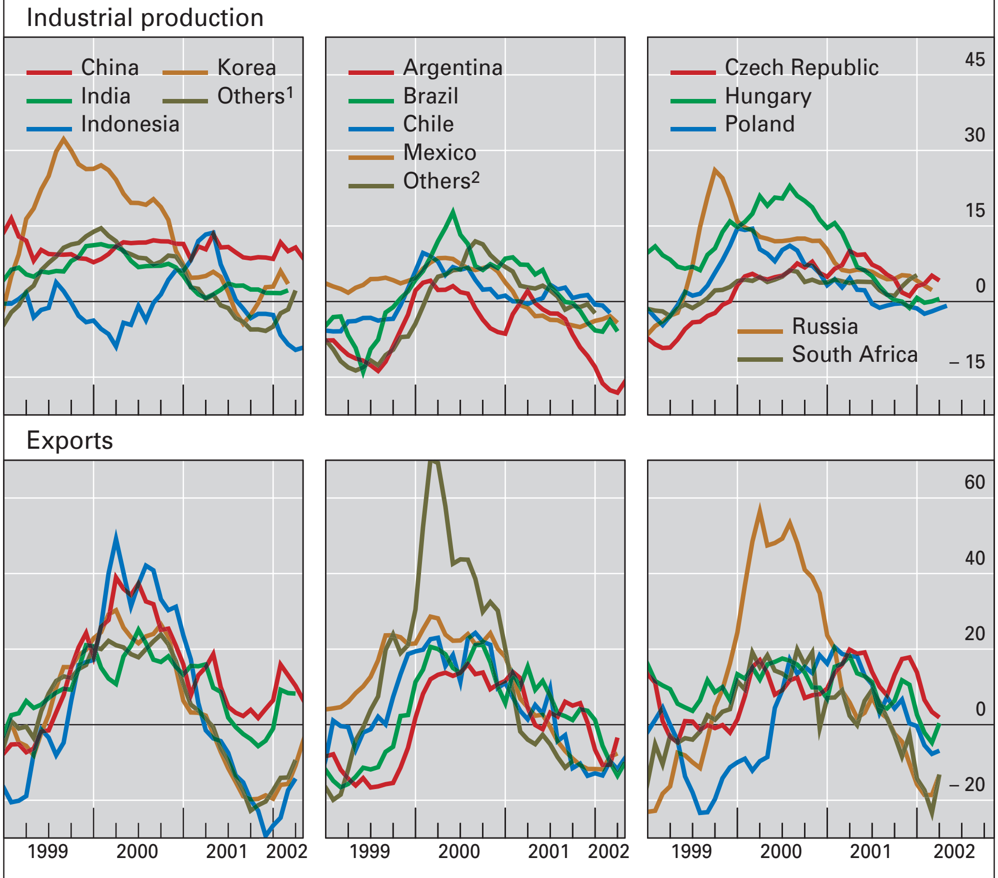
Asia's growth slowdown was largely driven by the drop in world demand for high-tech products, which account for 40% of its manufactured exports. As the income elasticity for Asian exports is estimated to be more than twice as large as that facing Latin American and African commodity exporters, the drop in industrial country import demand had a greater impact on Asian exports. For example, the dollar value of aggregate exports from Indonesia, Korea, Malaysia, the Philippines and Thailand declined by 11% in 2001 after rising by 19% in 2000. Exports from central and eastern Europe (notably machinery and equipment) were much less affected by the slump in demand for high-tech products.

Tourism revenues were hard hit

The tourism sector also suffered a major setback in 2001, especially in the aftermath of the 11 September terrorist attacks. The Caribbean region, African countries with sizeable tourism sectors, including Morocco, Tunisia, Egypt and Kenya, and many Asian destinations were hard hit.

Industrial production and exports

Annual percentage changes; three-month moving averages



[1] Malaysia, the Philippines, Singapore, Taiwan (China) and Thailand. [2] Colombia, Peru and Venezuela.

Sources: IMF, *International Financial Statistics*; national data. Graph III.3

The global economic slowdown also depressed commodity prices, with the average dollar price of emerging market countries' non-oil primary commodity exports falling by about 9% in 2001. Demand for metals suffered most, reducing export receipts in Chile, Russia, South Africa and Zambia, while the supply of agricultural commodities continued to increase despite lower prices. The price declines were especially hard for exporters in Africa, where non-oil commodities, in particular coffee and cotton, often account for a major share of export revenue. At the same time, lower oil import prices helped some African countries, while in others favourable weather conditions supported agricultural output. In addition, Africa mostly trades with Europe, where demand was more sustained. Accordingly, growth in Africa improved last year to 3¾%, almost 1 percentage point higher than in 2000.

Commodity prices declined …

… but growth in Africa rose

The fall in oil prices (almost 15%) and a small drop in world oil demand reduced export receipts of the oil-exporting emerging market countries. As a result, these countries' current account surplus fell from $100 billion in 2000 to $56 billion last year. In Saudi Arabia, the largest oil exporter, GDP growth declined from 4½% in 2000 to 2%.

Some of these contractionary forces began to reverse course in late 2001. Exports of high-tech products and, to a lesser extent, components picked up towards the end of the year in Korea, Malaysia, the Philippines and Thailand (Graph III.4). However, more recent data as well as declining semiconductor and chip prices suggest that the rebound in Asian exports in the first half of 2002 may be more moderate than during previous recoveries.

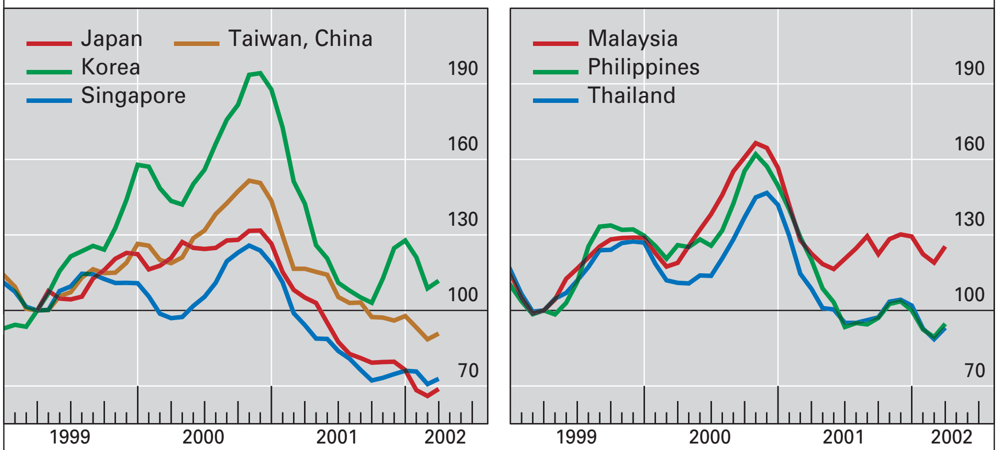
Signs of a moderate recovery have emerged …

The outlook for Latin American economies is less clear, largely because of external imbalances and the uncertain political situation in a number of countries. Higher non-oil commodity prices should support growth among Latin American as well as African commodity exporters. At the time of writing, however, there is considerable uncertainty about the prospects for both oil production and prices in the light of evolving political as well as economic circumstances.

… but outlook for Latin America is more uncertain

High-tech exports of Asian economies to the United States[1]

March 1999 = 100; three-month moving averages



[1] High-tech exports defined as the sum of the trade classifications SITC 75, 76 and 77.

Source: National data.

Graph III.4

Domestic factors

The slowdown in world trade was the driving force shaping developments in the more open economies discussed above. But overall output growth and changes in external balances were also influenced by the nature and size of domestic adjustments to the external shocks, as well as by some idiosyncratic factors.

Expansionary policies and import compression in Asia

Several Asian countries affected by the drop in external demand – Korea, Malaysia and Thailand – as well as the more closed economies of China and India adopted expansionary domestic policies, which stimulated household consumption, residential construction or public investment. Fiscal stimulus and weaker household saving led to a reduction in total saving in these countries. Other Asian economies – Singapore, Taiwan and, to a lesser extent, Hong Kong – adjusted to the weakening in export demand mainly through lower levels of import-intensive investment and inventories. This adjustment pattern sharply reduced the negative impact of slowing exports on the current account. Nevertheless, the positive saving/investment balance (evident since the slump in capital spending following the Asian crisis in 1997–98) and associated current account surpluses did decline in Asia last year.

Different adjustment patterns across other regions

In non-Asian emerging market economies, the pattern of adjustment to external shocks was different. Some of the oil-exporting countries (Mexico and Saudi Arabia) reduced public expenditure in response to lower export earnings. Others – for instance Russia and Venezuela – chose to reduce aggregate saving by using some of their accumulated oil surpluses to boost domestic demand. Response patterns and adjustments also differed across Latin America. Investment dropped sharply in Argentina, Mexico and Peru, but remained relatively stable or increased slightly in Brazil, Chile and Colombia. As saving in these three countries declined, their current account deficits widened.

Political and social tensions in Indonesia

Output developments in some large economies were further affected by specific domestic factors. Real GDP in Indonesia grew by little more than 3%, well below pre-crisis rates. Apart from lower commodity and oil prices, political uncertainties and social tensions in several provinces hampered expansion. Output growth of just over 3% forecast for 2002 may not be sufficient to prevent unemployment from rising. In addition, progress in bank and corporate restructuring continues to be hindered by complex legal and judicial problems.

Stronger reform momentum in Russia

Russia's economy expanded more slowly than in 2000, but faster than had been expected. The main sources of the recent slowdown appear to have been weaker external demand and the effects of past real appreciation. Domestic demand remained buoyant, however, with private consumption and investment responding favourably to the continued momentum of reform. The fiscal performance was again strong and the current account surplus also remained large (11% of GDP).

Brazil affected by energy crisis and spillover from Argentina

In Brazil, an energy crisis that required rationing of electricity, weaker terms of trade and tighter anti-inflationary policies all combined to reduce GDP growth to 1½% in 2001. The current account deficit widened slightly (to 4½% of GDP), but the trade balance posted the first surplus since 1994 and

FDI inflows reached $19 billion. Brazil nevertheless remains exposed to a volatile international environment given its large (albeit downward-trending) external financing requirement.

Weak domestic demand in Poland

Domestic developments also led to slower growth in Poland, where real GDP increased by just 1% in 2001. The principal source of weakness was investment, which fell by about 10%, partly reflecting high real interest rates and a persistently strong zloty. Private consumption was affected by rising unemployment, and ongoing fiscal consolidation depressed public consumption. Growth remained slow in the first quarter of 2002.

Financial market linkages and capital flows

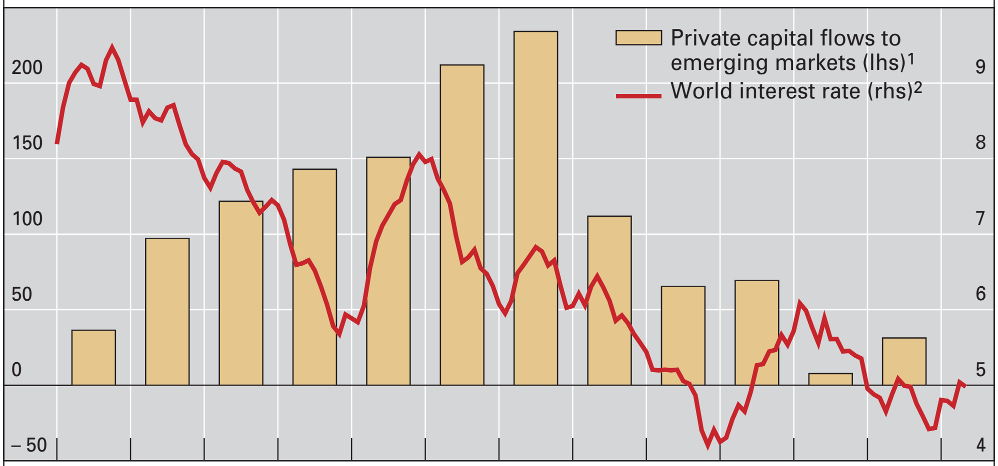
Relatively resilient capital flows

Changes in international interest rates have traditionally had a major influence on the volume of capital flows, with emerging markets typically receiving a higher volume of private capital inflows in years when interest rates are easing (Graph III.5). Last year, however, the decline in industrial country interest rates took place in an environment of global slowdown and increased investor risk aversion. In these circumstances, and given potentially disruptive crises in Argentina and Turkey, it might have been expected that capital flows to emerging market economies would drop sharply. In the event, lower interest rates did lead to a small increase in flows to emerging markets, and even some of the traditionally more volatile components of capital flows were relatively stable (Graph III.6).

Greater FDI flows targeted at large economies

FDI flows accounted for the bulk of the increase in private capital flows in 2001. Historically, FDI has been targeted at supplying both final and intermediate goods to industrial countries, and has thus tended to contract during industrial country slowdowns and expand during upturns. Since the mid-1990s, however, the growth in FDI flows has primarily reflected investors' interest in securing access to large markets for final goods, and has been related to privatisations and mergers and acquisitions. As a result, FDI flows

Capital flows and interest rate

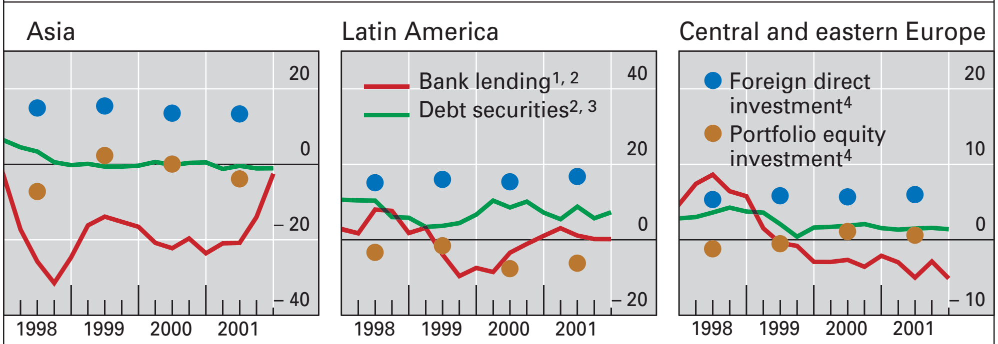


[1] In billions of US dollars. [2] Weighted average of 10-year government bond rates in the United States, the euro area and Japan; in percentages.

Sources: *The World Economy*, vol 25, no 2, February 2002; IMF; national data. Graph III.5

Capital flows

In billions of US dollars



[1] Exchange rate adjusted change in net claims of BIS reporting banks. [2] Four-quarter moving average. [3] Net issuance of international debt securities. [4] Net flows at a quarterly rate.

Sources: IMF, *World Economic Outlook*; BIS. Graph III.6

have been directed to fewer countries. This was also true last year, when revenues from the sale of a major Mexican bank and the takeover of a leading mining company in South Africa actually exceeded the rise in aggregate FDI flows to emerging markets. In addition, FDI flows to China boomed last year in response to its accession to the WTO.

Cross-border lending turned positive in some countries

Cross-border claims of BIS reporting banks vis-à-vis emerging market economies declined in 2001. However, in several Asian economies cross-border bank lending turned positive late last year for the first time since mid-1997 (see Chapter VI). Foreign banks and their domestic subsidiaries also continued to lend and to invest significant sums in central European countries and Russia. In contrast, international banks cut back sharply their claims on Argentina.

Portfolio equity flows reflected economic prospects

Portfolio equity inflows to Asia declined in 2001. They also fell, to a lesser extent, in Latin America, but remained stable in central and eastern Europe. The decline in the demand for and supply of equities in Asia during much of 2001 reflected uncertain economic prospects and the collapse of technology equity prices, which decreased the wealth held by investors in high-risk assets. Moreover, since the correlation between changes in the Nasdaq index and most emerging market equity prices had increased in recent years (Table III.3), the benefits of portfolio diversification towards emerging market

Correlations between changes in the Nasdaq index and equity prices[1]

	Hong Kong SAR	Korea	Malaysia	Singapore	Taiwan, China	Thailand
1995–1996	0.32	0.28	0.07	0.11	0.07	0.20
1999–2002 Q1	0.61	0.47	0.29	0.44	0.34	0.31
	Argentina	Brazil	Chile	Mexico	Poland	South Africa
1995–1996	0.16	0.14	0.09	0.27	0.16	0.09
1999–2002 Q1	0.25	0.50	0.30	0.61	0.44	0.52

[1] In national currencies; calculated using weekly observations.

Source: Bloomberg. Table III.3

paper were reduced. Since March 2002, however, equity prices in several emerging markets have decoupled from the Nasdaq index.

Emerging market equity issuance increased in the first quarter of 2002, and market indices rose faster than those in the United States (Graph III.7). Equity flows in the first few months of 2002 were largely directed towards Asia, Brazil, Mexico and South Africa, while other Latin American economies and Poland experienced outflows. These developments seem to reflect greater confidence in an improving global outlook, in particular in Asia. With few exceptions, the rally was broad-based rather than focused on the high-tech sector, and included the banking sector for the first time in several years. There was also a strong rally in equity markets in central and eastern Europe. Still, many emerging equity markets remain substantially below their peaks reached in 2000, and not all markets have benefited from the recent run-up in equity prices.

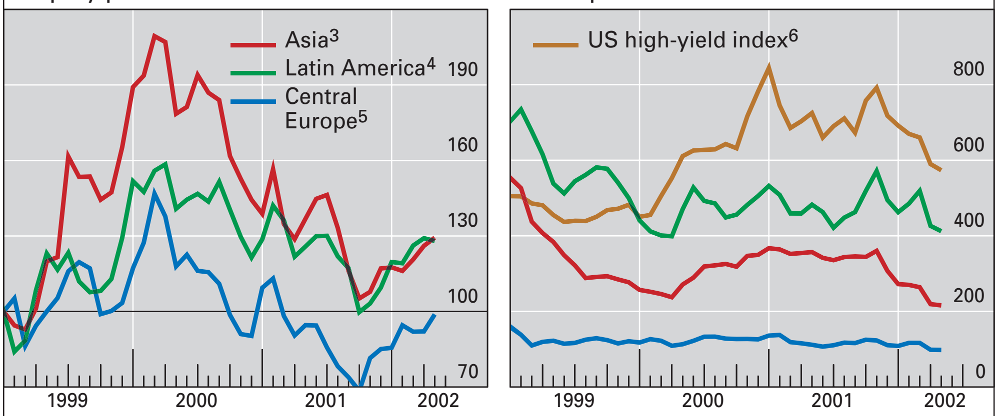
Stable bond flows as investors favour better risks

Net issuance of debt securities by emerging markets was fairly stable in 2001 (see Chapter VI). One reason was that the decline in industrial country interest rates and a slight reduction in investment grade spreads resulted in a sizeable lowering of interest rates for investment grade borrowers. This encouraged both established borrowers (China, Hungary, Malaysia, Mexico and Poland) and smaller issuers (Colombia, Croatia, Latvia and Uruguay) to come to the market. Spreads on the secondary market tightened during 2001, except for Argentina.

In the aftermath of 11 September, spreads rose sharply (by over 200 basis points on average), but subsequently dropped to a level not seen since early 2000 (Graph III.7). Spreads in Latin America were particularly volatile, reflecting an initial spillover from the crisis in Argentina, but since October 2001 there have been clear signs of a decoupling. New international bond

Equity prices and bond spreads

Equity prices[1] | Bond spreads[2]



[1] In US dollar terms, end-1998 = 100; weighted average of the countries shown, based on 1995 GDP and PPP exchange rates. [2] Over benchmark US Treasury bonds, in basis points; unweighted average of the countries shown. [3] China, India, Indonesia, Korea, Malaysia, the Philippines and Thailand. [4] Brazil, Chile, Colombia, Mexico, Peru and Venezuela. [5] The Czech Republic, Hungary and Poland. [6] Sub-investment grade corporate bond yield.

Sources: Datastream; International Finance Corporation; national data. Graph III.7

issuance by major emerging market borrowers increased in the first quarter of 2002.

Highly indebted economies remain more vulnerable

Although overall capital flows to emerging market economies have displayed a measure of resilience over the past year, many countries with high debt/GDP ratios, high debt servicing requirements or a large proportion of short-term debt relative to foreign reserves (Table III.4) have been and will remain highly sensitive to changes in financial market sentiment. For instance, net outflows contributed to the crises in Argentina and Turkey. In contrast, Mexico continued to attract significant amounts of new investment last year due to its growing economic integration with the United States. Similarly, investors increasingly perceive the EU candidate countries in central and eastern Europe as "convergence markets". Because of their adoption of policy frameworks that are increasingly defined by the European Union, these countries are considered less risky destinations for investment.

Capital flows not expected to rebound in 2002

The incipient recovery in the industrial countries is not expected to lead to a quick rebound in capital flows to emerging markets in 2002. Banks are likely to remain cautious given the increasing level of bad loans on their balance sheets. Other potential investors may be concerned about the evolving crisis in Argentina and possible spillover effects on other Latin American countries. FDI flows are expected to remain resilient although increasingly concentrated on countries with relatively large markets. New FDI commitments to China rose strongly in the first quarter of 2002, and the recovery in Asian exports and GDP, if sustained, is expected to boost capital flows to several other East Asian countries. Scheduled privatisations of utilities, infrastructure and telecommunications companies in central and eastern Europe may also attract large capital inflows. At the same time, Latin America's share of FDI is expected to decline as privatisations are projected to play a less significant role in 2002.

Debt indicators in 2000

	Public sector debt			Total debt service[1]	Public debt service[2]	Short-term external debt as a % of foreign reserves
	Total	External	Domestic			
	as a % of GDP			as a % of exports[3]		
India	60	9	51	13	11	9
Indonesia	99	59	40	25	10	80
Philippines	81	48	33	14	9	46
Argentina	52	34	18	71	43	116
Brazil	39	4	35	91	35	95
Hungary	55	8	47	24	11	38
Russia	67	52	15	10	4	64
Turkey	62	21	41	36	17	130

[1] Interest and principal payments on public and private long-term external debt (one year or longer). [2] Interest and principal payments on public sector long-term external debt. [3] Exports of goods and services.

Sources: World Bank; Institute of International Finance (IIF); national data; BIS statistics. Table III.4

Policy responses to the slowdown

The role of monetary and exchange rate policies

Easier monetary and fiscal policies …

Monetary and fiscal policies in an unusually large number of emerging market economies were eased last year to offset the impact of the global slowdown. Policy rates in several countries were cut to their lowest levels since the Asian crisis (Table III.5). Some countries with flexible exchange rate regimes also allowed their exchange rates to weaken, thus providing an additional policy channel to dampen the negative shock. In contrast, other countries had to raise interest rates to guard against increased external vulnerability.

… facilitated by industrial country rate cuts and low inflation

The easing of monetary policies was facilitated by two factors. First, the large cuts in industrial country interest rates enabled the emerging market economies to lower domestic rates without triggering capital outflows or pressure on the currency. Second, the general decline in domestic inflation (Table III.6) allowed the central banks to deliver sharper rate cuts than would otherwise have been possible. Yet some countries were confronted with rising price pressures, restricting their flexibility to counter the slowdown. Other restraining factors were the fear of contagion from the crisis in Argentina, increased political uncertainty in some Latin American countries, and vulnerability arising from a history of high inflation and imprudent fiscal policies in many countries.

Strong bias towards easing in Asia

Lower interest rates in most Asian countries with flexible exchange rates …

Monetary policy responses to the slowdown were faster in Asia than in other regions, helped by strong external positions and flexible exchange rate regimes. Indeed, with the exception of Indonesia, all countries with flexible exchange rates lowered interest rates last year, with the rate cuts being particularly sharp in the Philippines and Taiwan (Table III.5). India and Korea also lowered policy rates during the year and supplemented these cuts with quantitative easing; the former lowered the reserve requirement on banks and

Policy rates

	China	Hong Kong SAR	India	Indonesia	Korea	Malaysia
Change since Dec 2000[1]	–27	–475	–150	208	–125	–50
Level in April 2002[2]	1.98	3.25	6.50	16.61	4.00	5.00
	Philippines	Singapore[3]	Taiwan, China	Thailand	Czech Republic	Hungary
Change since Dec 2000[1]	–650	–200	–250	50	–150	–250
Level in April 2002[2]	7.00	0.81	2.13	2.00	3.75	8.50
	Poland	Russia[3]	South Africa	Brazil	Chile	Mexico[3]
Change since Dec 2000[1]	–950	–186	–50	227	–282	–1,200
Level in April 2002[2]	9.50	15.85	11.50	18.11	4.75	6.01

[1] Change in basis points. [2] In percentages, end of period. [3] Three-month interest rate.

Source: Bloomberg. Table III.5

Consumer prices						
	1990–97	1998	1999	2000	2001	2002 Q1
	annual percentage changes					
Asia[1]	9.1	7.6	2.3	1.9	3.1	1.7
China	10.7	–0.9	–1.4	0.3	0.7	–0.5
Hong Kong SAR	8.5	2.9	–4.0	–3.7	–1.5	–2.8
India[2]	9.1	6.9	3.5	5.3	5.2	1.2
Indonesia	8.3	58.4	20.5	3.7	11.5	14.5
Korea	6.1	7.5	0.8	2.3	4.3	2.4
Malaysia	3.6	5.3	2.7	1.5	1.4	1.5
Philippines	9.9	9.7	6.7	4.3	6.1	3.6
Singapore	2.5	–0.3	0.5	1.5	1.1	–0.9
Thailand	5.2	8.1	0.3	1.5	1.7	0.5
Latin America[1]	157.5	9.7	9.1	6.6	6.6	7.3
Argentina	77.4	0.9	–1.2	–0.9	–1.1	4.2
Brazil	500.4	3.8	4.9	6.0	8.0	9.5
Chile	13.5	5.1	3.4	3.8	3.6	2.4
Mexico	21.0	15.9	16.6	7.9	6.2	4.3
Central Europe[1]	20.7[3]	11.8	6.5	8.7	5.9	4.0
Czech Republic	9.1[3]	10.7	2.1	3.9	4.7	3.8
Hungary	22.2[3]	14.1	10.0	9.8	9.2	6.3
Poland	24.7[3]	11.7	7.3	10.1	5.5	3.5
Russia	112.9[3]	27.7	85.7	20.8	21.5	17.8
South Africa	10.8	6.9	5.2	5.3	5.7	4.3

[1] Weighted average of the countries shown, based on 1995 GDP and PPP exchange rates. [2] Wholesale prices. [3] Average over the period 1993–97.

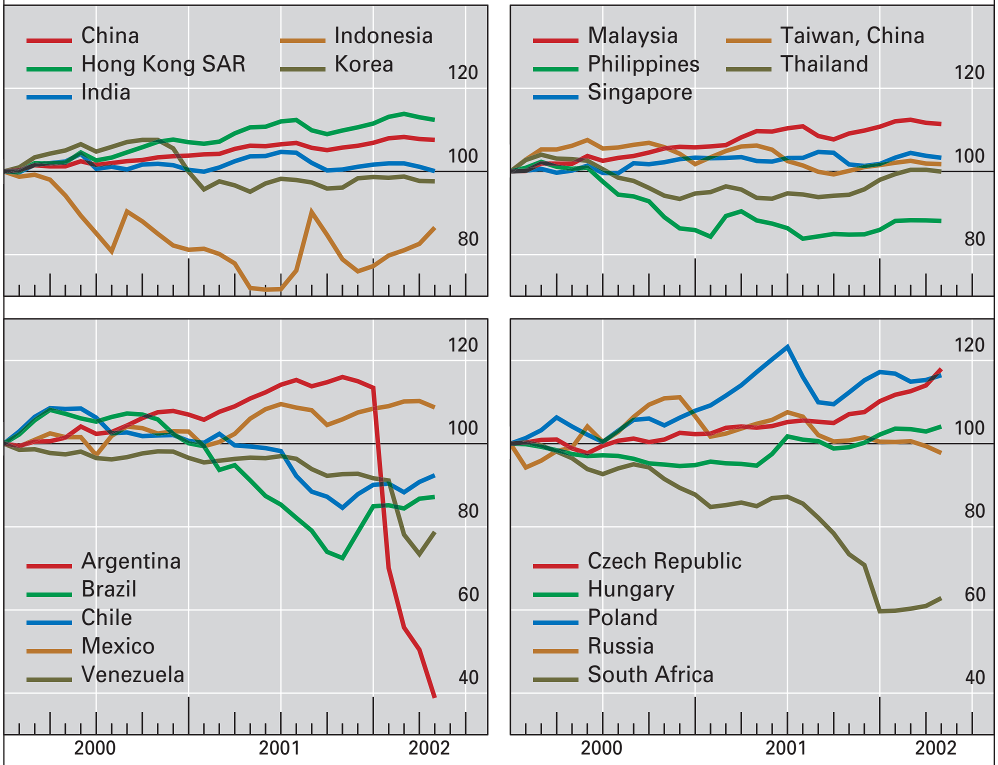
Sources: IMF; national data. Table III.6

the latter raised the aggregate credit ceiling following 11 September. By contrast, Indonesia had to tighten monetary policy to stem rising inflation and growing exchange rate pressure. The sharp cuts in Asian interest rates helped support demand during the slowdown and should improve the prospects for recovery. Nevertheless, if the recovery gains strength, monetary policy may have to be tightened. Thus, Korea raised interest rates in the second quarter of 2002 following the recovery of both domestic and external demand.

… but changes in effective exchange rates varied

Although the exchange rates of most countries fell against the rising dollar, the potential gains in competitiveness were moderated or neutralised by other factors. For instance, a rapid rate of depreciation of the yen and the Korean won against the dollar (by about 20% between mid-2000 and early 2002) put upward pressure on the effective exchange rates of most other Asian currencies (Graph III.8). The subsequent strengthening of both currencies against the dollar has helped to relieve that pressure somewhat. Moreover, in countries with relatively high rates of inflation (Indonesia and the Philippines), nominal depreciations did not translate fully into gains in international competitiveness. Finally, in some countries (for example India) the preference for keeping the exchange rate relatively stable against the dollar resulted in only small movements in the effective exchange rate.

Nominal effective exchange rates[1]



[1] An increase indicates an appreciation; end-1999 = 100.

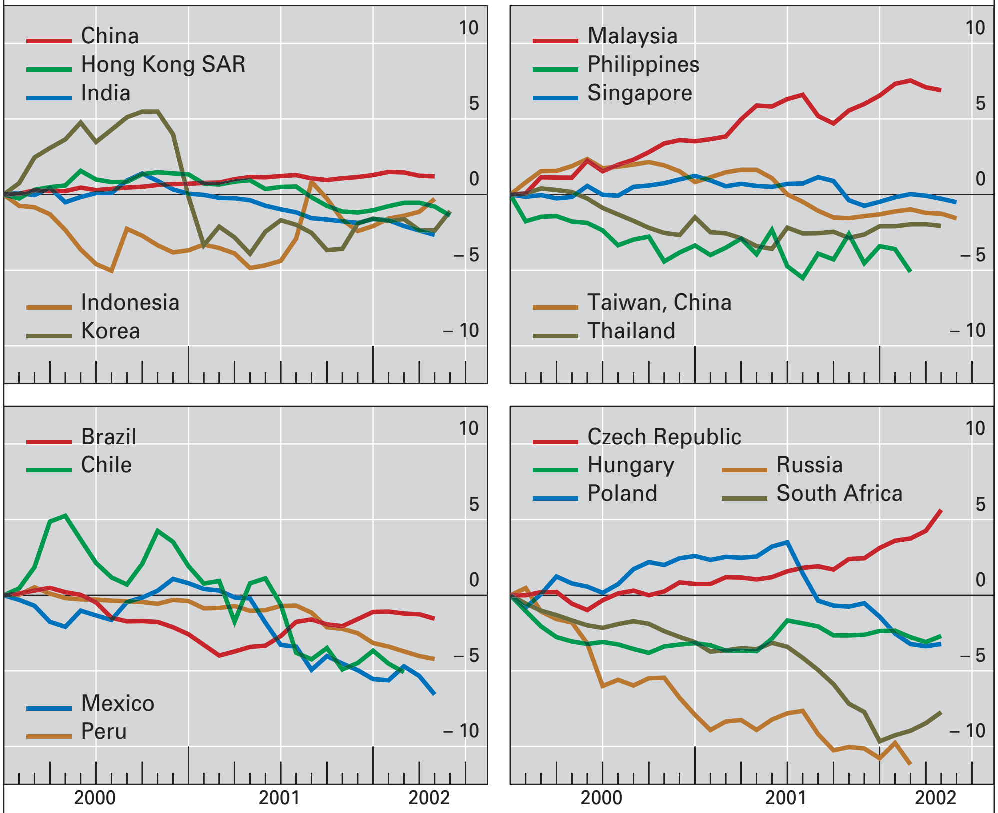
Sources: IMF, *International Financial Statistics*; BIS calculations. Graph III.8

Despite these offsetting factors, the competitive gains from the exchange rate depreciation were large in some countries. The real effective rate of the Korean won fell by 5% between August 2000 and March 2002, with a large part of the decline occurring during the period of very weak external demand. In Taiwan, the real exchange rate fell by 7% in the 12 months to August 2001. Singapore also allowed the exchange rate to dampen external shocks. Using the nominal effective exchange rate as an operational target, the authorities eased their policy stance from an appreciation bias to a neutral stance in July 2001, and subsequently widened the exchange rate band to accommodate depreciation after 11 September.

Varying policy responses in countries with fixed exchange rate regimes

In countries with exchange rates linked to the dollar, the stance of monetary policies varied even though US rate cuts generally created room for monetary easing. The domestic interest rate was already low in China and was not cut until early 2002. In Malaysia, the policy rate was kept unchanged to attract capital inflows. After it was lowered in September, key short-term interest rates did not move much in response. In both countries, capital controls were able to insulate domestic rates from the global interest rate cycle. In contrast, Hong Kong closely followed reductions in US rates. While the currency link continued to serve as a credible anchor in all three cases, the strength of the dollar against most other currencies caused their real effective exchange rates to appreciate, particularly from the autumn of 2001. This may explain why these countries relied on fiscal policy to stimulate domestic demand.

Monetary conditions indices[1]



[1] Calculated as a weighted average of movements in the short-term interest rate and the nominal effective exchange rate since December 1999. An increase indicates a tightening of monetary conditions.

Sources: IMF, *International Financial Statistics*; BIS calculations. Graph III.9

Graph III.9 shows indices of monetary conditions based on the combined impact of changes in short-term interest rates and nominal effective exchange rates. As the graph indicates, monetary conditions mostly eased during 2001. However, they tightened in Brazil, the Czech Republic, Indonesia and Malaysia, and remained more or less unchanged in China, Hungary and Thailand.

Less room for manoeuvre in Latin America

High external financing needs, increased inflationary pressures in some countries, declining investor confidence and growing political uncertainty limited the scope for monetary easing in Latin America. Indeed, many countries had to tighten monetary policy to support their currencies.

Tighter monetary policy in Brazil and Venezuela ...

With inflation running above target and the currency under pressure related to the crisis in Argentina, Brazil tightened monetary policy during much of 2001. The subsequent easing, particularly from November 2001, was limited by remaining inflationary pressures. Nevertheless, the sizeable currency depreciation (about 23% in real effective terms between end-2000 and October 2001) supported export growth. Venezuela tightened monetary policy to defend its currency before allowing the exchange rate to float in early 2002. Inflation remained high, however, so that the subsequent large nominal depreciation did not improve competitiveness.

Chile and Mexico were able to use monetary policy to stimulate demand. In Chile, low inflation and sound external and fiscal balances allowed the central bank to lower interest rates, except during a period in the second half of 2001 when the peso came briefly under pressure. In Mexico, the rebalancing of portfolios by foreign investors in favour of Mexican assets, an associated sharp appreciation of the exchange rate and a decline in inflation contributed to a decline in interest rates. However, with wage growth accelerating at the beginning of 2002, Mexico subsequently adopted a more cautious monetary policy stance. At the time of writing, notwithstanding the depreciation in April 2002, the real effective exchange rate of the peso remains 20% above the level preceding the 1994 crisis. This is likely to limit the tradable sector's ability to benefit from the global recovery now under way. In fact, the peso's appreciation has already led to the closure of some export-oriented firms, the relocation of several companies overseas, and the replacement of domestic products by cheaper imports in some of the intermediate goods sectors.

... but lower rates in Chile and Mexico

Limited easing elsewhere

In central and eastern Europe, the slowdown in external demand coincided with large capital inflows and a steady exchange rate appreciation. This prompted central banks to cut interest rates and to intervene occasionally in foreign exchange markets. However, fiscal pressures and inflation risks put a floor on rate cuts in Poland and Hungary. In the Czech Republic, the strengthening of the exchange rate, along with a combination of strong productivity gains and only moderate wage growth, allowed the central bank to reduce interest rates to very low levels.

Appreciating exchange rates in central Europe

In South Africa, policy challenges were heightened during the fourth quarter of 2001 when an exceptionally sharp depreciation of the exchange rate raised inflation expectations. Since inflation has continuously exceeded the end-2002 target, the central bank has recently rolled back much of the easing implemented during 2001. Although the rand has since recovered, last year's sharp depreciation has improved the country's external competitiveness and exports have contributed significantly to overall growth.

Policy challenges in South Africa

Effectiveness of monetary policy in stimulating growth

How far has monetary policy been able to stimulate demand in emerging market economies? One way to assess this effect is to look at the impact of the policy rate cuts on long-term interest rates. A more proactive response of central banks to economic shocks may also affect consumer and business sentiment, but this effect is harder to measure.

Monetary easing has generated positive effects

Long-term bond rates in emerging market economies declined last year, particularly over the second half, when monetary policy was substantially eased (Table III.7). Indeed, long-term rates have fallen to their lowest levels since the Asian crisis. As in industrial countries (see Chapter II), lower interest rates have supported a revival of the housing sector in several emerging market countries. They may also have helped corporate restructuring. Nevertheless, it is not clear whether the sharp drop in long-term rates was

Long-term rates fell in most countries ...

Long-term interest rates[1]					
	End-1998	End-1999	End-2000	June 2001	End-2001
Hong Kong SAR	6.36	7.74	6.46	6.37	6.22
India	12.22	11.24	10.94	9.45	7.92
Korea	8.30	9.85	8.12	7.24	6.79
Malaysia	6.81	6.36	5.49	4.20	3.76
Philippines	18.36	15.61	18.20	15.39	15.75
Singapore	4.48	4.56	4.09	3.64	3.97
Taiwan, China	5.12	6.03	5.13	3.84	3.81
Thailand	7.26	6.40	5.09	6.34	3.40
Chile	7.19	7.19	6.21	5.87	5.63
Mexico	7.50	6.68	6.70	6.05	6.00
Czech Republic	13.94	10.19	8.09	7.16	7.06
Hungary	12.88	9.82	8.80	8.20	7.71
Poland	…	10.41	13.19	13.18	9.56
South Africa	15.85	13.67	12.72	10.88	11.53

[1] Ten-year or nearest long-term rate; in percentages.

Sources: Bloomberg; national data. Table III.7

entirely due to monetary easing. In India, for instance, a large part of the decline in long-term bond rates reflected a "flight to quality" by banks and financial institutions, which sharply increased investment in government securities and drove bond prices higher.

… but corporate credit growth remained depressed

In most countries, however, lower interest rates have not led to higher credit growth. In fact, real credit growth was negative in several Asian countries, even though monetary easing was most pronounced in this region (Graph III.10). The slow progress of bank restructuring and a large overhang of non-performing loans may have limited the supply of new credit. However, much of the weakness in credit growth also seems to reflect the lack of creditworthy borrowers as well as conscious decisions by firms to reduce their indebtedness.

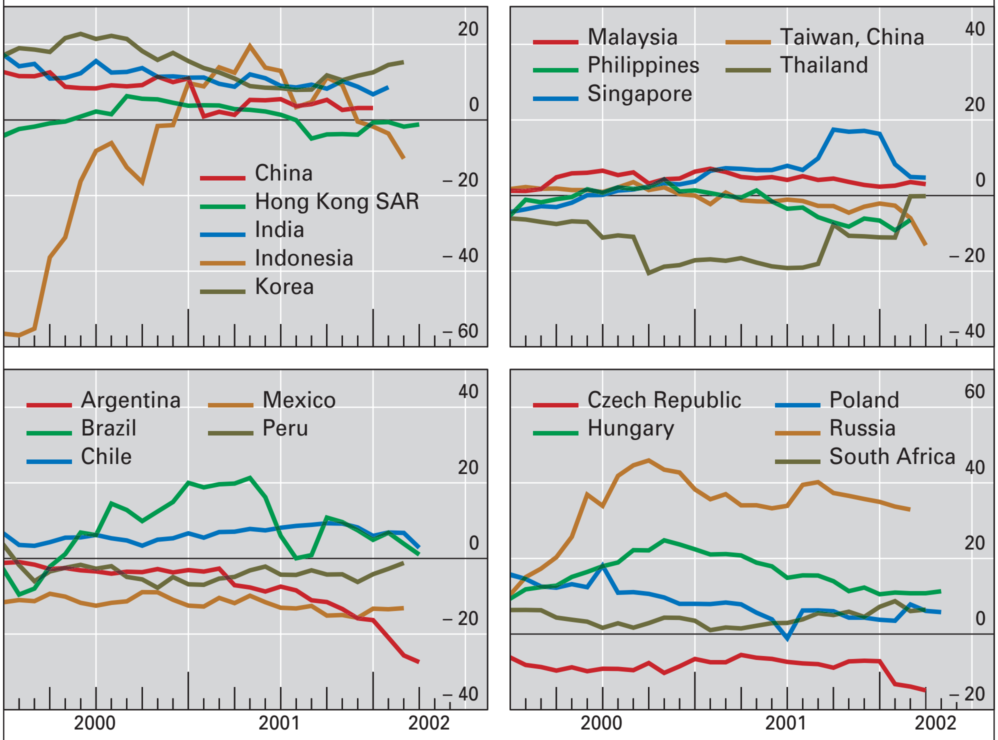
Banks increased consumer credit …

With business demand for credit being low, easier monetary conditions have led banks to diversify into consumer credit. Mortgage and consumer credit grew by 70% in China in 2001, albeit from a low level. Korean banks have been particularly aggressive in promoting lending to households through easier terms on mortgages. This has allowed household debt to rise very rapidly to historically high levels. In India, competition for consumer loans has reportedly led banks to extend mortgage credit at below prime lending rates. In Hong Kong, higher mortgage lending partly offset lower corporate lending.

… and were encouraged to lend more

The authorities in many Asian countries have provided special incentives to encourage banks to lend. The Hong Kong Monetary Authority temporarily waived the loan-to-value requirement for the refinancing of home mortgages. The Bank of Korea offered a liquidity adjustment facility to banks facing temporary liquidity problems arising from restructuring. In the Philippines, the central bank lowered interest rates on overnight deposits to encourage banks to reduce their excess liquidity and expand business lending. In

Real credit growth[1]



[1] Annual percentage changes; domestic credit to the private sector deflated by consumer prices.

Sources: IMF, *International Financial Statistics*; BIS calculations. Graph III.10

Thailand, the central bank relaxed loan provisioning and classification requirements.

Large credit contraction in Latin America

In Latin America, the recent credit contraction can be attributed to both cyclical and structural factors. In Argentina, the banks' capacity to lend in 2001 was severely affected by the financial crisis, while in Peru a rapid decline in deposits had a similar effect. The sharp deceleration in credit growth in Brazil in 2001 was widely attributed to increased financial market uncertainty in the wake of the Argentine crisis and the associated reluctance of both borrowers and lenders to expose themselves to higher default risks. In Mexico, the credit contraction has reflected financial disintermediation and increased reliance by firms on cross-border sources of finance. Except for Mexico, the reduction in international equity and bank flows to Latin America has exacerbated the slowdown in domestic credit growth.

The role of fiscal policy

Faced with the economic slowdown, many emerging economies implemented fiscal stimulus measures in 2001. In others, however, the revenue impact of slower growth or higher debt servicing costs forced governments to cut spending.

Fiscal deficits remained large in Asia ...

Fiscal policy in most Asian countries was either accommodating or expansionary last year. Budgetary stimulus was a major driver of domestic demand in Hong Kong, Singapore and Thailand. In other countries, tax reforms or the accumulation of surpluses in pension funds concealed

Fiscal balances and public debt								
	Overall balance			Primary balance			Public debt	
	1999	2000	2001	1999	2000	2001	1996	2001
	As a percentage of GDP							
Asia[1]	–1.0	–1.3	–2.9	–1.5	–0.5	–0.3	28.6	51.8
China	–2.1	–2.8	–2.7	…	…	…	7.3	16.3
Hong Kong SAR	0.8	–0.6	–5.0	.	.	.	.	.
India	–5.4	–5.7	–5.7	–0.7	–0.9	–1.1	49.4	58.1
Korea	–2.7	1.1	1.5	–1.5	2.6	2.7	8.8	20.8
Singapore	10.3	11.4	–0.3	.	.	.	.	.
Taiwan, China	1.0	–0.6	–0.7	–0.5	–2.5	–2.6	22.7	31.7
Indonesia	–1.6	–3.2	–3.7	2.2	2.5	1.7	27.3	106.9[2]
Malaysia	–3.2	–5.8	–5.5	–0.5	–3.1	–2.6	35.3	43.8
Philippines	–3.8	–4.1	–4.0	–0.2	0.2	0.8	61.3	79.1
Thailand	–3.3	–2.2	–2.4	–9.4	–1.8	–1.1	16.3	57.5
Latin America[1]	–3.4	–2.5	–3.0	0.0	0.6	0.1	29.3	35.3
Argentina	–2.9	–2.7	–3.3	0.0	1.1	0.5	35.2	52.6
Brazil	–6.9	–3.2	–3.7	2.3	1.9	1.9	33.3	53.3
Chile	–1.5	0.1	–0.3	–1.1	0.6	0.2	16.7	15.6
Colombia	–6.0	–6.1	–6.0	–2.5	–2.2	–1.9	14.4	43.4
Mexico	–1.1	–1.1	–0.7	2.5	2.6	2.6	26.6	20.4
Peru	–3.1	–2.7	–2.8	–1.0	–0.5	–0.6	45.2	35.9[2]
Venezuela	–2.6	–1.7	–4.0	0.1	0.8	–1.1	33.8	25.7
Central Europe[1]	–2.6	–2.9	–3.9	–1.2	0.5	–0.9	43.2	36.1
Czech Republic	–2.9	–3.5	–4.5	–1.8	–2.3	–3.3	10.3	16.1[2]
Hungary	–3.0	–2.8	–2.8	–3.0	3.3	2.1	71.5	53.2
Poland	–2.0	–2.2	–4.5	1.0	0.4	–1.6	47.8	39.0[2]
Russia	–1.2	2.5	3.0	1.9	4.7	5.3	48.1	64.0[2]
South Africa	–2.3	–1.5	–1.9	2.9	3.5	2.8	45.2	42.8

Note: Comparison across countries should take into account that different definitions of the public sector are used; for Hong Kong SAR and Indonesia, fiscal years; for India, federal government only.

[1] Simple averages. [2] 2000.

Sources: IMF; IIF; national data; BIS estimates. Table III.8

stimulatory expenditure measures or a very accommodating policy stance. In China, an improvement in revenue performance limited the budgetary impact of increased public infrastructure spending and higher wages for government employees. With a deficit of over 5% of GDP, fiscal policy in Malaysia remained highly accommodating. Moreover, the impact of expenditure measures was either masked by the effects of tax reform or will only affect the budget outcome for 2002. Korea's fiscal surplus rose last year, but this mainly reflected growing surpluses in the social security funds; abstracting from this effect, the fiscal stimulus to domestic demand was sizeable.

… but only limited scope for fiscal stimulus in India

The scope for fiscal stimulus was much more limited in India, where a central government budget deficit of over 5½% of GDP overshot the target by a wide margin. With budget deficits of state governments also remaining large, worries about fiscal risks and their adverse implications for real interest rates have resurfaced. Relatively large structural fiscal imbalances have also limited the scope for fiscal expansion in Indonesia and the Philippines.

Temporary fiscal stimulus can have a significant impact on demand, particularly when combined with a looser monetary policy. However, tax and expenditure policies that imply changes to the medium-term course of fiscal policy can reduce policy effectiveness by raising both domestic interest rates and country risk premia. The activation of countercyclical fiscal policies in some Asian countries has been constrained by such concerns. Public debt/GDP ratios in several countries have increased to high levels (Table III.8). Allowing for the actual and potential fiscal costs of bank restructuring, debt levels in some Asian countries would, in fact, be much higher than those reported. With nominal interest rates (and thus debt service) declining last year, the actual degree of fiscal deterioration was contained. But in the event of tighter monetary policy, debt service costs would increase further.

Effectiveness of fiscal stimulus

In Latin America, several countries relying on external finance had to cut government spending to counter revenue shortfalls and higher debt servicing costs. In some countries, a tax structure highly reliant on commodity taxes accentuated the revenue shortfalls and the need to cut spending. In others, investor concerns about fiscal discipline prevented governments from allowing the automatic stabilisers to operate. For instance, Mexico responded to the sharply lower oil revenues and tax shortfalls by cutting spending to keep the fiscal deficit within 1% of GDP. Similarly, Brazil took steps to achieve more than the targeted primary surplus for the consolidated public sector (3.7% of GDP instead of 3.3% at the end of 2001) and to contain the overall deficit within 4% of GDP. Only Chile, with its low public debt ratio and the goal of maintaining a structural surplus, could ease fiscal policy last year.

Tighter fiscal policy in Latin America ...

... except in Chile

Fiscal policy was expansionary in Poland, where the central government fiscal deficit widened to 4½% of GDP in 2001, reflecting a slowdown in revenue and faster than expected growth in expenditure. To contain the imbalance, the 2002 budget has adopted a cyclically neutral stance. In Hungary, the budget deficit remained unchanged, but there was a marked increase in off-budget spending. Fiscal stimulus also played an important role in promoting demand in the Czech Republic. In Russia, the fiscal surplus increased to 3% of GDP, reflecting a mixture of expenditure restraint and tax reforms, including lower corporate tax rates and a new unified natural resource tax.

Significant fiscal easing in Europe

Crises in Turkey and Argentina

Both Turkey and Argentina have been heavy international borrowers in recent years: their combined external debt amounted to $264 billion at the end of 2001 compared with $193 billion in 1996. Crises in these two countries thus had the potential for a wider impact on emerging market financing. Yet both crises were perceived internationally as largely domestic events, and their spillover effects on the broader market have so far been muted (see Chapter V). Nevertheless, the Argentine crisis could still affect future investment by international banks in emerging markets given the losses that foreign-owned banks have suffered.

Crises in Turkey and Argentina were largely home-made

Turkey

Despite high growth, problems accumulated during the 1990s

The Turkish economy during the 1990s experienced relatively robust but volatile growth, accompanied by large public sector deficits, high inflation and periodic current account crises. Given its openness, a dynamic private sector and a high household saving rate, the economy usually recovered quickly from these crises. Over time, however, a growing proportion of capital inflows went via the banking system to the public sector, and the proportion of public sector debt held by domestic banks increased.

Banking crisis triggered the currency crisis

As fiscal and current account deficits widened sharply in 2000 and as short-term external debt jumped to 130% of reserves, interest rates became highly volatile. The market value of banks' holdings of government debt also began to fluctuate widely. As the banks' capital base was too weak to absorb such swings, expectations that the government might be forced to rescue the banks increased pressure on the exchange rate, which fluctuated within a narrow band under a crawling peg regime. When in February 2001 political conflict over efforts to fight corruption in the banking sector led to a loss of investor confidence, the authorities were forced to float the lira. It initially depreciated by 45% against the dollar, and the pass-through into consumer prices was very rapid.

The stabilisation programme did not restore confidence

The announcement of a wide-ranging package of measures in April 2001 failed to restore confidence, despite evidence that the budgetary and monetary performance was on track. Persistently high domestic interest rates (up to 40% in real terms) were not only a symbol of the lack of confidence, but also the biggest obstacle to the sustainability of budget policy. The deteriorating global economic environment was an aggravating factor. Nevertheless, some positive trends also began to emerge: exports recovered and the current account swung into surplus; large state-owned banks were recapitalised and put up for sale; and 13 medium-sized banks were sold or closed.

Debt sustainability problems emerged after 11 September ...

Following the events of 11 September, the lira came under renewed pressure and interest rates climbed again. As nearly 80% of Turkey's domestic debt stock is indexed to short-term interest rates or to the exchange rate, and public debt repayments were projected to rise in 2002, there were major concerns about debt sustainability. Difficulties in accessing international capital markets were compounded by weak prospects for privatisation and FDI. The authorities, however, maintained a very tight fiscal stance and pressed forward with public sector reforms. These policy actions improved the chances of additional external financing from the IMF and strengthened market sentiment. By mid-April 2002, the lira had appreciated by 30% from a mid-October low and the interest rate on the domestic benchmark bond had fallen by more than 20 percentage points. Inflation pressures were still high, but were at least easing. Lower domestic interest rates and currency appreciation, in turn, began to improve the debt dynamics. Turkey was thus able to return to international debt markets in the first quarter of 2002, placing around $1½ billion of sovereign debt at falling spreads, ranging from 550 to 700 basis points.

... but tight policies helped improve market sentiment

Despite these positive trends, industrial output and domestic demand remained sluggish in the first quarter of 2002 and the financial difficulties of the corporate sector persisted. Uncertainties about the pace of private bank recapitalisation, which is critical for the resumption of bank lending to the private sector, and rapid real exchange rate appreciation created additional risks for the recovery.

However, the recovery remains elusive

In summary, the origins of the Turkish crisis were clearly domestic. The policy responses and the way the crisis has evolved to date reinforce some lessons of the recent Asian crisis – in particular, the importance of prompt decisions on banking sector restructuring, the need to push forcefully adjustment in the real sector (which in Turkey included large state-owned enterprises), and the importance of commitments to honour public sector debt obligations. At the same time, Turkey's experience illustrates how difficult it is to restore confidence and restart growth against the backdrop of a fragile banking sector, entrenched fiscal deficits and a weak global environment.

Argentina

External shocks and rigid wages hit competitiveness ...

Argentina entered 2001 with an economy already mired in a prolonged recession. Weak commodity prices in the late 1990s and real exchange rate appreciation, resulting from Brazil's devaluation in 1999 as well as from the steady appreciation of the US dollar, reduced profitability in the tradable goods sector and slowed investment. Since the nominal exchange rate was fixed, the real rate could adjust only if unit labour costs fell, a development impeded by a rather rigid labour market.

... and efforts to restart growth in early 2001 failed

In April 2001, the authorities sought to stimulate growth while at the same time limiting the fiscal deficit. New corporate investment was expected to come from steps taken to increase the liquidity of the banking system, a reduction in tariffs on capital goods and higher tariffs on consumer goods. On the fiscal side, a tax on financial transactions was introduced to raise additional revenue. However, these measures failed to stop the economic slide. The lack of clarity about policy implementation and conflicts among key policymakers sapped market confidence, pushing bond spreads above 1,000 basis points. Investors questioned in particular the extent of fiscal adjustment, given that the provinces were not obliged to cut spending. Moreover, the loosening of commercial bank reserve requirements (which allowed the banks to deposit a smaller fraction of reserves abroad and to use government bonds to satisfy the requirements), while designed to increase liquidity, in fact undermined the credibility of the currency board and reduced banks' ability to attract fresh funds from abroad.

As liquidity problems raised the spectre of crisis ...

Faced with a difficult liquidity situation themselves, the authorities swapped some $30 billion of maturing external debt for longer-term bonds in June 2001. The swap was very costly (some new bonds carried rates of nearly 16%) and thus substantially increased the future debt burden. In response, the authorities announced in late July a "zero deficit" plan, requiring all levels of the government to restrict spending for the rest of the year to the amount of revenue actually collected. But, as economic activity and tax revenues continued to shrink, households began to withdraw their bank deposits in July and August. Foreign reserves fell sharply, and markets began to anticipate more disorderly scenarios for resolving the crisis.

... and new measures again failed ...

The retrenchment in private capital flows to the emerging markets following the events of 11 September prompted the government to seek further relief by restructuring some $41 billion of public sector debt held by local banks, pension funds and provincial governments. But with a difficult external debt restructuring still lying ahead, the economy contracting and fiscal revenue falling rapidly, bond spreads soared past 3,000 basis points in late November. A worsening of deposit flight led the government to restrict both withdrawals and transfers abroad. In late December, the government also suspended external debt payment. In early January 2002, the government abandoned the currency board regime and announced first a dual exchange rate, and then a floating rate system. However, no effort was made to establish a domestic policy anchor to constrain both inflation and exchange rate movements. In practice, severe controls on bank transfers meant that the currency became virtually non-convertible. In addition, all dollar-denominated deposits and liabilities in the banking system were converted into pesos, but at different, non-market exchange rates.

... a crisis erupted with unprecedented ferocity

These policy changes have imposed large costs on Argentine banks and their customers, and have pushed the banking system and the whole economy ever deeper into crisis. The spread on Argentine bonds has hovered around 4,000 basis points since late December. When the peso was allowed to float freely, it plunged more than 70% against the dollar. Recent projections suggest that inflation could reach more than 50% in 2002 after three years of deflation. Real GDP shrank by 4½% in 2001 and current projections envisage a drop in output of 10–15% in 2002. The current account deficit narrowed last year due to severe import compression, but the fiscal deficit rose despite spending cuts. The budget for 2002 maintains the cuts in public sector wages and pensions as announced last year, increases spending only on emergency help for the poor, and foresees a deficit of about 1% of GDP.

What went wrong?

Seen against the backdrop of good economic performance and resilience to shocks during 1991–97, and a solid, predominantly foreign-owned banking system, the gravity of the Argentine situation has come as a surprise to many. The reasons for this outcome are clearly worth exploring. Several fundamental weaknesses of the Argentine economy have been well known for some time.

A highly indebted closed economy ...

First, the Argentine economy is both very closed and highly indebted. Merchandise exports accounted for just 10% of GDP in 2001, while the total external debt amounted to 55% of GDP. Moreover, public sector debt held domestically, much of it denominated in US dollars, amounted to an additional 26% of GDP. The combination of high external debt and low export earnings meant that external debt service requirements amounted to 83% of current account receipts in 2001. Total external debt was equal to about 400% of exports of goods and services, an exceptionally high level that indicated the substantial risk of an external financing crisis. Moreover, the ratio of short-term external debt to foreign reserves was very high, around 115%

at the end of 2000. While these debt indicators were never particularly favourable for Argentina, they had all risen substantially since the mid-1990s. For instance, total external debt increased by 15% of GDP between 1996 and 2001; total debt service as a percentage of exports of goods and services almost doubled; and central government debt rose from 35% of GDP in 1996 to 53%.

... and currency mismatches ...

Second, the private and public sectors both had large domestic liabilities denominated in US dollars, but few dollar-earning assets to match. These currency mismatches were masked by convertibility arrangements, under which the peso and the dollar seemed equivalent. In reality, however, the Argentine economy was extremely vulnerable to any interruption in external financing and in particular to a devaluation of the exchange rate.

... made Argentina extremely reliant on external financing

Once external financing was cut off (private financing in the third quarter of 2001 and official financing in the fourth quarter), expectations of a large devaluation led to a quick reassessment of the government's debt service and fiscal position. This in turn raised fears about a possible government debt default. Such concerns also led to a deterioration of the perceived quality of corporate balance sheets, and thus to the emergence of new contingent claims on the budget. The quality of bank assets also worsened: the deepening of the recession affected the standing of claims on the private sector, and banks were also exposed via holdings of government paper. While the central bank attempted to contain the run on the banks (by providing liquidity to the deposit-losing banks and raising reserve requirements for the deposit-taking, mostly foreign-owned, banks), its actions were clearly circumscribed by the currency board arrangement.

Changes to bank contracts worsened the crisis ...

Following the outbreak of the crisis, the announcement of certain measures by the authorities and their modification within days increased uncertainty. One announcement was the conversion of dollar-denominated loans into pesos at an exchange rate of one peso per dollar, and of dollar-denominated deposits into pesos at an exchange rate of 1.4 pesos per dollar. This compared with the market exchange rate of about two pesos per dollar at the time, and over three pesos per dollar by May 2002. These asymmetrical changes created problems for which the banks and their customers were wholly unprepared. Most private banks were viable under the old convertibility regime; depending on the credit standing of their customers, some of them might even have remained viable after the government debt default and the devaluation. But the proposed changes would generally have resulted in losses exceeding the equity positions of shareholders in these banks.

... while the deposit freeze weighed on economic activity ...

Another highly damaging measure has been the freeze on deposits. Although implemented as a temporary measure to stop bank runs in previous banking crises in Argentina and elsewhere, this deposit freeze has been so comprehensive and protracted – some bank deposits may not be paid out before January 2005 – that it has virtually suspended the domestic payment system. Given that a large fraction of the Argentine economy, especially in the service sector, is informal and operates in cash, the freeze has weighed heavily on economic activity. While the impact of the freeze is difficult to isolate from other aspects of the banking crisis, it has undoubtedly compounded a general decline in confidence in the banking system and in overall economic policies. The longer-run effects may be further deposit outflows to banks abroad, higher costs of credit and banking services, and a reduced scope of financial intermediation.

... and new laws further eroded confidence

Considerable damage was also done by amendments to the bankruptcy law, which severely restricted creditor rights, and uncertainties about the application of the "economic subversion" law, under which bankers and businessmen were subject to court action for bad or negligent business decisions. Although the controversial provisions of both laws were amended in May 2002, the uncertainties they created had already severely dented the confidence of investors and businessmen in the application of basic legal rights.

Impact of the Argentine crisis on activities of international banks

The experience in Argentina could make foreign banks ...

Over the past decade, foreign bank participation has come to be seen as key to developing the banking systems in emerging market economies. Foreign-owned banks became major players in many emerging markets, including Argentina, where they accounted for well over one half of banking system assets and liabilities. Partly in consequence, but supported as well by a strong supervisory regime, the Argentine banking system was considered among the strongest in Latin America. However, the Argentine government debt default, the sharp devaluation of the peso and uncertainties concerning the status and character of deposit and loan contracts as well as creditor rights quickly pushed Argentina's banking system to the verge of collapse. This raises a number of issues regarding future activities of foreign-owned banks in emerging markets.

... more cautious about legal and judicial systems ...

Evidence of the decoupling of other markets in Latin America from Argentina, as well as the absence of any sign of "deposit contagion" in other emerging markets, seem to support the view that markets so far have perceived Argentina as a special case. Nevertheless, international banks may over time become more cautious about establishing new operations in those emerging market economies where political, legal and judicial systems are perceived as being unreliable. More generally, international banks may tighten their standards for lending to emerging market governments and public sector institutions through local subsidiaries.

... more likely to diversify their activities ...

Another longer-term outcome of the Argentine crisis could be that banks which derive a high proportion of profits from operations in one particular emerging market (or region) will seek to diversify their investments. Because the host country authorities might be reluctant or fiscally unable to bail out a large foreign bank subsidiary, they might well pressure the parent to invest new funds to recapitalise the subsidiary. Foreign banks might wish to avoid having a dominant position in any particular country since a refusal to recapitalise the bank would be seen as extremely damaging to the country concerned.

... and more reluctant to lend in foreign currency

In addition, foreign banks could become less inclined to conduct dollar-based business in some emerging market economies. Since the mid-1990s, foreign banks have been setting up subsidiaries in many emerging markets. In part, this was an effort to limit their cross-border exposures and to avoid currency mismatches associated with foreign currency lending from their home bases. However, the Argentine experience indicates that, when bank customers hold foreign currency deposits but have few other dollar-earning assets (such as export receipts), devaluations may hit the banks equally hard. Foreign-owned banks may therefore adopt more prudent pricing policies for foreign currency loans, or focus entirely on local currency business.

Other capital inflows could also be affected

A broader concern for the emerging market economies is that inflows of foreign direct investment could be affected because of the large losses facing the foreign companies that had invested heavily in Argentina. In addition, given the heavy losses suffered by continental European retail investors, who held an estimated $20 billion of Argentine government bonds, emerging market economies may find it more difficult to place their debt issues with retail investors in the future.

IV. Monetary policy in the advanced industrial economies

Highlights

The policy cycle turned last year as central banks in the advanced industrial economies reduced interest rates in response to the global downturn. Another influence was the terrorist attacks in the United States, after which policy was eased further worldwide to help restore consumer and business confidence. Growth prospects became more favourable in the early part of 2002, which prompted central banks in some countries to tighten policy to pre-empt inflationary pressures.

The slowdown in activity last year was first apparent in the United States. As a consequence, the Federal Reserve took the lead in easing policy in January 2001, and subsequently cut rates repeatedly when confronted with the unexpected severity of the slowdown. During the first quarter of 2002, signs appeared that a turnaround in economic activity was under way. This halted any further easing of policy and led to a more balanced assessment regarding the risks to growth and inflation.

Compared to the United States, a downturn in real activity appeared later in the euro area. Since inflationary pressures remained a concern, the ECB cut interest rates only once in the first half of 2001. As evidence of the downturn mounted, and in response to the events of 11 September, the ECB eased policy further in the second half of the year. Rates were held steady in the early part of the current year as prospects of recovery emerged but inflationary pressures stayed dormant.

In Japan, very weak economic conditions persisted. The Bank of Japan increased reserves in the banking system several times during the period under review. As an additional stimulus measure, the Bank also stepped up its outright purchases of Japanese government bonds. However, crucial structural reforms remained stalled and the economy accordingly continued to falter.

Interest rates were also reduced over the last 12 months in countries with explicit inflation targets, although the timing and magnitude of policy changes varied. While the Bank of Canada cut rates aggressively, growth remained more robust in the United Kingdom, Australia and New Zealand, limiting the need for interest rate cuts. Sweden and New Zealand, fearing a rise in inflation, were the first industrial countries to tighten policy in early 2002.

The situation of low inflation and low nominal interest rates in the period under review was unusual by the standards of the past few decades. This new environment has, in many respects, increased the room for manoeuvre for central banks. At the same time, as the experience of recent years suggests, it may also have altered in a subtle way the characteristics of the challenges that they face. The second part of this chapter explores these issues in some detail.

United States

Sharp economic downturn led to aggressive policy easing

The sharp reversal in economic activity in the United States in late 2000 and early last year prompted strong monetary stimulus. In the early part of 2001, the Federal Reserve cut interest rates by 50 basis points five times in succession, on two occasions between scheduled meetings of the Federal Open Market Committee (FOMC). Nevertheless, real GDP growth flattened in the second quarter of 2001 and concerns mounted about the prospect of further declines in capital expenditures and a continued liquidation of inventories. Against the backdrop of low and stable inflation, the FOMC voted twice more to reduce its target for the federal funds rate, at its meetings in June and August. However, the size of both rate cuts was 25 basis points instead of the previous 50, perhaps a signal from the Committee that the period of easing might soon end. Indeed, by late summer signs were emerging that some sectors had stabilised, leading to a more optimistic view that an extended period of below par growth could be avoided.

Further easing measures in the wake of the terrorist attacks ...

The tragic events of 11 September dashed any hopes that growth might pick up in the short term. The response by the monetary authorities to the terrorist attacks was multifaceted. First, the Federal Reserve provided ample liquidity through the discount window. Under these emergency measures, borrowing at the discount window increased significantly during the week of the attacks, returning to more normal levels by late September. Second, the Federal Reserve arranged or extended swap lines with certain foreign central banks to ease global liquidity concerns; only in the case of the ECB were these lines utilised. Third, the FOMC reduced its target rate by 50 basis points in the new environment of heightened uncertainty and fragile consumer and investor confidence. The rate cut was timed to coincide with the reopening of the stock markets in New York on 17 September (see Chapter VI). The combination of earlier interest rate reductions and the ample provision of liquidity in the wake of the terrorist attacks helped maintain the previously strong growth rate of broad monetary aggregates.

... and later in 2001, as the economy remained weak

At its meeting in early October, the FOMC reinforced its previous actions by trimming another ½ percentage point off its target rate, as concerns mounted that a global slowdown would feed back in turn on the US economy. With inflationary pressures receding and many indicators suggesting that the overall economy remained weak, the FOMC lowered interest rates twice more before year-end.

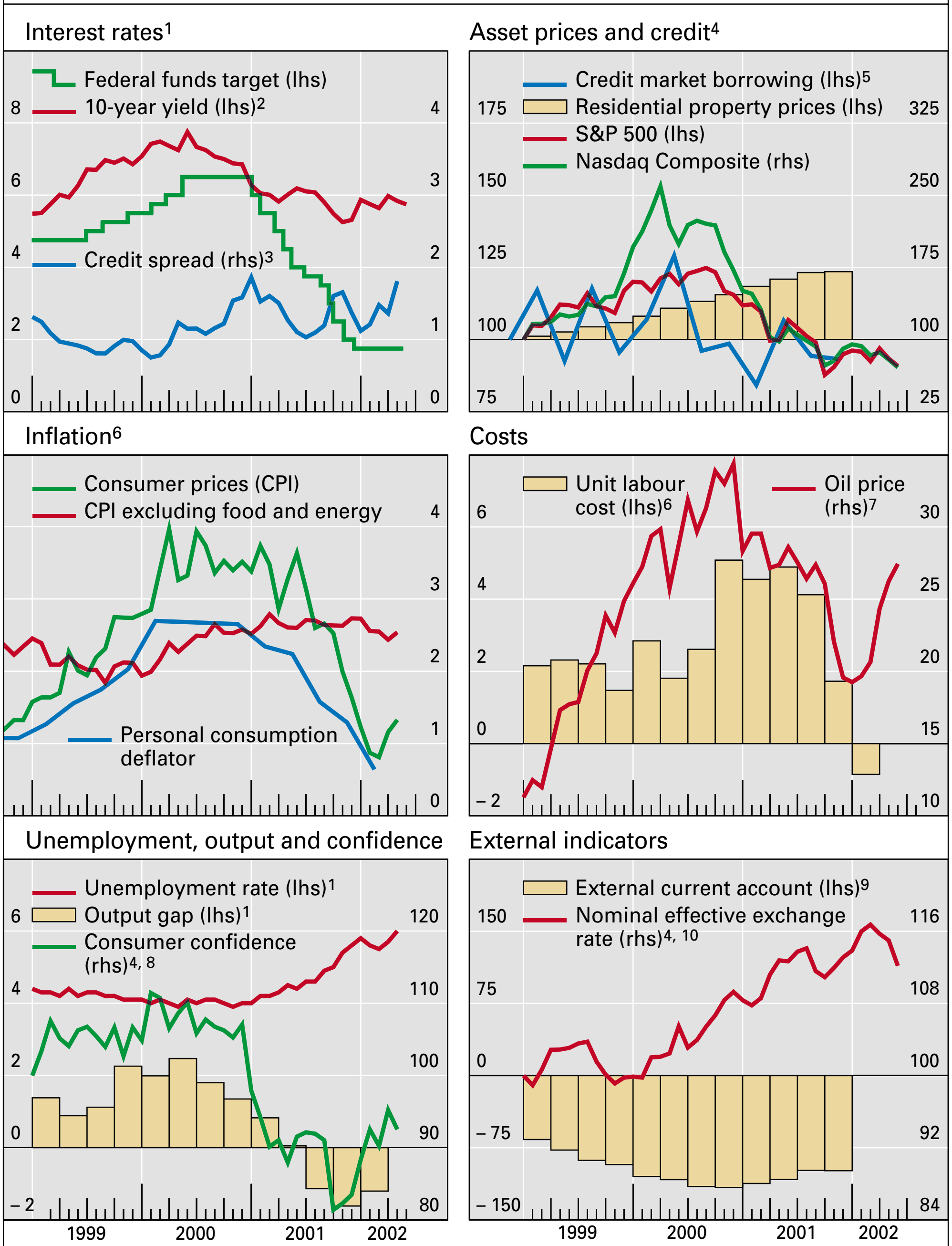
Despite significant rate cuts ...

The actions taken by the FOMC through this easing phase were unprecedented. The target federal funds rate was lowered 11 times during 2001, by a total of 4.75 percentage points, and has been maintained during the early part of 2002 at the unusually low level of 1.75%. While the changes in circumstances alluded to above were enough to warrant a significant easing of policy, the US economy had entered 2001 with relatively high short-term

... financial conditions remained tight

real interest rates, measured ex post. In addition, as the year progressed, it became increasingly clear that financial conditions overall were not easing as might normally have been expected. Despite the significant reduction in short-term interest rates, the dollar, in nominal effective terms, appreciated by 5.4% in 2001 (Graph IV.1); bank lending standards tightened somewhat; and equity prices fell further, although the aggressive easing of policy probably prevented a much larger decline. In contrast, housing prices continued to

Economic indicators for the United States



[1] In percentages and percentage points. [2] Swap rate. [3] Corporate BBB minus swap rate. [4] End-1998 = 100. [5] Borrowing by private domestic non-financial sectors (seasonally adjusted). [6] Annual percentage changes. [7] West Texas Intermediate, in US dollars per barrel. [8] University of Michigan survey. [9] In billions of US dollars. [10] An increase indicates a dollar appreciation.

Sources: OECD; national data; BIS estimates. Graph IV.1

rise markedly and consumers used their option to refinance mortgage contracts to withdraw record levels of funds to support additional spending (see Chapter II).

Policy rates held steady in early 2002

In early 2002, a broad set of indicators began to show signs of reversing course. Nonetheless, great uncertainties remained. Consequently, the Federal Reserve left its target rate unchanged in the first three months of the year, and altered its assessment of risks to a balanced stance in March. In favour of continued low rates was the fact that financial conditions were still tight and oil price increases were adversely affecting disposable incomes. In addition, some of the imbalances that had prevailed prior to the downturn still appeared to be present, the presumption being that they would act to slow any incipient recovery. In particular, high household debt levels and richly valued stocks, especially given the uncertain outlook for profits and possible fallout from Enron's failure, had the potential to slow consumer spending. Similarly, depressed corporate profits, high debt levels and excessive production capacity might restrain investment spending. In contrast, a number of arguments supported a more rapid return of policy rates to more normal levels: the liquidation of inventories appeared to be decelerating; the full effects of the interest rate and tax cuts were perhaps still to be felt; and there remained the prospect of higher productivity growth, which had helped to fuel the long boom of the 1990s.

Due consideration also needed to be given to the speed at which policy would be reversed. On the one hand, the quick succession of rate cuts in response to deteriorating conditions would seem to call for an equally rapid, pre-emptive response in tightening policy should inflationary pressures begin to build. On the other hand, any unexpectedly sharp reversal in policy could lead to an overreaction in financial markets. In this regard, the FOMC could be seen to have been preparing markets for interest rate hikes by adopting a balanced stance at its meeting in March.

Euro area

Inflationary pressures in the euro area remained a concern till mid-2001

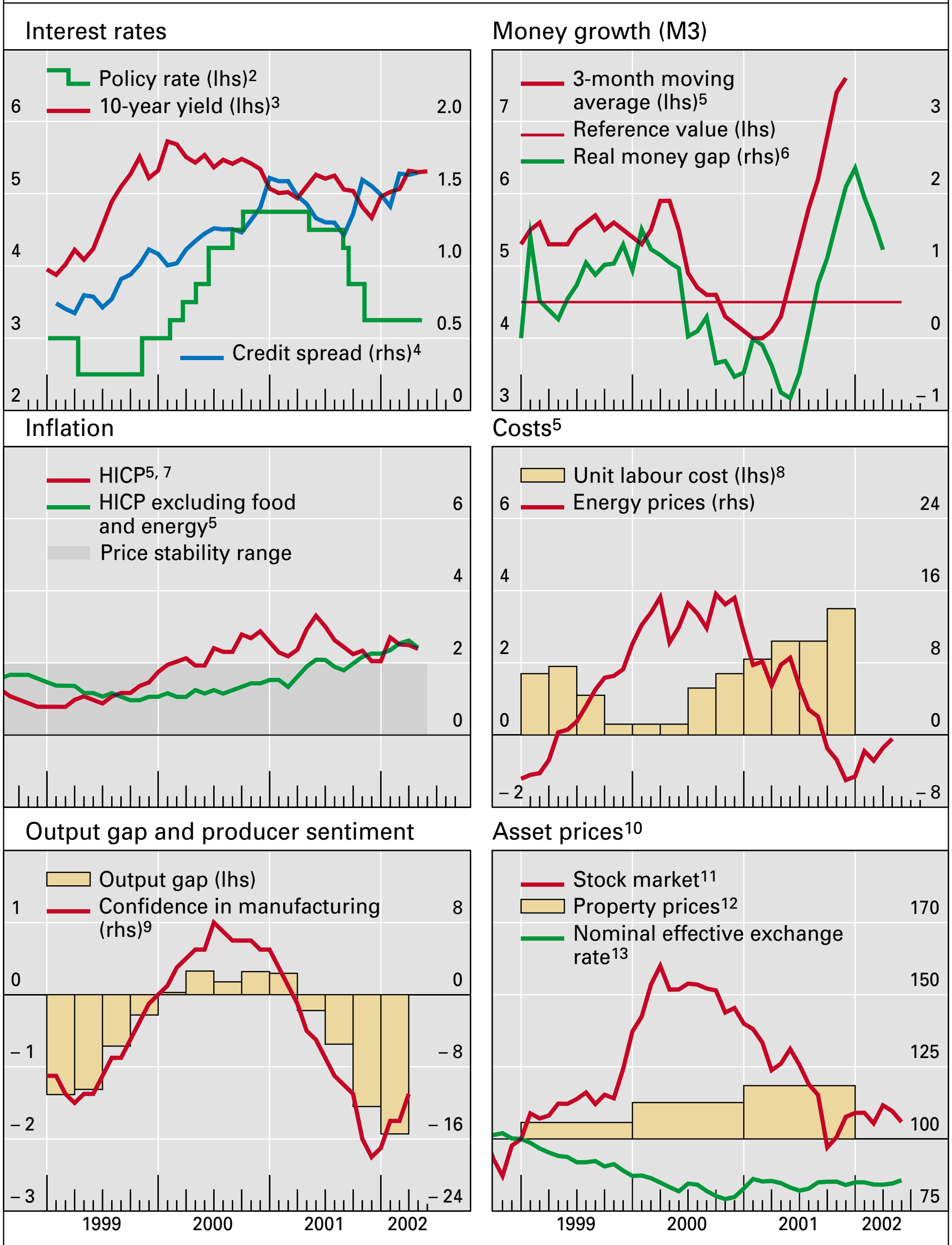
Growth was relatively robust in the euro area in the early part of 2001 and the ECB remained concerned about underlying inflationary pressures. However, as the medium-term outlook for inflation began to improve, owing in part to reduced demand pressure associated with the global slowdown, the ECB decided to cut its key policy rate in May from 4.75% to 4.5%. Rates were kept steady at 4.5% through the summer as headline inflation remained stubbornly above the upper limit of the ECB's price stability range. This reflected in part earlier increases in oil prices and the decline in the value of the euro.

As growth slowed ...

… policy rates were reduced

At its meeting in late August, the Governing Council felt that price pressures were finally abating; further pass-through of past price increases into inflation was thought increasingly unlikely. Moreover, economic activity had begun to slow surprisingly sharply in a large part of the euro area. The contributing factors were economic weakness in the United States and Japan, and a moderation of both domestic consumption and investment. This led the ECB to reduce its key policy rate by 25 basis points. The Bank cut interest rates yet again soon after the terrorist attacks in the United States, as the prospects for an upturn in global growth were diminished by this significant blow to confidence. Like the monetary authorities in the United States and many other countries, the ECB announced that it would provide liquidity to support the

Economic indicators for the euro area[1]



[1] In percentages and percentage points. [2] Tender rate (minimum). [3] Government bonds. [4] Corporate BBB minus government bonds. [5] Annual percentage changes. [6] Percentage deviation of the actual real stock of M3 from the level of real balances consistent with (i) M3 growth at the reference value (4.5% per annum) and (ii) price stability (price inflation equal to 1.5% per annum). Series adjusted for non-euro area residents' holdings of negotiable instruments and for breaks. The base period is December 1998. [7] Harmonised index of consumer prices. [8] Whole economy. [9] Percentage balance, seasonally adjusted. [10] End-1998 = 100. [11] Dow Jones EURO STOXX, overall index. [12] Weighted average (GDP) of residential property prices in euro area countries (except Austria, Greece and Luxembourg). [13] An increase indicates a euro appreciation.

Sources: ECB; European Commission; OECD; Bloomberg; Merrill Lynch; national data; BIS. Graph IV.2

normal functioning of financial markets in the aftermath of the attacks. This included the provision of tenders at a fixed rate in unspecified amounts on 12 September. In November, the ECB reduced interest rates for a fourth and final time during the period under review. This move reflected the Bank's assessment that inflationary pressures were subsiding at a satisfactory pace despite continued high M3 growth (Graph IV.2), which was attributed mainly to portfolio shifts.

In early 2002, policy remained unchanged ...

The ECB held rates steady in the early part of 2002 in the face of conflicting signals about potential inflationary pressures. While signs of a recovery in economic activity had begun to emerge, including increases in business confidence and the purchasing managers' index for manufacturing, firm evidence of a sustainable pickup in growth was yet to appear. The introduction of euro notes and coins at the start of the year seemingly had only a moderate effect on overall inflation, with price increases in part of the service sector being attributed to it. The rise in year-on-year headline inflation recorded in January and February was thought to be temporary (stemming from base effects) and therefore elicited no policy response.

... as inflation worries resurfaced

By April, evidence of a reversal in inventory investment and improved conditions in financial markets gave further positive signals for a recovery of growth. At the same time, oil price increases and ongoing wage negotiations revived concerns about the build-up of inflationary pressures. In the event, the ECB again elected to keep rates unchanged, waiting to see how conditions would develop.

Japan

As economic prospects worsened in Japan ...

The Japanese economy slowed once again in early 2001, entering its third and deepest recession of the past 10 years. In response, the Bank of Japan changed its operating procedures and introduced a quantitative target for outstanding current account balances (¥5 trillion) that would provide significantly more liquidity to the system. The growth rate of the monetary base rose sharply; the overnight call rate remained basically at zero; and rates further along the yield curve were pushed close to zero. Nevertheless, the economy continued to deteriorate as the year progressed. Share prices dropped sharply around mid-year and the global slowdown started to weigh heavily on Japanese exports. The Bank of Japan's Policy Board became increasingly alert to the possible need for further easing, and eventually raised its quantitative target in August to ¥6 trillion. In addition, the Bank also stepped up its outright purchases of domestic government bonds.

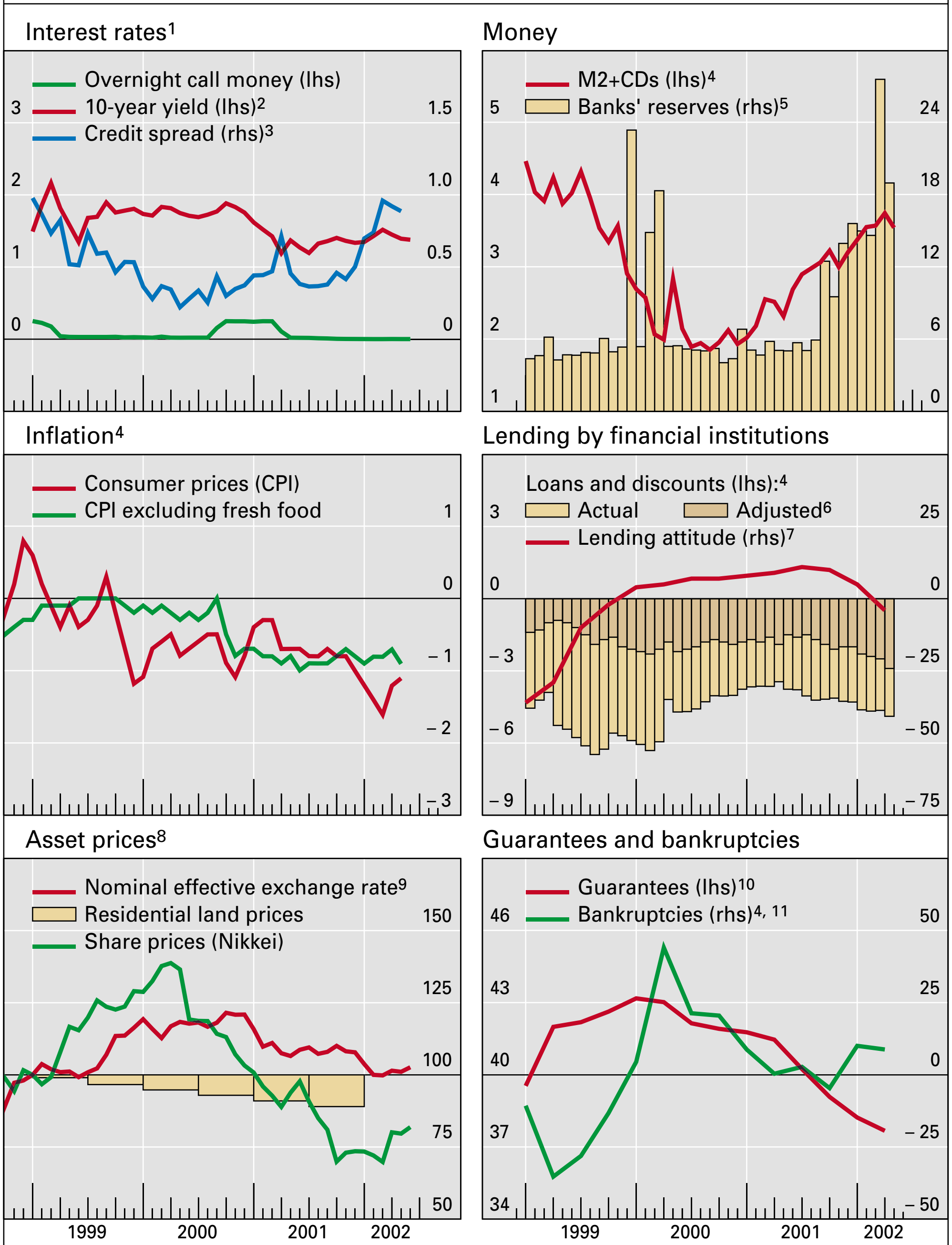
... monetary conditions were eased on numerous occasions

A further easing of policy was effectively undertaken in September after the terrorist attacks in the United States. The Bank's Policy Board feared that disruptions in financial markets could jeopardise the positive effects of previous policy actions. The new policy did not specify a higher target level for current account balances; instead, the Bank of Japan announced that it was willing to supply ample liquidity to the market even in excess of its previous target. Concomitantly, the Bank reduced its discount rate and increased access to its lombard-type lending facility. Although the monetary

Depreciation of the yen brought some relief ...

base did subsequently expand at an accelerating rate, broad money growth continued to be modest (Graph IV.3). While easier monetary conditions may have been partly behind the depreciation of the yen in the latter part of the year, the extent of the depreciation was quite limited. By December, the nominal effective exchange rate remained 20% higher than its value in mid-1998. Nonetheless, the depreciation of the yen had some positive effects,

Economic indicators for Japan



[1] In percentages and percentage points. [2] Benchmark government bond. [3] Five-year bank debentures minus government bonds. [4] Annual percentage changes. [5] Current account balances with the Bank of Japan (in trillions of yen). [6] For, inter alia, securitisation, loan write-offs and exchange rate changes. [7] Percentage balance of positive and negative answers as perceived by non-financial firms. [8] End-1998 = 100. [9] An increase indicates a yen appreciation. [10] Guarantee obligations outstanding (in trillions of yen). [11] Corporate, number of cases.

Sources: Bank of Japan, *Tankan*; Datastream; Tokyo Shoko Research Ltd; national data. Graph IV.3

as reflected in increases in exports, corporate profits in selected sectors and the yen value of foreign investments.

... but financial conditions overall deteriorated

A worsening of financial conditions towards year-end indicated that the economy could contract further. The bankruptcy rate increased, corporate bond spreads widened and, while overall stock prices were flat, the prices of bank stocks fell considerably in the wake of a build-up of non-performing loans. Moreover, the rate of decline in bank lending accelerated, although this also reflected weaker loan demand as business fixed investment dropped and firms attempted to reduce leverage. These developments led the Bank of Japan to adopt an explicit and much higher target for current account balances of ¥10–15 trillion, although the actual level of balances had already reached ¥9 trillion by the time of this policy change. In addition, the Bank expanded the list of eligible collateral for its operations with the aim of improving market functioning and intermediation.

Deflation accelerated ...

In the new year, the rate of deflation of consumer prices gathered pace and economic prospects remained uncertain. This was so despite year-on-year growth of the monetary base reaching nearly 30%. As the fiscal year-end approached, the Bank of Japan foresaw the potential need to provide still more liquidity to the markets. As a consequence, it undertook a number of further easing measures in late February, including another increase in its target for the level of current account balances.

... leading to further easing measures ...

... but structural reforms remain essential

While the Bank of Japan was easing monetary conditions last year, it continued to insist that a prerequisite for raising demand, achieving growth and stopping deflation was to make significant progress on structural reforms. In particular, it emphasised the need for progress in resolving the mounting problem of non-performing loans, even if this risked the failure of some firms. Should system-wide problems arise, the Bank of Japan said it stood ready to act as lender of last resort. The alternative option of using fiscal spending to stimulate demand was seen to have limitations owing to the growing level of national debt. Other policy options also had drawbacks (see below).

Inflation targeting countries

Effects of global slowdown on other industrial countries

The experiences of the various countries with explicit targets for inflation were similar during the period under review, although by no means identical. In general, these countries witnessed a slowdown in economic activity that was mainly driven by weakness in the larger economies. This allowed an easing of policy in the first half of last year given that inflation stayed close to target (Graph IV.4). However, clear differences were visible across countries in the extent of the downturn and in the prospects for inflation. Growth fell sharply in Canada, which led the Bank of Canada, in a fashion similar to the Federal Reserve, to cut interest rates rapidly. In other countries, such as the United Kingdom, Australia and New Zealand, growth remained fairly robust, sustained by stronger domestic demand. Nonetheless, interest rate cuts were undertaken as the prospect surfaced of a fall in growth to below potential. The Bank of England seemed to be in a particularly favourable position to take out insurance against a sharp downturn, given that inflation was below target and

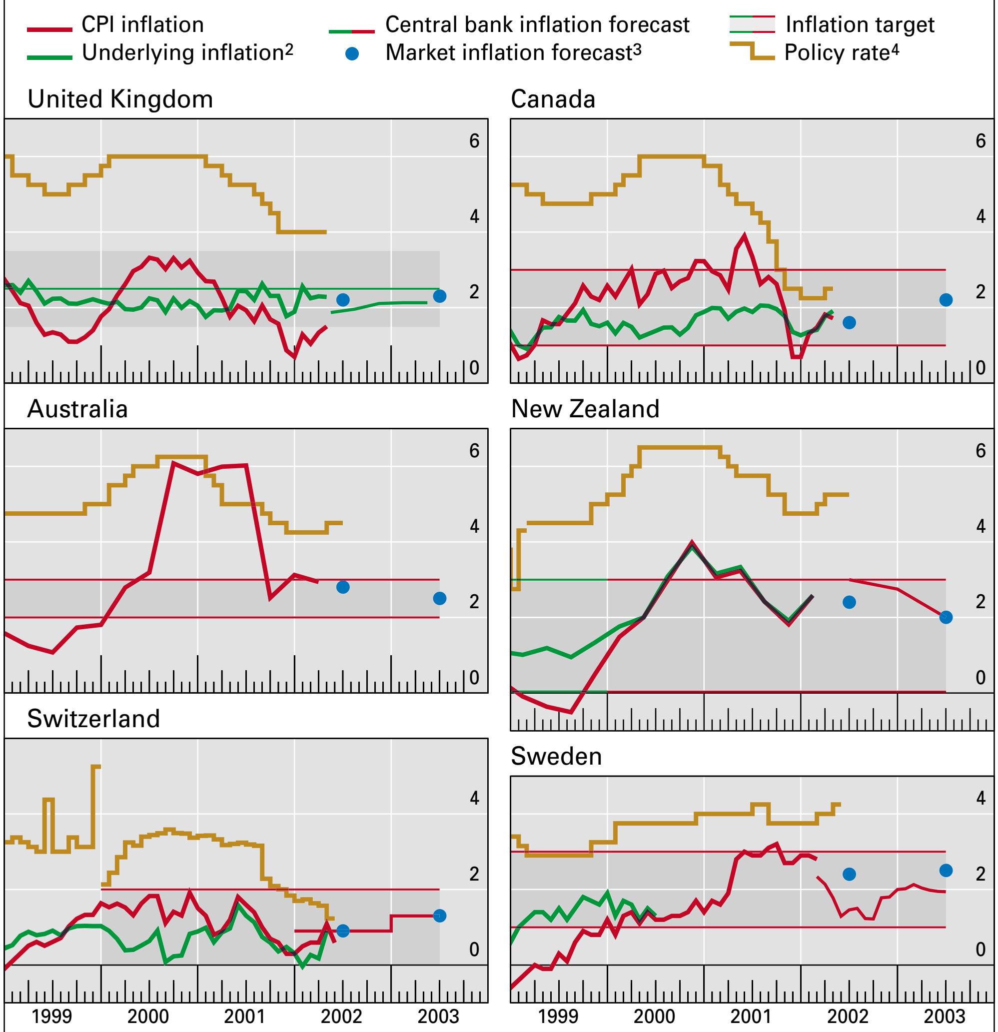
Canada was hit hardest ...

... but the United Kingdom and Australia remained strong that sterling had been persistently strong. Sweden was an outlier, as inflation increased throughout last year, prompting the Riksbank to tighten policy as late as last July.

Widespread rate cuts following the events of 11 September

A further widespread easing of monetary policy occurred in the immediate wake of the terrorist attacks in the United States. The main concern of the authorities, as in the larger economies, was to avoid a collapse in consumer and business confidence at a time of already great uncertainty. Policy actions, which included interest rate cuts as well as special liquidity

Inflation and policy rates in countries with explicit inflation targets[1]



Note: Switzerland does not target inflation but instead uses a broad-based inflation forecasting strategy primarily focused on a numerical target for price stability.

[1] Inflation rates are measured as annual percentage changes. CPI inflation is targeted by Canada, Australia, New Zealand (since 2000) and Sweden, while underlying inflation is targeted by the United Kingdom (and previously also by New Zealand). [2] For the United Kingdom, retail price index excluding mortgage interest payments; for Canada and Switzerland, CPI excluding food and energy prices (for Canada also excluding indirect taxes); for New Zealand, CPI excluding credit services; for Sweden, CPI excluding indirect taxes, subsidies and house mortgage interest expenditure. [3] Of annual CPI or, for the United Kingdom, underlying inflation; surveys conducted in May 2002. [4] For the United Kingdom and Sweden, repo rate; for Canada, ceiling of the operating band; for Australia, cash rate; for New Zealand, cash rate (prior to March 1999, call rate). For Switzerland, actual three-month Libor (the target band is set 50 basis points above/below Libor); prior to 2000, lombard rate.

Sources: © Consensus Economics; national data. Graph IV.4

provisions and swap arrangements with the Federal Reserve (as described above), were taken between regularly scheduled meetings. The only exception was the Reserve Bank of Australia, which waited until early October to reduce rates. Thereafter, with domestic demand generally showing signs of weakening and core inflation remaining near target, policy rates in most inflation targeting countries were further reduced in late 2001.

Sectoral imbalances exacerbated

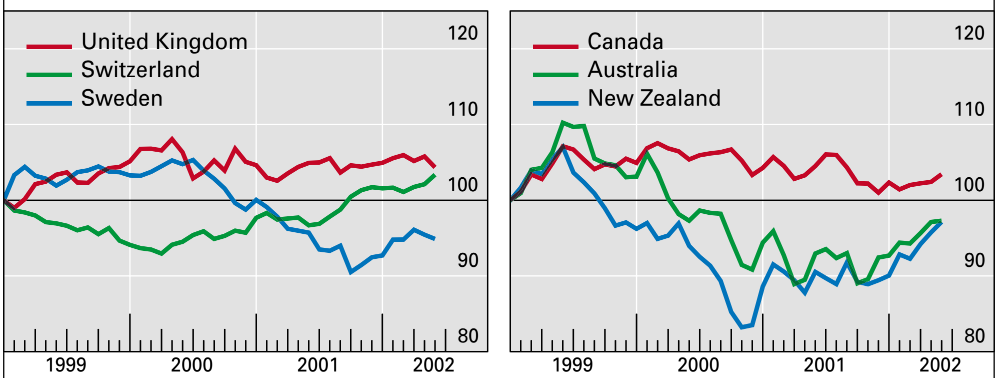
The easing of policy to stimulate domestic demand in the face of poor external opportunities had the potential to create or worsen sectoral imbalances, especially because there was no guarantee that reducing interest rates would cause a depreciation of the currency. This was particularly true in the United Kingdom, where, due to the persistent strength of the pound (Graph IV.5), large growth differentials had existed for some time between sectors serving the domestic economy and those in exporting and import-competing industries. Indeed, in reducing interest rates by 1.75 percentage points, and thereby in allowing the housing boom to continue, the Bank of England implicitly took the view that unbalanced growth was better than no growth at all.

Reversal in the policy rate cycle

Policy rates were held steady in all but one of the inflation targeting countries during the first two months of 2002. Only the Bank of Canada reduced its target rate once more. By March, evidence was accumulating that the slowdown in these countries and elsewhere was nearing an end, and attention began to turn to a possible reversal in the policy cycle. In late March, the Riksbank and the Reserve Bank of New Zealand became the first to increase rates again. In both countries inflationary pressures were already building, and in the case of Sweden the level of inflation was actually above the official target. The Bank of Canada and Reserve Bank of Australia also tightened policy in April and May, respectively, both raising policy rates in the light of unexpectedly strong growth. By contrast, the Swiss National Bank reduced its interest rate target by ½ percentage point in early May, fearing that the franc's appreciation might hold back economic recovery.

The beginning of a phase of general tightening of policy raised questions about the monetary transmission mechanism given prevailing balance sheet

Exchange rates in countries with explicit inflation targets[1]



Note: Switzerland uses a broad-based inflation forecasting strategy (see Graph IV.4).

[1] Nominal effective rates, December 1998 = 100. An increase indicates an appreciation.

Source: BIS. Graph IV.5

conditions. Household and corporate debt levels, particularly in the United Kingdom, were abnormally high; residential housing prices appeared to be richly valued in many countries (see Chapter VII); and, in the United Kingdom, the current account deficit had widened. A large increase in interest rates would exacerbate the debt service burden on consumers and firms, and could possibly lead to a reversal in real estate prices.

Subtler challenges for monetary policy?

Changes in the economy ...

During the last decade the world has entered a phase of low and comparatively stable inflation. Central banks' strong anti-inflation commitment and increased credibility have arguably played a key role in this development. Policies designed to improve the productive potential of the economy, in industrial and emerging market economies alike, have also played a part.

While sometimes taken for granted nowadays, the benefits of this new environment cannot be overemphasised. In particular, foundations have been laid for higher long-run growth and a more stable world economy. The new environment has helped to relieve the allocative distortions associated with high and variable inflation. In addition, it has considerably increased the room for manoeuvre of central banks; for example, greater credibility has reduced the likelihood of costly wage-push pressures developing. It has also meant that economic expansions need not be prematurely halted by central banks' efforts to quell rapidly rising inflation.

At the same time, as the previous sections of this chapter have illustrated, the period has not been free of challenges for central banks. In the wake of financial liberalisation, one widespread challenge has been how to factor into the monetary policy framework boom and bust cycles in asset prices, often occurring alongside similar fluctuations in credit. The consequences of such cycles have been especially severe in Japan and other East Asian countries. A second, not unrelated, challenge has been to deal with the uncertainty surrounding potential supply side improvements, not least those associated with the introduction of new information technologies, a development that has made itself felt very unevenly across countries. More recently, central banks have had to come to grips with an unexpected and abrupt slowdown in economic activity, uncharacteristically triggered by the unwinding of an investment boom.

... pose some subtle challenges

Against this background, what follows seeks to draw lessons from the recent experience to assess the specific challenges that central banks may face in the current environment characterised by low inflation, apparently high credibility of the anti-inflation commitment and liberalised financial markets. In particular, it explores how the dynamics of the economy might have changed, potentially altering the properties of various indicators of inflationary and deflationary pressures and influencing, in possibly unexpected ways, the setting of monetary policy. A key theme is that, with expectations better anchored at low levels of inflation, underlying misalignments between demand and supply may now take longer to become evident in headline inflation. As a consequence, determining when and by how much to tighten during booms may have become somewhat more uncertain and, in some respects, harder. Similar issues arise when deciding to ease policy. Finally, the zero lower bound on nominal interest rates potentially creates specific difficulties for monetary policy.

Identifying inflationary and deflationary pressures

Misalignments may take longer to be revealed ...

Underlying misalignments between demand and supply may now take longer to show up in headline inflation owing to structural changes in the wage and price formation process. First, central banks' stated desire to control inflation and concomitant increase in credibility seem to have better anchored expectations around explicit or implicit inflation targets. A second, related factor is that the pass-through of exchange rate changes into inflation appears to have been dampened (see Chapter II). Third, low and stable inflation weakens the incentive for firms and workers to change prices and wages as frequently as in the past and encourages long-term contracts. Finally, globalisation has led to an increase in competitive pressures and a reduction in the market power of firms. Each of these factors suggests that inflation is now more stable at a low level and that its sensitivity to excess demand may be more muted in the short run.

... particularly during investment booms ...

Assessing such underlying misalignments can, somewhat paradoxically, be more difficult in the context of productivity gains and investment booms since, for a time at least, virtuous cycles can develop. Productivity improvements contribute to low inflation, which enhances the credibility of policy and anchors inflation expectations, helping to keep inflation low. Superior inflation performance may, in turn, allow interest rates and the cost of capital to remain low, boosting profits and asset prices, which may then promote a further rise in credit growth and investment leading to additional gains in productivity. Elements of this virtuous interaction were evident in many countries during the latest expansion. The key issue is to distinguish sustainable productivity gains from those that are associated with unsustainable investment rates and unrealistic profit expectations.

... changing the balance of risks for policymakers

Economic expansions of this type can result in a subtle change in the balance of risks that policymakers face. On the one hand, overt inflation might eventually appear, much as in the past. On the other hand, and probably more likely, the expansion could unwind as demand falters and profits are squeezed, before any substantial tightening is needed to contain rising inflation. Given the low starting level of inflation, and depending on the nature and severity of the imbalances built up during the boom, deflation could even become a possibility.

Uncertainty over productivity gains ...

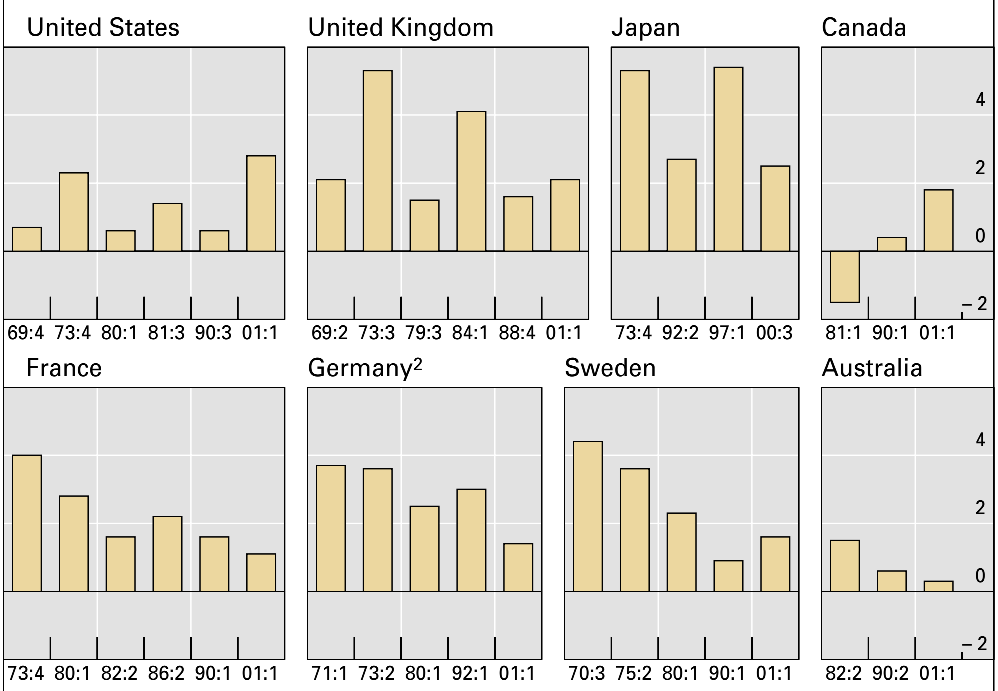
The conjunction of a muted response of inflation to demand pressures and potential supply side improvements can cloud the information content of indicators commonly used to guide policy. In particular, under these conditions, estimates of traditional indicators, such as the output gap, would be subject to greater uncertainty than usual. Likewise, it could take some time to determine with any certainty whether any observed productivity gains are cyclical or structural in character and whether they reflect a one-off rise in the level of productivity or a change in its growth rate.

... clouds estimates of the output gap ...

These challenges for policymakers are vividly illustrated by the debate surrounding the nature and cross-country incidence of productivity gains associated with the introduction of new information technologies. It took considerable time to reach a firm judgment in the United States about the nature and sustainability of such gains, with the high pace of productivity growth at the peak of the expansion and, above all, its resilience during the short-lived slowdown being key pieces of evidence (Graph IV.6). Similar uncertainties in judging developments have been encountered elsewhere. With few exceptions, however, the long-awaited tangible signs of unusual productivity gains have failed to emerge, despite the fact that IT innovations have been widely applied in many countries. Such assessments were, and still are, complicated by methodological and country-specific structural developments. In Europe, for example, differences in statistical measurement methodologies and policies designed to boost employment may partly obscure underlying productivity growth. In addition, the experience of economies suffering severe recessions after prolonged investment-driven booms, such as Japan and other countries in East Asia, suggests that assessments of long-term growth potential may not be robust. In those countries, initially higher estimates during booms were adjusted substantially downwards following the crises.

Productivity growth at business cycle peaks

GDP per employed person[1]



Note: For the sake of comparison, a cyclical peak is assumed to have occurred in the first quarter of 2001 in all countries except Japan.

[1] Percentage change in the calendar year prior to a cyclical peak (indicated on the horizontal axis). When a peak occurs in the first half of the year, the change in the previous year is plotted; the change in the current year is plotted when the peak occurs in the second half of the year. [2] Western Germany except for 2001:1.

Sources: US Bureau of Labor; NBER; Economic Cycle Research Institute; national data; BIS estimates.

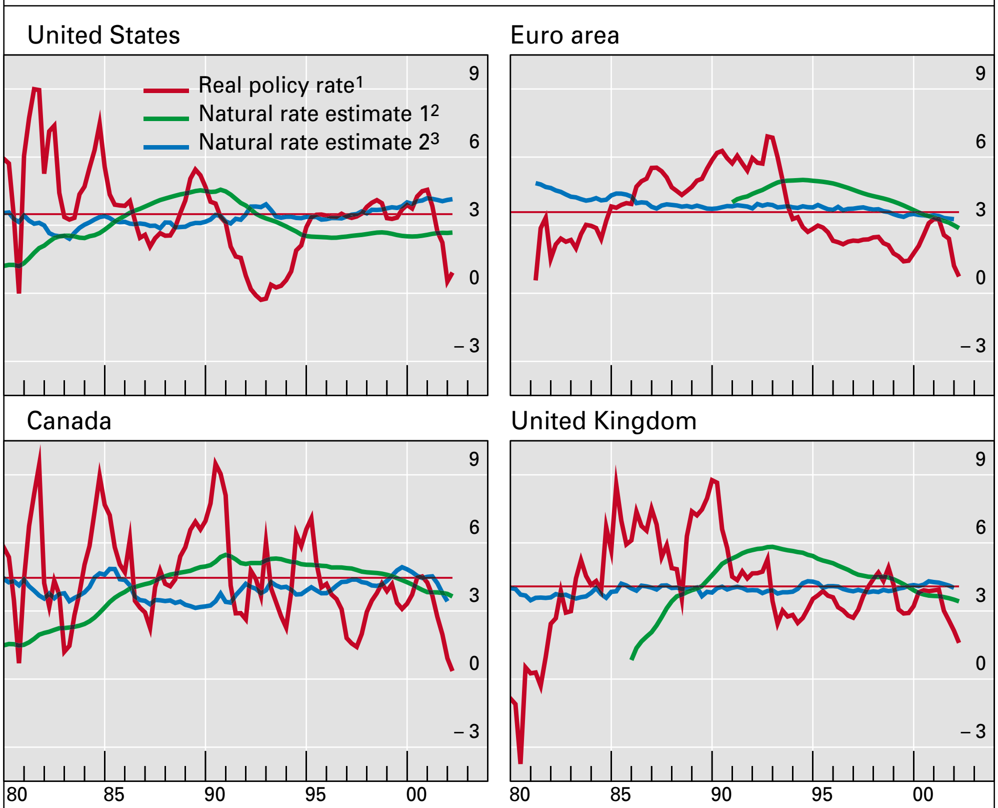
Graph IV.6

Similar uncertainties arise in the context of an indicator that is receiving increasing attention – the natural rate of interest. This is commonly defined as the short-term real interest rate consistent with sustainable non-inflationary growth. Thus, if the actual ex ante real interest rate is below (above) the natural rate, then monetary policy is said to be expansionary (contractionary). As the natural rate can fluctuate over the cycle in response to various unexpected developments that may be hard to identify exactly, it may be easier to estimate its mean (long-run value), thereby providing a benchmark for the stance of monetary policy over long horizons. One way to measure the mean is to use data on the real economy, since the long-run natural rate should vary proportionally with changes in long-run productivity growth. For example, estimates based on a moving average of productivity growth suggest that the long-run natural rate increased slightly during the 1990s in the United States, the United Kingdom and Canada, but decreased in the euro area (Graph IV.7). But this method is subject to the same uncertainty as all estimates of trend productivity growth. An alternative approach is to take an

… and the natural rate of interest

Long-run natural rate of interest

Quarterly data, in percentage points (annualised)



[1] Policy rate minus four-quarter moving average of core inflation (the reference line represents the average over the whole sample period). Policy rate: for the United States, federal funds rate target; for the euro area, tender rate; for Canada, official discount rate; for the United Kingdom, official open market intervention rate. Core inflation: for the United States, core PCE deflator; for the euro area and Canada, CPI excluding food and energy; for the United Kingdom, CPI excluding mortgage interest payments (RPIX). [2] Ten-year moving average of real policy rate. [3] Ten-year moving average of productivity growth (GDP per employed person, whole economy) plus households' rate of time preference (set equal to 2% per annum).

Sources: National data; BIS estimates. Graph IV.7

average of observed ex post short-term real rates. This method, however, could become unreliable if persistent deviations existed between expected inflation and actual inflation over the relevant sample period.

A role for indicators of financial imbalances?

These arguments suggest that it may be helpful to attach somewhat greater weight to other potential indicators of underlying misalignments between demand and supply. Measures of the build-up of financial imbalances are natural candidates. In particular, experience over the past decade shows that the conjunction of unusually rapid increases in credit and asset prices can herald unsustainable expansions as they tend to go hand in hand with muted risk perceptions and excessive capital accumulation (see Chapter VII). The resulting distortions in balance sheets and investment decisions can, in turn, make the economy more vulnerable to a slowdown in economic activity and lead to financial distress. Large capital inflows and upward pressure on the exchange rate are often accompanying symptoms, as in the case of East Asian countries. Rapid growth in other quantitative aggregates, such as measures of broad money, can play a complementary role too.

At the same time, caution needs to be exercised when arriving at an overall assessment of financial imbalances (see Chapter VII). One reason is that determining whether credit growth and asset price increases are "excessive" also requires forming a judgment about their sustainable paths. Past experience may be helpful but, ultimately, gauging sustainability implies a judgment about long-run productivity growth. A second reason is that reaching firm judgments about financial imbalances calls for a careful analysis of a broad range of factors. These include the constellation of asset prices (equity, commercial and residential real estate), the sectoral composition of credit and, ultimately, the strength of financial institutions. Finally, the behaviour of individual elements can also be driven by factors unrelated to underlying excess demand. For example, while the large increase in the real money gap in the euro area last year (see Graph IV.2) could, in principle, signal a significant cumulative build-up of monetary imbalances, this particular rise can be largely attributed to special factors, including a flight into liquid assets following the terrorist attacks in the United States.

Deciding when to tighten policy

Issues include …

A lack of overt evidence of inflationary pressures raises the question of how monetary policy can be sufficiently pre-emptive during a period of rapid growth. This would be less of an issue, however, if stable inflation increased the room for manoeuvre and if the lags in the transmission mechanism were shorter in the new environment. Consider each point in turn.

… responding to supply side improvements …

Supply side improvements give rise to some subtle issues for policy. If there is a permanent increase in productivity growth, then the long-run natural rate of interest increases (see Graph IV.7). All else equal, this would suggest that the central bank will eventually have to raise nominal interest rates. The failure to do so could feed an unsustainable boom. However, if the increase in potential output initially puts considerable downward pressure on prices, it may be desirable to lower interest rates in the short term. In such a situation, it may not be easy to ascertain the appropriate timing and magnitude of interest rate changes over time, particularly if there is uncertainty about whether the change in productivity growth is permanent or temporary.

... dealing with political economy pressures ...

Even if central banks are able to properly identify a build-up of underlying excess demand, in the absence of any actual increase in headline inflation they may find it difficult to tighten policy owing to political economy considerations. In spite of the greater degree of independence now enjoyed by many central banks, it can be hard to raise rates if it appears that the stated objective of monetary policy – low and stable inflation – has in fact been attained.

... and balancing sectoral discrepancies

In addition, decisions to tighten policy may be complicated, as in the past, by large differences in sectoral developments combined with differential sensitivity across sectors to changes in monetary policy. Under these conditions, a single policy stance would not be able to satisfy divergent sectoral needs. One recent example has been the comparatively rapid growth of the high-technology sector. This sector has arguably been much more sensitive to changes in equity prices than to long-term interest rates, owing to a financing structure heavily weighted towards equity. And lagging sectors can be expected to put pressure on the authorities not to tighten, as in the United Kingdom in recent years.

Some similarities in situations faced by the Bank of Japan and the Federal Reserve ...

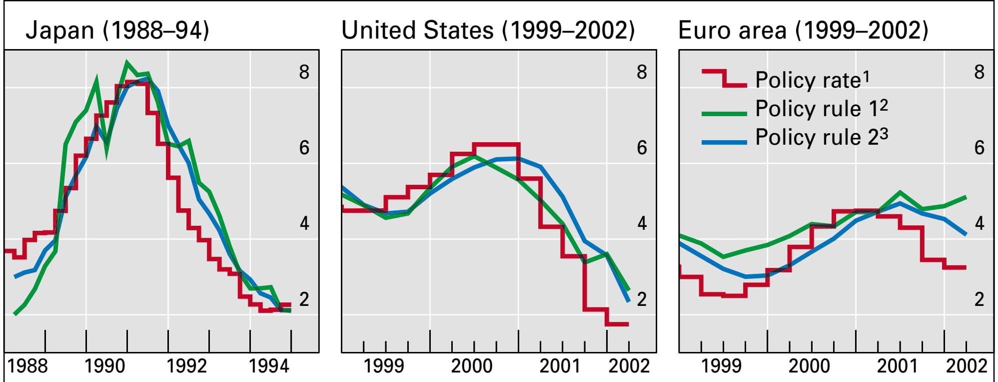
The nature of the issues faced in tightening policy is aptly illustrated by the experience of Japan in the late 1980s. The Bank of Japan found that a constellation of strong productivity growth, sharp increases in asset prices and low inflation made it objectively very hard to tighten policy as imbalances were building up. Indeed, the Bank came under considerable pressure, including from the international community, to keep interest rates low. Despite some important contrasting background features, the Federal Reserve was confronted with a similar situation during the recent cycle. In this instance, the authorities took the view that long-term growth prospects had become more favourable and that the financial system was fundamentally sound. They therefore initially held off tightening policy significantly, raising interest rates by more later when the pace of expansion was judged to have become unsustainable. But the apparent need for tightening was attenuated by the fact that actual inflation had remained comparatively subdued.

... led to similar policy responses ...

With the benefit of hindsight, some have argued that a tighter monetary policy early on in Japan might have limited the build-up of unprofitable capital, left banks less exposed and softened the subsequent downturn. But identifying and implementing the right course of action in real time is a much harder task. In fact, popular policy rules based on output gaps and inflation performance, commonly used to describe central bank policies, suggest that the policy pursued in Japan was not obviously out of line with previous experience (Graph IV.8). Measures of the increase in financial imbalances, and the accompanying distortions in investment decisions, might have aided policy formulation. But the complexity of the judgments involved in assessing and addressing financial imbalances is underlined by the much more benign experience to date in the United States (see the graph). There, despite broadly similar policies and similarities in some of the background

Policy rates and rules

Quarterly data, in percentage points (annualised)



[1] For Japan, uncollateralised overnight money market rate; for the United States, federal funds rate target; for the euro area, tender rate. [2] Rule 1 = $r + \pi_t + 0.5\ (\pi_t - \pi^*) + 0.5\ Y_t$, where π_t is core inflation, Y_t is the output gap, r = 3% and π^* = 2%. [3] Rule 2 = 0.4 (rule 1) + 0.6 R_{t-1}, where R_{t-1} is the policy rate lagged one quarter.

Sources: National data; BIS calculations. Graph IV.8

... but different outcomes

conditions, the subsequent recession has been much milder. The absence of misalignments in commercial real estate prices, risk dispersion through capital markets and a stronger banking system in the United States have contributed to greater resilience in the face of an abrupt economic slowdown (see Chapter VII).

Being pre-emptive may be less important now

These difficulties in being sufficiently pre-emptive in the new environment would matter less if – as seems plausible – there were less need to be pre-emptive. First, to the extent that inflation expectations are better anchored, central banks have more time to assess economic conditions before taking action without risking a significant increase in inflation. Of course, this greater room for manoeuvre exists insofar as imbalances do not build up, potentially leading to greater costs later on. Second, the lags in the transmission of policy to aggregate demand may have shortened with technological advances and changes in financial markets. Evidence supporting this draws heavily on the US experience. The adoption of "just-in-time" inventory systems is one example of how spending decisions can now react more quickly to changes in economic conditions. Furthermore, significant increases in household participation in equity markets have possibly led to larger wealth effects in consumption (see Chapter II).

Deciding when to ease policy

The implications for tightening of difficulties in measuring misalignments apply equally well to easing. In addition, easing decisions face other challenges resulting from certain asymmetries that may impact on the dynamics of the economy.

"Pushing on a string"

First, the nature of the preceding boom can constrain the effectiveness of policy when easing, depending on the degree and pervasiveness of the imbalances built up during the expansion. As suggested by experience since the early 1990s, capital overhangs and, possibly, financial strains can represent significant headwinds. In these cases, the effectiveness of easier policy is largely limited to those components of demand where the imbalances are not as severe. For example, while rate cuts appeared to have little effect in mitigating sharp declines in investment spending during the downturn last year, consumption growth remained strong as households took advantage of cheaper financing (see above and Chapter II).

Constraints imposed by the zero lower bound

A second issue is the constraint imposed by the zero lower bound (ZLB) on nominal interest rates. In this context, two questions arise. One concerns how policy should be conducted as interest rates decline into a region where the risk of reaching the ZLB becomes a policy consideration. This was potentially relevant last year when short-term interest rates approached historical lows, as in the United States. The second concerns the policies that could be adopted once the ZLB has been reached, as in Japan.

Two views:

keep the powder dry …

… or act aggressively

There are at least two opposing views on how to ease policy when the ZLB constraint becomes a potential policy concern. One approach is to reduce interest rates slowly (ie smooth interest rate changes). This more cautious approach "keeps the powder dry" in case demand is initially unresponsive. An alternative approach is to lower interest rates aggressively in an effort to stimulate demand quickly. This type of policy reacts strongly to current and expected future developments with little regard for smoothing changes in interest rates. The aim is to avoid a prolonged period of economic weakness and thereby lessen the chance that the ZLB will become binding.

While gradualism may be a desirable feature of a monetary policy strategy in general, a more aggressive policy may have certain advantages as the risk of reaching the ZLB becomes an important consideration. In normal times, inertial behaviour may be effective to the extent that, by imparting more persistence to interest rate changes, it induces the public to expect any change in interest rates to persist for longer. This can exert a greater influence on long-term yields, which seem to be more important for spending decisions in many countries (especially in Europe), and at the same time foster greater financial stability by reducing the variability in short-term rates. However, when policy rates are nearing the ZLB, a more aggressive but controlled response to economic conditions may produce a larger immediate impact on demand, not least through its effect on confidence and by bolstering firms' balance sheets. By the same token, it may arguably limit the risk of reaching the ZLB in the first place.

From this perspective, central banks are commonly seen as exhibiting different preferences. In particular, the Bank of Japan has sometimes been criticised for easing too cautiously following the initial sharp fall in asset prices in the early 1990s. The Federal Reserve, by contrast, has generally been perceived as cutting rates much more aggressively, both recently and in the autumn of 1998 in the midst of financial market turmoil. The ECB is generally regarded as occupying an intermediate position.

Comparing central bank responses

While some differences in strategy no doubt exist, a more formal examination based on benchmark rules suggests that they can be overemphasised (see Graph IV.8). Once the behaviour of output and inflation is taken into account, contrasts in the policies of the three central banks are less apparent, at any rate in the immediate aftermath of the downturns considered. At the same time, differences in background conditions may cloud the comparison. Not least, the need to bolster confidence in the light of the events of 11 September 2001 no doubt played a role in the more recent experience.

Alternative policy options ...

The importance of avoiding the ZLB has been highlighted by the Japanese experience, where the central bank has faced considerable difficulties in reviving the economy. With short-term interest rates basically at zero, policy options have become severely constrained. One option pursued by the Bank is to provide the economy with extra liquidity through quantitative expansion of bank reserves. However, as discussed above, this policy appears to have had limited success so far in raising demand. A second option, also exploited by the Bank more recently, is to increase outright purchases of Japanese government bonds. Such a policy, however, can only be of limited effect if long-term rates are already quite low. The central bank could also purchase other domestic assets, including corporate debt securities, equity or real estate. Each of these alternatives might help to revitalise depressed asset markets. But holding such assets would involve the central bank directly in credit risk intermediation, expose it to financial losses and, ultimately, raise questions about central bank independence.

... include currency depreciation

Another option that has received much public attention is to seek to depreciate the exchange rate to stimulate economic activity. The central bank or government could "talk down" the exchange rate, intervene heavily or even peg the exchange rate at a lower level. Even this alternative, however, has a number of drawbacks. While the recent depreciation of the yen has had some positive effects, not least by improving the profitability of the export sector, the overall benefits in terms of output and prices are dampened by the comparatively closed nature of the economy. Moreover, an initial effective depreciation could be short-lived if other countries responded in kind.

These arguments indicate that once the ZLB is reached, the effectiveness of monetary policy is severely impaired. A precondition for its efficacy is that supportive macro and micro policies be implemented. In the case of Japan in particular, as argued by the central bank, structural reforms, and above all financial and corporate restructuring, are essential.

Specific issues also arise when interest rates eventually need to be raised to more normal levels if they have been kept at zero – or, more generally, at an unusually low level – for a lengthy period. Under these conditions, an unexpected increase in rates could potentially lead to tensions in the financial system. This could occur if, during the period of abnormal configuration of interest rates, market participants had taken leveraged positions based on the expectation of the persistence of those conditions. For instance, the sharp rebound in long-term rates in the United States in 1994 is sometimes partly attributed to a situation of this kind. In such circumstances, central banks may find it beneficial to prepare markets in advance of an initial rate hike (see above).

Summing up

To conclude, bringing inflation under control has been a major achievement. It has laid the foundations for better long-run performance of the world economy, and has given the monetary authorities greater room for manoeuvre. At the same time, the current environment is not free of challenges. Arguably, these are subtler than those faced during the previous fight against high and unstable inflation. Central banks need to remain as vigilant as ever.

A key risk in the new environment is that it may now be somewhat harder to act pre-emptively owing to the changing dynamics of the economy and political economy considerations. In particular, and rather paradoxically, with expectations well anchored around low inflation and underpinned by central banks' credibility, underlying misalignments between demand and supply may take longer to show up in headline inflation. Under these conditions, there may be grounds to believe that in setting policy it might be useful to assign somewhat greater weight to measures of financial imbalances, notably a combination of unusually rapid increases in credit and asset prices, as a signal of such misalignments. Still, much more analysis is needed to understand the dynamics of the economy in this new environment, and to draw firm policy conclusions.

V. Foreign exchange markets

Highlights

The persistent strength of the US dollar and the yen's weakness were salient features of foreign exchange markets in 2001 and early 2002. The euro tended to trade within a relatively narrow range against the dollar and remained roughly stable in nominal effective terms. In April and May 2002, however, the dollar lost substantial ground against both the euro and the yen.

As in previous years, the prospects for relative economic performance in the main economic areas, which underpinned portfolio and foreign direct investment (FDI) flows, appeared to be the principal force driving broad exchange rate movements between the main currencies. Monetary policy decisions and interest rate differentials also seemed to influence exchange rates, but mostly through their effect on growth expectations. This is in stark contrast to the 1980s and most of the 1990s, during which the dollar tended to appreciate when interest rate differentials widened in favour of the United States. The yen weakened as the Japanese financial sector appeared to become more vulnerable and the monetary authorities struggled to boost domestic demand with policy rates already at zero.

In other foreign exchange markets, the strength of the pound sterling and the Swiss franc persisted. This raised concerns for policymakers, as highlighted by the Swiss National Bank's decision to lower its policy rate in May this year. The Swedish krona weakened appreciably up to October 2001 before regaining strength against both the euro and the dollar. The Canadian dollar hit new all-time lows before recovering somewhat, while the Australian and New Zealand dollars rebounded against the background of strong domestic growth.

In emerging market countries, a number of currencies depreciated further against the US dollar in a context of slowing global demand. Nevertheless, most foreign exchange markets remained broadly calm. Although in the course of 2001 the Brazilian real and the South African rand were affected by the marked worsening of conditions in Argentina, once the crisis erupted in December further fallout was limited. In part, the limited spillover reflected the fact that a number of emerging market economies had been moving towards more exchange rate flexibility in recent years, including in several cases the adoption of inflation targets as the focus of monetary policy. While the role of the exchange rate as an explicit policy objective may have been reduced or eliminated, exchange rate considerations still play a significant role in policy formulation.

Dollar, yen and euro

Key developments

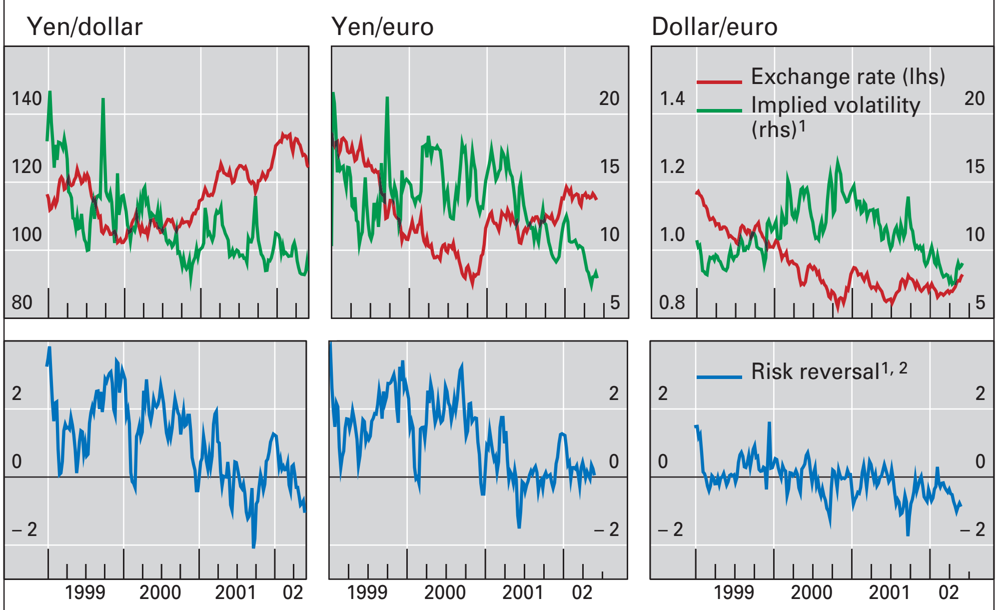
Dollar strength …

The continuing strength of the dollar was a salient feature of foreign exchange markets during much of the period under review. Between January 2001 and March 2002, the dollar appreciated by 8% in nominal effective terms, to its highest level since autumn 1985. The events of 11 September put only very temporary downward pressure on the currency. In April and May 2002, however, there was some evidence that the dollar's strength was waning.

… yen weakness …

In contrast to previous years, the weakness of the yen was another main theme in foreign exchange markets. In nominal effective terms, the yen lost about 8% between January 2001 and March 2002. While it had strengthened in 1999 and fluctuated in the range of ¥105–110 to the dollar during most of 2000, the yen depreciated markedly in 2001 and early 2002, reaching levels close to ¥135 (Graph V.1). The yen also depreciated against the euro, from ¥108 to ¥118. Information extracted from one-month yen/dollar options reveals a noticeable break in the pattern of market expectations about the yen between 2000 and 2001. In the course of 2000, traders' expectations of yen/dollar levels one month ahead were broadly stable (Graph V.2). The same was true of their assessment of the balance of risks between a much stronger and a much weaker yen. By March 2002 the mean of expected future yen/dollar rates had increased substantially, and market participants' view of the balance of risks had tilted towards a much weaker yen. In April and May 2002, however, the yen regained some ground. In addition, options prices indicated that the bias towards a weaker yen had diminished.

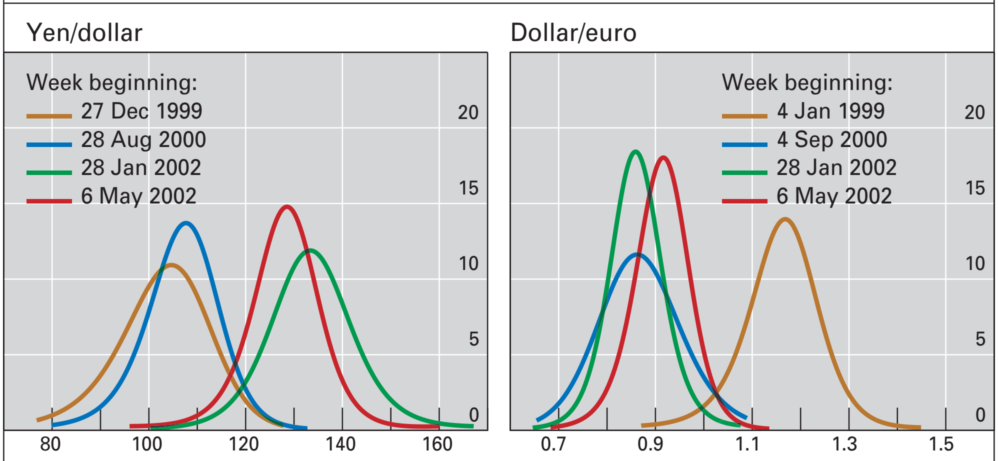
Exchange rates, implied volatilities and risk reversals of the dollar, yen and euro



[1] One-month, in percentages. [2] A positive value indicates a bias towards dollar strength in the left- and right-hand panels, and towards euro strength in the centre panel.

Sources: Dresdner Kleinwort Wasserstein Research; Reuters; BIS calculations. Graph V.1

Probability distributions of the dollar against the yen and euro[1]



[1] The calculation assumes risk neutrality and is based on weekly averages of daily estimated density functions for the periods shown.

Sources: JP Morgan; BIS calculations. Graph V.2

... and stability of the euro

The behaviour of the euro also changed substantially in 2001. In nominal effective terms, the euro gained some 6%. During most of its first two years of existence, the euro had depreciated steadily against both the dollar and the yen, as well as in nominal effective terms. In 2001 and the early part of 2002, by contrast, the euro remained fairly stable against the dollar, trading mostly in a range between \$0.93 and \$0.86. Against the yen, it appreciated by around 5%. Information extracted from options prices reveals that market participants' expectations of near-term dollar/euro rates have remained fairly constant since 2000 and, moreover, their variance has declined.

Short- and long-run perspectives

Desirable short-term effects of the strong dollar

From a short-run perspective, once US growth picked up again in the fourth quarter of 2001, the strength of the dollar appeared beneficial in helping to redistribute aggregate demand to economies that were growing more slowly. In particular, the weakening of the yen has supported external demand for Japanese products, boosted corporate profits and raised the yen value of foreign assets. On balance, however, the net effect on demand may have been comparatively small so far, given the modest size of the depreciation and the limited share of trade in the Japanese economy. While emerging market currencies, broadly speaking, tracked the dollar's movements against the yen or the euro less closely than in the past, the stronger dollar still raised concerns in many countries.

Some concerns from a long-term perspective

The United States emerged from the recent slowdown with a current account deficit of around 4% of GDP. The resulting further increase in US external liabilities raised once again the issue of the long-run sustainability of current exchange rate levels. This issue became more relevant last year for two additional reasons. First, net payments on the US international investment position, while still extremely small compared to US output, had steadily increased as a fraction of US exports, from 0.5% in 1998 to almost 2%

in 2001 (see Chapter II). Second, while external finance more than covered the US current account deficit, its composition changed in a way that might have made the dollar more vulnerable to sudden changes in investor sentiment. Between 2000 and 2001, the share of portfolio flows rose and that of FDI flows (mostly related to transatlantic merger and acquisition activity) fell sharply. The portion of the US deficit financed by official dollar reserves, increasingly invested in government-sponsored enterprises, remained roughly constant (Table V.1).

That said, it remains difficult to assess how current exchange rate levels compare to long-run equilibrium values. One approach to estimating these

Official foreign exchange reserves

	1998	1999	2000	2001	Amounts outstanding at end-2001
	in billions of US dollars				
	Changes, at current exchange rates				
Total	27.0	140.0	149.5	100.4	2,021.5
Industrial countries	–32.8	50.3	55.7	–0.4	775.5
United States	5.2	–3.8	–0.9	–2.3	29.0
Euro area	–32.9	–41.0	–8.5	–12.5	205.3
Japan	–4.7	74.5	69.5	40.5	387.7
Asia	62.8	79.0	52.5	76.0	770.5
China	5.1	9.7	10.9	46.6	212.2
Hong Kong SAR	–3.2	6.6	11.3	3.6	111.2
India	2.6	5.0	5.3	8.0	45.3
Indonesia	6.3	3.8	2.0	–1.2	27.0
Korea	32.3	21.7	22.2	6.6	102.5
Malaysia	4.7	4.9	–1.0	1.0	29.6
Philippines	2.0	4.0	–0.2	0.4	13.3
Singapore	3.5	1.9	3.4	–4.8	74.9
Taiwan, China	6.8	15.9	0.5	15.5	122.2
Thailand	2.7	5.4	–1.9	0.4	32.3
Latin America[1]	–9.7	–8.8	2.0	–0.1	135.7
Argentina	2.3	1.6	–1.7	–9.9	14.5
Brazil	–8.2	–7.8	–2.3	3.2	35.7
Chile	–1.9	–1.1	0.4	–0.5	13.9
Mexico	3.3	–0.5	4.2	9.2	44.4
Central and eastern Europe[2]	6.5	1.7	19.1	13.3	110.4
Other countries	0.2	17.8	19.8	18.8	236.2
	Changes, at constant exchange rates[3]				
Total	23.2	180.9	185.9	131.8	2,021.5
Dollar reserves	51.3	146.4	111.7	79.1	1,517.1
Non-dollar reserves	–28.1	34.5	74.2	52.7	504.4

[1] Countries shown plus Colombia, Peru and Venezuela. [2] Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Slovakia and Slovenia. [3] Partly estimated; valued at end-of-year exchange rates.

Sources: IMF; national data; BIS estimates. Table V.1

values focuses on differences in the prices of goods and services across countries, measured by estimates of purchasing power parity (PPP). A second approach estimates fundamental long-term equilibrium exchange rates (FEER), which are levels compatible with internal (savings/investment) and external (current account) equilibrium. Estimates of both PPP and FEER suggest that at current levels the dollar lies above, and the euro below, long-term equilibrium values. However, the magnitude of these estimated deviations varies substantially across empirical studies, ranging from 5 to 40%.

Factors driving exchange rate movements

The role of medium-term growth prospects

As in recent years, medium-term prospects in the main economic areas appear to have been an important driving force behind the broad movements in the major currencies. The persistent strength of the dollar suggests that market participants considered the comparative medium-term growth prospects for the United States to be resilient to the slowdown in the economy in the first three quarters of 2001. There were, however, two noteworthy developments in this relationship compared with preceding years.

The yen responded to cyclical factors once more

First, while economic conditions in Japan continued on the same subdued trend, the yen's response seems to have altered. Between late 1998 and the end of 2000, the yen had either appreciated or remained stable against the dollar in spite of the worsening cyclical situation in Japan. Thereafter, by contrast, the yen's weakness reflected more clearly the continuing negative economic outlook. The depreciation may have been related to the Bank of Japan's aggressive easing of monetary conditions during 2001 (see Chapter IV). It was also consistent with growing concerns about the condition of the Japanese financial system and market participants' apparent disappointment at the slow progress of structural reforms (see Chapter VI). Market participants' perception of changes in the attitude of the Japanese authorities towards the value of the yen may have had a temporary influence on the currency, particularly around the end of last year.

The euro's stability reflected greater similarity

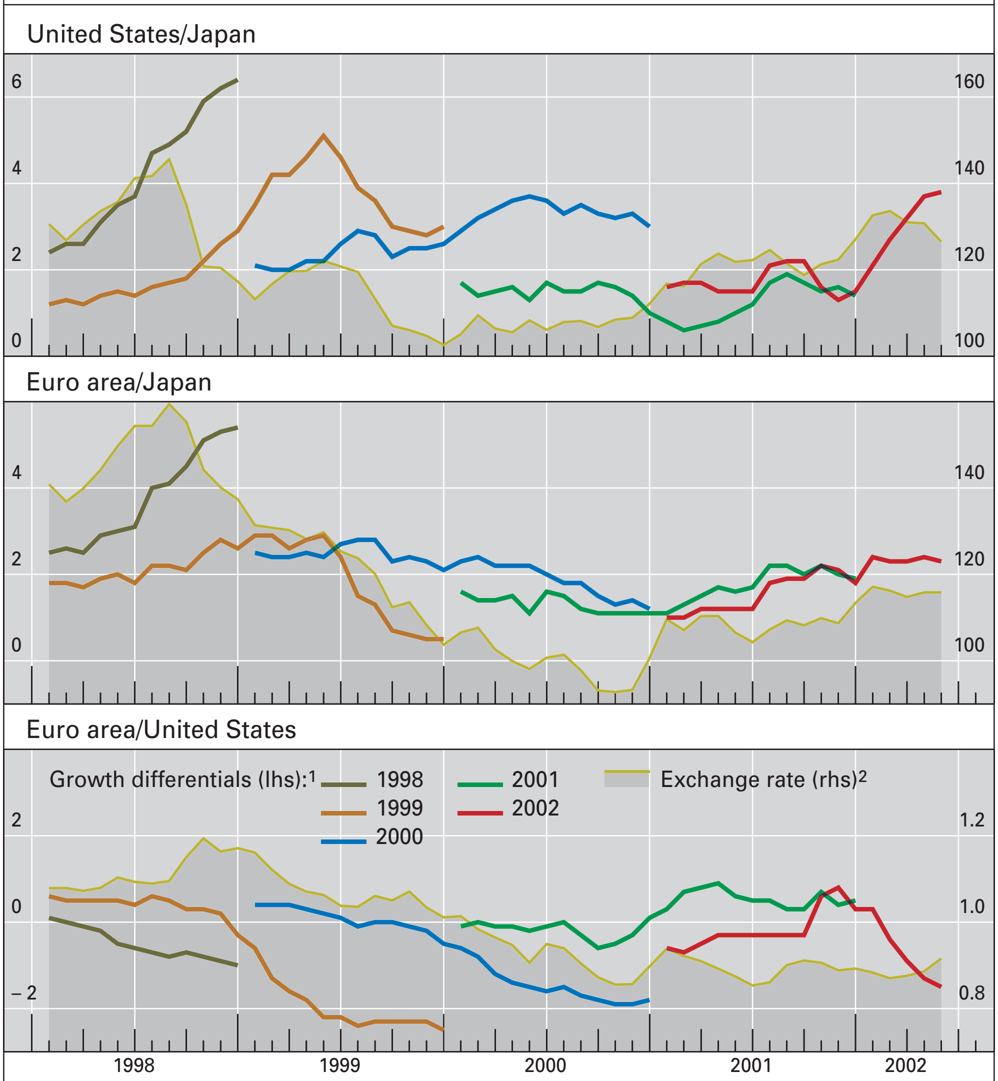
Second, the link between medium-term growth prospects and broad exchange rate movements continued to hold for the dollar/euro rate even as the underlying economic situation changed. In contrast to 1999 and 2000, when medium-term growth in the United States was expected to outpace that in the euro area, in 2001 market participants viewed the two economic areas as evolving more similarly. Consistent with this view, the dollar/euro rate fluctuated within a relatively narrow band.

The relationship between exchange rate movements and medium-term growth prospects is also evident from the behaviour of forecasts of one- to two-year growth, portfolio and FDI flows, and interest rate differentials.

Revisions of growth forecasts underpinned exchange rate movements

The depreciation of the yen against both the dollar and the euro over most of 2001 was in line with revisions in market participants' one- to two-year forecasts of growth differentials, which clearly favoured the United States and the euro area (Graph V.3). The relative stability of the dollar/euro rate appears to have been underpinned by a narrowing of expected growth differentials one to two years ahead across the two currency areas.

Growth forecast differentials between the three major economies



[1] In the top two panels, growth forecasts in the United States and the euro area respectively minus that in Japan; in the bottom panel, that in the euro area minus that in the United States. In percentage points. [2] Yen/dollar, yen/euro and dollar/euro rates respectively, at the time of the survey.

Sources: © Consensus Economics; national data; BIS calculations. Graph V.3

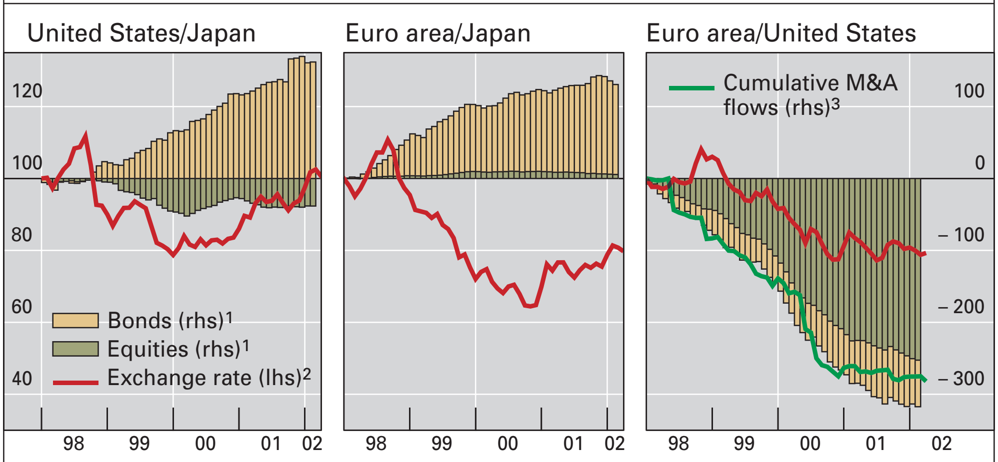
The role of portfolio flows ...

Medium-term growth prospects were also reflected in the dynamics of portfolio and FDI flows. These were mostly driven by cross-border merger and acquisition (M&A) activity, which also continued to be correlated with broad exchange rate trends. Portfolio flows in 2001, particularly in bonds, again favoured the United States and the euro area over Japan (Graph V.4). At the same time, the pace of net portfolio flows from the euro area to the United States slowed visibly in the course of the year. This development was consistent with the euro stabilising against the dollar after its previous negative trend.

... and M&A-related flows

Likewise, cross-border M&A activity, which in net terms had favoured the United States in 1999 and 2000, became more balanced in 2001 and early 2002 (Graph V.4). Statistical tests of the effect of transatlantic M&A deals on the dollar/euro rate suggest that traders reacted to M&A announcements,

Cumulative portfolio flows between the three major economies

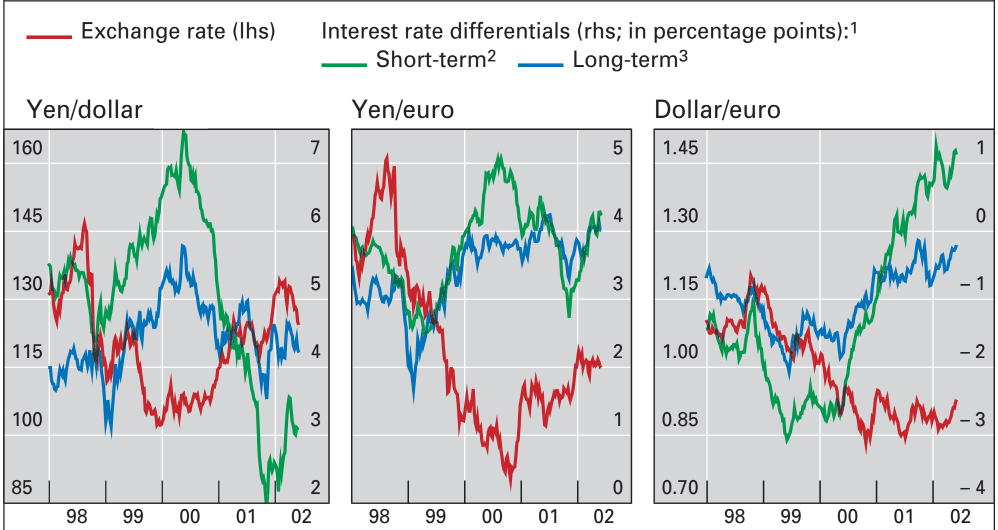


[1] Cumulative flows since January 1998, in billions of US dollars. A positive value indicates, in the left-hand panel, a net flow into the United States and, in the other panels, into the euro area. Data may include official transactions; for the centre panel, Japanese investors only. [2] Yen/dollar, yen/euro and dollar/euro; December 1997 = 100. [3] Cumulative net flows into the euro area since January 1998, in billions of US dollars. Observations are assigned to the announcement date of the deal.

Sources: Japanese Ministry of Finance; US Treasury; Bloomberg; national data. Graph V.4

arguably because they were seen as an indicator of the relative strength of growth prospects in the two economies involved. At the same time, the fact that transatlantic M&A flows became more balanced in the course of 2001 suggests an alternative interpretation. It could be that the strong inflows into the United States in the preceding years reflected a one-time adjustment of capital stocks related to European monetary union and a desire on the part of large European corporates to take on a global dimension.

Exchange rates and interest rate differentials



[1] In the left-hand and centre panels, calculated as US and euro area rates respectively minus Japanese rates; in the right-hand panel, euro area minus US rates. [2] Using forward interest rates derived from six- and 12-month Libid. [3] Using 10-year swap rates.

Sources: Bloomberg; national data; BIS calculations. Graph V.5

Repeating a pattern observed in 1999 and 2000, but in stark contrast to the 1980s and most of the 1990s, monetary policy decisions and interest rate differentials appeared to influence exchange rates mostly through their effect on growth expectations. Hence, reflecting a perception of more robust growth in the United States relative to Japan and the euro area, as discussed above, the dollar remained strong even against the background of a substantial narrowing of short-term interest rate differentials favouring the United States over Japan, and of a fall in US rates below euro area rates for the first time since the mid-1990s (Graph V.5). Similar patterns were observed for long-term interest rate differentials and exchange rates.

Interest rates and exchange rates remained decoupled

Developments in other foreign exchange markets

European currencies

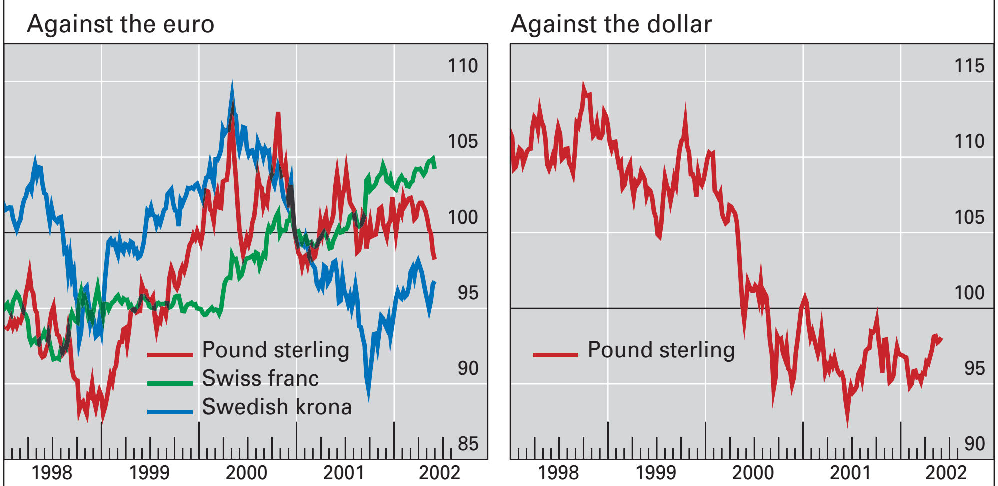
During the period under review, the pound sterling tended to strengthen slightly against the euro, while it fluctuated between £0.67 and £0.71 against the dollar (Graph V.6). The pound's broad movements appeared to be consistent with growth forecast and productivity growth differentials between the United Kingdom on the one hand, and the United States and the euro area on the other. Discussion about UK entry into EMU in the near future did not seem to weigh on sterling. The continuing strength of the pound contributed, however, to an imbalance between the tradable and non-tradable sectors. This posed a challenge for UK policymakers when external conditions worsened in the course of 2001 (see Chapter IV).

Sterling and Swiss franc strength raised concerns for policymakers

The Swiss franc mostly trended higher against the euro. This represented a break with its very tight trading range against the euro during the first 18 months of EMU. It was also different from the pattern observed before EMU, when the Swiss franc tended to weaken against the Deutsche mark

European exchange rates

Weekly averages, end-2000 = 100



Note: A decline indicates a depreciation against the euro (dollar).

Sources: ECB; national data.

Graph V.6

when the mark weakened against the dollar. However, in early 2002 the franc seemed to return to its earlier pattern. At times the Swiss currency appeared to benefit from safe haven flows. As in the United Kingdom, the strength of the currency raised concerns for the monetary authorities (see Chapter IV).

The krona's swings reflected various factors

The Swedish krona's behaviour changed markedly during the period under review, reflecting a variety of factors. Until September 2001, it continued to depreciate sharply against the euro and the dollar. The krona's weakness could be attributed to the downturn in the Nasdaq, given traders' focus on the dominance of the high-tech sector in Sweden, and, characteristically, to the increased uncertainty in global financial markets. An additional factor might have been the sizeable purchases of foreign assets by domestic investors. These came in the wake of changes to pension fund regulations in 2000 that had relaxed restrictions on foreign exchange exposures. Indirect evidence on this factor is provided by the 2001 Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity conducted by 48 central banks and monetary authorities. In contrast to most other countries, the survey showed a noticeable rise in foreign exchange market turnover in Sweden between April 1998 and April 2001. An acceleration of the fall in the krona induced the Riksbank to intervene in its support in June 2001. The krona rebounded in October 2001 against the background of a revival of confidence in global financial markets and improving economic conditions in Sweden. By April 2002 it had gained almost 10% against the euro.

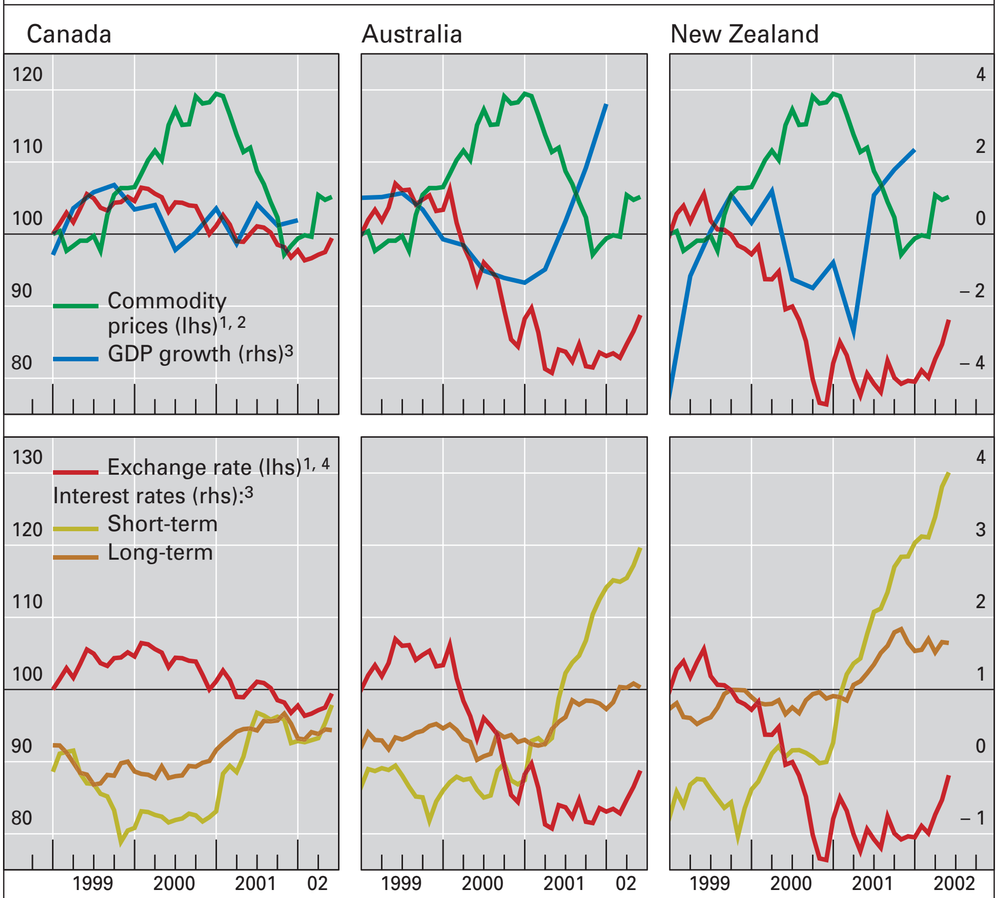
Currencies of other industrial countries

Different trends

The Australian and New Zealand dollars ended their depreciating trend against the US dollar in the context of a surge in domestic growth and more favourable interest rate differentials (Graph V.7). By contrast, the Canadian dollar continued to weaken during most of the period under review, and reached historical lows around C$ 1.62 to the US dollar in January 2002. In part this difference from the Australian and New Zealand dollars can be explained by more muted growth in Canada. The depreciation against the US dollar may also have reflected growing international diversification by Canadian asset managers following a relaxation of investment restrictions. As in Sweden, this shift may account at least in part for the otherwise unusual rise in domestic foreign exchange market turnover between 1998 and 2001, which is also evident from the 2001 triennial survey.

Between early 2000 and late 2001, the traditional positive correlation between the Australian, Canadian and New Zealand dollars and commodity prices failed to hold, possibly reflecting the increasing focus in foreign exchange markets on domestic growth. In 2000, the three currencies had weakened to historical (or close to historical) lows even as commodity prices had risen substantially. Similarly, in the first three quarters of 2001, the sharp drop in commodity prices against the background of falling global demand did not draw the Australian and New Zealand dollars any lower, though the Canadian dollar did continue its earlier weakening trend.

Commodity prices, growth and interest rate differentials and exchange rates



[1] December 1998 = 100. [2] Bridge/Commodity Research Bureau (CRB) Futures Price Index. [3] Differentials vis-à-vis the United States, in percentage points. [4] Against the US dollar; a decline indicates a US dollar appreciation.

Sources: Datastream; national data. Graph V.7

Emerging market currencies

Three salient features

The three principal features of foreign exchange markets in emerging market economies during the period under review were the collapse of the Argentine peso around the turn of the year, the lack of significant contagion from the crisis in Argentina to other currency markets, and the sizeable movements exhibited by some other currencies, including the Brazilian real, the Chilean peso, the South African rand and the Turkish lira.

The crisis in Argentina was foreshadowed by a prolonged period of pressure on the peso and the domestic financial system, and erupted violently in late December 2001 (see Chapter III). Argentina's decade-old convertibility regime ended on 6 January 2002 in the context of a serious economic and political crisis. The peso was floated on 11 February, and by end-May it was trading at around 3.50 pesos to the US dollar, more than 70% lower than before devaluation (Graph V.8).

Limited spillover from the Argentine crisis ...

Although there were episodes of spillover to other foreign exchange markets, these were short-lived and limited in scope. Following the

Exchange rates in emerging markets[1]

Weekly averages, end-2000 = 100

Note: A decline indicates a dollar (euro) appreciation.

[1] Against the US dollar (for the currencies in the bottom left-hand panel, against the euro). [2] Twelve-month forward rate.

Sources: ECB; Bloomberg; Datastream. Graph V.8

unsuccessful government debt auction in Argentina in July 2001, selling pressure hit the Chilean peso, the rand, the real and the Turkish lira. The real and the Chilean peso, which had depreciated over most of 2001, touched all-time lows, prompting the central banks to undertake several rounds of intervention. However, both currencies recovered around the year-end and weakened only for a few days after the collapse of the Argentine peso. The Mexican peso showed very brief signs of weakness in early 2001 but otherwise posted a strong performance for most of the time. The decline of the rand, which was driven mainly by domestic factors and international investors' concerns about political instability in neighbouring Zimbabwe, accelerated when conditions in Argentina deteriorated in July. Nonetheless, the currency recovered from all-time lows in late 2001 at the very time the Argentine crisis was becoming acute. There was no notable contagion in Asia.

There are several possible reasons why the immediate fallout from the Argentine devaluation in other emerging market countries was so limited. First, in recent years there has been a broad trend in these countries towards more flexible exchange rate policies (see below). Currencies have tended to float more freely and new monetary policy frameworks have been adopted to anchor inflation. This trend has arguably improved the resilience of foreign exchange markets. Second, the Argentine crisis had long been anticipated by market participants. Third, the lower risk tolerance that had characterised foreign exchange markets since 1998 may have been reflected in a contraction of leveraged speculative positions against emerging market currencies. Banks' proprietary trading seems to have generally declined and large, highly leveraged players such as hedge funds appear to have mostly withdrawn from foreign exchange markets following the turbulence of 1998. This is suggested by the substantial reduction in turnover in traditional foreign exchange markets between April 1998 and April 2001 revealed by the 2001 triennial survey. Finally, international investors have seemingly improved their ability to discriminate among emerging markets (see Chapter VI).

... for several possible reasons

Exchange rate management practices in emerging market countries

A number of emerging market economies have been moving towards more exchange rate flexibility in recent years. Accordingly, the exchange rate has tended to play a less important role as an anchor for monetary policy. This has gone hand in hand with a trend towards the adoption of more explicit inflation objectives, with an increasing number of countries now using or aspiring to use fully fledged inflation targeting regimes. Before the Asian crisis in 1997–98, three emerging market countries, accounting for less than 1% of world GDP, had adopted inflation targeting. By May 2002, the number of inflation targeters among emerging market countries had risen to 12, producing 8% of world GDP. While the role of the exchange rate as a nominal anchor or an *explicit* policy objective has been reduced or eliminated, the exchange rate is still very relevant for policy. Against this background, the following section discusses the evolution of exchange rate management practices in the light of exchange rate developments over the last few years.

More flexibility but the exchange rate remains important

Evolution of exchange rate management practices

Two indicators suggest that there has been a broad trend towards greater exchange rate flexibility in emerging market economies since the Asian crisis. First, the volatility of exchange rates vis-à-vis their main reference currency (mostly the US dollar) has tended to be somewhat higher in absolute terms, as well as compared to the volatility of domestic short-term interest rates (Table V.2). The increases in exchange rate volatility of the Philippine peso, the Thai baht and the Brazilian real are noteworthy examples. Second, the volatility of bilateral dollar exchange rates has risen faster than that of nominal effective exchange rates. This indicates that while the dollar's role in Asia and Latin America and that of the euro in central Europe remain important, policy emphasis may have shifted from bilateral to effective exchange rates.

Exchange rate and interest rate volatility[1]

	Exchange rate volatility				Interest rate volatility[2]		Ratio[3]	
	Bilateral[4]		Effective[5]		1995–96	Jul 1999–Apr 2002	1995–96	Jul 1999–Apr 2002
	1995–96	Jul 1999–Apr 2002	1995–96	Jul 1999–Apr 2002				
Hong Kong SAR	0.3	0.1	4.1	3.8	16.0	28.0	0.02	0.00
Indonesia	1.8	18.7	5.2	18.6	2.7	11.9	0.68	1.58
Korea	3.1	5.9	4.5	6.2	18.3	11.9	0.17	0.50
Philippines	2.1	7.6	4.4	7.8	49.5	38.1	0.04	0.20
Singapore	2.5	3.5	3.1	3.6	68.5	51.5	0.04	0.07
Taiwan, China	3.2	3.2	3.6	4.1	33.7	12.4	0.10	0.26
Thailand	1.3	5.3	…	…	32.6	41.5	0.04	0.13
Argentina	0.1	31.3	2.5	31.6	42.8	121.6	0.00	0.26
Brazil	4.4	10.2	6.1	10.5	50.4	7.4	0.09	1.37
Chile	4.7	6.7	…	…	14.2	111.7	0.33	0.06
Mexico	15.6	6.1	16.8	6.4	55.8	32.2	0.28	0.19
Czech Republic	12.5	17.5	3.3	4.1	13.2	7.3	0.95	2.39
Hungary	13.5	17.4	7.4	4.7	10.3	8.8	1.30	1.97
Poland	9.8	16.0	5.8	8.7	12.4	15.2	0.78	1.05
South Africa	6.4	11.3	…	…	8.4	8.4	0.76	1.35
United States	–	–	4.5	4.3	5.8	19.3	–	–
Japan	9.4	8.2	8.2	8.5	49.7	92.4	0.19	0.09
Euro area	6.8	9.1	3.5	6.6	8.6	13.6	0.79	0.67
United Kingdom	5.8	6.4	4.4	5.0	7.8	9.6	0.74	0.67
Canada	3.8	4.2	3.9	4.2	67.2	37.3	0.06	0.11
Sweden	6.9	8.8	5.7	5.0	10.9	12.0	0.63	0.73
Switzerland	9.6	8.9	4.9	3.5	32.9	36.8	0.29	0.24
New Zealand	4.5	9.4	3.7	7.5	10.9	8.9	0.41	1.06

[1] Calculated as the standard deviation over the periods indicated of annualised weekly percentage changes. [2] Of three-month (for Brazil, overnight) rates. [3] Of bilateral exchange rate volatility to interest rate volatility. [4] Against the US dollar (for the Czech Republic, Hungary and Poland, against the euro). [5] Trade-weighted.

Sources: National data; BIS calculations. Table V.2

Nevertheless, even though exchange rates have become more volatile, they continue to play a key role for policy in emerging market countries. This is evident from the fact that exchange rate volatility in recent years has remained low in absolute terms, as well as relative to the volatility of the main currency pairs (Table V.2).

Why exchange rates matter

Emerging markets are vulnerable for four main reasons

There are various reasons why the exchange rate might be of concern to policymakers, especially in emerging market countries. While its impact on prices through trade and expectations may be the most direct concern, other considerations include its effects on an economy's external competitiveness, financial stability and the functioning of foreign exchange markets.

Exchange rate fluctuations can affect inflation

Exchange rates can influence inflation through the prices of traded final goods and imported intermediate goods, and through their impact on inflation expectations. Compared to industrial countries, emerging market economies appear more vulnerable to the impact of exchange rate fluctuations on inflation to the extent that they are more open and have a history of higher inflation.

Even across emerging market countries, differences in vulnerability can be significant. There is some evidence that exchange rate pass-through has tended in the past to be stronger in Latin America than in Asia (Table V.3). While many factors, including the social, economic and political structures of a country, obviously affect the correlation of inflation and exchange rate movements, inflation history merits particular attention. Exchange rate movements tend to have a larger impact on prices in Latin American countries with a past experience of high inflation, and where expectations play an important role. By contrast, East Asian countries tend to have a track record of low inflation and comparatively low pass-through.

While pass-through has been declining ...

There have, however, been indications of a decrease in exchange rate pass-through among both industrial and emerging market countries in recent years. An obvious example is the modest rise in Brazilian inflation following the devaluation of the real in early 1999. Possible reasons include moderated wage and price expectations resulting from credible stability-oriented policies, improved domestic competitive conditions following structural reforms and the greater integration of emerging market economies into the global economy. These developments are consistent with evidence that in recent years inflation history seems to have

Openness, pass-through, inflation and central banks' foreign assets

	Openness[1]	Pass-through[2]		Inflation[3]	Central banks' foreign assets[4]	
		One quarter	One year		As a % of total assets	As a % of monetary base
Brazil	14.0	0.08	0.39	868.6	27.7	103.0
Chile	45.6	0.17	0.35	11.8	56.6	60.2
Mexico	42.1	0.09	0.27	20.4	69.2	140.9
Indonesia	47.0	0.10	0.41	14.5	47.9	224.0
Korea	55.5	0.06	0.10	5.7	88.1	434.4
Thailand	73.6	0.04	0.12	5.0	72.4	240.4
Czech Republic	88.9	–0.08	0.16	14.7	88.0	104.0
Hungary	87.8	0.18	0.48	22.3	66.1	243.7
Poland	38.5	–0.06	0.08	84.8	81.3	166.7
Israel	49.2	0.25	0.28	11.3	88.2	125.9
South Africa	36.4	0.02	0.13	9.9	79.8	183.0
Australia	30.1	0.03	0.10	2.5	68.6	116.8
Canada	56.2	0.00	0.11	2.2	57.5	122.4
New Zealand	45.6	0.05	0.27	2.1	66.8	291.3
Sweden	54.1	0.02	0.03	3.3	69.6	147.5
United Kingdom	41.6	–0.01	0.02	3.7	22.5	19.2

[1] Trade as a percentage of GDP; average 1990–99. [2] 1979–2000. [3] Average annual percentage changes in consumer prices over the period 1990–99. [4] At end-December 2001 (for Mexico and Israel, end-November 2001).

Sources: E U Choudhri and D S Hakura, "Exchange rate pass-through to domestic prices: does the inflationary environment matter?", *IMF Working Paper 01/194*, December 2001; Datastream; national data; BIS calculations. Table V.3

... it remains a concern

mattered less. Nonetheless, a broad decline in pass-through should not be a reason for complacency, as exchange rate movements remain an important factor influencing prices. The significant declines of the rand and the real in 2001 were accompanied by a noticeable rise in inflation. Moreover, in Turkey and Argentina inflation soared after the collapse of the domestic currency.

Changes in external competitiveness are also a problem ...

Adverse trends in the exchange rate could also affect an economy's external competitiveness, which could impinge in turn on the external balance, growth and, in the longer run, incentives for investment. This issue is particularly relevant in emerging market countries to the extent that they tend to be relatively open. For example, the rapid decline of the yen in late 2000 and 2001 raised considerable concerns about competitiveness in Korea, since its exports have a sectoral profile similar to that of Japanese exports.

... as are financial instability ...

Experience strongly indicates that extended periods of real appreciation/ overvaluation may also weigh on financial stability, especially in emerging market countries. The exchange rate can influence financial stability through different channels. First, the appreciating trend of the domestic currency in real terms may go hand in hand with large capital inflows, rapid credit expansion and unsustainable increases in asset prices. The resulting overextension of the domestic financial system can make the economy highly vulnerable to a slowdown or reversal of those flows. Second, an excessively rigid exchange rate regime may contribute to protracted weakness of the economy as well as the build-up of external indebtedness and financial vulnerabilities more generally, especially in the presence of negative external influences such as adverse terms-of-trade developments. Finally, and importantly, in either case balance sheet foreign currency mismatches can greatly magnify the fragility of the economy in the event of sharp nominal exchange rate adjustments and raise the likelihood of a crisis. If the banking system has a mismatched position, the dangers posed to bank solvency are obvious. But there are equally great risks when mismatches are present in the balance sheets of bank customers themselves. Such risks can be compounded by broader deficiencies in the financial infrastructure, such as a weak prudential framework, inadequate risk management and insufficient capital strength. Various elements of this story can be found in all the financial crises in emerging market countries in recent years, from East Asia to Argentina.

... and foreign exchange market functioning and development

In emerging market countries with small foreign exchange markets, high exchange rate volatility may contribute to disorderly and illiquid market conditions, characterised by "gapping" and wide bid-ask spreads. Illiquid foreign exchange markets may also suffer from the absence of two-way risk. As a consequence, expectations may generate market dynamics that tend to exaggerate exchange rate movements. In the longer term, disorder may impede market development.

Two pieces of indirect evidence suggest that in most emerging market countries, foreign exchange markets have typically been less liquid than in industrial countries. First, while foreign exchange markets in emerging

Foreign exchange market liquidity

	Turnover[1]/GDP	Bid-ask spread as a percentage of the midrate
	2001 Q1	April 2001
Brazil	2.0	0.045
Chile	8.2	0.034
Mexico	3.8	0.052
Indonesia	1.0	0.407
Korea	4.7	0.125
Thailand	3.2	0.067
Czech Republic	6.7	0.058
Hungary	0.9	0.060
Poland	8.0	0.149
Israel	1.7	0.094
South Africa	17.1	0.069
Australia	19.1	0.048
Canada	9.2	0.024
New Zealand	14.4	0.085
Sweden	16.7	0.026
United Kingdom	22.2	0.037

[1] Average daily turnover in April 2001 of local currency against all other currencies, net of local inter-dealer double-counting.

Sources: Bloomberg; national data; BIS. Table V.4

economies grew rapidly in the 1990s, in most cases they remain relatively small (Table V.4). A notable exception is South Africa, where turnover as a fraction of output is comparable to that of industrial countries. Second, bid-ask spreads among emerging markets are less uniform and in general wider than those in industrial economies, suggesting a higher susceptibility to a sudden withdrawal of liquidity.

Policy responses in emerging market countries

Concern over the exchange rate poses possible policy dilemmas

In deciding how to respond to unwelcome exchange rate developments, tensions among different policy objectives can arise. This potential for policy dilemmas may become especially apparent in inflation targeting regimes. This is because one of the objectives, namely inflation, is clearly identified and the tool of monetary policy has been specifically assigned to its achievement. In general, there is a range of instruments at the policymaker's disposal. Alongside monetary policy, official intervention is a possible alternative means of dealing with exchange rate problems. In particular circumstances, capital controls have also been considered a viable option, although their use has costs and limitations.

The experience of several fully fledged or aspiring inflation targeting countries in the last two years illustrates how the flexible use of policy instruments can help counter the impact of exchange rate movements, while allowing the inflation targeting objective to be pursued at the same time. Nonetheless, the line between responding to the exchange rate within the bounds of inflation targeting, and managing the exchange rate as a goal per se, can be quite thin at times. The onus is on the policymaker to explain to the public the difference, if any, between the two types of actions and the rationale for the policy decisions actually taken.

Monetary policy

Monetary policy responded to exchange rate related inflationary ...

A change in the stance of monetary policy is typically the principal means for responding to inflationary concerns associated with exchange rate movements. For example, when inflation in Brazil began to go above target around March 2001, coinciding with accelerated depreciation and rising volatility, the central bank reversed its previous monetary easing (Graph V.9). It raised interest rates aggressively and maintained this tight stance until early 2002. Monetary policy responses to the inflationary threat associated with episodes of currency weakness were also observed in South Africa in late 2000 and early 2002, Israel in early 2002 and Indonesia in 2000. In Poland, the general trend of the zloty to appreciate coincided with a decline in inflation to below the targeted range in 2001. This prompted the central bank to ease policy over most of the year.

... and sometimes other, non-inflationary concerns

Monetary policy was changed in some cases even when the inflation target was not under immediate threat from exchange rate changes, with other exchange rate considerations seemingly playing a role. For example, the Czech National Bank resumed policy easing in early 2001 against the backdrop of slowing growth, a still strong koruna and a wide trade deficit. It did so even though inflation had already risen back into the target range. In Thailand, after the baht regained strength in the second half of 2001, the central bank began to lower interest rates at year-end amid concerns over weak export demand and growth. In early 2002, monetary policy was eased further, among other things to facilitate adjustments in the exchange rate that would not hamper exporters. In these cases, the policymaker's attention to factors other than inflation was communicated to the public through, for example, the official statement accompanying each policy decision, the published minutes of the policy meeting or an inflation report.

Choice of policy rate may affect the amount of room for manoeuvre

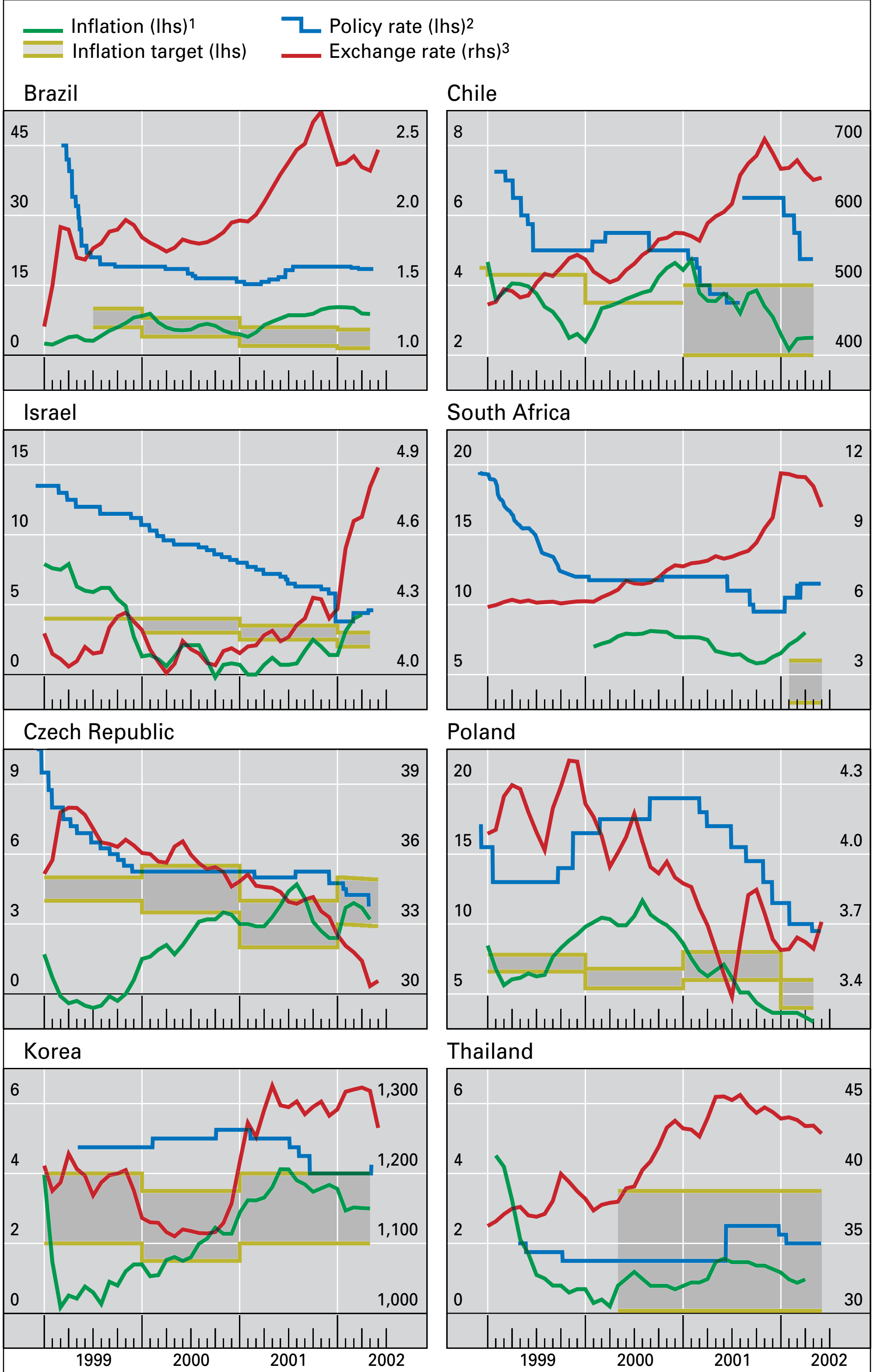
The operational framework of monetary policy has implications for the central bank's room for manoeuvre in the face of adverse exchange rate movements. If a longer-term money market interest rate is used as the key policy rate (as, for example, in the Czech Republic, Poland and Thailand), there is relatively more freedom to permit the overnight rate to fluctuate in response to short-run speculative exchange rate pressures. However, if the policy rate is an overnight rate (as, for example, in Brazil, Chile and Korea), it may be difficult to allow the market rate to deviate persistently from the policy rate target without being perceived as veering from the declared policy stance.

Foreign exchange intervention

Response with other policy tools such as ...

Official intervention can be used as reinforcement or as an alternative when an immediate change in monetary policy is deemed unjustified. Intervention tackles concerns related to the exchange rate directly and can

Inflation targets, policy rates and exchange rates



[1] For South Africa, CPI-X (CPI excluding mortgage interest cost); for the Czech Republic, headline inflation (prior to 2002, net inflation); for Korea, core CPI (prior to 2000, headline CPI); for Thailand, core CPI; for all others, headline CPI. [2] For Brazil, Selic target rate; for Chile, nominal overnight target rate (prior to August 2001, real rate); for Israel, base rate; for South Africa, repo rate; for the Czech Republic, two-week repo rate; for Poland, 28-day repo rate; for Korea, overnight call target rate; for Thailand, 14-day repo target rate. [3] Domestic currency per US dollar; for the Czech Republic and Poland, against the euro; monthly averages.

Sources: Bloomberg; national data. Graph V.9

signal the policymaker's opinion on the source of the problem. Both verbal and sterilised interventions have been actively used in recent years by inflation targeting emerging market economies, as well as some of their industrial economy counterparts, such as Australia and Sweden. These interventions were thought to complement their inflation targeting strategy or to address specific problems. While there is also the possibility of unsterilised intervention, this in effect amounts to a change in monetary policy implemented in the foreign exchange market. As such, it does not increase the room for manoeuvre for central banks.

... verbal intervention ...

Verbal intervention can be used to communicate the policymaker's assessment of the situation and to signal policy intentions. For example, in the light of the koruna's persistent strength in recent years, the Czech central bank has been public about its readiness to consider the option of intervention. The preannouncements of intervention operations in Brazil and Chile in 2001 can also be interpreted as a type of verbal intervention.

... and sterilised intervention ...

Known or perceived sterilised intervention can similarly provide an indication of the policymaker's opinion on the current and prospective stance of monetary policy. For example, since inflation was deemed broadly on track, overt intervention was used instead of interest rate changes in the Czech Republic in 2000 to counter the koruna's strength. Similar actions were taken in Chile in 2001 in response to the peso's rapid decline. In both cases, interventions appeared to reiterate the perceived appropriateness of the current monetary policy stance and to underscore the concern about exchange rate developments. In contrast, the series of dollar sales launched in Brazil in 2001 served to avoid excessive monetary tightening, as slowing growth and the threat of a rising debt interest burden made still further increases in interest rates an unattractive option. The timing of the official purchases of dollars in Thailand in late 2001 seemed to foreshadow the subsequent rate cuts.

There may be reasons to believe that certain of the channels through which sterilised intervention could have an impact may work more effectively in emerging markets than for actively traded major currencies. Intervention may exert a direct influence on the exchange rate as it alters the relative supply of domestic and foreign currency assets. This *portfolio effect* could be comparatively more important in emerging markets, especially in East Asia, where central banks' foreign reserves are large relative to the turnover in the local foreign exchange markets and the domestic money stock (see Table V.3). Furthermore, by stepping in as a market-maker, the central bank may help restrain self-reinforcing market dynamics and restore a sense of two-way risk. This *liquidity effect* may be especially pertinent in emerging markets with thinner trading. The efforts of the Brazilian and Chilean central banks to supply dollar bonds, as well as reserves, to facilitate market functioning during 2001 can be regarded in this light.

... but forward market intervention used less

As regards the specific market segment in which official intervention is carried out, there seems to have been a change in recent years. In the past, some central banks resorted to forward market and off-balance sheet interventions. Despite the advantage of having no upfront balance sheet constraint on their magnitudes, forward operations appear to have declined in use. In part this reflects the substantial losses incurred on forward positions during the currency crises of the 1990s, as well as the greater emphasis placed recently on accountability and transparency. South Africa's current efforts to close out the positions on its forward book are a case in point.

Balancing the benefits and costs

Notwithstanding its usefulness as an alternative policy tool, intervention's benefits should be balanced against its possible limitations and costs. Intervention may not always be effective in influencing the exchange rate. Moreover, a possible cost is that excessive suppression of volatility could deter the growth of private market-making capacity. An analogy is the domestic interbank market, where less frequent market presence of central banks to smooth interest rate volatility is considered to be conducive to market development. Another potential cost is that, to the extent that intervention is seen as revealing the objectives and preferences of the policymaker, there is a risk that the message may be misinterpreted. This could in turn undermine the effectiveness of policy actions. An effort to communicate to the public the official attitude and approach towards intervention may be beneficial in this regard. For example, in the light of its experience with intervention in 2001, the Swedish central bank issued a formal document in early 2002 to clarify its procedures with regard to foreign exchange intervention.

Capital controls

Capital controls remain a policy option in some cases ...

While often assumed away in the discussion of exchange rate and monetary regimes, the introduction or tightening of capital controls is in practice still considered a viable policy option by a number of emerging market economies. Recent experience has shown that in some cases capital controls, if properly designed and applied, can be useful in supporting the implementation of other policies or protecting the economy against the destabilising aspects of capital flows.

Chile's unremunerated reserve requirement on capital inflows in the 1990s is one example. By reducing the effect of a tight monetary policy on the exchange rate, the requirement helped to reconcile the conflicting demands of the economy's internal and external objectives. It worked against exchange rate volatility by discouraging short-term inflows in favour of longer-term investments. It is considered to have made a positive contribution in the economy's transition to exchange rate flexibility and full capital account liberalisation.

The imposition of controls on capital outflows in Malaysia in 1998 was accompanied by the introduction of an exchange rate peg. However, capital controls have also been used elsewhere in the context of flexible exchange rate regimes during episodes of adverse exchange rate developments. For instance, besides resorting to intervention (and interest rate increases in the case of Indonesia), Indonesia and Thailand sought to impede short selling by tightening offshore access to their respective currencies against the backdrop of depreciation pressures in 2000. Thailand subsequently eased some of the restrictions in early 2002, as the baht regained strength.

Controls have also been deployed as a last resort policy option when the use of both monetary policy and official intervention is somehow constrained. For example, in response to an acceleration of the rand's depreciation, the South African authorities tightened the enforcement of exchange controls in late 2001. At that time, inflationary pressures did not yet appear sufficiently great to warrant monetary tightening while intervention was not an option owing to the low levels of foreign exchange reserves and the commitment to draw down the forward book.

... but also have their limitations

As with official intervention, the use of capital controls has its costs and limitations. Effective enforcement tends to be administratively costly. Restrictions may fail to discriminate between desirable investment and less beneficial flows, and negative investor sentiment towards capital controls may further limit the economy's access to the international capital markets. Intrusive measures can hamper financial development and are by no means a substitute for making progress in reforms at both the macro and micro levels.

Exchange rate concerns will remain ...

To conclude, most of the emerging market countries under review are still in the relatively early stages of adjusting to an environment of greater exchange rate flexibility. Owing to structural characteristics and the need to recover from recent crises in some cases, their economies tend to be more vulnerable to the inflationary, growth and financial consequences of exchange rate fluctuations than are their industrial country counterparts. Thus, at least in the near term, exchange rate movements are likely to continue to be a comparatively more significant factor affecting policy. Effective communication of policy intentions with respect to the role of the exchange rate will be crucial for the credibility of the policy regimes. In the longer run, however, efforts to reduce some of the inherent vulnerabilities, such as underdeveloped foreign exchange markets, should lessen concerns about exchange rate fluctuations.

... but could be diminished by reducing inherent vulnerabilities

VI. Financial markets

Highlights

Financial markets exhibited remarkable resilience in the face of severe tests during the period under review. Markets had to cope with an abrupt global economic slowdown, the terrorist attacks in the United States on 11 September 2001 and revelations surrounding Enron's failure. Despite these events, market conditions remained orderly and any disruptions in market functioning proved temporary. Equity prices slowly came to terms with the slowdown. The sharp drop in prices following the September attacks was quickly reversed, and towards the end of 2001 stock markets worldwide rallied on new confidence in a strong recovery. Corporate debt markets showed even greater resilience. Credit spreads, including those on emerging market debt, narrowed during the course of the year, a trend interrupted only briefly by the 11 September events. Significantly, bond markets remained receptive to issues from corporate borrowers, even from those turned away by the commercial paper market.

Amid the signs of resilience, however, were seeds of concern. Notwithstanding the correction that had begun in early 2000, stock valuations stayed high relative to current earnings. In the first few months of 2002, the accounting problems at Enron and related developments began to cause investors to question the integrity of information supporting financial markets. The fallout from Enron extended to the US commercial paper market, which closed its doors to all but the most creditworthy borrowers. Events in Argentina had only a limited impact on other emerging economies in 2001 and early 2002, but external financing conditions remained fragile for many lower-grade sovereign borrowers. Finally, the dominance of over-the-counter derivatives markets by a few dealers posed concentration risks.

Market functioning

Markets proved resilient to severe tests

Among the events that severely tested markets' resilience during the period under review, two stand out: the terrorist attacks in the United States on 11 September 2001 and the collapse of Enron in December. Markets functioned remarkably well in the immediate aftermath of the terrorist attacks. Despite the devastation wrought in downtown Manhattan, where many financial institutions, market infrastructures and communications systems are located, interruptions in trading and capital-raising activities were only temporary and markets returned to normal relatively quickly. The demise of Enron, while less dramatic than the events of 11 September, was perhaps more damaging to market confidence in that it called into question the quality of market information about individual corporations.

Disruptions after 11 September

The terrorist attacks led to major disruptions ...

The terrorist attacks on 11 September and the consequent loss of life and damage to infrastructure in New York led to major disruptions in US financial markets. The New York Stock Exchange closed for four trading days, its longest closure since the 1930s. US Treasury cash and repo markets were particularly hard hit because of the losses suffered by several inter-dealer brokers, damage to communications links and the dislocation of a major clearing bank from its primary operating facilities. Together, these problems prevented the settlement of billions of dollars' worth of repo transactions for a few days following the attacks. This led to an unprecedented rise in the number of "failed" transactions in Treasury cash and repo markets (Graph VI.1), which in turn boosted demand for specific Treasury securities, in particular the most recently issued notes.

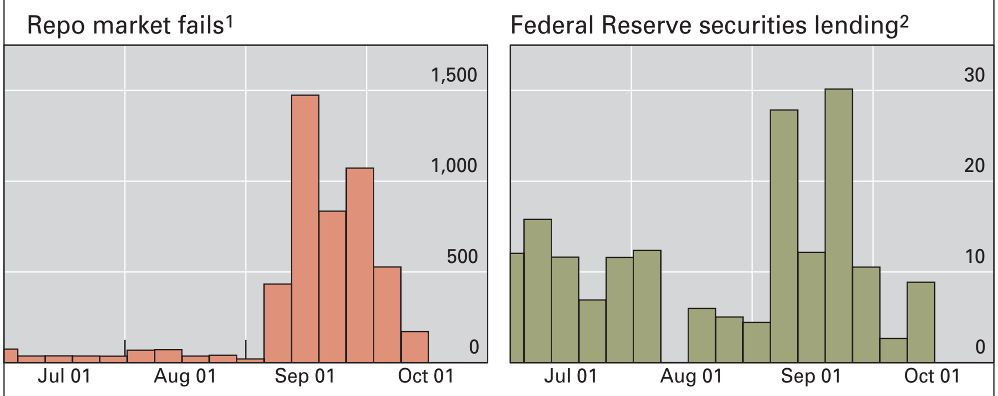
... but policymakers and market participants were quick to respond

Policymakers and market participants were quick to respond. The US Federal Reserve injected large amounts of liquidity into the banking system and reduced its federal funds target rate when US equity markets reopened on 17 September. The Federal Reserve also took a number of steps to address difficulties in the repo market, including relaxing restrictions on its securities lending facility. By the end of September, the Federal Reserve had lent $70 billion in securities, taking as collateral securities for which there was less demand. Other central banks lowered their policy rates, and some arranged swaps with the Federal Reserve to ease concerns about a shortage of dollars available to foreign financial institutions. Market participants extended settlement hours and cooperated in various other ways to facilitate the distribution of liquidity.

All of these efforts were greatly aided by the contingency plans made two years earlier in preparation for Year 2000-related computer problems. An oversight in these plans, however, was the failure to test backup-to-backup communications systems. Some market participants had assumed that even if their own systems failed, those of their counterparties would not. Some did

Impact of 11 September on the US money market

In billions of US dollars



[1] Weekly value of securities that failed to be delivered to or by dealers in repo markets. [2] Weekly par value of securities lent by the Federal Reserve Bank of New York.

Source: Federal Reserve Bank of New York. Graph VI.1

not even have their counterparties' backup contact information at their own secondary facilities. Furthermore, many participants' telephone lines to their backup facilities were routed through the same switching centre as their primary telephone lines – at the World Trade Center. The loss of communications links interrupted the trading and clearing process for several days. However, initiatives by participants – including a sharing of resources – and feverish work by utilities limited the extent of the disruption.

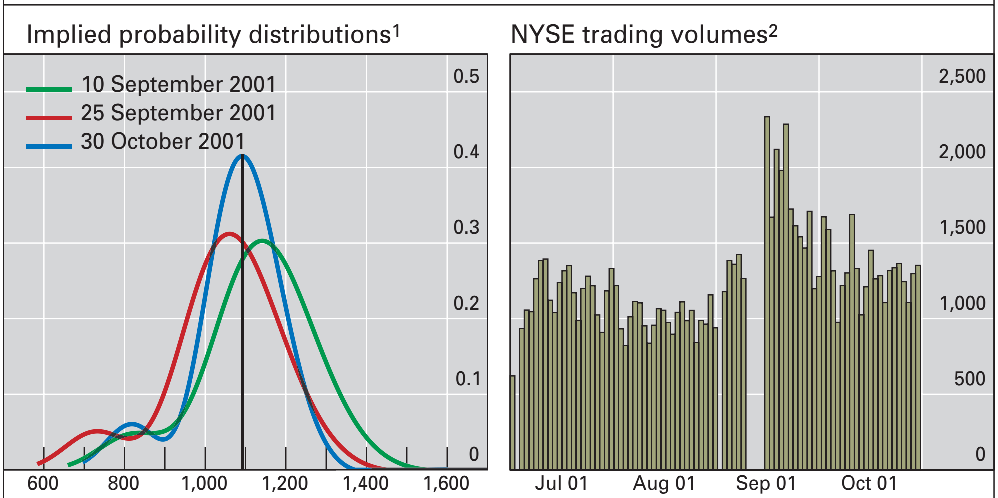
A failure to test backup-to-backup links

The attacks exacerbated fears of a severe downward correction in equity prices. Before 11 September, the near-term distribution of stock returns implied by the prices of equity index options was already somewhat skewed towards the probability of a large decline in prices (Graph VI.2). The perceived likelihood of such a decline increased markedly immediately following the September events and persisted into early October. After stock prices began to recover, the probability distribution narrowed, suggesting a lower overall level of uncertainty, although option prices still showed some skewness towards a significant price decline.

The release of selling pressure that had built up during the days on which US stock exchanges were closed resulted in unprecedented trading volumes when they reopened (Graph VI.2). However, trading did not overwhelm the capacity of the exchanges. Most other markets were also functioning more or less normally again within a week of the attacks. The intraday volatility of the federal funds rate remained exceptionally high into October, but the effective rate was never much above target. Normal market functioning returned last to the repo market, where high levels of failed transactions persisted into October. Indeed, the number of failed trades mounted in the weeks immediately following the attacks because of a shortage of on-the-run issues, which are used as collateral. The situation began to improve on 4 October, when the US Treasury sold additional amounts of the on-the-run

Normal market functioning returned last to the repo market

Impact of 11 September on US equity markets

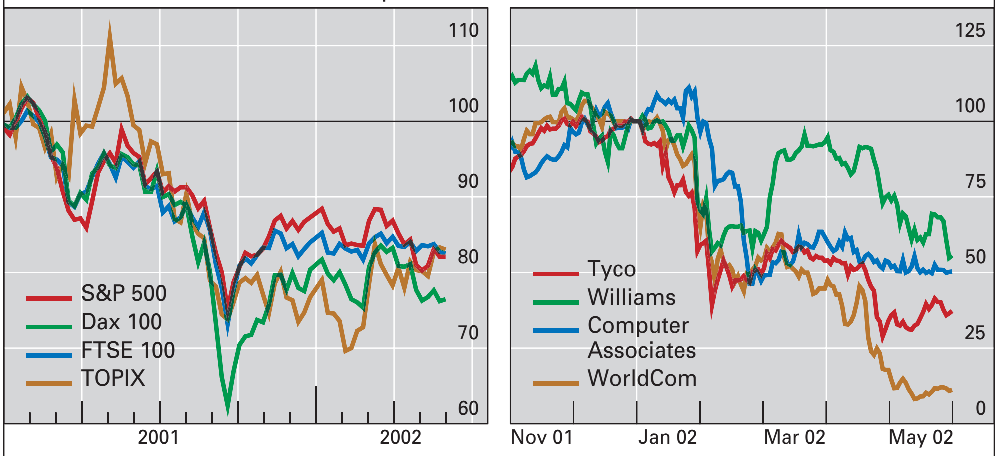


[1] Risk neutral densities based on options on the S&P 500 Index traded on the dates shown. The vertical line indicates the level of the index on 10 September. [2] Daily, in millions of shares.

Sources: Bloomberg; Chicago Mercantile Exchange; BIS calculations. Graph VI.2

Stock prices around two shocks

Stock market indices and 11 September[1] | Selected stocks and the Enron discount[2]



[1] At end-week; end-December 2000 = 100. [2] Daily; end-December 2001 = 100.

Sources: Bloomberg; Datastream. Graph VI.3

10-year note through an unscheduled auction. By mid-October, the rate of repo market fails had dropped to moderate levels.

The backlash from Enron

The collapse of Enron did not in itself disrupt energy markets

Enron Corporation, one of the largest traders in energy markets, filed for bankruptcy protection in December 2001. In contrast to 11 September, the immediate impact of Enron's collapse on the stability and liquidity of the markets in which it had been active was, by most reports, insignificant. Trading quickly shifted from Enron to its rivals. Many firms reported losses on their exposures to Enron. However, owing in large part to improvements in counterparty risk management in recent years and the development of credit derivatives markets, these losses were manageable and did not threaten the solvency of other firms. Indeed, the successful use of credit-linked notes and other credit derivatives to hedge exposures to Enron, and the smooth settlement of the majority of these contracts, actually strengthened market participants' interest in such instruments.

Different layers of governance failed together

A striking feature of the circumstances behind Enron's collapse was how different components of corporate governance all seemed to fail at the same time. The company's board of directors, the external auditor, stock analysts, credit rating agencies, creditors and investors jointly failed to critically assess how Enron's management achieved ostensibly superior earnings growth. In particular, few asked hard questions about the nature of numerous off-balance sheet transactions, transactions which helped to hide mounting business losses.

The simultaneous failure of the various components of corporate governance points to a common driving factor. This factor is the tendency for conflicts of interest in the information process to intensify when an individual firm or the market as a whole displays superior performance. Modern markets have devised a system of checks and balances to protect the integrity of the information process (see the concluding section of this chapter). In the case of Enron, this system broke down. Significantly, the equity market's reaction to the firm's bankruptcy in early December was not nearly as severe as the reaction in late January to news that Enron's auditing firm had shredded documents, or the response in early February to a report detailing Enron's use of partnerships and special purpose vehicles to inflate earnings and hide losses. As a consequence, stock prices started to incorporate a discount for accounting risks, and the market punished especially the stocks of large firms with relatively opaque financial reports (Graph VI.3, right-hand panel).

The market reacted to the scandal that followed

Equity markets

For most of 2001, equity investors showed an abiding optimism, first tending to play down the evidence of a global slowdown and then eagerly anticipating a strong recovery. While shifting views about the length and depth of the slowdown and its consequences for corporate earnings caused market prices to rise and fall (Graph VI.3, left-hand panel), on balance a high degree of confidence still prevailed. Confidence was fed in large part by a belief in the effectiveness of monetary policy. Yet it was not macroeconomics but accounting that eventually undermined confidence. In the early months of 2002, heightened scepticism about the reliability of corporate financial disclosures following the collapse of Enron exacerbated uncertainty about equity valuations. Nonetheless, market valuations relative to earnings reached unprecedented levels in early 2002. Given both a plunge in earnings due to one-time writedowns and a rise in equity risk premia due to uncertainties about financial statements, the valuations indicated a stubborn core of optimism about future earnings growth.

Coming to terms with the business cycle

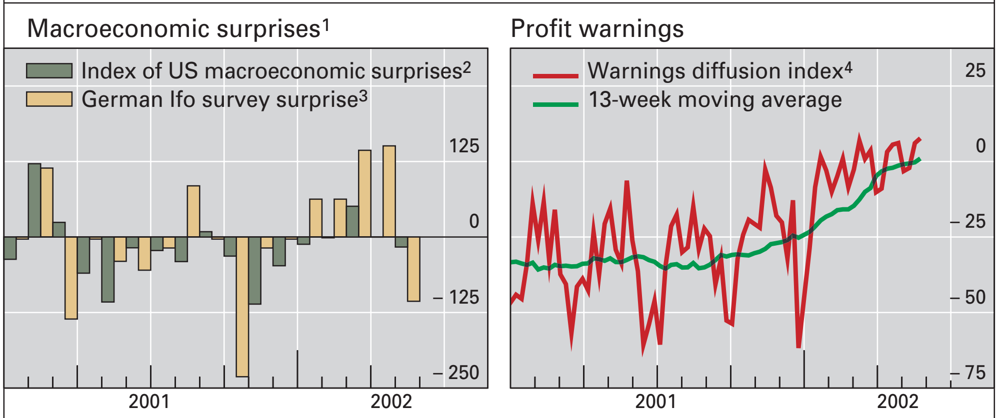
The slowdown did not sink in until the summer

The equity market was slow to come to terms with the global economic downturn. After a year-long correction, the market staged a rally in April 2001 largely on the strength of a belief that monetary easing would forestall a recession. During the summer, worsening macroeconomic conditions and a string of disappointing corporate earnings reports finally convinced investors that the slowdown was real and that the corporate sector would not be spared (Graph VI.4). The technology sectors were again badly hit, both because their earlier valuations had been more excessive than those of other sectors (see the *71st Annual Report*) and because of surprisingly large writedowns. There was initially some confidence that Europe would not be as badly affected as North America, but this view was dispelled by disappointing data releases, particularly the German Ifo surveys during the summer months. As a result, European equity markets remained closely correlated with those in the United States throughout the period under review.

Prices reached their low in late September

Market indices reached their lowest point in the two weeks following the 11 September attacks in the United States. At first, the events compounded fears of a prolonged global slowdown and caused a broad-based flight to safe assets. Yet equity prices started to recover within a week after markets in New

Closely watched public information



[1] Normalised announcement surprises (with unit variances), based on the difference between released numbers and consensus forecasts. [2] Weighted average of normalised surprises of the ISM survey, non-farm payrolls, retail sales and producer price and consumer price announcements. [3] The German Ifo survey is a business climate index derived by the Institut für Wirtschaftsforschung from survey responses. [4] Number of positive minus negative surprises as a percentage of number of positive plus negative profit warnings.

Sources: Bloomberg; BIS calculations. Graph VI.4

York had reopened. Investors were encouraged by the globally coordinated easing of monetary policy, as well as by favourable political developments. The attacks, in other words, turned out to have created only temporary uncertainty, albeit to an extreme degree, with much of this uncertainty having dissipated soon after markets started to operate again.

Markets then rallied in spite of negative macroeconomic surprises ...

A further shift in market sentiment appears to have occurred in October, when the rebound of a resilient market turned into a rally that lasted until the year-end. Markets started to price in a strong recovery in spite of the mostly negative surprises in closely watched macroeconomic announcements. Investors seemed reassured by prompt monetary easing, by the fact that most macroeconomic indicators were not getting worse and by news that US GDP had grown slightly in the fourth quarter. Military successes by the anti-Taliban coalition in Afghanistan allayed fears that the conflict in that country would be lengthy and destabilising. Profit warnings from corporations in the first quarter of 2002, in contrast to most of 2001, tended to be more evenly balanced between positive and negative surprises relative to analyst forecasts.

... but revelations about Enron shook investors in early 2002

Paradoxically, it was when data on the global outlook started to turn positive that the equity market began to falter again. In January and February 2002, revelations about inaccuracies in the public financial statements of several prominent corporations engendered wide scepticism about the integrity of corporate disclosures, thereby shaking the confidence of market participants and helping to bring the rally to a halt. While Enron's accounting practices were perhaps the most egregious, that firm was not alone in its attempts to manage reported earnings. For example, the bankruptcy of Global Crossing in December put the spotlight on the practice of using barter agreements on telecommunications capacity to artificially inflate reported revenues. Investors reacted with a broad equity market sell-off, contributing to declines in most major indices in late January and early February.

In Japan, valuations were strongly influenced by the weak domestic financial sector and a perceived lack of progress in reform efforts. The decline in the main Japanese equity indices from May to September, while parallel with falls in other global markets, was far sharper. The *Tankan* survey released in July showed a surprisingly weak economy, and subsequent news about the worsening global outlook seemed to bring more gloom to Tokyo than to other major markets. After September, Japanese equity markets did not join in the global market rally, and the Nikkei index reached an 18-year low in early February 2002. Ironically, the failure of a large construction firm at the end of the month may have triggered the market's rally in March. Investors had expected the firm to be bailed out and perhaps took its bankruptcy as a signal that serious efforts at corporate and financial restructuring would soon follow.

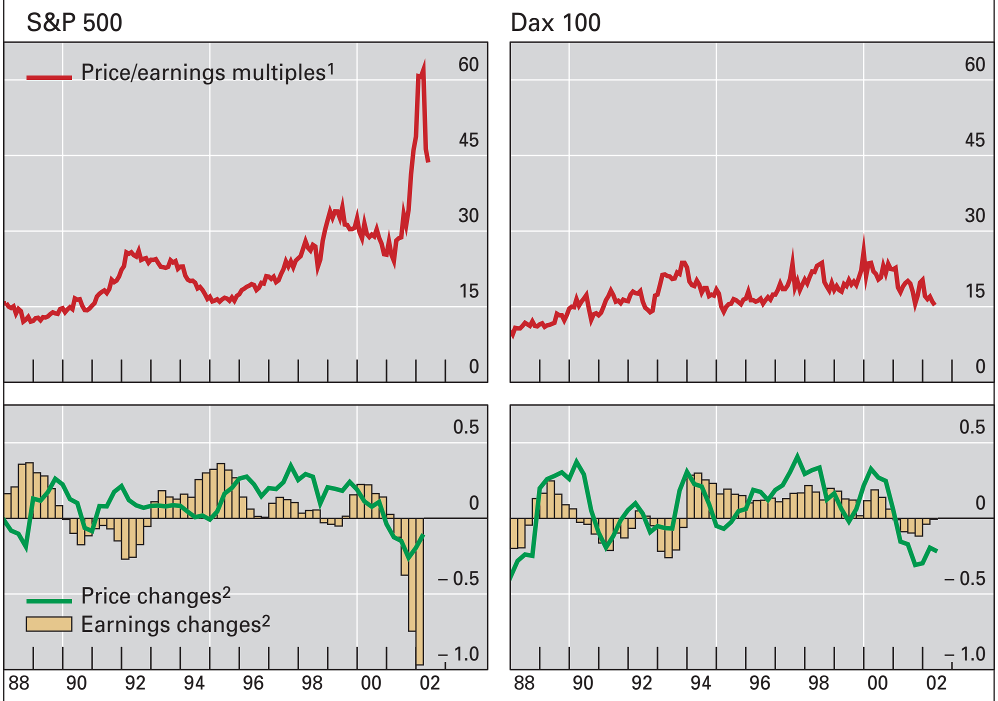
Japanese equities did not join the global rally

Enduring optimism amid high volatility

Notwithstanding the extraordinary correction that had taken place since April 2000, stock prices continued to be buoyed by expectations of high growth rates in earnings. Relative to historical levels, US price/earnings multiples remained very high during 2001, with earnings dropping further than prices (Graph VI.5). European multiples were more moderate, with stock prices falling by more than US stock prices and earnings declining by less. The high multiples reflected in part the low level of real interest rates, but also expectations of higher earnings, as stock prices tend to anticipate a recovery in earnings towards the end of a recession. For example, price/earnings multiples had risen in the United States in 1991–92 and in

High valuations persisted

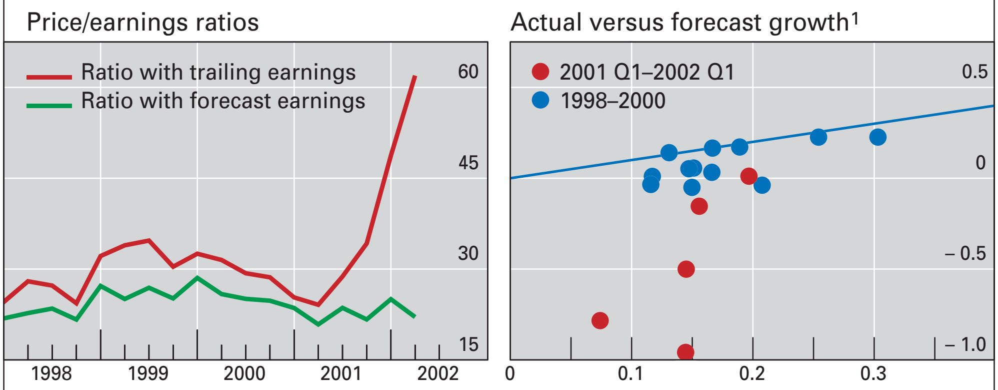
Stock markets: prices and earnings



¹ At month-end. ² Quarterly averages of annual log changes.

Sources: Bloomberg; Datastream; BIS calculations. Graph VI.5

Actual and forecast earnings for the S&P 500 Index



[1] The x-axis measures the forecast change over four quarters in log earnings and the y-axis the actual change in log earnings. Values on the blue 45° line represent accurate forecasts, while values well below the line represent overly optimistic forecasts.

Sources: Bloomberg; BIS calculations. Graph VI.6

Germany in 1993. The levels reached by US multiples in 2001 and 2002, however, are unprecedented. At the end of 2001, the S&P 500 Index was trading at 49 times earnings, more than three times the 1970–95 average of 14. This multiple reached 62 at the end of March 2002.

Earnings fell sharply due to one-time writedowns ...

The high US multiples also reflected a number of unprecedented one-time writedowns of asset values, which caused accounting measures of net income to plunge. During 2001, even firms with more or less healthy balance sheets and profit outlooks decided to acknowledge that a substantial portion of their past investments, most prominently the many acquisitions financed by exchanges of common stock, had proved to be expensive failures. Accordingly, some investors focused on forward-looking measures such as cash flow or operating earnings per share, rather than accounting measures of income that incorporated asset write-offs. Relying on these measures involved an implicit assumption that similarly poor investment decisions would be less likely in the future. Price/earnings multiples based on forecast earnings, which incorporated expectations of a strong recovery in profits, were more moderate than those based on past earnings (Graph VI.6).

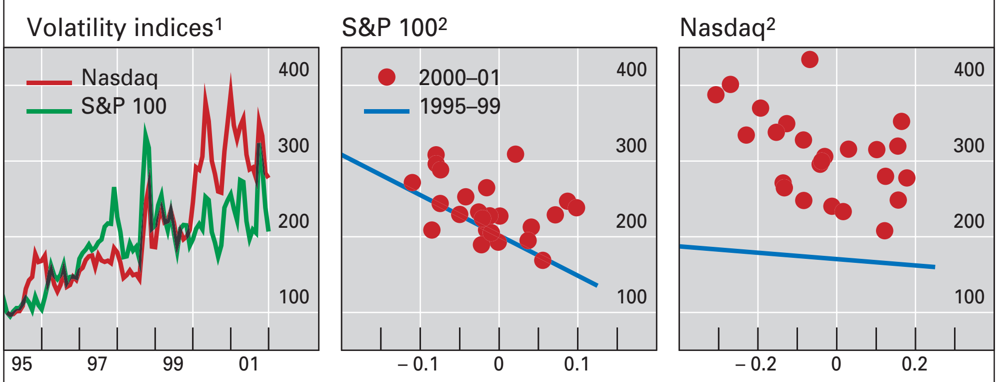
... but valuations remained high for other reasons

Yet these multiples, too, were high relative to historical experience, considering both the level of real interest rates and the likely risk premium introduced by Enron-related problems of information. Moreover, actual earnings growth has tended to fall below forecasts in recent years. After a bull market in which earnings were seemingly often managed so as to surpass forecasts slightly, such earnings management could apparently not be sustained in 2001 and early 2002.

Perceived risks rose even when markets were strong

Uncertainty about valuations, combined with a tendency by market participants to react sharply to even small pieces of good or bad news, resulted in a high degree of day-to-day volatility in equity markets. In April 2001, for example, the news that Dell Computer Corporation would meet its much reduced earnings estimate sent the Nasdaq Composite soaring by 9% and the MSCI World Index by 3% in a single day. The levels of volatility implied by the

Volatilities and returns



[1] Based on implied volatility of Nasdaq and S&P 100 options; monthly averages, January 1995 = 100. [2] Monthly returns based on end-month log changes (x-axis) and end-month volatilities implied by index options (January 1995 = 100; y-axis). The line represents a regression fitted to monthly observations for 1995–99.

Sources: Chicago Board Options Exchange; Datastream; BIS calculations. Graph VI.7

prices of traded equity index options reflected this trend (Graph VI.7). This rise in volatility was not due simply to falling stock prices. While in previous years implied volatility tended to rise when prices fell, volatility in 2000 and 2001 rose to levels well beyond what would be consistent with the previous relationship between volatility and price performance. This was particularly the case for the technology-heavy Nasdaq index.

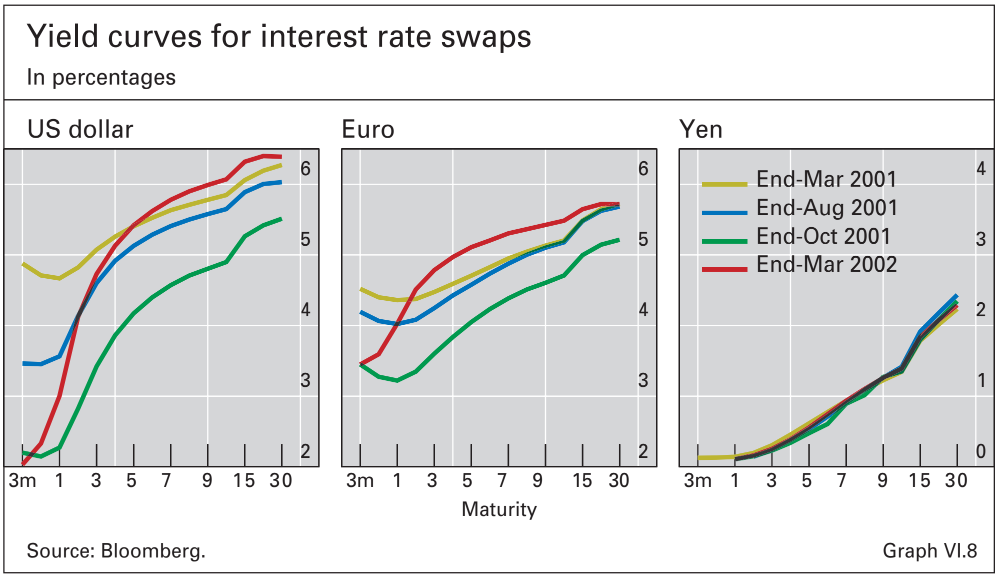
Fixed income markets

In parallel with equity markets, bond markets alternated between optimism and pessimism in the course of 2001 and the early months of 2002. With inflation more or less quiescent, the levels of swap yields were driven by expectations about the length and depth of the global slowdown and the timing of the anticipated return to tighter monetary policies. Credit spreads, which were stable in the first half of 2001 when the downturn was expected to be short and mild, widened in the third quarter as worries about a more prolonged slowdown took hold. Nevertheless, most corporate and sovereign borrowers had few problems floating long-term debt issues. The resilient bond market proved to be an especially important financing channel towards the end of 2001 and in early 2002, when turbulent commercial paper markets and increased risk aversion among commercial banks resulted in a contraction in the funding available through short-term debt markets.

Yield curves responded to monetary policy

Yield curves shifted downwards and steepened …

During the period under review, yield curves were driven by expectations of how monetary policy would respond to macroeconomic news. Dollar and euro yield curves shifted downwards as the news worsened, then became sharply steeper as prospects improved (Graph VI.8). Long-term swap yields in dollars and euros were steady for the first half of 2001, when a relatively brief and mild slowdown was expected. From July until October, long yields fell



gradually, as investors adapted to worsening macroeconomic news and, immediately after 11 September, fled to safety and quality. In November and the first half of December, a reversal of this flight to safety and expectations of a quick end to the slowdown led to a sharp increase in long yields. These expectations reflected confidence in the effectiveness of a renewed easing of US monetary policy. As a result, by early 2002, the US dollar yield curve was steeper than it had been since early 1994, even though the absolute level of long-term rates remained close to record lows. In the euro area, where the easing of monetary policy was more moderate, the steepening of the yield curve was less pronounced.

… as investors bet on the power of monetary easing

Yen yield curve unchanged

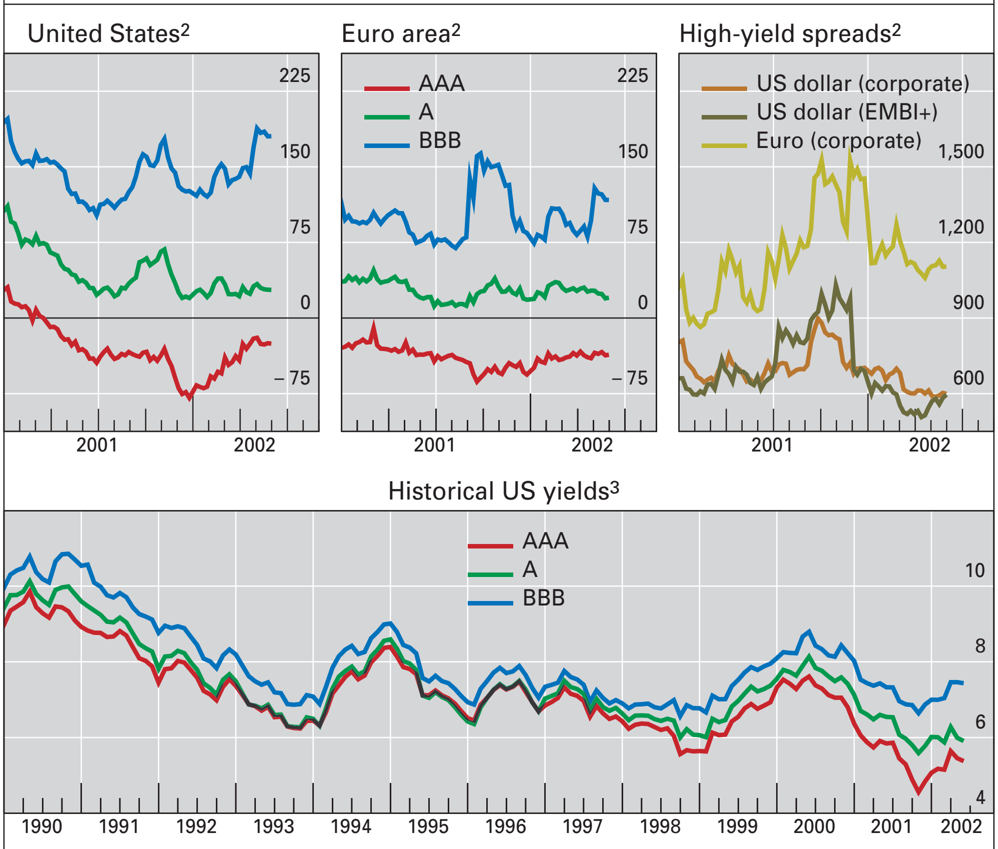
The yield curve of the Japanese yen, alone among the major currencies, was virtually unchanged for most of 2001 and early 2002. Short-term rates were anchored near zero, with investors anticipating that there would be little change in the stance of Japanese monetary policy in the near future given the continued weakness in growth. Similar considerations kept rates low at longer maturities. At the same time, there were intermittent episodes of upward pressure on long yields in response to the steady increase in government debt. The worsening fiscal situation and the slow pace of structural reform contributed to increased investor wariness about Japanese assets, as reflected in moves by the major credit rating agencies to downgrade Japan's sovereign domestic debt.

The corporate bond market proved resilient

Corporate credit spreads narrowed …

A remarkably resilient corporate bond market provided a bright spot in global financial markets during this period. Credit spreads tended to narrow as benchmark yields rose, with investors linking prospects for an improvement in corporate credit quality to the chances for a rapid recovery in growth (Graph VI.9, upper panels). In the first half of 2001, spreads declined as investors looked beyond the downturn in growth and the rise in default rates, believing these events to have already been priced into bond yields. In the third quarter, when the slowdown proved more serious than expected and

Corporate bond spreads and US yields[1]



[1] Bond index yields against 10-year swap rates. [2] End-week data, in basis points. [3] In percentages.
Sources: Bloomberg; Merrill Lynch; national data; BIS calculations. Graph VI.9

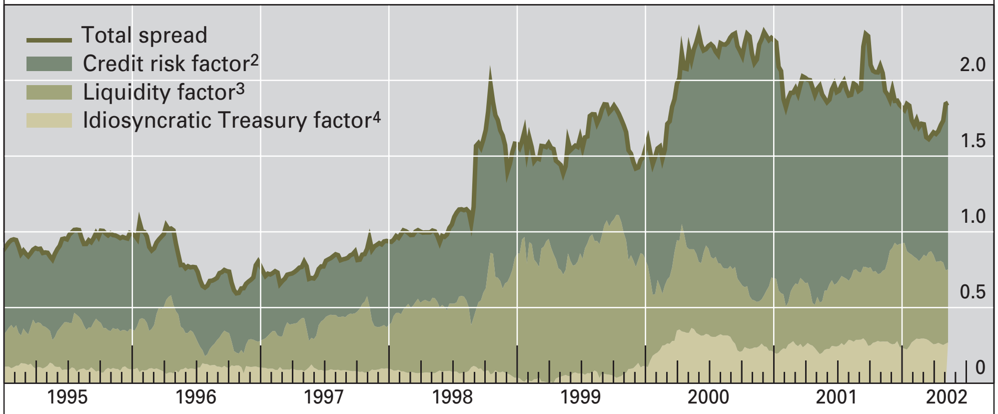
defaults continued to increase, spreads for virtually all credit risk classes widened, only to narrow again as optimism returned in November. As a result, overall corporate borrowing costs fell to historically low levels in nominal terms in September 2001, and rose only to a mild degree afterwards (Graph VI.9, lower panel). Areas of scepticism remained, however, as could be seen in the widening gap between BBB- and A-rated instruments. Concerns about the health of corporate balance sheets and the reliability of financial reporting contributed to a renewed widening of spreads in the first few months of 2002.

… though some scepticism remained

The gyrations of corporate credit spreads in 2001 and 2002 appear to have been driven at least in part by a rise in the liquidity premium, which masked a gradual decline in the market price of credit risk per se. This can be seen from a decomposition of the spread of BBB-rated US dollar corporate bonds over Treasury bonds into three components: credit risk, liquidity and the unique premium that investors pay for on-the-run Treasury securities (Graph VI.10). The market price of credit risk gradually fell from close to 150 basis points at the beginning of 2001 to approximately 80 basis points in the first quarter of 2002, with a brief spike in September. This more or less steady improvement reversed the sharp widening of credit risk premia that had accompanied the bursting of the technology bubble in 2000. Conventionally

Decomposition of corporate spreads

Risk factors influencing BBB spreads, in percentage points[1]



[1] Merrill Lynch seven- to 10-year BBB corporate spread over on-the-run Treasury yields. [2] Premium for bearing credit risk. [3] Premium investors are willing to pay for the greater liquidity of on-the-run Treasury securities relative to off-the-run Treasuries. [4] Premium accruing only to Treasury securities reflecting any benefits to holding Treasuries not shared by other assets.

Sources: V Reinhart and B Sack, "The changing information content of market interest rates", *BIS Quarterly Review*, June 2002; more recent calculations by B Sack; Merrill Lynch. Graph VI.10

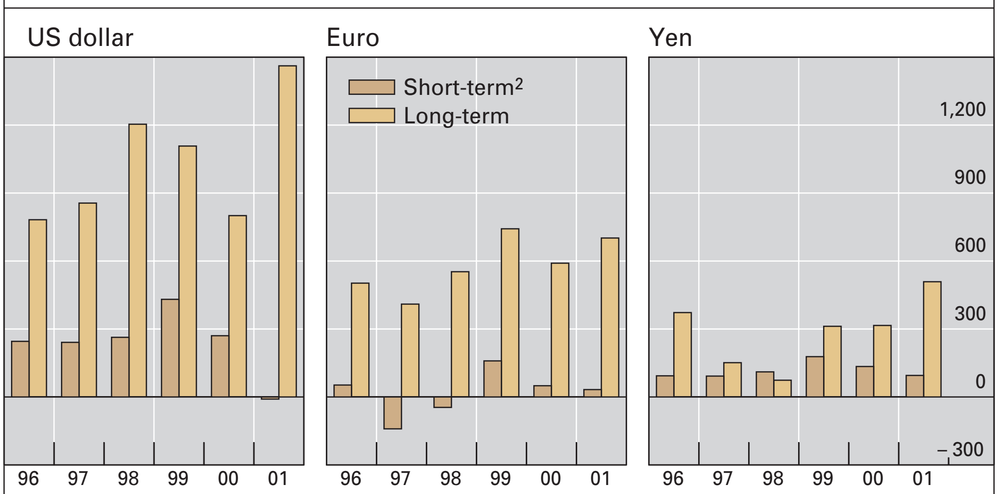
measured spreads concealed the fall in the price of credit risk, however, because it coincided with a steady rise in the yield premium required by investors to hold less liquid securities.

Long-term financing through bond markets was strong

Despite the economic downturn and the occasional widening of spreads, financing through long-term bond markets was strong throughout most of 2001 (Graph VI.11). This was particularly true of the US dollar market, where corporate activity propelled net issuance of long-term debt securities to a record high. The euro corporate bond market continued to mature, spurred by

Net issuance of debt securities by maturity[1]

In billions of US dollars



[1] Money market instruments and bonds issued in domestic and international markets. [2] Instruments with an original maturity of one year or less.

Sources: Bank of England; Dealogic; Euroclear; International Securities Market Association; Thomson Financial Securities Data; national data; BIS. Graph VI.11

strong issuance by telecoms firms and automobile manufacturers. In Japan, substantial government borrowing supported the growth of the bond market.

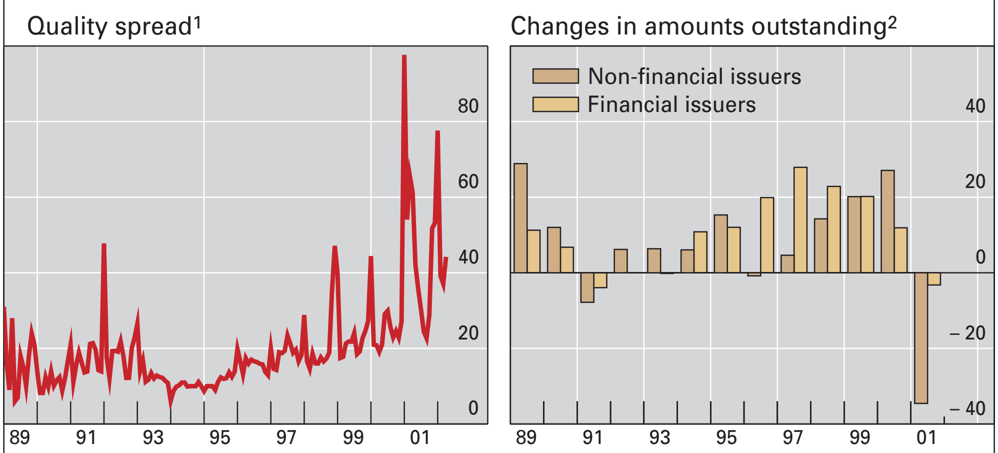
Borrowers shifted from short-term to long-term debt

Some of the issuance of long-term debt reflected a shift by borrowers out of short-term debt. The economic slowdown and the consequent reduction in firms' need for working capital explain part of the decline in short-term issuance, while historically low long-term yields encouraged borrowers to extend the maturity of their debt. At the same time, several major US corporations saw their access to the commercial paper (CP) market closed off by credit rating downgrades but found that they could still borrow readily in the corporate bond market. In the euro area, corporations redeemed short-term bridge loans taken out in 2000 and 2001 to support mergers and acquisitions and purchases of third-generation mobile phone licences.

CP market contracted because of credit concerns ...

In the United States, difficult financing conditions in the CP market forced many borrowers to reduce their reliance on this funding channel. Defaults by Californian power utilities in January 2001 took many CP investors by surprise and heightened their sensitivity to credit risk. This in turn exacerbated investors' reaction to the rising number of credit rating downgrades during 2001. In a market where by far the largest buyers, namely money market mutual funds, are prohibited from holding more than 5% of their portfolios in non-prime paper, downgrades and defaults served to further reduce what little demand there was. The heightened aversion to credit risk contributed to exceptionally wide and volatile spreads in the US dollar CP market (Graph VI.12). The magnitude of the drop in CP issuance further illustrates how unusual the present difficulties in the CP market are. Whereas during the previous US recession in 1991 the outstanding stock of CP issued by non-financial corporations fell by 8%, in 2001 it fell by 35%. Borrowers also turned increasingly to the asset-backed CP market, where the use of receivables as collateral makes credit risk less of an issue.

US commercial paper

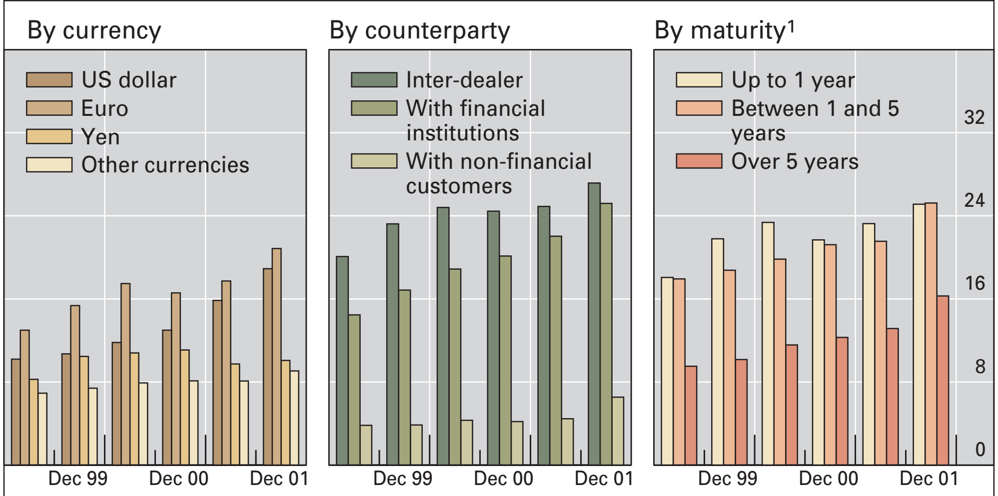


[1] Of 30-day non-prime (A2/P2-rated) over prime (A1/P1-rated) commercial paper, in basis points; monthly averages. [2] Annual percentage changes.

Sources: Bloomberg; BIS calculations. Graph VI.12

Interest rate swaps

Notional amounts, in trillions of US dollars



[1] Interest rate swaps and forward rate agreements.

Source: BIS. Graph VI.13

... and the withdrawal of bank backup facilities

Compounding the problems in the CP market, major banks became increasingly reluctant to extend the liquidity facilities they had previously provided to backstop CP programmes. In the past, banks had tended to price these lines with narrow credit spreads, in the hope of attracting underwriting, advisory and other more profitable business from issuers. The risks of such a strategy became all too apparent when several high-profile borrowers, upon being forced out of the CP market, drew down their credit lines at spreads that were far below market rates. The largest provider of such lines subsequently announced that it would withdraw from the business. Ironically, standby facilities had been created in the 1970s to relieve funding problems in a CP market that was prone to seizing up. By 2001, these backup facilities had effectively become prerequisites for issuing CP, and so their withdrawal only exacerbated the squeeze in the market.

Some issuers swapped from fixed to floating

Some issuers of long-term debt chose to continue paying short-term rates by entering into interest rate swap contracts, supporting the continued growth of the medium-term and long-term segments of this market (Graph VI.13). The additional demand by those seeking to receive fixed rate funding contributed to a narrowing of the spreads of dollar and euro swaps over government securities in the first quarter of 2002. However, the share of the market involving non-financial counterparties continued to be quite low.

External debt financing for emerging markets

The resilience displayed by the major financial markets during the period under review was equally evident in emerging markets. Despite the global slowdown and turmoil in Argentina and Turkey, external financing conditions were favourable for most borrowers, with credit spreads remaining stable or even narrowing. Nevertheless, debt flows to emerging markets were more or less unchanged: net issuance of international debt securities by emerging market borrowers totalled $45 billion in 2001, comparable to average issuance during 1998–2000, and repayments to foreign banks continued to outpace new lending. This resulted in a $14 billion contraction in cross-border loans. Debt flows were depressed by investors' retrenchment from crisis-afflicted economies as well as weak demand for external financing in Asian and oil-exporting countries. Higher-rated borrowers who sought financing in international bond markets were accommodated readily, but the access of lower-rated borrowers to external finance was more tenuous.

Limited contagion despite severe crises

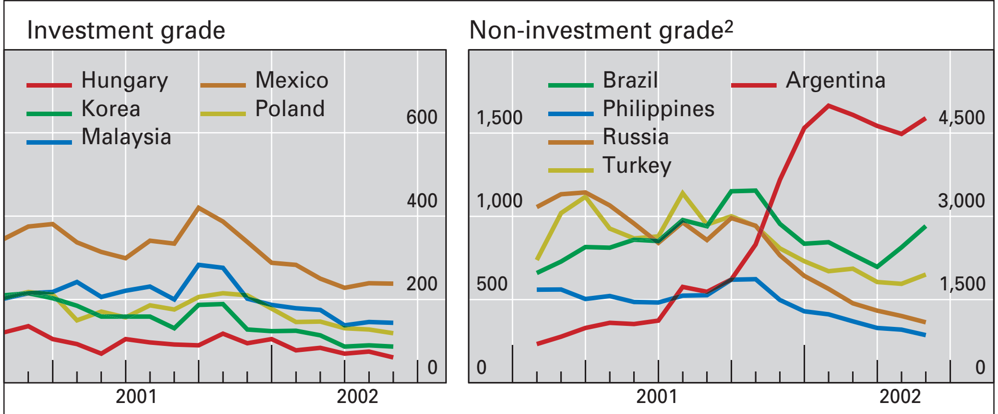
Credit to Turkey and Argentina cut back sharply

Banks and bond investors sharply cut back credit to crisis-afflicted countries. In 2000, Turkish entities, mainly banks, had been the largest emerging market borrowers in the syndicated loan market, and the Argentine government the largest issuer in the international bond market. In 2001, their market access was curtailed. Spreads on Turkish debt were high and volatile until late in the year. Spreads on Argentine debt widened sharply on several occasions, the largest jumps occurring in July, following a poorly subscribed government debt auction, and in November, when the government announced a restructuring of locally held debt (Graph VI.14). In late 2001, Turkey's market access began to improve, following a strengthening of its IMF programme, but private and official financing to Argentina was cut off. International banks reduced their cross-border claims on Turkey by 24% during 2001, and on Argentina by 12%. A more telling sign of the distress in Argentina was the massive repatriation of external assets by local banks to meet their need for dollar liquidity. Between end-2000 and end-2001, the outstanding stock of deposits placed with banks abroad by banks in Argentina fell from $23 billion to $6 billion.

A number of other countries also faced difficult financing conditions during the period under review. Countries with relatively high debt servicing requirements or other domestic problems were particularly vulnerable. The events in Argentina added to economic and financial pressures in Uruguay

Sovereign bond spreads for selected emerging markets

Spreads over US Treasury yields, in basis points[1]



[1] At month-end. [2] Left-hand scale, except for Argentina (right-hand scale).

Source: JP Morgan. Graph VI.14

and led to the loss of the country's coveted investment grade status. Spreads on Venezuela's debt widened as investors lost confidence in the government's policies, then narrowed following the floating of the bolivar in February 2002.

Limited contagion in July and September ...

Episodes of contagion were short-lived and mostly limited in scope. Selling pressure hit a surprisingly large number of emerging markets in July, including Brazil and South Africa, in response to the poor auction in Argentina. In addition, the global flight to quality immediately following 11 September caused credit spreads for many emerging market borrowers to increase. However, in both instances the repricing of risk proved temporary and the trends evident prior to each episode quickly reasserted themselves, with investors carefully discriminating among emerging markets. For example, by mid-October spreads on Brazilian bonds had decoupled from Argentine spreads. The widening of Brazilian spreads in the second quarter of 2002 largely reflected domestic political uncertainties.

... subsequently turning into advantages for other emerging markets

The Argentine government's default at the end of the year had few immediate consequences for other emerging markets. As explained in Chapter V, the long run-up to the crisis, the withdrawal of highly leveraged investors from emerging markets and the adoption of floating exchange rates by many countries helped to check contagion. In addition, the smaller number of "crossover" investors in the market today – investors whose portfolios consist mainly of investment grade securities but are permitted to contain small amounts of lower-grade debt – weakened links between various financial markets. Whereas crossover investors tend to retreat from the entire asset class during periods of volatility, "dedicated" investors holding only emerging market assets focus on countries' relative creditworthiness. The shift by dedicated investors out of Argentine assets and into other emerging markets partly explains the narrowing of spreads on Brazilian and Mexican debt even as Argentine spreads soared.

Bond investors returned ahead of borrowers

Borrowers with good fundamentals saw better market acceptance ...

In contrast to the situation in crisis-afflicted countries, investors were receptive to debt issues by strong or improving credits throughout most of the period under review. Credit spreads for investment grade borrowers such as Korea, Malaysia and Mexico were stable or even narrowed during 2001 and the early part of 2002 (Graph VI.14). Mexico replaced Turkey as the largest emerging market borrower in the international banking market in 2001. A few lower-rated borrowers with strengthening fundamentals, including the Philippines and Russia, also saw their access to international debt markets improve. The outstanding stock of cross-border bank claims on Russian borrowers, which had fallen by 40% in the three years following the government's debt moratorium in August 1998, rose by 7% in the latter half of 2001. Moreover, several sovereigns tapped international bond markets for the first time in decades, if not ever, including the Dominican Republic, Egypt and Peru.

Poland, Hungary and other countries in accession negotiations with the European Union continued to benefit from sizeable inflows into domestic bond markets. Investors seemingly expect bond yields in EU accession countries to converge with those in the euro area, just as yields across the euro area had converged with those in Germany in the period before monetary union.

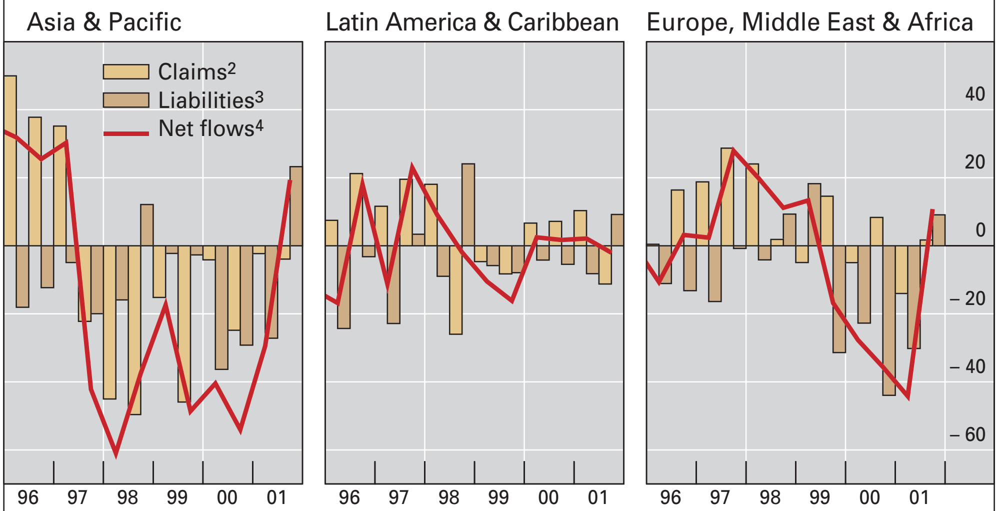
... but demand for external finance was muted

Notwithstanding stable or improving external financing conditions, many emerging economies had limited need for foreign borrowing. In particular, East Asian and oil-exporting countries continued to post large current account surpluses. Their current account position is expected to deteriorate in 2002, and consequently their external financing needs are likely to increase over the near term (see Chapter III). Signs of deterioration were already becoming apparent in the second half of 2001. Whereas emerging markets, mainly Asian economies and OPEC members, had deposited $249 billion with banks abroad between mid-1999 and mid-2001, in the second half of 2001 they withdrew $42 billion (Graph VI.15).

Demand for foreign borrowing was initially held back further by expanding opportunities to borrow in domestic markets. In Mexico, an increasingly liquid domestic bond market produced a peso yield curve extending out to 10 years, and the government elected to refinance some of its dollar borrowings in the domestic market. In Asia, low domestic interest rates and flexible exchange rates made local currency debt more attractive than foreign currency debt. However, the situation began to change in late 2001, following the sharp decline in short-term US dollar interest rates. Cross-border bank claims on Southeast Asia increased towards the end of 2001 for the first time since the onset of the Asian financial crisis in mid-1997. Portfolio inflows also picked up, attracted by double digit returns in local equity markets (see Chapter III).

Cross-border bank flows to emerging markets

Exchange rate adjusted changes in BIS reporting banks' external positions[1]



[1] Semiannual, in billions of US dollars. [2] Loans to and purchases of securities issued by residents of emerging markets. [3] Funds, mainly deposits, placed with BIS reporting banks by residents of emerging markets. A negative (positive) value indicates an increase (decrease) in banks' liabilities vis-à-vis emerging markets. [4] Claims minus liabilities.

Source: BIS. Graph VI.15

Seeds of concern

Even though markets proved resilient, vulnerabilities remain

Although financial markets responded more smoothly than many had expected to a series of tests during the period under review, vulnerabilities remain. Some of these vulnerabilities are conjunctural in nature. As already discussed, equity valuations are still exceptionally high and access to capital markets by lower-quality borrowers – including some from emerging markets – remains precarious. Others are more structural in nature. The high degree of concentration in some market segments exposes the financial system to a greater risk of systemic failure. And fundamental weaknesses in the mechanism for producing quality information discourage investors and potentially distort market prices, resulting in a misallocation of capital.

Risks of concentration

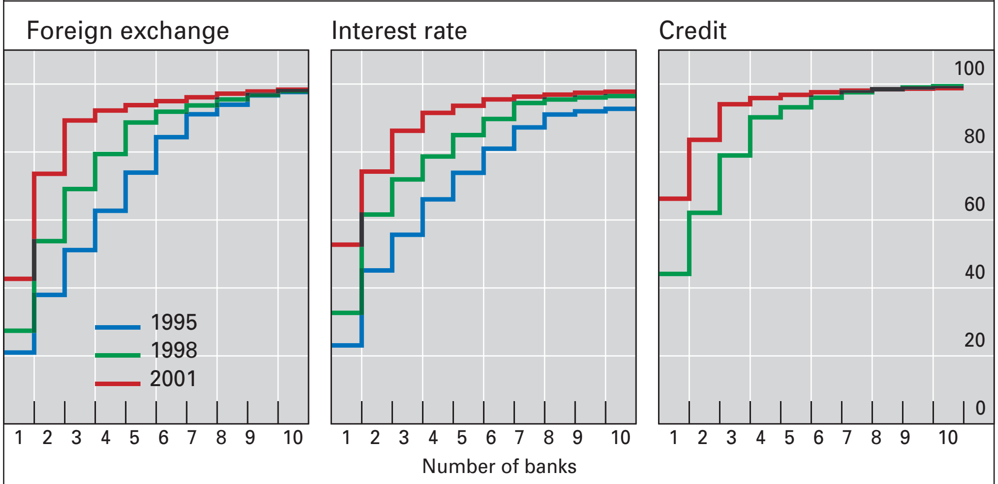
High degree of concentration in OTC markets ...

As a result of the large number of mergers and acquisitions in the financial services sector over the past decade, concentration in financial markets has tended to increase. Markets have long been geographically concentrated. According to the latest triennial central bank survey, London and New York account for 47% of global trading activity in foreign exchange markets and 49% of activity in over-the-counter (OTC) derivatives markets. A more recent development is the high degree of institutional concentration in some market segments, most notably OTC markets. In foreign exchange markets, three quarters of all foreign currency transactions in London and New York were conducted by only 30 dealers in 2001, compared to 40 dealers in 1995. Moreover, three banks held 89% of the notional outstanding stock of foreign exchange derivatives contracts booked by US banks in 2001, up from 51% in 1995 (Graph VI.16). In the US interest rate derivatives market, the three largest banks accounted for 86% of the total notional amount outstanding at the end of 2001, compared to 56% in 1995. In the US credit derivatives market, the share of the top three banks rose from 79% to 94% between 1998 and 2001.

While consolidation can bring many benefits, it also poses risks. Among the most important benefits is the tendency for larger banks to have more diversified portfolios and so to be less susceptible to firm-, industry- or region-specific shocks. This may in part explain why the US banking system proved so resilient to the many defaults that occurred during 2001. Yet, to the extent that consolidation leads to greater concentration, it can also have adverse consequences for the functioning of financial markets. Liquidity is one concern. In fact, part of the rise in the liquidity premium evident in Graph VI.10 can be attributed to financial sector consolidation. Mergers frequently result in a withdrawal of risk capital allocated to market-making activities. Furthermore, consolidation can raise the costs of trading by making it more difficult to diversify counterparty credit risk. For example, as the number of active market-makers dwindles, it becomes increasingly difficult for dealers to offset customer orders in the inter-dealer market, which has a negative impact on the liquidity that dealers can offer to customers.

US banks' holdings of derivatives contracts

Cumulative percentage of total notional amount outstanding[1]



[1] Total OTC and exchange-traded derivatives contracts held by US commercial banks.

Sources: US Office of the Comptroller of the Currency; BIS calculations. Graph VI.16

Another concern arising from concentration is the vulnerability of markets to dealer-specific risks. In markets where intermediation is highly concentrated, developments at a single dealer can have market-wide implications. The collapse of Drexel Burnham Lambert in 1990 and the subsequent contraction of the US high-yield bond market, where Drexel had been the dominant dealer, illustrates this dynamic. The vulnerability of markets to dealer-specific risks is compounded by the fact that the credit quality of the largest market-makers has not strengthened over the years. In 1994, the top dealer in the global interest rate swap market was rated triple-A. By early 2002, it had been downgraded by three notches to the lower edge of double-A, while maintaining its position in the league tables. Ironically, the triple-A subsidiaries that securities firms set up in the early 1990s have not managed to capture a substantial share of the derivatives business.

… means problems at a single dealer can have market-wide implications

Markets have adapted in various ways to mitigate the risks of concentration. Borrowers in the most developed markets have access to a wide variety of financing options, from venture capital to asset-backed commercial paper, and may find one market open even while another is shut. Other types of players, such as insurance companies and mutual funds, have become more active in segments historically dominated by banks or dealers. Collateral and daily settlement are increasingly being used to control counterparty credit risks in OTC markets. Interestingly, in 2001 the growth of exchange-traded derivatives markets outpaced that of OTC markets, marking a significant reversal in the pattern of activity evident for much of the previous decade.

A problem of information quality

Sound information is the lifeblood of markets

Another source of vulnerability is the fact that investors have been losing faith in the quality of the information they are receiving about companies. Sound information about the conditions and prospects of individual firms has been described as the lifeblood of the markets. By incorporating such information into asset prices, markets convey signals to guide the allocation of capital in the global economy. While the firms themselves provide the basic data, modern markets have come to rely on a system of checks and balances – involving independent auditors, stock analysts and other agents – to ensure and enhance the quality of the information. The case of Enron is merely the most dramatic manifestation of a zeitgeist that has led to a progressive weakening of the mechanisms for producing the requisite information.

It is difficult to pass on the costs of information to investors

Even under favourable conditions, producing quality information presents a fundamental dilemma. The information is costly to produce, but it is difficult to charge investors for it, since non-paying investors cannot be excluded from the gains. Hence, modern financial systems have devised solutions that involve indirect ways of bearing the costs. Independent auditors, in particular, certify the reliability of a firm's financial statements, but it is the firm itself that pays for the auditing work. Similarly, stock analysts interpret a company's data on earnings, but it is often a securities firm involved with the company in other ways that pays for the analysis. While conflicts of interest are hard to avoid in these circumstances, the arrangements seem nonetheless to have worked reasonably well in the past. Auditors and stock analysts evidently attached sufficient importance to their reputations to have commonly played their part in producing quality information.

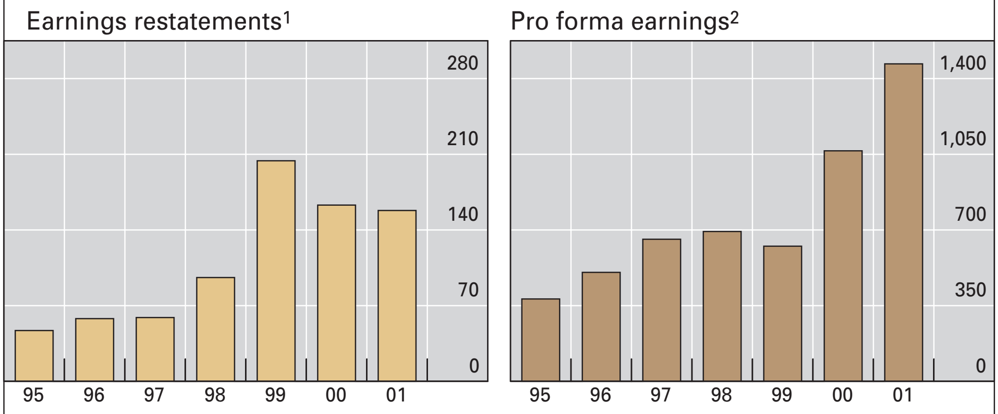
High stock prices were so critical …

The technology-led bull market of the late 1990s distorted the incentives to produce reliable information. Newly listed technology firms followed a business model in which they spent heavily on research and development, gleaned little current profit from operations and relied largely on equity issuance to raise cash, compensate management and employees, and acquire other companies. For some of these firms, a high stock price was so critical to survival that the incentive to manage information for this purpose often overrode the importance of future reputation. For many other firms, paying compensation in the form of stock options lent a similar make-or-break character to stock prices and led management to place undue emphasis on supporting these prices in the short run.

… that firms had an incentive to manage earnings …

Consequently, firms had an incentive to present financial reports that would inflate expectations of earnings growth. US firms, in particular, could take advantage of accounting standards that allowed them to count contracted future sales as current revenues, to treat stock options issued for compensation as expenses only for tax purposes or to use optimistic assumptions for their pension plans. With many firms pushing accounting rules to the limit, there was a growing tendency to overstep the bounds. As a consequence, an increasing number of US firms had to restate their earnings (Graph VI.17), in the process inflicting heavy losses on investors. When aggressive accounting still could not deliver the desired results, firms increasingly resorted to pro forma reporting, providing supplementary financial statements that stripped out bad news and presented performance in as favourable a light as possible. While the number of earnings restatements reached its peak in 1999, the use of pro forma reports continued to rise until 2001.

Indicators of information quality



[1] Number of financial reporting restatements announced by US-listed firms. [2] Number of company press releases that contained pro forma financial results. For 2001, first half data annualised.

Sources: G D'Avolio, E Gildor and A Shleifer, "Technology, information production and market efficiency", in *Economic Policy for the Information Economy*, Federal Reserve Bank of Kansas City, 2001; M Wu, "Earnings restatements: a capital market perspective", New York University, 2002; Financial Executives Research Foundation. Graph VI.17

… and accounting firms and stock analysts had incentives to cooperate

Auditing firms and stock analysts increasingly found their interests aligned with the companies aggressively managing their earnings. The incentives for auditing firms to cooperate came in the form of consulting contracts and other services that were more lucrative than auditing work. There is some evidence that the more a company paid an auditing firm for non-audit services, the stronger the tendency for aggressive accounting became. The incentives for stock analysts came in the form of compensation linked to underwriting deals the analysts helped support. Analysts with large securities firms tended to cover only stocks of companies offering potential underwriting business and to give only "buy" recommendations. During the bull market, they seemed to enhance their credibility with investors by their uncanny ability to forecast reported earnings, while raising little suspicion that this seeming prescience might have been due to earnings management by the reporting companies themselves.

There are moves to restore quality information …

The backlash from Enron provided the major impetus for efforts to restore quality to market information. These efforts have encompassed both the self-correcting mechanisms of the market and fresh initiatives by regulators. The accounting firm involved with Enron has lost its major clients and is struggling to survive a criminal charge brought by the US Justice Department. More generally, companies have become increasingly reluctant to turn to their auditing firm for consulting services, and some of the large accounting firms have announced a policy of not offering both audit and non-audit services to the same client. Several countries are contemplating measures to rotate auditors and separate auditing work from consulting. Stock analysts employed by large securities firms have suffered a blow to their reputations, and institutional investors are devoting more resources to in-house analysis. Moreover, the New York attorney general has forced a large securities firm to sever the links between analysts' compensation and its underwriting business. Other securities firms have announced their own parallel measures.

... but investors have raised the bar

It remains to be seen whether the efforts thus far will be sufficient to fully reassure investors or to withstand the distortions that the next bull market will no doubt bring. Most of these efforts are intended to mitigate conflicts of interest in existing arrangements for sharing the costs of information. Investors, however, seem to have been so troubled by recent revelations that they have raised the bar for the quality of information they expect. This market attitude presents a valuable opportunity to develop and then implement additional approaches towards strengthening the incentives for producing good information.

VII. The interaction between the financial sector and the real economy

Highlights

The slowdown in the world economy in 2001 contributed to a decline in the profitability of many financial institutions, with problem loans increasing and revenues from capital market activities declining. However, at this stage there are few signs of financial headwinds severe enough to act as a major drag on economic recovery. The general resilience of the financial sector, notwithstanding the excesses of the late 1990s, can be explained to a large extent by the relatively shallow nature of the slowdown. But other factors have also played a role. These include the absence of a commercial property boom in the late 1990s, the fact that much of the financing for the technology boom was obtained through capital markets, and the development of financial instruments that allow credit risk to be widely dispersed.

While the financial system has proved relatively robust to date, history suggests that financial headwinds can emerge quite abruptly. Continuing increases in household indebtedness on the back of strong gains in house prices raise the potential for costly balance sheet adjustments, particularly if economic growth were to disappoint or interest rates were to rise sharply. More generally, a period of slow growth would be likely to unearth further credit quality problems and could prompt a retreat from risk-taking in capital markets.

The notable exception to the solid performance of most banking systems is Japan, where banks continue to incur losses under the weight of further increases in problem loans and losses on equity holdings. While there have been some signs of progress, the weak banking system continues to harm the economy, and the weak economy continues to harm the banking system. For further progress to be made, credible actions need to be taken to improve the quality of balance sheets in both the financial and corporate sectors. Moreover, macro policies need to remain accommodative.

The strong two-way links between the real economy and the financial system pose a number of challenges for both banks and those responsible for financial regulation. One such challenge is to measure how credit risk at an individual bank, and for the system as a whole, is related to both the state of the economy and overall developments in the financial sector. Another is to ensure that risk-based capital standards do not amplify economic cycles by permitting an undue reduction in capital in expansions and requiring an undue increase in contractions. And a third is the formulation of accounting rules that allow loans to be valued on the balance sheet appropriately, taking into account realistic collateral values and the effect of the economy on borrowers' ability to repay.

The performance of financial institutions and the economy

The economic cycle affects the profitability of financial institutions ...

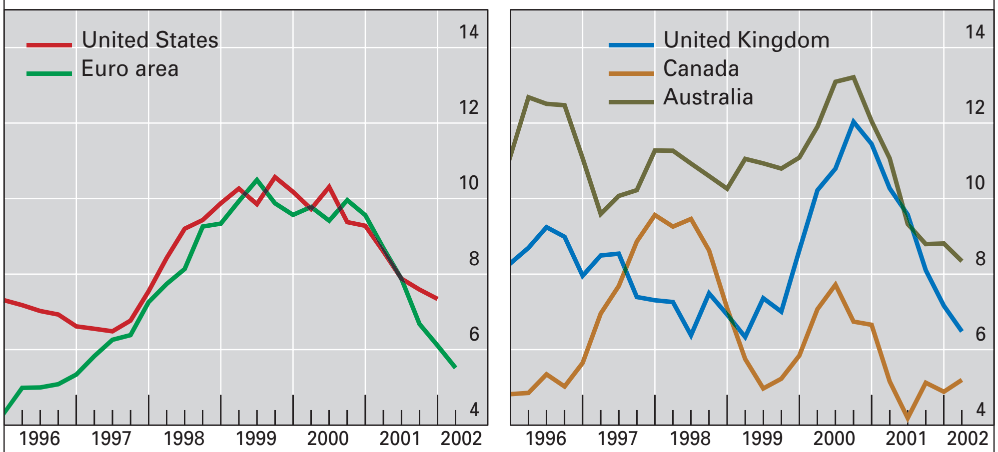
The performance of the financial sector and the health of the economy are closely intertwined. Typically, during the expansion phase of the business cycle, higher asset prices, low levels of problem loans and increased capital market activity all help improve the recorded profitability of financial institutions. Then, during the downturn, profitability tends to fall as asset prices decline, loan defaults rise and capital market activity wanes.

... and the profitability of financial institutions affects the economic cycle

But the direction of causation also runs the other way. Business cycle expansions are often supported by increases in the profitability of financial institutions and a greater willingness of these institutions to take on risks and to compete aggressively for new business. These expansionary forces are underpinned by the sense of optimism that is invariably generated by a strong economy. In the downward phase of the cycle the process can work in reverse. As profitability declines and confidence falls, financial institutions can retreat from risk-taking and seek greater compensation for the risks that they are prepared to take. The effects on the economy can be pronounced. This is especially the case if during the contraction phase the balance sheets of financial institutions are significantly impaired.

Many of these general interactions between the economy and the financial sector have been particularly evident in the current global business cycle. In the second half of the 1990s, a sense of exuberance pervaded many parts of the financial sector. Underwriting standards were loosened and lending spreads narrowed. Moreover, credit growth accelerated in many countries and a number of banking systems notched up the highest rates of return on equity for many decades. Then, as signs of economic weakness emerged in the major countries, lending standards were tightened, spreads rose, credit growth slowed and the profitability of many financial institutions declined (Graph VII.1 and Table VII.1).

Credit growth[1]



[1] Annual percentage change in private domestic credit.
Source: National data.

Graph VII.1

Profitability of major banks in 2000 and 2001										
	Number of banks	Pre-tax profits		Provisioning expenses		Net interest margin		Operating costs	
		2000	2001	2000	2001	2000	2001	2000	2001
		as a percentage of total average assets							
United States	9	1.60	1.22	0.52	0.71	2.91	2.94	3.92	3.62
Japan	15	0.12	–0.89	0.83	1.58	1.11	1.18	0.88	0.87
Germany	4	0.55	0.14	0.18	0.24	0.82	0.90	1.74	1.62
France	4	0.85	0.74	0.17	0.22	0.95	0.94	1.95	1.87
United Kingdom	4	1.65	1.33	0.29	0.31	2.36	2.09	2.68	2.32
Canada	6	1.26	0.92	0.29	0.41	1.89	1.95	2.76	2.84
Spain	4	1.33	1.20	0.35	0.44	2.65	2.86	2.63	2.60
Australia	4	1.60	1.39	0.20	0.27	2.12	2.12	2.09	2.06
Sweden	4	1.10	0.82	0.07	0.07	1.42	1.40	1.67	1.47
Switzerland	2	0.96	0.42	0.04	0.10	0.73	0.68	2.90	3.02

Source: Fitch. Table VII.1

The financial exuberance of the late 1990s undoubtedly helped support robust growth, particularly in the technology and telecommunications sectors. It also contributed to a build-up of risk in certain parts of the financial system. Yet despite this, and unlike the early 1990s, there are few signs of stress, to date, that seem severe enough to cause significant financial headwinds.

Recent trends

Loan loss provisions have risen ...

A predominant theme for much of the banking industry over the past year or so has been the deterioration in the credit quality of loan portfolios. As the major economies slowed, many banks saw a significant increase in their provisioning expenses, particularly on corporate loans. There were also signs of substantial deterioration in the quality of some sub-prime retail portfolios. For many banks, total provisioning expenses in 2001 were more than 50% higher than in 2000.

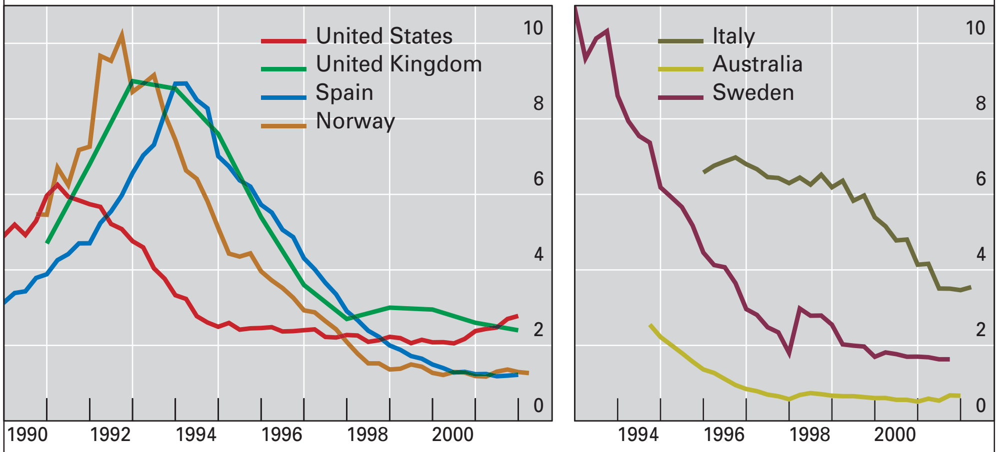
... but problem loans remain well below early 1990s levels

Nonetheless, banks' loan portfolios remain in reasonable shape overall. In most industrialised countries the share of loans that are non-performing is still relatively low (Graph VII.2), although further increases could be expected in some cases as a result of the weak growth over the past year or so. A repeat of the early 1990s experience seems unlikely, however, particularly given the current outlook for economic growth. The obvious exception to this general pattern is Japan (see below).

Capital market revenues have declined ...

Another factor depressing the profitability of many banks over the past year has been the general decline in revenues from capital market activities. The fall in equity markets and the slowdown in global growth substantially reduced fees earned through equity underwriting, mergers and acquisitions and syndicated lending (Graph VII.3). Commission income for banks that offer market-linked investment products to their retail customers also fell. The one bright spot has been a record level of bond issuance worldwide, with volumes increasing significantly in 2001 across all main market segments (see Chapter VI).

Non-performing loan ratios[1]



[1] In percentages; definitions and coverage differ across countries.

Source: National data.

Graph VII.2

... but interest margins have widened

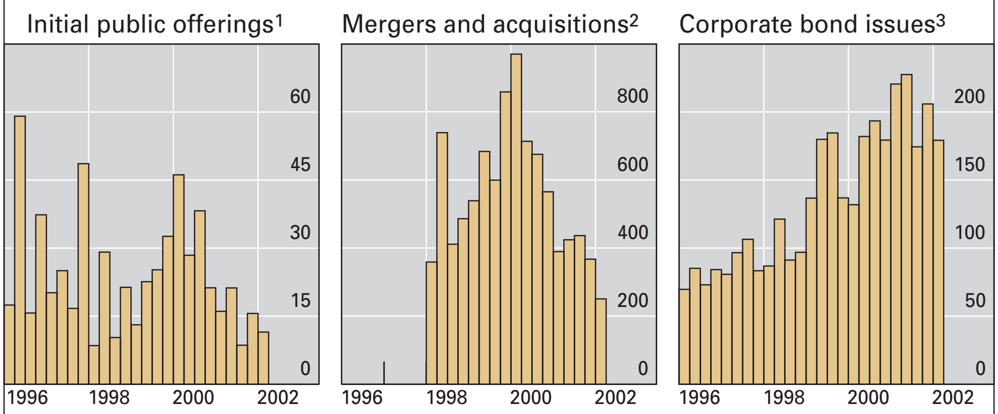
For many banks, one benefit of the weaker economic environment has been an increase in interest rate margins. In a number of countries banks repriced deposits more quickly than loans as official interest rates fell. Moreover, those banks with significant maturity mismatches benefited from the increase in the slope of the yield curve in 2001. The higher margins underpinned healthy profitability for many retail banking operations. Looking forward though, both competitive forces and a change in the interest rate environment mean that the wider margins are unlikely to be sustained.

Banks remain profitable ...

Given the rise in bad debt expenses, the profitability of most major banking systems declined somewhat in 2001 (Graph VII.4). In a number of countries, including the United States, the United Kingdom and Sweden, the return on equity for commercial banks was lower in 2001 than in any year during the second half of the 1990s. Rates of return, however, remain high in comparison with previous decades. The performance of the large continental

Indicators of investment banking activity

In billions of US dollars

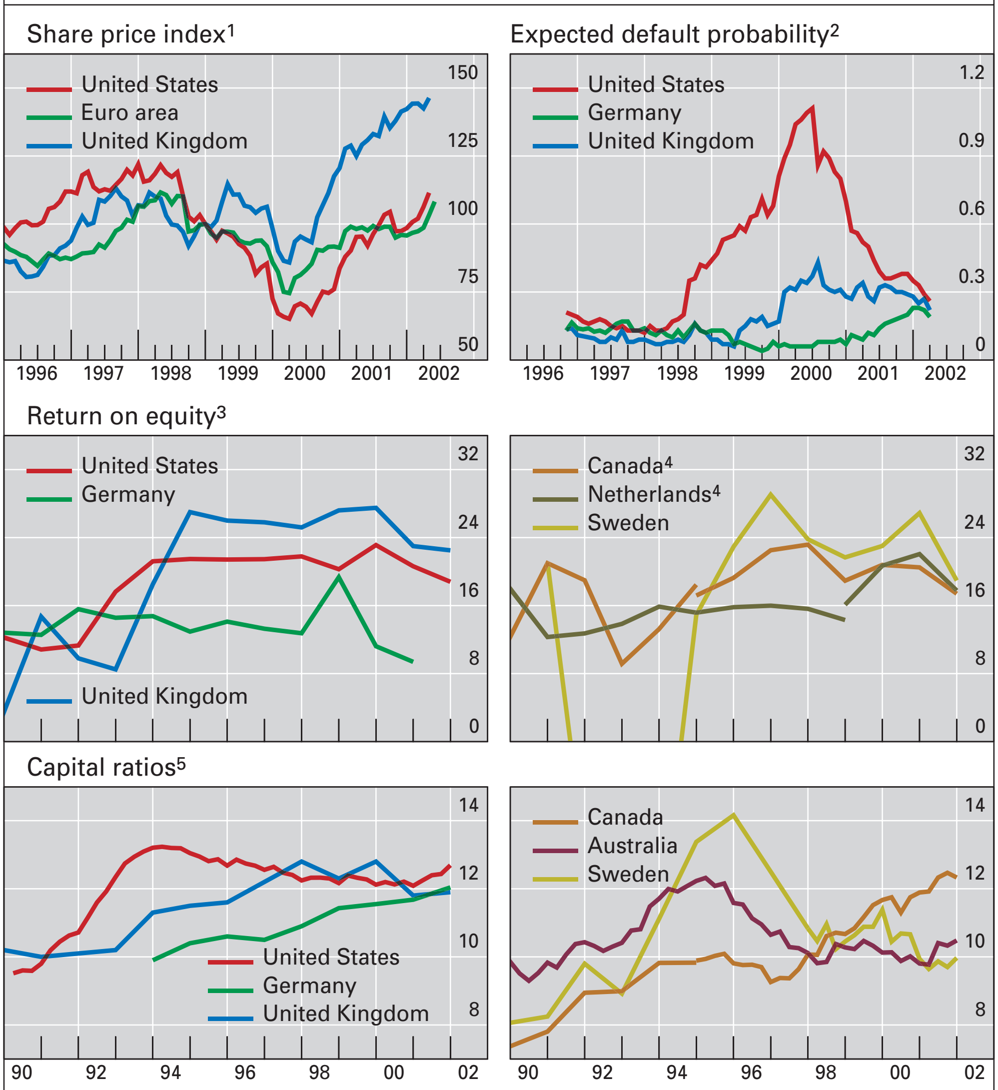


[1] Germany, Japan, the United Kingdom and the United States. [2] Global value, announced excluding terminated transactions. [3] Global value, announced or completed international issues of bonds and euronotes.

Sources: Bloomberg; BIS.

Graph VII.3

Indicators of bank health



¹ Ratio to broad share price index; end-1998 = 100. ² Median (source: KMV). ³ Profits before taxes as a percentage of shareholders' funds. ⁴ Breaks due to changed sources. ⁵ Total capital as a percentage of risk-weighted assets.

Sources: OECD; KMV; national data. Graph VII.4

European banking systems has been more diverse. In France and Italy, while rates of return on equity fell slightly in 2001, they remain above rates earned in the mid-1990s. In contrast, in Germany, where many banks suffer from low interest margins and high costs, profitability has generally been under pressure in recent years, with this pressure intensifying in 2001 due to the relatively severe nature of the German slowdown and large falls in commission and trading income.

Share prices of banks in the English-speaking countries and France have tended to rise since the beginning of 2001, outperforming the broader stock market. Accordingly, market-based indicators of the probability of default of banks in these countries have generally declined, albeit after having increased markedly in the previous years, particularly in the United States. In contrast, bank share prices in a number of European countries, including Germany, Italy, the Netherlands and Switzerland, have fallen since the beginning of 2001, although the declines have generally been in line with that of the broader market.

... and relatively well capitalised

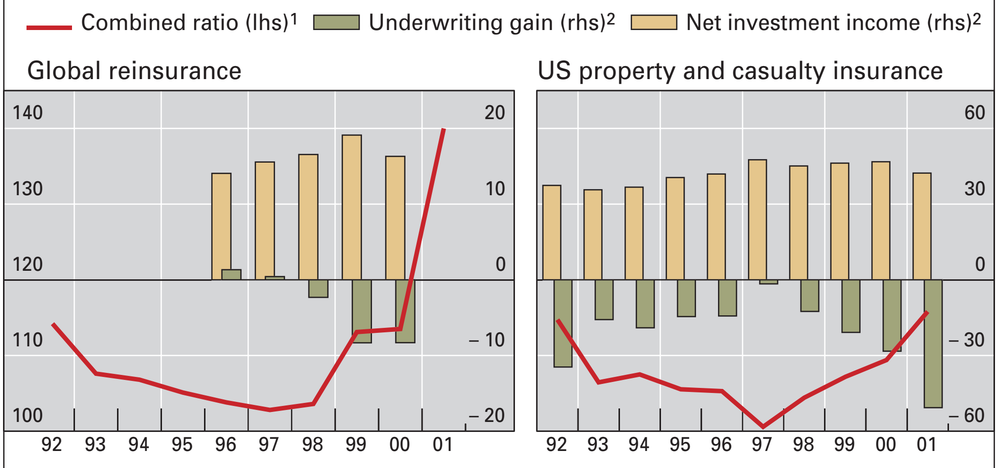
After a relatively long run of highly profitable years, most banking systems are reasonably well capitalised. In almost all countries, regulatory capital ratios are considerably higher than they were at the beginning of the 1990s. In some countries, however, capital ratios have fallen since the mid-1990s as banks have run down the high levels of capital built up in the aftermath of the problems earlier in the decade. The overall strength of the capital position means that most banking systems seem in reasonable shape to withstand a further deterioration in credit quality, should that occur.

The insurance industry has had difficulties

One part of the financial sector that has experienced generally difficult times in recent years is the insurance industry. An important source of the difficulties has been a decline in investment income resulting from lower bond yields and falls in equity prices. The lower investment returns have been particularly problematic for those general insurers that have been operating for some years with sizeable underwriting losses, and for those life insurers, particularly in Japan and the United Kingdom, that have guaranteed relatively high rates of return to policyholders. A second source of difficulty has been the large number of natural disasters in recent years and the terrorist attacks of 11 September. For the reinsurance industry, 2001 was the worst year on record (Graph VII.5).

In terms of capitalisation and credit ratings there is a great deal of dispersion within the insurance industry, and there have been several failures over recent years. While premiums have generally been on the rise over the past year, a number of insurance firms continue to face difficult operating environments. One potential danger is that low earnings rates on existing assets may lead to pressure on some insurers to take on additional risks without first putting in place the necessary controls and safeguards.

Performance of the insurance industry



[1] Losses and expenses as a percentage of premiums earned. [2] In billions of US dollars.

Sources: National Association of Insurance Commissioners; Standard & Poor's. Graph VII.5

The changing nature of risk

Financial institutions are more resilient than in the early 1990s

The general resilience of most financial institutions to the economic slowdown stands in contrast to the experience of the early 1990s. One important reason for this difference is that the recent slowdown has not been as severe or as widespread as was the case a decade ago. But differences in the behaviour of asset markets and changes in the structure of financial intermediation have also played a role. Arguably, these financial factors have affected not only the resilience of financial institutions, but also the nature of the slowdown itself and the character of the risks that face the financial system. In this regard, three factors are particularly important: the absence of a large commercial property boom in the late 1990s; the increased financing of relatively risky investments through the capital markets; and changes in the way that risk is managed and distributed across financial institutions.

Asset market developments

Commercial property price cycle largely absent ...

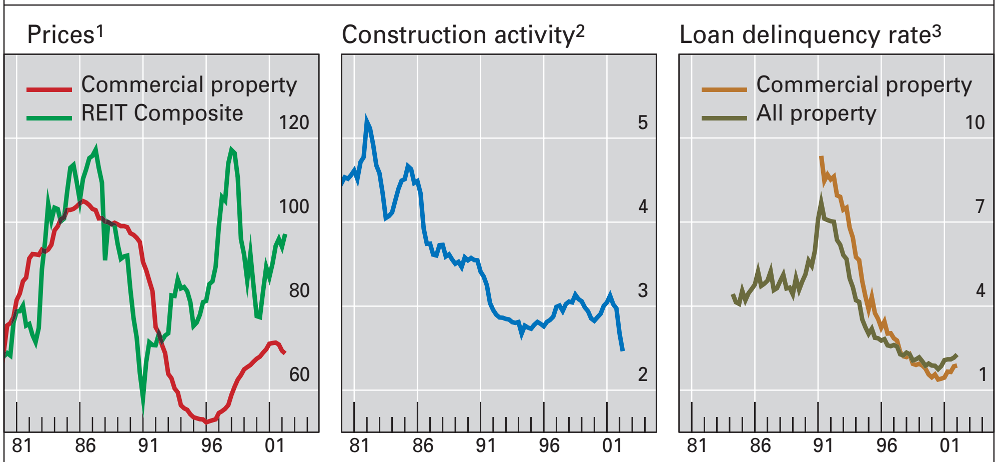
The slowdowns in economic growth in 2001 and in the early 1990s were both preceded by very strong asset markets. In the earlier episode it was property markets that were particularly robust, and it was banks that provided much of the leverage that funded the boom. In contrast, while some property markets have been consistently strong in the recent episode, it was equity markets that generally experienced the larger gains in the upswing of the cycle. And while banks provided funding that supported these gains, their direct exposure to movements in the equity market has been considerably smaller than it had been to movements in the property market a decade earlier.

In the early 1990s episode, the boom and subsequent bust in the commercial property sector was a major contributor to the increase in bad debt expenses for many banks. In contrast, more recently, the absence of a pronounced commercial property price cycle has meant that most banks have experienced only a small increase, if any, in bad debt expenses related to property lending (Graph VII.6). In many countries, commercial property prices, even in nominal terms, remain below the levels reached a decade ago. The main exceptions here are the Netherlands and Ireland.

... in part due to better market discipline ...

A number of interrelated factors help explain the relatively benign outcomes. First, there has been an improvement in market discipline arising from the growth in markets for equity and debt instruments primarily backed by commercial property, particularly in the United States, but also in Australia, the United Kingdom and Sweden. Given the illiquidity of commercial property and the difficulties often encountered in observing prices, these instruments have served a useful purpose by increasing the range of investors that actively scrutinise the sector and by providing a timely and observable signal of the investment community's view about future prospects. In 1998, for example, the fall in the price of real estate investment trusts in the United States, partially in response to concerns about increasing vacancy rates, arguably served to restrain both new construction activity and commercial property prices in an environment of strong economic growth.

US commercial property sector



[1] 1988 Q1 = 100. [2] Private non-residential construction as a percentage of GDP. [3] Non-accrual loans and loans more than 30 days past due as a percentage of total loans.

Sources: Federal Deposit Insurance Corporation (FDIC); National Council of Real Estate Investment Fiduciaries (NCREIF); National Association of Real Estate Investment Trusts (NAREIT); national data.

Graph VII.6

... the oversupply from the late 1980s boom ...

Second, in a number of countries, the overbuilding of the late 1980s has taken time to be absorbed by growth in demand. Partly as a result, in almost all countries the share of output accounted for by non-residential construction has been lower in recent years than it was in the second half of the 1980s.

... better risk management ...

Third, the earlier experience acted as a catalyst for many banks to improve their management of commercial property risk, and for supervisors to increase their oversight of banks' exposures in this area.

... and lower interest rates

And finally, the decline in official interest rates in 2001 helped alleviate the downward pressure on commercial property prices that might otherwise have arisen from a weaker economy. The reduction in interest rates also helped support already strong residential property markets. Indeed, recent large increases have taken real residential property prices in many countries to levels beyond the peaks reached in the early 1990s (Table VII.2). The main exceptions to this general pattern are Germany (where the aggregate price index has trended downwards since the boom following reunification), Japan and Switzerland.

House prices and household indebtedness have risen

The large gains in house prices have been associated with significant increases in household indebtedness. While these increases do not pose an immediate threat to the health of most banking systems, they do make the household sector more vulnerable to an extended economic slowdown or a substantial rise in interest rates (see Chapter II). Moreover, further increases in indebtedness on the back of additional gains in housing prices would add to the potential for costly balance sheet adjustments in the future. Such adjustments would be likely to have adverse effects on the economy and thus contribute to a deterioration in the overall quality of banks' portfolios.

Property prices

	Commercial property[1]			Residential property			*Memo: Household debt*[2]	
	1995–2001	2001	2001	1995–2001	2001	2001	*1995–2001*	*2001*
	Change[3]		Relative level[4]	Change[3]		Relative level[4]	*Change*[3]	
	Nominal		Real	Nominal		Real	*Nominal*	
United States	3.8	–2.3	40	5.5	6.9	112	*7.9*	*7.7*
Japan	–8.4	–9.4	42	–2.6	–4.2	71	*0.4*	*–0.2*
Germany	5.9	5.5	74	–2.5	–1.2	72	*5.2*	*2.3*
France	4.9	–7.3	69	3.4	6.9	106	*5.1*	*5.5*
United Kingdom	2.6	0.6	54	8.3	4.6	108	*7.3*	*10.9*
Italy	10.8	28.8	80	2.5	7.9	87	*8.5*	*6.0*
Canada	3.4	4.0	54	1.5	5.7	88	*5.5*	*5.3*
Spain	16.1	–6.8	64	7.9	15.0	114	*13.3*	*11.7*
Australia	3.8	3.2	50	6.5	15.5	123	*12.4*	*13.2*
Netherlands	10.8	8.5	136	11.5	7.0	213	*16.0*	*10.0*
Belgium	3.9	0.0	78	5.0	5.6	151	*5.0*	*0.9*
Sweden	9.0	–35.1	53	6.5	4.8	106	*5.8*	*8.5*
Switzerland	–0.3	2.0	62	–1.2	2.5	63	*3.3*	*3.5*
Denmark	7.1	6.2	83	8.2	3.3	108	*7.5*	*8.5*
Norway	7.8	15.8	50	9.1	5.5	110	*6.9*	*10.6*
Finland	3.9	–4.8	61	6.2	1.3	73	*3.8*	*8.5*
Ireland	15.4	3.2	180	13.4	0.6	199	…	…

[1] Data typically refer to major cities; for Belgium, Finland, France, Germany, Italy, the Netherlands, Spain and Sweden, prime property. [2] Broad financial accounts concept where available, otherwise credit from banks; partly estimated. [3] Annual percentage change. [4] Past peak period of real commercial/residential property prices = 100; where peak periods could not be clearly identified, third quarter of 1990 = 100.

Sources: Catella; Frank Russell Canada Ltd; Investment Property Databank Ltd; Jones Lang LaSalle; Ministère de l'Équipement, des Transports et du Logement; NCREIF; Nomisma; OPAK; Ring Deutscher Makler; Sadolin & Albæk; Wüest & Partner; national data; BIS estimates. Table VII.2

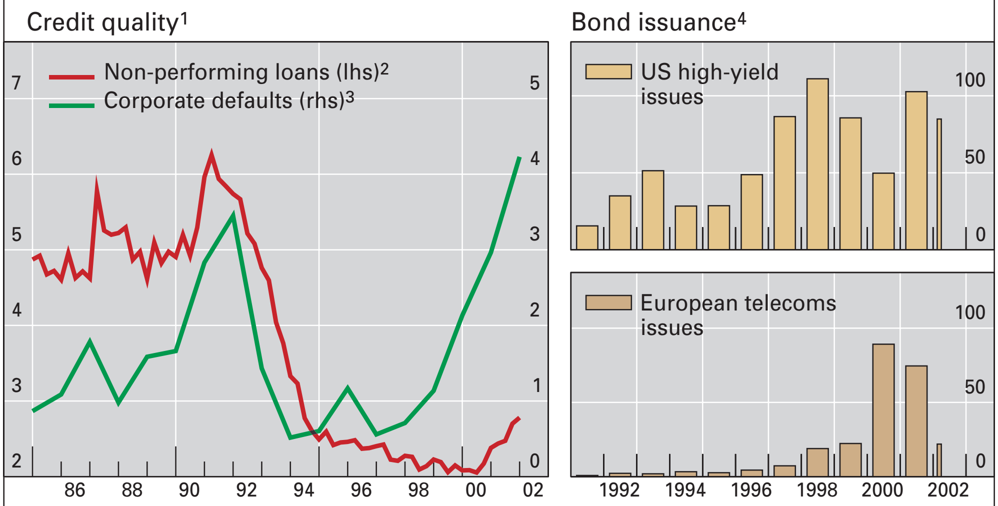
Financing through the capital markets

The financing of the boom largely through capital markets …

The relatively muted increase in banks' impaired loans stands in stark contrast to the very large increase in the default rate on corporate bonds and historically high loss rates on these bonds (Graph VII.7). One explanation for these divergent patterns is that, in both Europe and the United States, a considerable amount of the financing for the most risky elements of the late 1990s boom was obtained from outside the banking system. This is perhaps best illustrated by the fact that firms in the technology and telecommunications sectors relied heavily on vendor financing, venture capital and the equity and bond markets for their financial needs. Another example is the re-emergence over the second half of the 1990s of rapid growth in bond issuance by sub-investment grade corporate borrowers, particularly in the United States.

Obviously, the banking industry has not completely avoided the credit quality problems in the technology and telecommunications sectors. It too provided considerable finance, particularly through the syndicated loan market and directly to middle-ranked firms. However, to date, credit losses

Credit quality and bond issuance



[1] In the United States. [2] Non-accrual loans and loans more than 30 days past due as a percentage of total loans. [3] Number of defaulted rated companies as a percentage of all rated companies. [4] In billions of US dollars (residence concept). For 2002, annualised first quarter.

Sources: FDIC; Standard & Poor's Global Fixed Income Research and Risk Solutions *CreditPro*.

Graph VII.7

on these exposures have been absorbed without causing major difficulties. For a number of banks, a concern at least as serious as the decline in credit quality has been the drying-up of income from capital market activity generated by firms in these sectors.

... has contributed to resilience ...

From a financial stability perspective, the financing of high-risk investments through the capital markets, rather than through institutions with capital-guaranteed liabilities, is probably desirable. Not only can it help lessen the probability of failure of these institutions, but widespread access to the capital markets can act as a form of insurance by providing businesses with an alternative source of finance should the banking system come under strain.

... but banks remain exposed to market turmoil

Such financing does, however, change the character of the risks. In particular, to the extent that increased access to the capital markets allows greater leverage in the corporate sector, the vulnerability of the economy to a downturn and higher interest rates may be increased. Furthermore, abrupt changes in sentiment in capital markets can generate liquidity difficulties, which unless resolved quickly can create credit quality problems for the banking industry. The problems can arise either directly, if banks are providing backup lines of credit, as has been the case with the commercial paper market, or indirectly, if the liquidity problems lead to a general slowing of the economy.

Credit risk transfer

The emergence and growth of markets that allow risk to be more easily transferred amongst financial institutions has also contributed to the recent resilience. The largest and most well established of these markets is the one for asset-backed securities. Recent years, however, have also seen very strong growth in markets for credit derivatives, including synthetic securitisations, and in the trading of secondary loans (Graph VII.8).

New instruments allow better diversification …

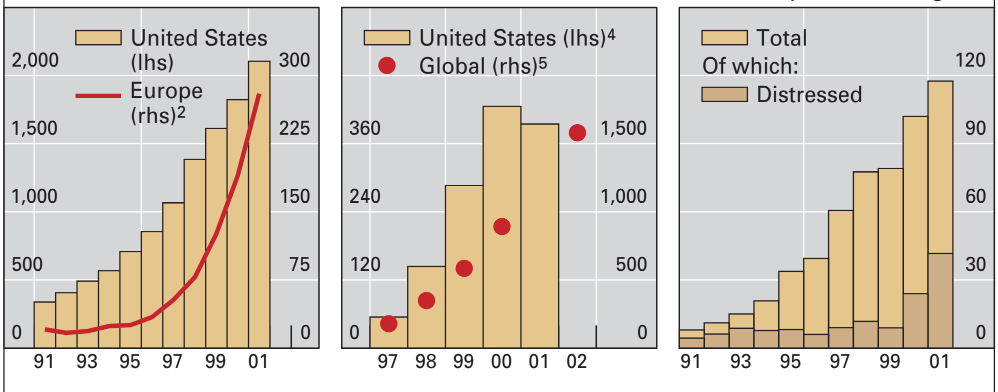
These markets have contributed to resilience in a number of ways. Most importantly, they permit risk to be transferred away from institutions that have a comparative advantage in arranging loans towards those that specialise in bearing and managing risk. This allows institutions to be better diversified and, to the extent that risk ends up being held by institutions with longer-term horizons, it can also promote more stable patterns of financing. These markets also enhance the pricing and transparency of risk assessments. Furthermore, sales of distressed loans allow bank management to focus on the performing parts of their loan portfolio, rather than on managing problem loans. Over the past year or so, despite several hiccups, these nascent markets have proved effective in distributing the losses from a series of high-profile defaults across the financial sector.

… but raise potential risks as well

Against this generally positive background, recent developments give rise to a number of potential concerns. First, to some degree, the growth of credit risk transfer instruments has been driven by regulatory arbitrage, raising the possibility that risk is being concentrated in institutions that are relatively lightly regulated. Second, interdependencies within the financial system have increased, so that the ability of an individual institution to manage its credit risk has become dependent on the risk appetite of other institutions. Further, the high degree of concentration in some markets makes them potentially vulnerable to changes in the behaviour of a relatively small number of players. Third, the development of complex financial instruments can make it more difficult to assess the overall level of risk and its distribution within the financial system. And finally, just as with increased access to the capital markets, the development of instruments that allow credit risk to be easily transferred can facilitate the build-up of leverage in the corporate sector.

Indicators of credit risk transfer

In billions of US dollars



[1] Amounts outstanding. [2] International bonds. [3] Notional amounts outstanding. [4] Commercial banks. [5] Market participants' estimates (BBA surveys of 1998 and 2000); for 2002, forecast. [6] Global; turnover data.

Sources: Board of Governors of the Federal Reserve System, *Flow of Funds Accounts*; US Office of the Comptroller of the Currency; British Bankers' Association (BBA); Loan Pricing Corporation; BIS.

Graph VII.8

Overall, while the above developments have undoubtedly contributed to the general resilience of financial institutions over the past year or so, history suggests that apparently healthy institutions and banking systems can find themselves in difficulty in a relatively short period of time. As some recent high-profile defaults illustrate, problems can arise particularly quickly when disclosure is poor and assets are overvalued or liabilities undervalued. More generally, a protracted period of slow growth could expose balance sheet problems that have, to date, remained under the surface due to the shallow nature of the downturn. If this were to occur, the build-up of debt over recent years would become a more significant problem.

Continuing problems in Japan

Further losses by Japanese banks ...

In contrast to the generally robust performance of most financial systems, the Japanese system has been operating under considerable strain. The fall in private sector credit has continued and banks, after having built up their holdings of Japanese government bonds in previous years, have since mid-2001 significantly increased their deposits at the Bank of Japan. Moreover, the continued deterioration in the health of the corporate sector has led to a further rise in banks' problem loans, despite significant loan write-offs (Graph VII.9). As a result, in fiscal 2001 (ending March 2002) the banking system will have recorded its fifth loss in seven years, with cumulative losses over this period amounting to around ¥15 trillion. This is equivalent to almost 60% of the level of shareholders' equity at end-March 1995.

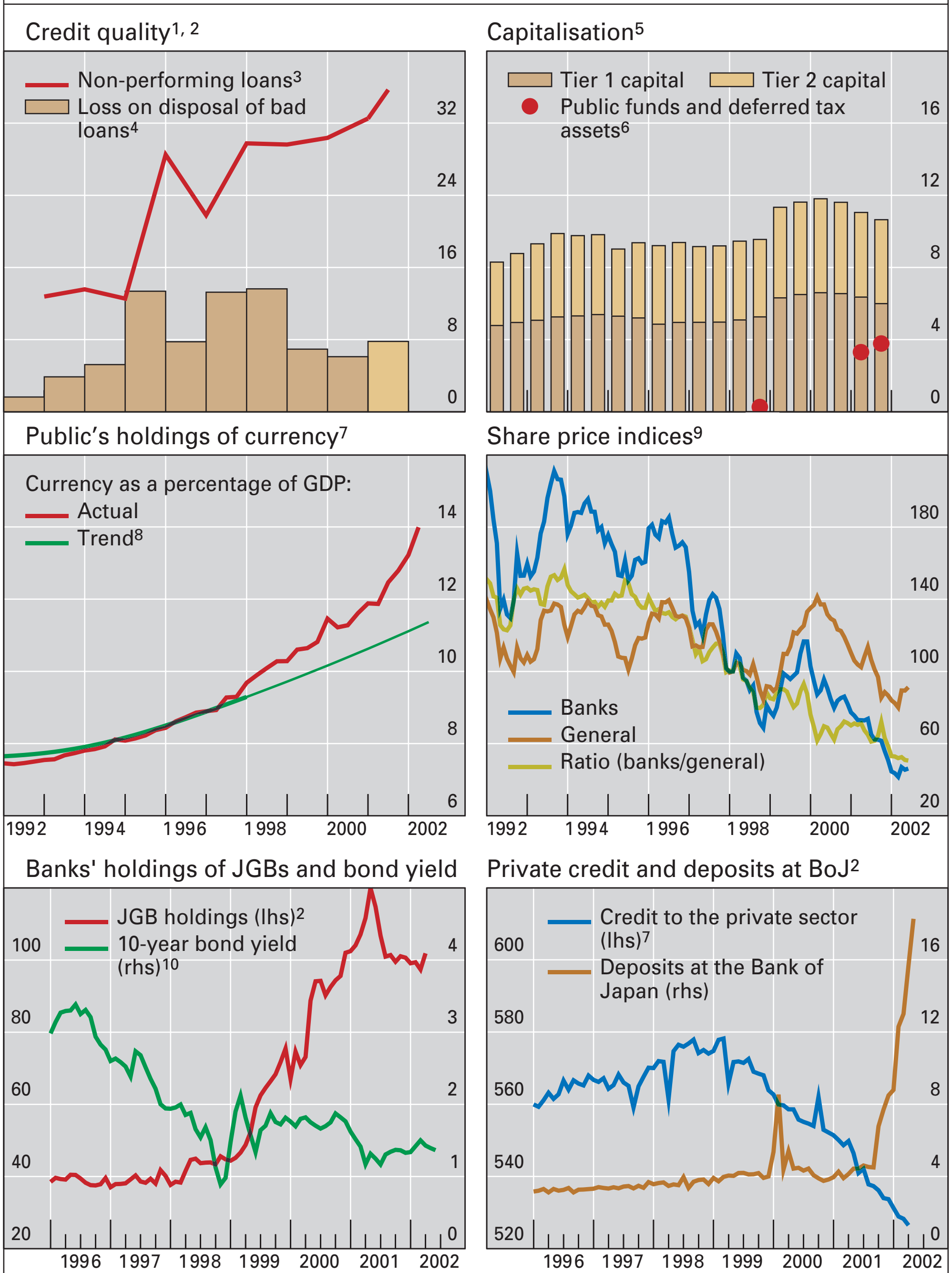
... have led to a fall in capital ratios

The losses in fiscal 2001 have meant that the ratio of capital to risk-weighted assets has fallen over the past year, with the published ratio for internationally active banks standing at around 10½% at end-March 2002. While this is not out of line with capital adequacy ratios in a number of other countries, the structure of Japanese banks' capital is somewhat different. In particular, at end-March 2002, over 20% of the total regulatory capital of the major banks consisted of public funds, with deferred tax assets (which can only be realised if banks earn sufficiently high profits within five years) accounting for a similar share. Furthermore, many commentators view the official problem loan figures as understating the true scale of the difficulties. A particular concern is that, in the current low interest rate environment, many weak borrowers are able to meet their interest payments even though they have little prospect of repaying their loans, or perhaps even of servicing them if interest rates were to return to more normal levels. Recognising all such loans as impaired could lead to further large provisioning expenses, calling into question the capital adequacy of some banks.

Ongoing problems include low lending margins ...

While the immediate problem is one of poor credit quality, a fundamental problem for the Japanese banking system is the low level of lending margins. In many cases these margins are insufficient to earn an appropriate return on equity even in a reasonably healthy economy. This situation reflects, amongst other factors, strong competition from government-sponsored financial institutions, external pressure on banks to provide financing to small businesses on relatively generous terms, and an apparent reluctance

Banking industry in Japan



[1] Data refer to fiscal years. [2] In trillions of yen. [3] Latest observation refers to September 2001. [4] For 2001, 13 major banks only. [5] As a percentage of risk-weighted assets. [6] Included in Tier 1 and Tier 2 capital. [7] Seasonally adjusted. [8] Hodrick-Prescott filter applied over the period 1970–97 and extrapolated thereafter. [9] TOPIX; January 1998 = 100. [10] In percentages.

Source: National data. Graph VII.9

of many banks to charge borrowers with whom they have long-term relationships an interest rate commensurate with the risks incurred.

… large equity holdings …

Another aspect of the Japanese situation that is unusual by international standards is the relatively large holdings of equities by banks. For much of the 1990s, the gradual realisation of earlier gains on these holdings helped compensate for the low level of margin income and offset some of the losses arising from bad loans. But the fall in the equity market in 2001 and the introduction of mark to market accounting have seen this situation turn around, with equity-related losses in fiscal 2001 being equivalent to 7% of banks' regulatory capital. Further declines in equity prices would make still more significant inroads into the banks' capital base, given that equity holdings exceed Tier 1 capital for many banks. Another vulnerability stems from the banks' large holdings of Japanese government securities. To the extent that the banks have not hedged the associated interest rate risk, a rise in long-term bond yields could create sizeable capital losses.

... and cross-holdings of capital

These ongoing problems are further complicated by the extensive cross-holdings of capital between major banks and life insurance companies. Banks are large holders of subordinated debt issued by insurance companies, and insurance companies account for at least two of the top five shareholders of many banks. These interlinkages increase systemic risk, particularly considering the weaknesses in the Japanese insurance sector. Many insurers have suffered large losses as a result of unhedged mismatches between the duration of their assets and liabilities, and a number of insurers have failed over recent years. The cross-holdings have also served to weaken corporate governance and thus have contributed to the slow pace of progress.

Confidence is fragile

In view of the ongoing risks, several indicators suggest that confidence in the banking system is fragile. First, holdings of currency by the public have risen substantially over the last few years, as have retail sales of gold, with both trends accelerating recently. Second, with the lifting of the guarantee on time deposits, there has been a shift towards current account deposits, which retain the guarantee until the end of March 2003. Third, the largest banks, which are regarded as either safer or more likely to receive government assistance, have seen an inflow of deposits at the expense of regional and lower-tier banks. Fourth, bank equity prices have underperformed a very weak overall market, with prices falling by almost 50% between the beginning of 2000 and end-May 2002. Finally, the average credit rating of Japanese banks has slipped, although the decline has been limited by the possibility of government support and the fact that ratings were not high to start with. In contrast to these indicators, the "Japan premium" remains relatively small, reflecting the banks' reduced overseas funding needs and an assurance from the government that it would intervene in the event of a systemic crisis.

Overall, the Japanese situation highlights the powerful two-way links between the real economy and the financial system: the depressed state of the economy is hurting the banking system, and the poor health of the banking system is impeding the economic recovery. Despite large injections of liquidity by the Bank of Japan, private sector credit continues to fall under the weight of overleveraged corporate balance sheets and loss-making financial institutions (see Chapter IV). The longer the economic contraction continues, the more likely it is that the credit quality problems will spread even further beyond the real estate and construction sectors. This would bring into question the ability of many banks to survive without additional capital from either the private sector or the government.

Given the interlinkages, resolving these problems requires simultaneous action on both the macroeconomic and financial fronts. In particular, a policy approach that combines accommodative macroeconomic settings with credible actions to improve the quality of financial institutions' balance sheets is critical. The tightening of loan classification rules and the recent special inspections are certainly steps in the right direction, but clearly more needs to be done. Moreover, both real and financial resources need to be reallocated from troubled firms to those that can more effectively manage these resources. This process would be aided by allowing asset markets to clear so that expected price movements are not tilted to the downside. The longer such reforms take, the weaker the prospects for a timely and sustainable recovery become. In the medium term, the development of the Japanese capital markets, the greater use of risk-based pricing and improved corporate governance in financial institutions all have a role to play in improving the resilience of the Japanese financial system and the Japanese economy.

Resolving the difficulties requires actions to improve balance sheets

Policy issues

As the experience of Japan and a number of other countries illustrates, developments in the financial system can have large effects on the economy. As financial systems have been liberalised, the scope for such effects has increased. At the same time, liberalisation has brought with it gradual improvements in risk measurement and management that are helping promote the stability of both the financial system and the economy. Liberalisation has also gradually refocused the attention of policymakers, particularly those involved in financial regulation, on some old but important questions. The first is how to ensure that the financial system promotes the fastest possible rate of sustainable economic growth. And the second is how best to ensure that the potential for greater financial amplification of the business cycle is contained.

Interlinkages between the financial system and the economy raise difficult issues

In many respects the answers to both questions are similar. High-quality financial regulation and supervision, comprehensive financial reporting, effective corporate governance and sound macroeconomic policies are central elements in avoiding the unnecessary amplification of economic cycles and in promoting long-term growth. But trade-offs can emerge as well. In particular, one of the features of periods of financial excess is the financing of highly risky investments. While many of these investments ultimately fail, those that do succeed sometimes provide breakthroughs that can sow the seeds for future economic growth. A policy approach that successfully contained such excesses might avoid the very large costs sometimes associated with financial instability, but potentially at the price of lower economic growth in the long run.

While it is sometimes argued that these macroeconomic concerns fall outside the remit of regulatory authorities, the interrelationships between financial regulation and the macroeconomy have attracted increased interest over recent years. Given the recurrence of financial cycles, three related issues have received particular attention. The first is the extent to which financial regulation can incorporate a macroprudential or systemic dimension. The second is whether risk-based capital standards are likely to amplify or dampen economic cycles. And the third is the extent to which banks' loan values should reflect forward-looking considerations, including the overall economic outlook.

The measurement of risk and macroprudential regulation

Bank regulation can have both micro and macro perspectives

Bank regulation is often seen in terms of reducing the probability of failure of *individual* banks, in part to protect the interests of depositors that have difficulty in assessing the health of institutions in which their savings are invested. Alternatively, regulation can be seen in terms of limiting the likelihood that developments in the financial system adversely affect the macroeconomy. From this macroprudential perspective, bank failures are of concern if they have the potential to impair the health of the macroeconomy.

The two views can lead to a number of subtle, but potentially important, differences in emphasis. First, a macroprudential approach is likely to place more emphasis on institutions that are viewed as systemically important. Second, it is likely to lead to greater attention being paid to common exposures across institutions and the potential for these exposures to be adversely affected by the development of imbalances in either the real economy or the financial system. And third, it is more likely to take into account the possible responses of the economy to changes in financial regulation.

Despite these differences, these two views need not be inconsistent with one another. Indeed, as historical experience clearly shows, macroeconomic developments are at the root of many bank failures, and in turn many failures have had macroeconomic effects. This suggests that a system of regulation with a macroprudential orientation would, if successfully implemented, also enhance the robustness of individual institutions. It also suggests that macroeconomic factors should be incorporated into the measurement of credit risk, both for individual institutions and for the system as a whole.

For both approaches, measuring how credit risk changes through time is important

Moving in this direction is, however, far from straightforward. On the one hand, it is sometimes argued that economic forecasters have such a poor record that there is little value in making forecasts and in assessing aggregate imbalances when measuring credit risk, particularly at the level of an individual borrower. This view typically leads to risk being assessed as low in a boom and high in a downturn. On the other hand, some evidence exists that sustained rapid credit growth combined with large increases in property prices and/or the capital stock is a useful leading indicator of financial stress. While such developments do not always end in higher credit losses, history suggests that they might reasonably lead to greater uncertainty about future losses, particularly if there is a possibility of costly adjustments in balance sheets and asset prices. If this is the case, credit risk, accurately measured, might be relatively high even if the economy is performing strongly.

Looking forward, a major challenge for individual banks, supervisors and those responsible for financial stability is to find effective ways of incorporating macroeconomic considerations into measures of credit risk.

Progress in this direction is important if regulatory policy is to have a more macroeconomic orientation. It would also help narrow the existing differences between the two views of regulation.

Risk-based capital requirements

Under Basel II, minimum capital requirements …

One development that has served to focus attention on this measurement issue is the proposal by the Basel Committee on Banking Supervision to link a bank's minimum capital requirement to the *measured* riskiness of its assets. Under the proposals, and unlike the current Basel Capital Accord, the capital requirement on a given portfolio would change through time in line with changes in the measured risk of the portfolio.

… are likely to increase in economic downturns

This aspect of the proposals has aroused considerable debate. From a macroprudential perspective, one might like to see capital being built up in economic expansions and then being allowed to run down, but not below some minimum level, in economic contractions. Moreover, raising capital in expansions is likely to be easier and less costly than raising capital when the banking system is under stress. The concern has been that the proposed changes to the Capital Accord might produce minimum capital requirements with the opposite pattern. In particular, current methods of assessing the quality of banks' loan portfolios generally indicate a reduction in credit risk in expansions and an increase in slowdowns. As a result, it would seem likely that minimum capital requirements, on a given portfolio, will decline in expansions and increase in slowdowns.

Partly in response to concerns about how such movements might affect the macroeconomy, the Basel Committee, in late 2001, proposed reducing the rate at which the minimum capital requirement increases as the credit quality of a borrower deteriorates. Thus, to the extent that measured credit quality deteriorates in economic downturns, the proposed change reduces the associated increase in minimum capital requirements. Simulations suggest that the effect of this change could be substantial, with fluctuations in minimum capital requirements through time cut by perhaps around one third. Moreover, the proposed change is also likely to reduce significantly the capital requirement on loans to many small businesses.

Perhaps more importantly, a number of other aspects of the New Accord might also be expected to dampen any procyclical effects arising from higher minimum capital requirements during economic downturns.

However, better risk quantification …

First, the increased emphasis on risk quantification is contributing to a revolution in the measurement and management of credit risk. One significant benefit of this is that credit quality problems are more likely to be recognised early in the business cycle. This should help prompt more timely corrective action than has sometimes been the case in the past. If so, problems are more likely to be contained before they reach the point where they threaten the health of the bank or the financial system more generally.

… disclosure …

Second, comprehensive disclosure requirements, including details of banks' loans by ratings grade, have the potential to limit any tendency for capital ratios to decline in expansions. Counterparties might rightly be concerned if a bank were to increase its leverage during a boom in response to a decline in its minimum capital requirement arising from favourable re-evaluation of its loan portfolio. Accordingly, buffers over the regulatory minimum could well increase in good times and fall in bad times. The effectiveness of this type of market discipline would be reinforced if banks disclosed the results of various macroeconomic stress tests, including how the required capital level would change if the economy were to experience a downturn. Enhanced disclosure is also likely to lead to earlier corrective action and to reduce regulatory forbearance.

… and supervisory review …

Third, supervisors will be required to assess whether a bank is adequately capitalised *even if* it is meeting the minimum requirements. In making such an assessment, business cycle considerations could be important. Again, the use of stress tests is likely to be particularly helpful.

… should dampen procyclical effects

Ultimately, these changes in behaviour may be the most important contribution to financial stability resulting from the proposed changes to the Capital Accord. Notwithstanding this, the effect of cyclical swings in minimum requirements will need to be monitored closely.

Forward-looking provisioning

Loan values and recorded bank profitability …

The third issue has to do with the accounting rules that govern the valuation of banks' loan portfolios. This issue, which until recently received too little attention, is particularly important given that accurate valuation is a prerequisite for capital requirements to be meaningful and for disclosure to be relevant.

… are influenced by provisioning rules that are often backward-looking

Within the historical cost accounting framework, loans are typically valued at the amount due less any provision for loan impairment. Changes in the level of provisions thus represent an expense in the bank's income statement. While provisioning rules differ from country to country, in many cases they limit banks' ability to reduce a loan's recorded value in situations in which the credit quality of a borrower has deteriorated, but not to the point where default is probable. As such, these rules can contribute to provisions being created too late in the business cycle. A more forward-looking approach might lead to a more accurate presentation of a bank's financial performance and, at the same time, reduce the procyclicality of reported profits. This could be important given the tendency for banks to expand lending when their recorded profits are strong and to contract lending when their recorded profits are weak.

A more forward-looking system is desirable and there are a number of possibilities …

In this context, a number of ideas have emerged. The International Accounting Standards Board, for example, is proposing that a provision be created whenever the present discounted value of the expected cash flows associated with a portfolio of loans differs from the portfolio's carrying amount (typically the amount due). By using the expected internal rate of return at origination to conduct the discounting, loans would typically be recorded at their face value at inception. However, their value would subsequently evolve through time in line with changes in credit quality. Such an approach could be seen as a step towards fair value accounting for loans, but one that avoided changes in values arising from movements in the risk-free yield curve as well as market liquidity and risk premia. The primary difficulty with this approach is that valuation of loans is highly dependent upon the judgment of a bank's management.

Another idea is to require a provision to be created whenever the actual losses in an accounting period are less than the expected losses, and then to allow the provision to be run down when the actual losses exceed the expected losses. A system broadly along these lines has been introduced in Spain. It too has the potential to reduce the procyclicality of banks' profits. Moreover, it might contribute to the retention of interest income earned during the good years rather than having it paid out as dividends. However, one criticism of this idea is that it can lead to a provisioning process that is too rule-based, rather than reliant on a full assessment of the prospect of borrowers repaying their loans.

A third idea is to require banks to hold provisions equal to the expected losses from the failure of borrowers to repay loans over some future period, say the next year. This approach would see the creation of a provision at the origination of a loan and thus would lead to the early recognition of potential credit losses. It would, however, also mean that fairly priced loans would be valued at origination at less than their face value. While such a conservative approach is appealing to some prudential regulators, others are concerned that it could make it more difficult for both themselves and the market to assess the true value of a bank's loan portfolio.

... all of which raise issues about verification

Each of these ideas clearly has its advantages and disadvantages. There are, however, two important common issues. The first is the extent to which outside parties can verify the resulting loan valuations. Many approaches to forward-looking provisioning, like fair value accounting for instruments for which no traded market exists, rely on banks' assessments of the creditworthiness of borrowers. It remains an open question as to how verifiable and transparent these assessments can be made. The second is the extent to which macroeconomic forecasts should influence the calculation of expected cash flows or expected losses. The challenge for supervisors and standard setters is to develop valuation approaches that appropriately take into account the ability of borrowers to service their obligations in the future and can be audited and verified by outside parties.

To conclude, the issues of how the state of the economy and developments in the financial sector affect the measurement of credit risk, the appropriate level of bank capital and the valuation of loans are complex, intimately related and fundamentally difficult. But they are also fundamentally important, particularly given the scope for developments in the financial system to be a significant source of macroeconomic fluctuations. Looking forward, a major challenge for policymakers is to ensure that the financial system and the economy reinforce one another in a positive fashion, rather than in a way that leads to larger swings in economic activity and an increased risk of financial instability.

VIII. Conclusion: dealing with possible headwinds

Looking back over the period under review, there are grounds for considerable satisfaction. Given the stresses and strains placed on the global economy, its performance could have been a great deal worse. An aggressive set of stimulative macroeconomic policies, allied with a financial sector made more robust by structural reforms, proved pivotal. But looking ahead, two points should not be forgotten. Although partly attributable to unforeseen events, the actual outcomes in terms of growth, profits and employment have put us on a lower expansionary path than many had counted on. Savings plans in some countries will eventually have to be adjusted upwards in consequence. In addition, there is no guarantee that even today's more moderate expectations will be realised. There are still considerable risks and uncertainties. These will test the limits of our understanding of both economic processes and sound policies.

Around the middle of last year, many commentators were still anticipating a rapid recovery in the global economy. Today, aspirations are more restrained, with the central scenario being an unusually modest recovery from what was, in some countries, an unusually shallow downturn. Nevertheless, the process expected to underpin this recovery remains a traditional one. The strong negative inventory swing seen in many countries stops, or is even partially reversed. As production responds, income and consumer confidence increase, leading to more household spending. As profits rise in turn, investment goes up, supporting a sustainable recovery and expansion. Headwinds arising from difficulties in the financial sector are treated as being of no great importance.

It is here that questions must be raised, since the last few years have been, even leaving shocks aside, anything but normal. The upturn of the late 1990s, characterised by a boom in credit extension, asset prices and fixed investment, particularly in the English-speaking countries, was certainly anything but normal. The reversal was precipitated by a collapse in profits and investment rather than by sharply rising inflation and a commensurate policy response. Again, anything but normal. And the downturn has been anything but normal in two important respects. Consumption growth in many countries, but particularly the United States, has been maintained at remarkably high levels in spite of the economic slowdown. Fortunately, the same can also be said for productivity growth. These unusual features raise the question of how, and to what extent, the characteristics of the recent past might condition the future, either for better or for worse.

Answering such questions is not easy. An accurate projection first presumes an understanding of the way in which the fortunes of the real economy affect the health of the financial system. For example, suppose the global economy were to rebound vigorously. What effect would this have on inflation expectations and bond rates? In contrast, what would be the effect of only a moderate economic recovery on already low profits and already high equity prices? How might each of these alternative scenarios then impinge on the health of financial institutions? And to take this logic one step further, how might changes in these financial variables feed back in turn on the real economy, given a starting point at which debt levels are also unusually high? The truth is that our understanding of each link is limited, and the possibility of unexpected interactions between these various forces makes our knowledge more limited still. Things could indeed turn out quite well, in a self-reinforcing way, but they could also turn out quite messily. Sound policy advice would be to hope for the former and prepare for the latter, as is discussed below.

Future outcomes will be conditioned by unforeseen events as well as policy choices. As regards the former, some concerns rank higher than others. Further terrorist action could damage confidence and restrain consumption and investment, besides injuring an already weakened insurance industry. An escalation of the conflict in the Middle East and consequent disruptions to oil supplies would raise prices and further dampen purchasing power in most countries. Current trade tensions could worsen, to the detriment of everyone but especially the poor. Yet other unforeseen events might have very positive implications. Current technological possibilities have by no means been fully exploited, even in the most advanced countries. The spread of US productivity gains to other countries would lift boats everywhere. And the search for new technological breakthroughs and associated applications will eventually pay large dividends.

While the balance of these possibilities still seems to be tilted towards the downside, it should also be noted that public policy has considerable power both to help prevent adverse developments and to cushion the impact on the economy should they occur. Trade wars are not inevitable. The lure of using oil as a political weapon can be resisted. The underlying trend of inflation is mostly benign and a great deal of fiscal retrenchment has taken place in recent years. These latter developments increase the room for manoeuvre with respect to macroeconomic policies. Recent events also attest to the growing resilience of the financial system. In sum, while there are causes for concern looking ahead, there are also some sources of comfort.

Factors conditioning the economic outlook

One salient and welcome characteristic of the last decade has been the quiescence of global inflation. This has been particularly remarkable in countries where substantial exchange rate depreciation might have been expected to feed through to domestic prices, but did not. In no small measure, this has been due to the enhanced credibility of central banks in both industrial and emerging market countries. They have become more keenly committed to bringing inflation down and keeping it down. Inflation expectations embedded in wage and other contracts appear to have become more forward-looking and better anchored, and less likely to respond to one-time price increases.

While a legitimate source of pride for central bankers, this better inflation performance also reflects another secular force; namely, the trend for the supply side potential of the global economy to grow faster than in the past. Contributing factors include economic liberalisation in a large number of countries, not least Korea and China. Allied with an export-oriented strategy for growth, such developments have helped lower corporate pricing power everywhere. Technological advances, particularly in the United States, and rapid technological diffusion have also had a significant impact on productivity growth. Financial liberalisation has further spurred a supply side response, although not always in desirable ways. Potentially productive new ideas were easily funded, but so too were many other initiatives. There can now be little doubt that much of the investment in the IT sector everywhere will never prove profitable, and a large part of this excess capacity has yet to be fully written off. All the above forces remain in play and some are even strengthening. Allied with persistently weak demand in Japan and parts of continental Europe, the implication is that global price trends for internationally traded goods and services are likely to stay deflationary even if domestic compensation and oil price increases retain some potential for near-term inflationary mischief.

Faced with these circumstances, the English-speaking countries were effectively the global importers of last resort for much of the last decade. Interest rates were kept comparatively low in the United States, even as the economic expansion extended to record length. Both business investment and household spending rose rapidly and in both sectors there was significant recourse to debt financing. The most recent example of this, partially in reaction to the reductions in interest rates since January 2001, has been a sharp increase in mortgage debt and an even sharper one in mortgage refinancing in many countries. Much of the cash raised seems to have been used to support consumption at uncommonly high levels through the slowdown.

But the important question now is how much balance sheet considerations will come to weigh on future spending plans. On the one hand, household and corporate debt levels in a number of the English-speaking countries seem very high when measured against disposable income and cash flow respectively. Unless profits recover significantly, balance sheet constraints and high levels of excess capacity may work against a rebound of investment. Moreover, the scope for further mortgage refinancing is much lower and the stock of recently purchased consumer durables much higher. On the other hand, debt service burdens still seem manageable and the ratio of debt to assets is still relatively low. However, both these more positive indicators would deteriorate were interest rates to rise back to more usual levels. In contemplating when and how quickly to raise interest rates, assuming the current recovery continues, the possible fragility of balance sheets may need to be taken into account.

If the recent past is any guide, the near-term fortunes of the rest of the world will continue to be much affected by what happens in the English-speaking countries, especially the United States. Global trade links, more integrated capital markets and a remarkable expansion of transatlantic mergers and acquisitions are increasingly pointing continental Europe in the same direction as the North American economies. Yet the potential for dissimilar behaviour also remains high. For example, with the important exception of the telecommunications companies, there is in Europe much less evidence of the debt imbalances referred to above. Profit levels have also been relatively well maintained and, again outside the telecoms sector, there does not appear to be the level of overinvestment seen recently elsewhere. What is more worrying at the European corporate level is the pressure for higher wages. Given global competitive conditions, this seems more likely to reduce employment and growth potential than to raise prices.

In Japan, the balance sheet picture is much less positive. Private sector debt levels remain very high by international standards, even if larger Japanese corporations have had some success in restructuring and paying down debt. For such corporations, profits have also been rebounding as export receipts have risen with stronger sales abroad and a weaker yen. However, for the vast bulk of smaller firms in Japan's still largely closed economy, profits remain anaemic and excess capacity the rule. While consumers have continued to spend at a moderate pace, rising unemployment and falling confidence might yet dampen spending further.

Prospects for the emerging market economies will also be much affected by developments in the industrial world. Broadly speaking, Asia looks set to perform much better in terms of both growth and inflation than does Latin America, with the transition economies in Europe occupying an intermediate position. Clearly, the relatively favourable position of the Asian region reflects both the size and composition of the traded goods sector. Perhaps the biggest risk to the outlook for Latin American countries comes from the external side. Should financial flows dry up, reflecting either increased risk aversion or domestic political instability, current account deficits would have to be reduced through corresponding cuts in domestic spending. This could prove painful, as we have already seen in Argentina, and before that in Turkey. But while Turkey now seems to be on a path to recovery, albeit subject to still high inflation and eroding competitiveness, the outlook for Argentina is more uncertain than ever.

Another important consideration looking forward is the extent to which difficulties and imbalances in the global financial sector itself might moderate an incipient recovery. The first point to make inclines one to optimism. While banks in most industrial countries have suffered some deterioration in the quality of their loan portfolios, the share of problem loans seems likely to remain well below the peak reached in the early 1990s. One major reason is that loans for commercial property in many countries were much more subdued in the most recent cycle than in the preceding one. The speculative financing associated with this "new era" was not provided primarily by banks, but rather was channelled through equity and bond markets, or extended directly by vendors and venture capitalists. The rate of return on capital in the financial sector has also been well maintained, in spite of recent reductions in revenues associated with investment banking, and most banks appear adequately capitalised. In sum, in most industrial countries, capital constraints on the supply of bank credit do not seem likely to be a major impediment to growth.

This good news having been stated, financial institutions are not all free of troubles. It is well known that there are major problems in the Japanese banking system (see below). In addition, there are signs that some banks in continental Europe may be becoming more hesitant in making loans, particularly to smaller firms, at the same time as they are becoming less hesitant to pull the plug on bad credits. Presumably, the judgment of equity markets about the inadequacy of traditional lending strategies is playing a role here. It should also be noted that the global insurance industry has been negatively affected by the fall in investment income as interest rates and equity prices have declined. Moreover, general insurers have been hit by a succession of natural disasters as well as the events of 11 September 2001. There has also been a tendency for some companies, in both the insurance and reinsurance businesses, to compensate by moving into new areas such as credit derivatives. At this stage, it is difficult to assess the extent to which this trend may have exposed them to significant new risks.

Turning to financial markets, these have been remarkably robust to date. Nevertheless, many concerns remain. Elevated stock prices and the value of the dollar are long-standing worries. Concerns about rising house prices and the sustainability of financing through global bond markets are of more recent vintage. Significant changes in one or other of these areas are not implausible, and such changes could conceivably feed back negatively on global economic prospects.

The correction in stock prices in the technology, media and telecommunications sectors has already been massive. Here it must be hoped that the worst is over. Elsewhere, declines have been substantial but conventional valuations still leave stocks in aggregate, particularly in the United States, looking rather highly priced. This is especially the case when measured against recent earnings, but remains so even using bottom-up expectations of future earnings. Moreover, these latter estimates seem quite optimistic when put into the broader macroeconomic context, as noted above. Another uncertainty is whether further legacy charges against profits might still materialise given the long period during which profits appear to have been heavily managed. More bad investments might have to be written off and pension funds might have to be topped up. The Enron affair underlines the possibility that artificial profits might yet be revealed elsewhere. Fortunately, a general loss of confidence does not seem likely, particularly given the promise of continued increases in productivity.

Recent worries about house prices have not arisen only because levels are high relative to fundamentals. The ratio of prices to disposable income is near record highs in some countries, although not everywhere. Equally significant is the fact that house prices have been rising rapidly in many countries and seem to be playing a crucial and potentially unsustainable role in supporting consumption. In the United States, recent trends have been fuelled by increasingly easy access to mortgage credit, including through government-sponsored enterprises (GSEs), and the sharp decline in fees charged for refinancing mortgages. Concerns have been expressed that the resulting rise in indebtedness might leave many borrowers exposed in the event of any economic difficulties.

Long-standing pessimists about the dollar, focusing largely on the size of the US current account deficit, have been continuously confounded by its strength. Successive explanations for that strength have been found wanting in the light of unfolding events. Perhaps the most convincing explanation to date involves a combination of high expected rates of return on US investments, linked to relatively fast productivity growth, and the belated move by European companies towards establishing a global presence. In practice, this portfolio rebalancing necessitated an initial move into the world's largest marketplace, the United States. Until recently, the bulk of European capital inflows into the United States were in the form of foreign direct investment and equities. Last year, however, these were replaced in very large part by bond inflows, the more conservative instrument traditionally favoured by Japanese and other Asian investors. Still more recently, perhaps under the influence of losses on previous US investments, even these have shrunk amid a renewed interest on the part of US investors in opportunities in Europe.

Given the track record of forecasts in this area, speculation about the effects of these recent changes would seem risky. Even given the recent weakness of the dollar, it would be naive to simply extrapolate this trend into the future. However, it is a matter of simple arithmetic that for every year the United States runs a large current account deficit, its external debt mounts. Should the United States also experience the most robust recovery among the major industrial nations, as many now expect, this arithmetic will apply with increasing force. The fact that so many investment portfolios, both public and private, seem weighted heavily towards dollars could also provide some scope for rebalancing should the period of dollar strength seem definitely over. Europe now has financial markets in euros that match those in the United States in many key respects. Efforts to hedge dollar positions might also have effects on the domestic value of assets denominated in dollars, particularly if they were considered to be highly priced in their own right.

The last general cause for concern in this area has to do with some of the downsides of modern financial markets. The most obvious one is that access to more sources of credit can facilitate overborrowing. Experience teaches us that consumers, companies and even sovereigns are not always good judges of their capacity to service debt. Nor indeed are those who lend to them. Moreover, as Argentina's current woes so clearly indicate, what is manageable under one set of circumstances may not be manageable under another.

A closely related problem is that markets can be subject to sudden shifts in sentiment which can lead to herd-like behaviour and the sudden drying-up of liquidity in key sectors. The continuing increase in concentration in financial markets, while probably implying better risk management overall, nevertheless could still be a source of concern. For example, the most important over-the-counter derivatives markets are dominated by a very small number of firms whose ratings have been trending downwards. Nor is it comforting that the US GSEs referred to above rely on such a small number of firms in the complicated business of hedging themselves against market risk, in particular mortgage prepayment risk. Carrying out the huge volumes of transactions required, in an environment where most participants have similar and predictable strategies, could potentially lead to disruptive price movements. Moreover, a material change in the circumstances of one of these major participants could have widespread implications for financial markets as a whole. Problems would be aggravated by the growing trend for big to trade with big.

Finally, a market-related question of a more conjunctural nature should also be asked. Will bond markets remain as welcoming to borrowers, including those of lower quality, as they have been in the recent past? Aside from the most risky bonds, spreads have stayed quite low. Presumably this reflects the view that the expected economic recovery will materially reduce the likelihood of default. Were this view to change, however, firms and sovereigns might easily find themselves facing financial market conditions that would make a robust upturn even less likely.

Policies and practices to support sustainable growth

Whatever the economic processes playing out at any point in time, good policies and practices can improve future prospects. Through such efforts, growth trends can be increased. Cyclical variability can be reduced. Financial crises can be made both less numerous and less severe. To these ends, there is a role for both macroeconomic and macroprudential policies, the latter being defined as policies to strengthen financial stability. Structural reforms have an important role to play too, not only in making markets more efficient, but also in cleaning up the economic and financial mess left from past crises. This continues to be a problem in a number of countries.

Exchange rate regimes and macroeconomic policies

Before turning to macroeconomic policies, it is worth discussing the exchange rate framework within which they operate. Fewer and fewer emerging market countries are opting for fixed or adjustable peg regimes, and with good reason. Such regimes invite destabilising speculation and crises, as seen recently in Turkey and Argentina. Moreover, they encourage local residents to borrow in foreign currencies, commonly at lower rates of interest, leaving the corporate sector and potentially the financial system of the country exposed to huge losses should the currency ultimately depreciate. While floating is one preferred option, another might be an immutable fix to some other larger currency, or the establishment of a regional currency. In the light of the highly successful introduction of the euro, such issues are being discussed more seriously in transition economies and virtually all emerging market regions. Whatever the macroeconomic advantages, the microeconomic costs associated with scores of separate currencies are being increasingly appreciated.

Countries that choose to float their currency cannot in practice ignore what happens to its value. Indeed, it is clear from recent experience that many emerging market countries have chosen to manage their float quite carefully. One obvious reason is that exchange rate changes affect domestic prices. In such cases, the logical recommendation would be to use monetary policy not to control the exchange rate per se, but to moderate its movements in order to achieve some domestic inflation objective. However, the problem can easily become more complicated. The exchange rate may fail to respond as expected to changes in policy rates, a realistic possibility to judge from the behaviour of the G3 currencies in recent years. Or there may be legitimate concerns about other effects of exchange rate changes: the implications for competitiveness and financial stability, or the possibility of disorderly market conditions and self-fulfilling crises. Indeed, such concerns might have greater legitimacy in emerging market economies than in industrial ones. In such circumstances, other policy instruments should be considered. In ascending order of intrusiveness, they would range from verbal intervention through actual intervention to measures to limit speculation or capital movements. Whatever decisions are taken, due consideration must also be given to the longer-term costs of interfering with market processes and the motivation for all such policies should be clearly explained to the public.

The greatest task for monetary authorities over the last decade has been to achieve and maintain low inflation. This task has been carried out with considerable success and the result has been better economic performance overall. Nevertheless, this welcome state of affairs also poses new challenges of which policymakers are becoming increasingly aware. The first has to do with judging when it is time to tighten monetary policy. The second has to do with easing, and in particular the constraints imposed by the zero lower bound for nominal interest rates.

Consider first the question of tightening policy. If it is true that inflation expectations are better anchored around official inflation objectives, it may also be the case that underlying demand-supply imbalances can gradually build up unnoticed. At a certain point, inflationary pressures could emerge, perhaps necessitating a stronger policy response than otherwise. Such a situation would be more likely if perceived supply side increases turned out to be only a temporary phenomenon due, say, to a strengthening exchange rate or lower commodity prices which subsequently reversed. Of course, none of this would be a practical problem for monetary policy if central bankers had reliable measures for such concepts as the potential growth rate of the economy and the natural rate of unemployment. The problem, obviously, is that they do not.

A different, and perhaps more likely, complication concerning tightening can arise when inflation and interest rates are low and confidence is high. In such circumstances, leverage becomes more tempting. It could also become easier and credit growth could accelerate sharply, potentially spilling over into asset markets, wealth and spending. Resulting declines in the cost of capital might also prompt increases in investment that would themselves contribute to maintaining low inflation. However, were spending subsequently to falter, a period of excess supply and even deflation could follow, with potential feedback effects on the financial system. This kind of boom and bust cycle was seen in Japan in the late 1980s and in East Asia in the second half of the 1990s. In both cases, there was no overt inflation but a crisis emerged nonetheless.

It is far easier to describe these problems than to say what to do about them. Deciding to raise interest rates when there are no overt inflationary pressures is difficult, whether or not asset prices are rising rapidly at the same time. There are two good explanations for this. First, given all the economic and measurement uncertainties, there is a very reasonable chance in either set of circumstances that tightening would actually prove to be the wrong policy. Second, convincing the public and politicians of the need for such a policy would be very difficult. Yet, should the economy actually be on a path to boom and bust, the longer the expansion were allowed to proceed, the greater would be the ultimate reckoning.

How to ease monetary policy, when the economy is weakening and the level of inflation is already low, poses further interesting questions since a situation of deflation could easily arise. Given that nominal policy rates cannot fall below zero, deflation raises real interest rates and compounds the deflation problem. Moreover, the extent to which the problem is aggravated varies directly with the level of outstanding debt to which the miracle of compound interest applies.

Some would argue for a very vigorous easing of policy rates to prevent the emergence of deflation. The added dangers posed by high debt levels, particularly relevant to policymaking in the English-speaking countries, lend further support to such an approach. However, others would recommend a more measured response in pursuit of the same objective. One tactical motivation would be to establish a set of expectations that rates would continue to go down and then stay down. This would help long rates to fall and actively stimulate spending as a result. Such logic might apply in much of continental Europe, where long rates traditionally matter more and there is currently less excess capacity to constrain investment. A further argument for caution was first voiced in the 1930s. If the problem is one of boom and bust, very low interest rates may impede the necessary process of reducing excess capacity. Of course, this argument carries much less weight if there are other mechanisms, say active bankruptcy courts and vigilant bankers, to ensure that unviable companies are restructured nonetheless.

In such circumstances, the usefulness of fiscal policy would have to be actively considered. If monetary policy were increasingly "pushing on a string", the principal insight from Keynesian analysis is that fiscal policy could still have an important role to play. Nevertheless, reckless government spending over more recent decades has also taught other important lessons.

The first is that the form of fiscal stimulus also matters. In Japan, for example, very heavy government investment in regional infrastructure over the last decade has been in large part wasted. Stuck with future liabilities but no matching assets, it is not surprising that Japanese consumers, who are also taxpayers, have remained cautious. Redirecting expenditures in Japan towards unemployment insurance and other social safety net provisions could help materially to foster the structural changes that Japan now so desperately needs.

The second lesson must be the need for fiscal prudence in normal times, to allow room for flexibility in less normal times. The governments in many industrial countries, but most notably in continental Europe, have been remiss in this regard – particularly if future pension obligations are taken fully into account. In Asia, the fiscal costs of bank restructuring may yet raise debt ratios to dangerously high levels. A corollary to this call for prudence can also be proposed. Should the deficit have to rise for cyclical reasons, a medium-term plan to restore fiscal stability over time is also needed. Indeed, legislation to ensure such an outcome has already been passed in a number of emerging market countries.

Structural and macroprudential reforms

The prospects for faster and less variable growth would in many countries also be enhanced by further attention to structural reforms. In Japan, the principal problems have to do with deep-seated impediments to the restoration of an adequate level of profits. This will not be easy to address. In continental Europe, while the functioning of labour and product markets has improved more than many people realise, there is still a long way to go before the reality of change matches up to the political promise of the Lisbon Summit. Unfortunately, impending elections in a number of countries, together with resistance from organised labour, have recently been interacting to slow needed progress. Similar comments – significant recent progress but nowhere near enough – could be made about China, India, Russia and a whole host of other emerging market countries. The reality appears to be that structural reforms are inherently difficult. Governments must commit themselves to the long haul and expect intense opposition from vested interests.

Policies to improve the efficiency and stability of the financial system would also be of great help in supporting sustainable growth. In many countries, the principal task is to clean up the residue from previous financial crises, or from a long period of misdirected and underpriced lending. After years of hesitation, the Japanese authorities have only just begun to address the structural problems affecting both the corporate and banking sectors. The recent special examinations of suspected weak credits by the Financial Services Agency will prove useful if they induce the banks to stop providing credit to the uncreditworthy. This in turn would force a market-driven corporate restructuring which would tackle the underlying problem of inadequate profits. However, this process of recognising losses could also reveal the undercapitalisation of some Japanese banks and the need for some form of further government intervention. If the authorities feel this is likely, they should be preparing the public now for possible increases in the government deficit. Without these domestic improvements, a global upturn cannot be expected to have anything more than a palliative effect in Japan.

Unfortunately, similar problems arising from past mistakes also seem to be lingering on in a number of emerging market countries. For example, domestic credit growth in Mexico has never recovered from the 1994 crisis, and credit growth in a number of Asian countries – Indonesia in particular – has remained similarly restrained. If this is due to supply side constraints, as still weak banks refuse to lend to still weak corporate customers, the influence of these headwinds could well reduce the prospects for economic recovery. And this point applies all the more to both Turkey and now Argentina, which previously had one of the strongest banking systems in Latin America. It should, of course, be pointed out as well that significantly greater progress seems to have been made in countries such as Korea and Malaysia. Close study of their experiences, as well as lessons from the earlier restructurings in the Nordic countries, could well bear fruit for others.

Steps to recover from past financial errors must go hand in hand with efforts to avoid new ones. As noted in the Introduction, many helpful steps have been taken to strengthen individual financial sectors, the functioning of markets, and the infrastructure supporting the global financial system. Nevertheless, a number of initiatives and processes already under way need to be brought to a successful conclusion. Moreover, there are new suggestions that merit attention from the official and the private sector alike.

Among the initiatives awaiting completion, none ranks higher than the proposed New Basel Capital Accord. This exercise is designed to improve the stability of national banking systems by redefining minimum capital requirements, by strengthening the role of supervisory agencies and by encouraging the exercise of market discipline. The most important change with respect to the minimum capital requirements is that required capital will now be much more directly linked to the bank's overall risk profile. This welcome, indeed inevitable, step mirrors the broader evolution of capital markets towards the more efficient pricing of risks of all sorts. A variety of methodologies, depending on the risk management sophistication of the bank concerned, are proposed for evaluating credit risk. Moreover, the capital requirements are designed to provide incentives for banks to graduate from more rudimentary to more sophisticated methods of credit evaluation. This having been said, there is nothing in the New Accord that forces banks, particularly in emerging market economies, to move to more complicated methodologies before they feel comfortable about doing so.

The New Accord has been the subject of extensive consultations with both supervisory authorities and industry representatives from around the world. For that reason, it has already been years in the making. These consultations will continue into 2003, with full implementation being planned for 2006 in order to provide a sufficient preparatory period for both banks and supervisors. A number of open issues in the Accord are still being actively addressed, but in most areas agreement on how to proceed seems near at hand.

A broader issue has to do with the inherent procyclicality of market-based financial systems, and how the New Accord might affect it. As discussed in the previous chapter, credit conditions often ease as a cycle matures and then tighten after the economy begins to head downwards. This has always been the case, including under the existing Accord, but concerns have been expressed that this tendency could become accentuated under the New Accord. Having risk-sensitive capital weights clearly improves the relative evaluation of different credits. However, credit evaluations that can change relatively can also change absolutely over time. This opens the way for capital requirements to drift down in good times and back up in bad times, with procyclical effects on bank lending.

The Basel Committee has been looking into this issue carefully, recognising that the supervisory pillar has a potential role to play. Forward-looking or dynamic provisioning schemes are also being investigated in a number of countries. But perhaps the greatest consolation is that the culture of risk management appears to have been much improved by the Basel process, and seems likely to improve further. A crucial aspect of such an improved risk culture would be a more systematic recognition that the future can differ from the past, that cycles will recur, and that good credits can easily turn bad. Analogous to the call for fiscal prudence above, bankers should accumulate capital in good times to run it down in bad. Were they to do so, fears of heightened financial procyclicality would be much reduced.

A further set of opportunities and challenges will arise from the process of financial liberalisation, both internal and external, which is now well under way in many emerging market countries. The benefits should include higher-quality financial services, higher levels of savings and better allocation of real resources. However, the recurrent financial crises of recent decades also teach some practical lessons. It matters how liberalisation is carried out, particularly with respect to the capital account. Moreover, the transition period itself can be particularly hazardous.

In addition to measures to strengthen banking systems in emerging market countries, a high priority should be given to developing domestic financial markets. This would improve the operation of monetary policy and also help avoid credit crunches should the banking system come under stress. Better developed domestic markets would also mean there would be practical alternatives to borrowing abroad, which has often led borrowers to take on dangerous amounts of foreign currency exposure. Capital inflows of this sort can also have other unwelcome macroeconomic implications, as the Asian crisis made all too clear. Finally, measures might also be proposed to improve the functioning of financial markets in the industrial countries. However, these issues are perhaps better examined in the context of three crises that remain even fresher in our minds.

Some lessons from recent crises

The events with the most wide-ranging set of implications for financial markets were arguably those surrounding the failure of corporate governance at Enron and, as subsequently revealed, at a host of other firms. Two main lessons seem suggested. Sadly, neither is new. The first is that high levels of leverage are dangerous, and easily disguised. Nevertheless, even in the case of Enron, the extent of its exposures could have been ascertained if the right questions had been asked. The problem is that no one asked, presumably because things seemed to be going so well and formulating good questions requires hard work. Unfortunately, little can be done about human nature, from which this reluctance to delve springs.

The second lesson may lead to more practical suggestions. Conflicts of interest can seriously erode the process of corporate governance. In the Enron case and elsewhere, there were many layers of governance and in virtually every case a conflict of interest can now be identified. How these conflicts might have affected the behaviour of management, the board, internal auditors, external auditors, lenders, institutional shareholders, security analysts and rating agencies is currently receiving close attention. A whole host of competing solutions have already been proposed for dealing with the problems identified at each layer. Meanwhile, markets seem to be self-correcting in many areas. In the light of this, decisions as to the regulatory actions required should only be taken after due reflection. Defining a proper set of incentives to induce appropriate behaviour is a subtle business indeed, and haste could easily lead to unforeseen consequences.

This last observation also applies to the lessons to be learned from the second crisis, that of Argentina. Aside from some obvious conclusions as to how not to manage a crisis, the overriding lesson from this affair is again not new. Forbearance in the face of untenable situations materially increases the ultimate costs. This raises the issue of possible new incentive systems, for both debtors and creditors, which would lead to an earlier shared acceptance of the need for debt restructuring.

Debtors would more easily face up to reality if the costs of doing so were less and the benefits more tangible. In theory, the main costs would seem to be litigation and a denial of access to credit markets in the future. However, recent experience shows these costs may not be so great in practice. In contrast, the attractiveness of restructuring to debtors would be materially enhanced if the restructuring were to be accompanied by greater access to "new money", and if it yielded material benefits in terms of future debt service. As for creditors, they would be more willing to accede to an early restructuring if they could be convinced that it was truly necessary. That is to say, they must come to an earlier realisation that their only practical choice is between half a loaf and no bread. Clearly, the potential for unlimited access to someone else's resources impedes such a realisation. Finally, both debtors and creditors ought in principle to respond positively to processes that make a workout more orderly.

These broad principles may appear uncontroversial, but translating them into practical action raises many questions. There is currently no agreed and robust methodology for determining when a country needs debt restructuring. Does this imply that practical judgments cannot be made on a case by case basis? Creditors who have just written off debts will not be much inclined to provide new money. Does this imply a greater catalytic role for the IMF?

Agreements to adopt international legal conventions binding on all sovereign nations are notoriously difficult to negotiate. Does this imply that some more informal process should be turned to? To these practical questions, many others can be added.

So where do we stand now? What does seem generally agreed is that the IMF is right to generate expectations that the size of its emergency loans to countries in crisis will be more limited. This will remove the expectation that a whole loaf might yet be on the table. Unusual cases requiring more discretionary financing will still occur, but the decision to make such sums available will presumably involve more demanding and more transparent criteria. Research should also proceed into how a more formal international workout procedure might operate; such research is indeed being pursued at the Fund, as well as under the aegis of the G7 and other groups. Since the practical results of these labours are likely to be a long time in coming, steps are also being taken to see how both existing and new lending contracts might be altered to facilitate orderly workouts, even when there is a wide variety of creditors to deal with.

The third and most dramatic crisis was that of 11 September 2001, the salient features of which are all too well known. For the financial community, the principal lesson has to do with the operational risks engendered when financial institutions, markets and infrastructure are highly concentrated geographically. Moreover, when the firms involved are few in number, but account for a very high proportion of the global business, the risks of a massive, systemic shutdown are clearly compounded. Faced with the reality of economies of scale and scope in the provision of many financial services, it would not be easy to roll back the tendency towards concentration. However, at the very least, firms must be forced to equip themselves with the redundant systems needed to ensure business continuity in a crisis. A second important lesson is that contingency plans, including assured communications facilities, need to be put in place and regularly updated. Furthermore, these plans should not assume that only individual firms might find themselves in crisis, but that a number of them might be affected simultaneously. The need for backup facilities to be able to communicate with each other is crucial in such circumstances.

Turning the lessons from recent crises into practical policy suggestions is one thing. Implementing such suggestions is another, particularly given the need for political compromises both nationally and internationally. The resilience of the global financial system to date testifies to the benefits of past efforts in this regard. It should not blind us to the fact that further policy actions might still be needed if an adequate level of financial and economic stability is to be assured in an increasingly complex world.

Activities of the Bank

This chapter reviews the initiatives taken by the Bank and the committees it hosts during the past year with a view to promoting cooperation among central banks and other financial authorities. It also presents an overview of the financial services offered by the Bank to its central bank customers and concludes with a summary of recent institutional developments. The reports mentioned in this chapter, as well as most of the Bank's research output, are available on the BIS website (www.bis.org) or, on request, in hard copy.

1. Direct contributions of the BIS to international monetary and financial cooperation

Two basic ways in which the Bank seeks to promote cooperation in the monetary and financial area are by organising meetings and by hosting the secretariats of various committees, several of which report directly to the G10 central bank Governors. In this connection, two features already noted in earlier Annual Reports were again in evidence during the period under review. The first is the increasingly global character of participation in the meetings held under the auspices of the BIS, as well as of the themes under discussion. The second is the widening range of financial authorities participating alongside central bankers. In this regard, the Bank is responding to the need to involve all interested parties – including the private sector – in the debate on financial stability.

The promotion of financial stability has also been at the root of a steady expansion of the activities of the secretariats which are located at the BIS but do not report to the G10 Governors. At present, both the Financial Stability Forum (FSF) and the International Association of Insurance Supervisors (IAIS) have their secretariats at the BIS. At its constituent meeting in early May 2002, the International Association of Deposit Insurers also decided to locate its secretariat at the BIS.

The role of the BIS in fostering understanding of supervisory issues among central banks and supervisory authorities has been reflected in a strengthening of the efforts of the Financial Stability Institute (FSI), founded jointly by the BIS and the Basel Committee on Banking Supervision. To address more directly regional central bank needs for cooperation, the activities of the Bank's Representative Office for Asia and the Pacific in Hong Kong SAR have expanded further, while the conclusion of the Host Country Agreement between Mexico and the BIS has paved the way for the opening later this year of a Representative Office for the Americas, which will focus on serving the interests of the central banking community in the western hemisphere. Finally, cooperation with regional central bank associations remained close.

Regular consultations on monetary and financial issues

During the period under review, Governors and senior officials of the BIS member central banks met on a bimonthly basis to analyse economic and financial developments and exchange views on topics of current interest and concern.

Developments in the world economy dominated the discussions in the *Global Economy Meetings* in which the central bank Governors of the main industrial and emerging market economies participate. Important focal points in the past year's meetings were the assessment of economic and financial vulnerabilities in the context of the worldwide economic slowdown, the implications for monetary and financial policies of the tragic events of 11 September 2001, the impact on market functioning of a number of high-level corporate failures, and the Argentine crisis. These topics, as well as matters that had arisen in other meetings, were further discussed in the *meetings of the Governors of the G10 countries*. In addition, the G10 Governors reviewed work in progress in the committees reporting to them and approved for publication several papers drafted by the committees or their working groups (see below). In January 2002, the G10 Governors and heads of banking supervisory authorities met to address a variety of issues related to the completion and subsequent implementation of the New Basel Capital Accord. Two high-level meetings were organised with representatives of major private sector financial institutions, one at the level of Governors and CEOs, and another one at the level of their immediate deputies. Both meetings provided an opportunity to exchange views on the potential implications for financial markets of various recent developments, such as the Argentine crisis, new credit transfer mechanisms, corporate failures and problems in certain sectors.

During the bimonthly gatherings, a meeting attended by all the Governors of BIS member central banks is devoted to discussion of a specific topic. Themes in the past year included the implications of the increasing use of asset prices as information variables for central bank communication strategies and the tactics of monetary policy implementation, the impact of e-finance on monetary policy, capital flows and related policies in emerging market economies, and the macroeconomic and financial issues raised by demographic changes and evolving pension arrangements. In November, Governors devoted the meeting to a review of operational problems and responses in the wake of the events of 11 September.

The bimonthly meetings of the *Gold and Foreign Exchange Committee*, composed of senior officials responsible for market operations in G10 central banks, focused on developments in key money and foreign exchange markets. On several occasions, representatives from major non-G10 economies were invited to join the discussion. The analysis of liquidity and settlement problems following the events of 11 September, the foreign exchange implications of the crisis in Argentina and a review of developments regarding the Continuous Linked Settlement (CLS) Bank were also on the Committee's agenda. In May 2002, the Committee was renamed the *Markets Committee* in order to better reflect the focus of its activities.

Ad hoc meetings on issues of special central bank interest were organised throughout the year, bringing together a broad range of financial sector experts. Major topics were e-finance, fair value accounting and the measurement of, and policy options with regard to, changes in risk through time. During the traditional *Autumn Economists' Meeting*, participants considered the interaction between market functioning and central bank policymaking. The *Spring Economists' Meeting* was devoted to current conjunctural issues.

The Bank continued to organise meetings on matters of particular relevance to emerging market economies. Working parties on monetary policy were held with a special focus on Asia, Latin America and, for the first time, central and eastern Europe. The BIS again convened a special meeting for Deputy Governors of African central banks to discuss monetary policy challenges in their continent. On the occasion of the Bank's Annual General Meeting in 2001, a round table of Governors of the major emerging market economies was held to exchange views on the policy issues for their countries raised by the current world economic situation. Finally, during a two-day meeting in late December, Deputy Governors from emerging market economies considered the question of how to develop domestic debt markets.

Promotion of financial stability through the permanent committees

Basel Committee on Banking Supervision

Over the past year the Basel Committee on Banking Supervision has continued its important work of promoting financial stability by updating and formulating guidance on key banking supervisory issues. Recently, the Committee's most significant and highest-profile initiative has been the development of a new framework for assessing bank capital adequacy. However, the Committee has also continued its efforts to strengthen a variety of prudential supervisory practices in both G10 and non-G10 countries. In these endeavours, it has interacted extensively with other international bodies.

During the period under review, the Committee made significant progress in the development of its new capital adequacy framework for the global banking system. The New Basel Capital Accord will be more sensitive to the level of risk incurred in banks' activities and will be better able to accommodate financial innovation. The new framework will also provide banks with greater incentives to improve their risk measurement and risk management capabilities.

The Committee released its second consultative package on the New Accord in January 2001. Over 200 comments were received in what has been an intensive and ongoing process of dialogue and consultation with the banking industry. In the meantime, a number of working papers have developed the Committee's thinking on some of the most challenging areas of the New Accord and promoted further discussion with the banking industry on these key issues. A priority has been to respond to widely publicised concerns about possible side effects of the New Accord. For example, the Committee has looked at the question of balancing risk sensitivity against complexity and addressed the concern that a more risk-sensitive framework might have the potential to amplify the business cycle. The Committee has also responded to concerns over the impact of the New Accord on small and medium-sized enterprises, and is working to ensure that its implications for these institutions are properly taken into account.

In view of the importance of the New Accord in shaping the global banking industry, the Basel Committee has decided to conduct extensive quality assurance before it issues a final consultative proposal. Three partial surveys of bank portfolios have already been carried out, but the Committee is now preparing a final, comprehensive survey for autumn 2002. In order to allow time for the results to be analysed, the release of a third consultative paper will be deferred until 2003, to be followed by the finalisation of the New Accord the same year. The extension will help ensure that the final version of the Accord meets its objectives.

With the New Accord nearing completion, the Committee has also started to focus on planning for its implementation. The Committee believes that strong support for the efforts of supervisors to implement the new framework will be essential for a successful Accord. This has led to the establishment of an Accord Implementation Group, a forum in which supervisors will be able to share information and approaches related to the implementation of the New Accord.

One of the main aims of the Basel Committee is to promote better supervisory standards across the world's financial system. This objective is pursued via the maintenance of links with supervisors, the publication of policy papers, the sponsorship of and participation in conferences, and training efforts. Recent Committee publications include guidance for the management of operational risk and principles for risk management in e-banking. Responding to an issue highlighted by the FSI's contacts with non-G10 supervisors, the Committee published a paper in 2001 setting out the essential elements of memoranda of understanding that could be used as a reference for establishing bilateral relationships between banking supervisory authorities in different countries. At the request of the FSF, the Committee led a study by a working group of supervisors from around the world, whose report contains guidance on dealing with weak banks. The report draws on the experiences of many different countries in dealing with weak banks and is intended to be applicable to all categories of banks and banking systems.

The Committee's Accounting Task Force has issued policy and guidance documents on important accounting and auditing issues, including the role of internal audit in banks and the relationship between banking supervisors and banks' external auditors. Moreover, the Committee prepared for the FSF an analysis of banks' credit exposures to weak sectors of the economy, in particular telecommunications and the sectors most affected by the events of 11 September 2001.

The Committee has also recently outlined a series of steps it intends to take in support of the international effort to combat the financing of terrorism. It has been reviewing the experiences of banking supervisors and other authorities to see whether impediments exist to the exchange of information on terrorist financing and, if so, what measures need to be taken. The Committee is also acting to ensure that efforts towards the worldwide adoption of the standards set out in its report *Customer due diligence for banks* are sustained.

The Basel Committee continues to work closely with a wide range of non-member countries in developing more robust supervisory arrangements. Its Core Principles for Effective Banking Supervision, the accepted international standard, are being progressively implemented and over 60 countries have now conducted voluntary assessments under the joint IMF-World Bank Financial Sector Assessment Programs. The Committee's Core Principles Liaison Group, with members from 15 emerging market countries, oversees this process and its subgroup on capital is making a valuable contribution to the development of the New Capital Accord. Individual experts from non-G10 supervisory authorities serve on a number of the Committee's expert working groups. Emerging market supervisory cooperation takes place at the regional level and the Basel Committee has continued to participate actively in the meetings and conferences of regional groups of supervisors, as well as providing continuous technical assistance through the FSI. Finally, the Committee is sponsoring the 12th International Conference of Banking Supervisors, which will be held in Cape Town, South Africa, later this year. Delegates from about 130 countries normally attend. The conference discussions will focus on the New Capital Accord and on how to promote a stable financial environment in emerging market countries.

Committee on the Global Financial System

The Committee on the Global Financial System (CGFS) continued to monitor financial markets with the objective of identifying potential sources of vulnerability. Particular attention was paid to the interaction between the real economy and financial markets in the course of the economic downturn. In this connection, one topic of recurring interest concerned evidence on how effectively the financial system had been able to disperse risk emanating from various elements of the information technology sector. The Committee also monitored financial markets' reaction to a number of extraordinary events which occurred last year. The resulting assessments were shared with the broad official community through the Committee's participation in the work of the FSF. Finally, the CGFS followed up on previous work and published several reports.

In April 2001, the report entitled *A survey of stress tests and current practice at major financial institutions* was published. The study was initiated to gain insights into the role of stress testing in risk management and to identify which exceptional events were considered to be significant risks. In turn, summaries of the report were published by a number of central bank members of the Committee as part of their own efforts to provide information on the current state of development of risk management practices. In June 2001, the CGFS discussion note *Structural aspects of market liquidity from a financial stability perspective* was posted on the Committee's page on the BIS website. Also in June, as a follow-up to its published report *Collateral in wholesale* *financial markets: recent trends, risk management and market dynamics*, the CGFS organised a workshop attended by participants from central banks and the private sector.

The working group report *IT innovations and financing patterns: implications for the financial system* was published in February 2002. The report emphasises the potential of information technology to act as a catalyst for a fundamental restructuring of economic activity both within and outside the IT sector and to change the risk-reward profile of firms. It analyses the implications of these developments for the design of financial contracts, for firm valuation and risk management, and for risk allocation.

The CGFS also embarked on new projects. In September 2001, the Committee set up two new working groups, one on credit risk transfer and the other on incentive structures in institutional asset management. The two groups are expected to produce their final reports by the end of this year.

In March 2002, the CGFS acted as host at the BIS to a group of practitioners, researchers and central bankers at the Third Central Bank Research Conference on Risk Measurement and Systemic Risk. The conference was organised in cooperation with the Bank of Japan, the Federal Reserve Board and the ECB. Its focus was on questions relating to risk measurement and systemic risk from a central bank perspective. Particular emphasis was placed on the nature and sources of market liquidity, recent advances in risk measurement methods, sources of banking crises, and contagion effects across markets and regions.

Committee on Payment and Settlement Systems

The Committee on Payment and Settlement Systems (CPSS) pursued its efforts to promote safe and efficient payment and settlement systems, cooperating in many cases with other international institutions and groupings. Throughout, the Committee involved a large number of non-G10 central banks in its work.

In November 2001, the CPSS and the Technical Committee of the International Organization of Securities Commissions (IOSCO) published the final report on the Recommendations for Securities Settlement Systems. The publication follows the release of a consultative report in January 2001 and a public consultation period which ended in April 2001. The report will be supplemented by an assessment methodology, which is expected to be finalised later this year. The IMF and the World Bank are participating in the preparation of this methodology, which is intended as a tool for their joint Financial Sector Assessment Programs as well as for self-assessments.

The objective of this most recent joint initiative by the CPSS and IOSCO is to promote the implementation by securities settlement systems of measures that can reduce risks, increase efficiency and provide adequate safeguards for investors through its recommendations for the design, operation and oversight of such systems. The recommendations cover both individual systems and the cross-border linkages between systems. As with the Core Principles for Systemically Important Payment Systems, which the CPSS published last year, this report contributes to the international efforts to address vulnerabilities in the international financial system, and is included in the body of relevant standards and codes identified by the FSF.

In the area of retail payments, the CPSS Working Group on Retail Payment Systems continued to identify and analyse recent trends in such instruments and systems and examine the particular policy concerns to which they might give rise. In addition, the Committee continued to monitor global developments in electronic money products and their potential policy implications. The Committee's latest survey, published in November 2001, provides information on the e-money products which are in use or being planned in about 80 countries or territories. It also contains information on the policy stance adopted by the relevant authorities, including central banks.

An important aspect of the Committee's ongoing work remains the implementation of its strategy, endorsed by the G10 Governors in 1996, to reduce foreign exchange settlement risk. To this end, the Committee continued to monitor and encourage private sector initiatives in this area.

The CPSS pursued its efforts to strengthen cooperation with central banks outside the G10, particularly those of emerging market economies. In collaboration with the central banks concerned, the CPSS Secretariat prepared reference studies on payment systems in a number of countries. The Committee also provided support and expertise to workshops and seminars on payment system issues organised by the BIS in cooperation with regional central banking organisations.

Representative Office for Asia and the Pacific

Since its inauguration in July 1998, the Representative Office for Asia and the Pacific (the Asian Office) has undertaken a range of activities to foster information exchange and cooperation among central banks in the region, and between regional central banks and central banks in the rest of the world. The opening of a Regional Treasury dealing room in October 2000 further enhanced the role of the Asian Office by providing banking services to central banks during trading hours in the Asian time zone.

In early 2001 the Asian Consultative Council (ACC) was created, with secretariat services being provided by the Asian Office. The first meeting of the ACC was held in Basel in June 2001 and the second in Hong Kong in February 2002. The ACC provides a vehicle for communication between the regional central banks and the Board and Management of the BIS and, in doing so, gives guidance regarding the Bank's activities in the region.

During the period under review, the Asian Office hosted and supported a series of high-level meetings in Hong Kong. The fourth Special Meeting of Asian central bank Governors was held in February 2002 and offered an opportunity to review the current economic situation and discuss exchange rate management in Asia. In addition, a number of expert meetings were organised. In April 2001, a meeting on monetary policy operating procedures brought together central bank practitioners from within and outside the region to discuss the operational aspects of monetary policy. In December 2001, internal auditors of regional central banks met for the second time to discuss various issues of mutual interest. The Office also hosted an ad hoc meeting of foreign exchange managers on the CLS Bank.

The Asian Office has actively cooperated with regional groupings of central banks. In July 2001, it co-hosted with the Monetary Authority of Singapore a joint meeting of the EMEAP (Executives' Meeting of East Asia-Pacific Central Banks) Forum and the Gold and Foreign Exchange Committee. In March 2002, the Office hosted the EMEAP Forum, bringing together regional experts on the implementation of foreign exchange policy with their counterparts at major central banks outside the region.

The Office has contributed to the Bank's financial and economic research on Asia and the Pacific, as well as to regional central bank publications. It has also provided expertise to various meetings organised by regional central banking groups and individual central banks, in particular on the New Basel Capital Accord.

Financial Stability Institute

The FSI strives to assist financial sector supervisors globally in implementing sound supervisory standards. It provides financial sector supervisors with an opportunity to gain in-depth knowledge of supervisory techniques and learn about the latest supervisory developments, as well as encouraging an ongoing exchange of views within the global supervisory community. The Institute fulfils its mandate by a variety of means, in particular through the design and delivery of focused seminars and regional workshops for financial sector supervisors around the world. Its work to date has concentrated on banking issues. However, the FSI recently agreed to take charge of 10 of the annual training events of the International Association of Insurance Supervisors, commencing in mid-2002.

Over the past year, the FSI organised 10 focused seminars in Basel and 23 regional workshops held jointly with regional groups of supervisors. These seminars and workshops covered a variety of topics chosen after consultation with regional supervisory groups and supervisors from a wide range of countries. The topics included risk management (credit, market, liquidity, etc), bank licensing, risk-focused supervision, corporate governance, consolidated supervision, problem bank resolution and measures to counter money laundering. The FSI continues to place special emphasis on providing supervisors around the world with a better understanding of the proposed changes to the Basel Capital Accord. This effort will be maintained through the implementation phase for the New Accord. The FSI also held nine special seminars, including a joint event with the IMF and World Bank on the legal aspects of financial stability, and several on risk management for insurance supervisors. Almost 1,400 representatives of supervisory agencies from around the world have participated in FSI events in the past year.

Staff of the Institute also made presentations on a broad range of topics at various non-FSI conferences, including those held by regional development banks, and annual meetings of regional groups of supervisors in order to reach out on relevant issues and to be in continuous contact with supervisors and other financial industry experts worldwide. Cooperation with other institutions providing programmes of assistance to supervisors is also an important part of the FSI's work. It therefore collaborates with such organisations as the Toronto Centre, the IMF Institute, the World Bank and regional development banks. The FSI also supports the commitment of the BIS to the Joint Vienna Institute.

An important objective of the FSI has been to provide senior supervisors with information on supervisory developments and key issues affecting banking supervision. It instituted the *FSI Occasional Papers* series in which leading experts and academics write about topics of interest to financial sector supervisors. Two papers have so far been issued in this series. The Institute also continues to publish a quarterly newsletter, *FSI World*, for heads of supervision and other senior supervisors.

2. BIS contributions to broader international financial cooperation

Group of Ten

The Bank contributed to work undertaken by the G10 Finance Ministers and central bank Governors, their Deputies and the working groups set up under their auspices, both by participating as an observer institution and by providing secretariat support alongside the IMF and the OECD. Over the past year, the G10 continued to analyse issues relating to the operation of the international financial system. It examined the question of debt sustainability and set in train focused work on sovereign debt resolution mechanisms, centring on contractual issues, in particular collective action clauses. This work will be carried out in an open fashion, in cooperation with other forums dealing with these issues. A contact group prepared a draft report on how structural factors such as tax, regulatory and disclosure policies interact to affect asset prices. Another contact group explored insolvency arrangements and contract enforceability in the major financial jurisdictions. It is seeking to identify policy issues raised by the ongoing integration of the international capital market and the lagging evolution of national insolvency arrangements.

Financial Stability Forum

The FSF was established in early 1999 to promote international financial stability through enhanced information exchange and cooperation in financial supervision and surveillance. It is the only forum which brings together on a regular basis senior representatives from international financial institutions (including the BIS), international groupings of regulators and supervisors, committees of central bank experts, and national authorities responsible for financial stability in significant international financial centres. Detailed information on the FSF, its membership and activities is available on its website (www.fsforum.org).

A key activity of the FSF is to exchange views and pool information on vulnerabilities in the financial system at its biannual meetings. During the year under review, members considered the impact of an unprecedented confluence of shocks on the soundness of financial systems and institutions. They concluded that, despite the many strains, most financial systems had displayed significant resilience. However, members also agreed that the interaction of the prospect of only a mild recovery in global activity and continued financial imbalances called for ongoing vigilance and supervisory cooperation.

The FSF also discussed issues arising from the large corporate failures which had occurred during the period under review. While the direct causes of these failures were bad business judgments, and possibly fraud, they revealed weaknesses in the system of internal and external checks and balances on which public confidence in financial markets relies. Key goals highlighted in this discussion included improved corporate governance, accounting and auditing reforms, enhanced public disclosure and external surveillance practices, and better monitoring of financial market dynamics. Noting that a good deal of work was already being undertaken by national authorities and international regulatory bodies, members felt that the FSF was well placed to facilitate coordination to increase the effectiveness and avoid duplication of this work.

The FSF took stock of progress in efforts to combat the financing of terrorism, acknowledging the important work being done by national authorities, the Financial Action Task Force, the IMF and World Bank and standard-setting bodies. The FSF will provide a report to the G7 and G20 on these efforts.

Within the context of its regular monitoring exercises, the FSF discussed operational issues that arose in financial markets in the context of the events of 11 September 2001, and lessons drawn for contingency arrangements. The FSF also welcomed the establishment of a Crisis Management Contact List (CMCL) to facilitate crisis management. Issued in March 2002, the CMCL covers central banks, supervisory and regulatory agencies, finance or treasury departments in over 30 countries and key international financial institutions and global service providers.

In reviewing progress made in addressing earlier concerns, the FSF welcomed efforts by some offshore financial centres (OFCs) to strengthen their supervisory, regulatory, information sharing and cooperation practices, but noted that others were lagging behind. The FSF will regularly review progress by OFCs and draw attention to those OFCs that give cause for serious concern. It will also point out positive developments by OFCs as a model for others.

At its meeting in March 2002, the FSF agreed that market developments and improvements in counterparty risk management practices had lessened the risks that highly leveraged institutions pose for the international financial system. However, members underscored the need to guard against complacency, and encouraged the Basel Committee and IOSCO to repeat at a future stage a review of counterparty risk management and regulatory oversight practices.

The FSF has continued its regional outreach meetings to promote discussion among FSF members and non-members on financial sector vulnerabilities and to enable non-members to inject their perspectives on the FSF's work. Since publication of the last Annual Report outreach meetings have been held for the Asia-Pacific region, central and eastern Europe, and Latin America (with the participation of Spain and South Africa).

International Association of Insurance Supervisors

The BIS has hosted the Secretariat of the IAIS since the Secretariat's establishment in January 1998. Similar to the Basel Committee on Banking Supervision, but directed at insurance supervision, the IAIS aims at contributing to global financial stability by improving supervision of the insurance industry through the development of practical standards for insurance supervision, provision of mutual assistance and exchange of information on members' respective experiences.

In collaboration with other international regulatory bodies (in the framework of the Joint Forum of the Basel Committee, IOSCO and the IAIS), the IAIS has also helped develop principles for the supervision of financial conglomerates. Moreover, the IAIS actively participates in the FSF.

To date, the IAIS has issued several sets of principles and guidance, including the Insurance Core Principles, the Insurance Concordat and Guidance on Insurance Regulation and Supervision for Emerging Market Economies, as well as a wide range of papers setting out supervisory standards in the insurance area. During the past year the IAIS finalised the Principles on Capital Adequacy and Solvency, the Supervisory Standard on the Evaluation of the Reinsurance Cover of Primary Insurers and the Security of their Reinsurers, the Supervisory Standard on the Exchange of Information, the Guidance Paper on Public Disclosure by Insurers, and Anti-Money Laundering Guidance Notes for Insurance Supervisors and Insurance Entities. Ongoing work includes formulating standards in the areas of solvency (capital adequacy) requirements, supervision of insurance liabilities, insurance accounting, securitisation, supervision of reinsurers, market risk, electronic commerce and disclosure. In addition, a major project has been launched to revise the Insurance Core Principles and Methodology.

The IAIS again organised numerous training programmes and provided training materials for insurance supervisors in order to help members comply with IAIS supervisory standards. As noted above, the FSI will in future take charge of a number of training initiatives in the area of insurance. Regional training seminars for insurance supervisors were held in Africa, Asia, central and eastern Europe, Latin America and offshore jurisdictions.

3. Other areas of central bank cooperation

Central bank governance

The objective of the work on central bank governance undertaken by the BIS is to provide information on institutional and organisational questions of interest to central banks. These activities are overseen by the Central Bank Governance Steering Group and are conducted through the Network on Central Bank Governance. The Steering Group comprises eight Governors from a broadly based and representative range of central banks. The network currently spans about 40 major central banks and monetary authorities around the world. Based on the advice of the Steering Group, the Bank seeks to respond to requests from central banks that are critical for the effective operation of independent and accountable monetary authorities. During the year, demand for governance information increased. One area of particular interest related to legal provisions regarding the independence and accountability of central banks. Another source of demand was for information about the ongoing efforts of a large number of central banks to enhance their efficiency and effectiveness.

Cooperation on statistical issues

The BIS pursued its active cooperation with central banks and other international organisations on various statistical issues. At present, central banks from more than 30 countries collect and share with the BIS comprehensive statistics on the international lending and borrowing activities of banks in their jurisdiction. In response to recommendations by the CGFS, the BIS and the reporting central banks last year developed an implementation plan for improving the measurement of commercial banks' consolidated country risk exposures on a so-called ultimate risk basis, that is, with risk positions reallocated to the country in which the ultimate guarantor of a financial claim resides. The intention is to provide, as from 2004, more detailed and comprehensive data on country risk exposures, including off-balance sheet positions relating to banks' derivatives transactions.

During the past year the BIS coordinated the fifth Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity, which covered about 50 financial centres. Preliminary results on foreign exchange and derivatives turnover were published in October and on amounts outstanding of over-the-counter derivatives in December 2001. A report analysing the detailed final results was released in March 2002.

The BIS continued to cooperate in the joint BIS-IMF-OECD-World Bank statistics on external debt. This exercise was initiated following the Asian financial crisis to compile quarterly data on the main components of external debt of emerging market countries on the basis of creditor data collected by these international organisations. As these data can differ, in some cases significantly, from those collected by the debtor countries themselves, the BIS undertook a study to identify the major gaps between the creditor and debtor data. A particular focus was in the area of short-term debt (falling due within one year). Some 30 central banks from emerging markets provided data and information for this study. The BIS also assisted in the development by the IMF of a comprehensive guide for the compilation of external debt statistics by debtor countries.

As in the past, the BIS provided data bank services to participating central banks (currently 23) for the electronic exchange of a broad set of economic, monetary and financial statistics. Efforts were concentrated on broadening the geographical and topical coverage of the BIS Data Bank. Nine central banks from emerging markets recently agreed to join the exercise. As a result of several initiatives to broaden the topical coverage of the Data Bank, a significant amount of additional statistical information was made available to economists and statisticians in participating central banks. The detailed information from the BIS international financial statistics is also made available in electronic form through the Data Bank.

Following a request from the Data Bank participants to foster greater international cooperation on electronic standards for the exchange of statistical information, the BIS worked closely with the IMF, OECD, UN, ECB and Eurostat to launch a new initiative on Statistical Data and Metadata Exchange (SDMX). The first workshop, hosted by the IMF, brought together more than 100 experts from central banks and national statistical institutes from around the world to address a range of topics associated with emerging web-based information exchange standards. A few months later the internet website www.sdmx.org was launched, showcasing the insights provided by speakers from within the national, regional and international statistical community, e-standards organisations and private industry consortia.

Cooperation with regional central bank groupings

The BIS continued to support central bank cooperation in various parts of the world within existing regional central bank associations. Active cooperation was maintained with CEMLA (Centro de Estudios Monetarios Latinoamericanos), EMEAP (Executives' Meeting of East Asia-Pacific Central Banks), GCC (Gulf Cooperation Council), MEFMI (Macroeconomic and Financial Management Institute of Eastern and Southern Africa), SADC (Southern African Development Community) and SEACEN (South-East Asian Central Banks). Cooperation largely took the form of participation in meetings arranged by these groups and the organisation of an occasional joint meeting or workshop. Last year, the BIS and other international organisations assisted various regional central bank groups in organising workshops on how central banks' public websites could be designed and maintained in order to strengthen the transparency of central bank activities.

As previously, the BIS assisted the central banks of the major industrialised countries in the coordination of their technical assistance and training for central banks of central and eastern Europe, the Commonwealth of Independent States and some Asian economies in transition. To facilitate coordination, the BIS maintains a database on the technical assistance and training provided to the above-mentioned countries in transition. Regular meetings are also organised that bring together officials of the donor and recipient central banks concerned, as well as the IMF and the ECB. Last year the meeting with the CIS countries was hosted by the Central Bank of the Russian Federation.

The BIS continued to support the Joint Vienna Institute (JVI), in close cooperation with the FSI and the Basel-based groups, by staging a number of seminars for central banks from transition economies on topics relating to monetary and financial stability. The Austrian authorities and the IMF recently agreed to continue the operation of the Vienna training facility after the current JVI agreement terminates in 2004. The BIS remains committed until then but will no longer formally participate in the JVI after that date.

Communicating over the internet

A new-look BIS website was launched in March 2001. Improved design and structure allow users to efficiently navigate, browse and search for information. All Basel-based groups make active use of this facility. In particular, the Basel Committee on Banking Supervision last year posted some 200 comments it had received on its second consultative paper for a new capital adequacy framework. Through the workshops organised by regional central banking groups the BIS has built up an extensive network of central bank website experts, who have assisted in developing and maintaining the links which the BIS website provides to most central banks around the world. They have also shared information and discussed major new developments, for instance with respect to the dissemination of central bank statistics over the internet. Finally, last year the BIS developed a web-based infrastructure to allow participants in BIS activities and events to access and exchange information through the internet in a secure and convenient way.

Group of Computer Experts

The Netherlands Bank hosted the 10th Automation Conference and spring meeting of the Group of Computer Experts in June 2001. Held every three years, the Automation Conference provides the Computer Experts with an opportunity to discuss in detail important central bank IT issues. Presentations and discussions at this conference focused on four topics: IT strategy and the process of IT strategy formulation; the technical and cultural challenges of information management; implementation of infrastructure and applications using internet technology; and the issue of increasing complexity in central bank IT environments.

An important topic for the Group and its Working Party on Security Issues (WPSI) during the past year was the examination of the implications of the events of 11 September 2001 for central bank business continuity planning. At the Group's November meeting, participants each made a special report on the consequences for their organisation.

Central banks are increasingly making use of the internet and internet technology to interact with the outside world. However, use of this technology clearly entails information security risks. During the past year the Computer Experts and the WPSI placed considerable emphasis on sharing information concerning both the organisational and the policy aspects of IT security, as well as the many technical safeguards that can be employed. An illustration was the review by a WPSI task group of the issue of the complexity of public key infrastructure.

Central Bank Counterfeit Deterrence Group

The Central Bank Counterfeit Deterrence Group (CBCDG) is mandated by the Governors of the G10 central banks to examine the threat to paper currency caused by the increasing use of personal computers in counterfeiting banknotes. The basic elements of the technology to deter PC-based counterfeiting have been developed over the past three years and the Group has begun soliciting support from, and cooperating with, equipment manufacturers and software developers to facilitate the adoption of this technology. The BIS supports the work of the CBCDG by hosting its Secretariat and by acting as its agent in contractual arrangements.

4. Functions as Agent and Trustee

Trustee for international government loans

The Bank continued to perform its functions as Trustee for the funding bonds 1990–2010 of the Dawes and Young Loans during the year under review (for details on the Bank's functions in this regard see the 63rd Annual Report of June 1993). With regard to these funding bonds, the Deutsche Bundesbank as Paying Agent notified the Bank that in 2001 the Bundesschuldenverwaltung (BSV – German Federal Debt Administration) had arranged for payment of a total amount of approximately DM 7.9 million and €1.12 million in respect of redemption and interest. Redemption values and other details were published by the BSV in the Bundesanzeiger (Federal Gazette).

The Bank maintained its reservations regarding the application by the BSV of the exchange guarantee clause for the Young Loan (stated in detail in its 50th Annual Report of June 1980), which also extend to the funding bonds 1990–2010.

Collateral Agent functions

Under a number of agreements, the BIS acts in the capacity of Collateral Agent to hold and invest collateral for the benefit of the holders of certain foreign currency denominated bonds issued by countries under external debt restructuring arrangements. Current Collateral Pledge agreements include those for Brazilian bonds (described in detail in the 64th Annual Report of June 1994), Peruvian bonds (see the 67th Annual Report of June 1997) and Côte d'Ivoire bonds (see the 68th Annual Report of June 1998).

5. Operations of the Banking Department

At 31 March 2002 the Balance Sheet stood at 87,714 million gold francs,[1] a new record for the end of a financial year and an increase of 15.3% over the previous financial year-end record of 76,054 million registered 12 months earlier.

[1] The gold franc referred to in this chapter is equivalent to 0.29032258... grams of fine gold – Article 4 of the Statutes. Assets and liabilities are converted to gold francs on the basis of a gold price of US$ 208 per fine ounce (equivalent to 1 gold franc = US$ 1.94149...).

Last summer, the Balance Sheet was already well above levels for the previous financial year but a major inflow of funds following the events of 11 September 2001 brought the total to a new record of 89,894 million gold francs on 25 September. A decline over the next few weeks was largely offset by new inflows ahead of the year-end, to the extent that the Balance Sheet almost equalled the record level reached in September. A modest contraction ensued in the first quarter of 2002 but this was far less pronounced than in previous financial years.

Liabilities

On 31 March 2002 borrowed funds in gold and currencies (excluding repurchase agreements) totalled 82,018 million gold francs, compared with 70,117 million at the end of the previous financial year. Gold deposits shrank by 311 million gold francs to 2,531 million, representing 3.1% of total borrowed funds (down from 4.1% a year earlier). Currency deposits, on the other hand, increased by 12,212 million gold francs (excluding repurchase agreements) over the financial year. Indeed, for the year as a whole, the daily average volume of borrowed currencies was 16% higher than in the previous financial year. To some extent, this development reflects higher business volumes from Asian customers, who now deal increasingly through the trading room opened in the BIS Representative Office in Hong Kong SAR in October 2000.

The expansion in borrowed currencies during the past financial year largely arose from growth in US dollar placements, mainly in BIS tradable instruments but also in fixed-term deposits. The US dollar constituted 69.2% of total borrowed funds in currencies (including repurchase agreements) on 31 March 2002, compared with 66.9% a year earlier. Despite a modest increase in the volume of euro-denominated placements, the share of the euro in total borrowed funds on the same basis fell over the year from 20.7% to 18.6%.

Currency deposits by central banks and other monetary authorities rose from 64,687 million to 76,228 million gold francs, representing 95.9% of total borrowed funds in currencies (excluding repurchase agreements) at end-March 2002, little changed from 96.2% the previous year. Funds placed by other depositors (mainly international institutions) amounted to 3,258 million gold francs. Although there was a continuing trend for BIS customers to lengthen the average maturity of their placements and accept more market rate risk in return for higher yields, there was a tendency in the second half of the financial year for some customers to shorten the duration of their BIS investments in anticipation of a rise in global interest rates.

Assets

Funds deposited with the BIS are placed in the market, for the most part in the form of investments with top-quality commercial banks of international standing and purchases of short-term government securities. The BIS also grants short-term credits to central banks, usually on a collateralised basis. Credit exposure, maturity transformation and market risk arising from the Bank's financial operations in Basel and Hong Kong are rigorously monitored by a separate risk control unit reporting directly to the Deputy General Manager. Particular care is taken to ensure that liquidity is sufficient at all times to respond effectively to customers' cash requirements, whether foreseen or unforeseen.

Investments in currencies stood at 83,690 million gold francs on 31 March 2002, compared with 71,636 million a year earlier. This total included 124 million gold francs in the form of advances to central banks, against 210 million a year earlier. The Bank's assets in gold fell from 3,521 million gold francs to 3,210 million over the same period, reflecting the decrease in gold deposits received.

Apart from its holdings of 192 tonnes of gold, the Bank's own funds are largely held in liquid securities issued by the governments of the major industrial countries, though there has been some diversification into top-rated credit products and securities issued by international institutions.

The BIS also makes use of various derivative instruments with a view to managing its own funds more efficiently and hedging risks on its borrowed funds (see note 10(a) to the Accounts). For the most part, these derivative instruments are of the plain vanilla variety, in particular futures and interest rate swaps.

6. Net profits and their distribution

The accounts for the 72nd financial year ended on 31 March 2002 show a net profit of 225.7 million gold francs, compared with 271.7 million gold francs for the preceding financial year. Substantial book losses were realised in the Bank's borrowed funds operations, because central bank customers continued to manage their portfolios of BIS instruments actively in a context of falling interest rates and hence rising market values of their claims on the BIS. In economic terms, these losses were offset by unrealised gains on the assets and off-balance sheet operations serving as counterparts to the borrowed funds. However, in conformity with the Bank's current accounting policies, these unrealised gains are only recognised in the Profit and Loss Account over time, according to the maturity of the claims concerned. Excluding these factors, underlying profits from borrowed funds operations were slightly lower than last year, with the additional income from the substantial growth in customer deposits being marginally outweighed by the effect of narrowing intermediation margins. Interest income from own funds investments fell slightly, because the repurchase of shares in January 2001 reduced the volume of the Bank's own funds. The environment of lower interest rates led to realised capital gains on the Bank's investment portfolio and an increased contribution from the securities equalisation account. Finally, the Board of Directors decided that, as the current level of the provision for banking risks and other eventualities was sufficient, a transfer to that provision was not necessary.

This year's result is shown after deduction of 67.4 million gold francs in respect of costs of administration, including depreciation, compared with the preceding year's figure of 67.0 million gold francs, an increase of less than 1%. In terms of Swiss francs, the currency in which most of the Bank's expenditure is incurred, the increase in the costs of administration was also below 1%. Within this category, depreciation rose by 8% in Swiss francs (and also by 8% in gold francs) as a result of the Bank's continuing investment in IT and other equipment.

On the basis of Article 51 of the Statutes, it is proposed that the net profit of 225.7 million gold francs be applied by the General Meeting in the following manner:

(i) 52.6 million gold francs in payment of a dividend of 380 Swiss francs per share. It should be noted that the dividend will be paid on 452,073 shares. The number of issued and paid-up shares before the repurchase of shares is 529,125. Of these shares, 77,052 are held in treasury, comprising 74,952 shares repurchased from former private shareholders and central banks and 2,100 other shares. No dividend will be paid on shares held in treasury;

(ii) 26.9 million gold francs to be transferred to the general reserve fund;

(iii) 3.0 million gold francs to be transferred to the special dividend reserve fund; and

(iv) 143.2 million gold francs, representing the remainder of the available net profit, to be transferred to the free reserve fund. This fund can be used by the Board of Directors for any purpose that is in conformity with the Statutes.

The Board of Directors has proposed that the above-mentioned dividend be paid on 15 July 2002 to the shareholders whose names are contained in the Bank's share register on 31 March 2002.

The Bank's accounts have been duly audited by PricewaterhouseCoopers AG, who have confirmed that the Balance Sheet and the Profit and Loss Account, including the notes thereon, give a true and fair view of the Bank's financial position at 31 March 2002 and of the results of its operations for the year then ended. Their report is to be found immediately following the accounts.

7. Share capital of the BIS

Withdrawal of privately held shares

Following the decision taken by the Extraordinary General Meeting of the Bank held on 8 January 2001 to withdraw all privately held shares of the BIS (described in detail in the 71st Annual Report of June 2001, pages 172–3), compensation payment of 16,000 Swiss francs per share had, by end-April 2002, been released for more than 99% of the shares concerned. The Bank is pursuing its efforts to contact the remaining former private shareholders who have not yet claimed compensation.

Certain former private shareholders are contesting the conditions of the withdrawal, in particular the amount of compensation paid for their shares. The Bank has requested that all such claims be referred to the Arbitral Tribunal provided for by the Hague Agreement, before which arbitrations are currently proceeding. Pursuant to Article 54 of the Statutes of the Bank, this Arbitral Tribunal has sole jurisdiction to hear disputes between the Bank and its former private shareholders arising from the withdrawal. Actions initiated by former private shareholders in national courts in the United States have been dismissed or stayed pending proceedings before the Arbitral Tribunal, and the Bank is seeking the same relief in an action by former private shareholders in a national court in France.

Division of the Yugoslav issue of the Bank's capital

Following agreement reached with the five successor states to the former Socialist Federal Republic of Yugoslavia and their respective central banks, it was decided at an Extraordinary General Meeting of the Bank held on 11 June 2001 to cancel the original Yugoslav issue of the capital of the Bank and to issue an equivalent number of new shares, to be divided among the Central Bank of Bosnia and Herzegovina, the Croatian National Bank, the National Bank of the Republic of Macedonia, the Bank of Slovenia and the National Bank of Yugoslavia. Simultaneously, it was decided to cancel the shares which had been provisionally issued in 1997 to four of these central banks (see the 68th Annual Report of June 1998, page 184). As a consequence of these operations, the issued capital of the Bank was reduced from 529,165 to 529,125 shares.

8. Changes in the Board of Directors

On 28 February 2002 the term of Urban Bäckström, Governor of Sveriges Riksbank, as Chairman of the Board of Directors and President of the Bank came to an end. At its meeting in January 2002, the Board elected Nout H E M Wellink, President of the Netherlands Bank, as Chairman of the Board and President of the Bank for a period of three years commencing on 1 March 2002.

In March 2002, Sir Edward George, Governor of the Bank of England, reappointed Lord Kingsdown as a member of the Board of Directors for another period of three years, expiring on 6 May 2005. At the same meeting, the Board re-elected Lord Kingsdown as Vice-Chairman of the Board for the new period of his term of office, ending on 6 May 2005, and Urban Bäckström as a member of the Board for a further term of three years, ending on 31 March 2005.

There were two changes amongst the first Alternates of ex officio Directors. Jean-Claude Trichet, Governor of the Bank of France, appointed Marc-Olivier Strauss-Kahn from December 2001 to succeed Jean-Pierre Patat, and Sir Edward George nominated Paul Tucker from June 2002 in place of Ian Plenderleith.

There were no changes in the Management of the Bank during the financial year 2001/02.

The Board of Directors recalled with deep regret, at its meeting in January 2002, the death of Jelle Zijlstra on 23 December 2001 at the age of 83. Mr Zijlstra served on the Board from July 1967 to December 1981 and guided the BIS during this period as its President and Chairman of the Board.

The Bank was also saddened to hear of the death of two former members of its senior management. Maurice Toussaint, who joined the Bank in 1971 and was a Manager in the Banking Department until his retirement in 1986, died on 5 June 2001 at the age of 80. Antonio d'Aroma died on 5 June 2002 at the age of 90; Mr d'Aroma joined the Bank as Secretary General in 1962 and was appointed Assistant General Manager on 1 January 1975. He retired from the Bank in September 1978.

Balance Sheet and Profit and Loss Account

at 31 March 2002

Balance Sheet at 31 March 2002

(in millions of gold francs – see note 2(a) to the Accounts)

2001	Assets	2002
	Gold	
2 195.3	Held in bars	*1 910.3*
1 325.8	Time deposits and advances	*1 299.6*
3 521.1		3 209.9
20.3	Cash on hand and on sight account with banks	3 292.3
4 597.8	Treasury bills	9 588.1
	Time deposits and advances in currencies	
27 894.8	Not exceeding 3 months	*28 435.1*
16 901.6	Over 3 months	*17 102.9*
44 796.4		45 538.0
	Securities purchased under resale agreements	
3 882.0	Not exceeding 3 months	1 660.7
	Government and other securities at term	
4 490.3	Not exceeding 3 months	*3 753.3*
13 849.2	Over 3 months	*19 857.6*
18 339.5		23 610.9
113.2	Land, buildings and equipment	115.4
783.7	Miscellaneous	699.1
76 054.0		87 714.4

2001 After allocation of the year's net profit	Liabilities	2002 Before allocation of the year's net profit	2002 After allocation of the year's net profit
330.7	Capital	330.7	330.7
3 134.7	Reserves	3 134.7	3 307.8
(384.0)	Shares held in treasury	(384.0)	(384.0)
56.0	Valuation difference account	25.5	25.5
	Deposits (gold)		
2 178.1	Sight	*1 909.8*	*1 909.8*
282.5	Not exceeding 3 months	*266.4*	*266.4*
381.7	Over 3 months	*355.2*	*355.2*
2 842.3		2 531.4	2 531.4
	Deposits (currencies)		
2 690.5	Sight	*2 510.3*	*2 510.3*
28 204.1	Not exceeding 3 months	*36 369.5*	*36 369.5*
36 380.2	Over 3 months	*40 606.6*	*40 606.6*
67 274.8		79 486.4	79 486.4
	Securities sold under repurchase agreements		
990.6	Not exceeding 3 months	660.0	660.0
1 760.3	Miscellaneous	1 704.0	1 704.0
	Profit and Loss Account	225.7	
48.6	Dividend		52.6
76 054.0		87 714.4	87 714.4

Profit and Loss Account

for the financial year ended 31 March 2002
(in millions of gold francs)

	2001	2002
Interest and discount, and other operating income	5 532.0	6 049.2
Less: interest and discount expense	5 193.3	5 756.1
Net interest and other operating income	338.7	293.1
Less: costs of administration		
Board of Directors	*1.1*	*0.9*
Management and staff	*39.3*	*39.0*
Office and other expenses	*18.5*	*18.7*
Costs of administration before depreciation	58.9	58.6
Depreciation	*8.1*	*8.8*
	67.0	67.4
Net profit for the financial year	271.7	225.7

The Board of Directors recommends to the Annual General Meeting that the net profit for the year ended 31 March 2002 be allocated in accordance with Article 51 of the Statutes as follows:

	2001	2002
Dividend: 380 Swiss francs per share on 452 073 shares		*52.6*
360 Swiss francs per share on 452 113 shares	*48.6*	
	48.6	52.6
	223.1	173.1
Transfer to general reserve fund	44.6	26.9
	178.5	146.2
Transfer to special dividend reserve fund	3.0	3.0
	175.5	143.2
Transfer to free reserve fund	175.5	143.2
	–	–

Movements in the Bank's capital and reserves

during the financial year ended 31 March 2002
(in millions of gold francs)

I. Capital

	Number of shares	Gold francs (millions)
Shares of 2 500 gold francs, of which 25% has been paid up:		
Balance at 31 March 2001 as per Balance Sheet	529 165	330.7
Balance at 31 March 2002 as per Balance Sheet	529 125	330.7

Further information is given in note 7 to the Accounts.

II. Development of the reserve funds

	Legal reserve fund	General reserve fund	Special dividend reserve fund	Free reserve fund	Total of reserve funds
Balances at 31 March 2001 after allocation of net profit for the financial year 2000/01	33.1	1 303.7	71.5	1 726.4	3 134.7
Add: allocation of net profit for the financial year 2001/02	–	26.9	3.0	143.2	173.1
Balances at 31 March 2002 as per Balance Sheet	33.1	1 330.6	74.5	1 869.6	3 307.8

III. Capital and reserve funds at 31 March 2002 (after allocation) were represented by:

	Capital	Reserve funds	Total of capital and reserves
Net assets in			
Gold	330.7	330.7	661.4
Currencies	–	2 977.1	2 977.1
Balances at 31 March 2002 as per Balance Sheet	330.7	3 307.8	3 638.5

Notes to the Accounts

for the financial year ended 31 March 2002
(in millions of gold francs)

1. Introduction

The Bank for International Settlements (BIS) is an international financial institution which was established pursuant to the Hague Agreements of 20 January 1930. The headquarters of the Bank are in Basel, Switzerland. The objects of the BIS, as laid down in Article 3 of its Statutes, are to promote the cooperation of central banks, to provide additional facilities for international financial operations and to act as trustee or agent for international financial settlements. Fifty central banks are currently members of the Bank and exercise the rights of representation and voting at General Meetings in proportion to the number of BIS shares issued in their respective countries. The Board of Directors of the Bank is composed of the Governors of the central banks of Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States of America, as well as appointed directors from six of those countries.

The accounts for the financial year 2001/02 are presented in a form approved by the Board of Directors pursuant to Article 49 of the Bank's Statutes.

2. Significant accounting policies

(a) Unit of account and currency translation

The unit of account of the Bank is the gold franc, which is equivalent to US$ 1.94149… . Article 4 of the Bank's Statutes defines the gold franc (abbreviated to GF) as representing 0.29032258… grams of fine gold. Items representing claims on gold are translated into gold francs on the basis of their fine weight. Items denominated in US dollars are translated into gold francs on the basis of a gold price of US$ 208 per ounce of fine gold (this price was established by the Bank's Board of Directors in 1979, resulting in the conversion factor of GF 1 = US$ 1.94149…). Items denominated in other currencies are translated into US dollars at the spot market rates of exchange prevailing at the balance sheet date, with the resulting US dollar balances converted into gold francs accordingly.

Exchange differences arising on the translation of currency assets and liabilities denominated in currencies other than the US dollar are taken to the valuation difference account.

The net balance resulting from exchange differences on the translation of forward currency contracts and swaps is included under miscellaneous assets or liabilities.

(b) Basis of valuation and determination of profit

Except as otherwise stated, the accounts of the Bank are drawn up on the historical cost basis and income and expense items are recorded on the accruals basis. Profits and losses are determined on a monthly basis, translated into US dollars at the spot market rate of exchange prevailing at each month-end and translated into gold francs as set forth above; the monthly profits thus calculated are accumulated for the year.

Profits and losses arising on the sale of investment securities are taken to the securities equalisation account, which is incorporated within miscellaneous liabilities. Credit balances accumulated in this account are amortised to the Profit and Loss Account over a period corresponding to the average term to maturity of the Bank's investment portfolio; a net debit balance at the year-end would be charged immediately to the Profit and Loss Account.

(c) Gold

Gold assets and liabilities are stated on the basis of their fine weight.

(d) Treasury bills; government and other securities at term

Treasury bills and government and other securities at term are stated at cost, plus accrued interest where applicable, adjusted for the amortisation of premiums or discounts over the period to maturity; interest and discount income includes such amortisation.

(e) Time deposits and advances in currencies

Time deposits and advances are stated at their principal value plus accrued interest.

(f) Securities purchased under resale agreements

Securities acquired in connection with purchase and resale agreements are stated at the amount advanced to the counterparty plus accrued interest.

(g) Land, buildings and equipment

The cost of the Bank's land, buildings and equipment is capitalised. The cost is depreciated on a straight line basis over the estimated useful lives of the assets concerned, as follows:

Land – not depreciated.
Buildings – 50 years.
Building installations and machinery – 15 years.
Information technology equipment – 4 years.
Other equipment – 4 to 10 years.

(h) Valuation difference account

The valuation difference account records the effect of exchange differences as described in item (a) above; these valuation changes relate essentially to that portion of the Bank's own funds held in currencies other than the US dollar.

(i) Deposits

Deposits are book claims on the Bank and are stated at their principal value plus accrued interest. Certain claims are issued at a discount to the value payable on the maturity of the deposit; in such cases the accounting treatment is analogous to that applied to dated securities held by the Bank (see item (d) above).

(j) Securities sold under repurchase agreements

Securities sold in connection with sale and repurchase agreements are stated at the amount received from the counterparty plus accrued interest.

(k) Provision for banking risks and other eventualities

Each year the Board of Directors reviews the level of, and if necessary sets aside an amount to, the above provision and determines its use. The provision is incorporated in miscellaneous liabilities.

3. Gold holdings

The following table shows the composition of the Bank's total gold holdings:

Assets	*2001*	2002
Gold bars held at central banks	*2 195.3*	1 910.3
Gold time deposits:		
Not exceeding 3 months	*372.0*	328.4
Over 3 months	*953.8*	971.2
	3 521.1	3 209.9

The Bank's own gold holdings at 31 March 2002 amounted to GF 661.4 million, equivalent to 192 tonnes of fine gold (2001: GF 661.7 million; 192 tonnes).

4. Treasury bills

The Bank's holdings were as follows:

	2001	2002
Book value	*4 597.8*	9 588.1

The market value of treasury bills at 31 March 2002 was GF 9 587.0 million (2001: GF 4 601.1 million).

5. Government and other securities at term

The Bank's holdings were as follows:

	2001	2002
Book value	*18 339.5*	23 610.9

The market value of government and other securities at term at 31 March 2002 was GF 23 649.6 million (2001: GF 18 558.4 million).

6. Land, buildings and equipment

	Land & buildings	IT & other equipment	Total
Cost:			
Opening balance at 1 April 2001	125.8	31.9	157.7
Capital expenditure		8.0	8.0
Exchange adjustments	3.3	0.9	4.2
Cost at 31 March 2002	129.1	40.8	169.9
Depreciation:			
Accumulated depreciation at 1 April 2001	29.5	15.0	44.5
Depreciation charge for the current year	2.3	6.5	8.8
Exchange adjustments	0.8	0.4	1.2
Accumulated depreciation at 31 March 2002	32.6	21.9	54.5
Net book value at 31 March 2002	96.5	18.9	115.4

The cost of the Bank's land at 31 March 2002 was GF 23.5 million (2001: GF 22.9 million).

7. Capital

The Bank's share capital consists of:

	2001	2002
Authorised capital:		
600 000 shares,		
each of 2 500 gold francs	*1 500.0*	1 500.0
Issued capital: 529 125 shares		
(2001: 529 165)	*1 322.9*	1 322.8
of which 25% paid up	*330.7*	330.7

(a) The Extraordinary General Meeting on 8 January 2001 amended the Bank's Statutes to restrict the right to hold shares in the BIS exclusively to central banks, thereby effecting a mandatory repurchase of 72 648 shares from the American, Belgian and French issues held by private (ie non-central bank) shareholders against compensation of 16 000 Swiss francs per share. As regards shares in these issues held by central banks other than those of the three countries of issue, the Bank repurchased at the same price 2 304 shares, of which the repurchase of 500 shares was completed after 31 March 2001. The Board will, in due course, redistribute these shares to the Bank's existing central bank shareholders in a manner which it considers appropriate. The voting rights attached to these shares remain unaffected; they continue to be exercisable by the American, Belgian and French central banks, respectively.

(b) The cost of repurchasing the total of 74 952 shares above, which amounts to GF 384.0 million, is shown as a negative liability under the caption "Shares held in treasury" in the Bank's Balance Sheet.

(c) Forty shares were cancelled during the financial year 2001/02. These represented the provisional issue of 10 shares each to the Central Bank of Bosnia and Herzegovina, the Croatian National Bank, the National Bank of the Republic of Macedonia and the Bank of Slovenia.

(d) The number of outstanding shares on which the dividend for the financial year 2001/02 is payable is as follows:

Issued capital as at 31 March 2002	529 125
Less: shares held in treasury	
From private shareholders and central banks	74 952
Others	2 100
Total outstanding shares eligible for dividend	452 073

8. Reserves

The Bank's reserves consist of:

	2001	2002
Legal reserve fund	*33.1*	33.1
General reserve fund	*1 303.7*	1 330.6
Special dividend reserve fund	*71.5*	74.5
Free reserve fund	*1 726.4*	1 869.6
	3 134.7	3 307.8

The yearly allocations to the various reserve funds are governed by Article 51 of the Bank's Statutes. The amounts transferred are also shown in Table II of "Movements in the Bank's capital and reserves".

9. Deposits

Gold deposits placed with the Bank originate entirely from central banks. The maturity breakdown of currency deposits placed with the Bank was as follows:

	2001	2002
Central banks		
Sight	*2 293.7*	2 214.2
Not exceeding 3 months	*27 176.4*	34 372.8
Over 3 months	*35 216.9*	39 641.0
Other depositors		
Sight	*396.8*	296.1
Not exceeding 3 months	*1 027.7*	1 996.7
Over 3 months	*1 163.3*	965.6
	67 274.8	79 486.4

10. Off-balance sheet items

(a) *Derivatives*

In the normal course of business, the Bank is party to off-balance sheet financial transactions including forward exchange contracts, currency and interest rate swaps, forward rate agreements, futures and options. These instruments are used to manage the Bank's interest rate and currency exposure on assets and liabilities. The Bank applies the same credit criteria in considering off-balance sheet commitments as it does for all other investments.

Notional principal amounts

	2001	2002
Exchange rate contracts:		
Foreign exchange swaps and forwards	*11 542.4*	4 704.2
Currency swaps	*1 776.1*	5 438.0
Options	–	207.9
Interest rate contracts:		
Interest rate swaps	*41 012.6*	69 767.5
Forward rate agreements and futures	*21 864.3*	29 837.1

The notional or contracted principal amounts of the various derivatives reflect the degree to which the Bank is active in the respective markets but give no indication of the credit or market risk on the Bank's activities. The gross replacement cost of all contracts showing a profit at prevailing market prices on 31 March 2002 was GF 1 601.3 million (2001: GF 1 476.1 million).

(b) Fiduciary transactions

Fiduciary transactions are not included in the balance sheet, since they are effected on behalf of and at the risk of the Bank's customers, albeit in its own name.

	2001	2002
Nominal value of securities held in safe custody	*8 400.5*	8 140.4
Gold held under earmark	*700.3*	587.3

(c) Staff Pensions System and Savings Scheme

The Bank operates a Pensions System and a Savings Scheme. The two funds are similar to trust funds, having no separate legal personality. Their assets are administered by the Bank for the sole benefit of current and former members of staff who participate in the two schemes. All payments under these schemes are charged to the fund concerned.

The Bank is committed to maintaining a minimum coverage ratio of 105% for both funds and remains ultimately liable for all benefits payable under the Pensions System and Savings Scheme. The Bank's share of the contributions in respect of current service is included in its costs of administration each month.

At 31 March 2002 the market value of the net assets of the Pension Fund was GF 257.1 million (2001: GF 256.3 million), representing a coverage ratio of 108% (2001: 117%) based on the latest annual actuarial value of the fund's obligations as at 30 September 2001. The market value of the net assets of the Savings Fund was GF 24.6 million at 31 March 2002 (2001: GF 23.8 million), representing a coverage ratio of 106% (2001: 102%) with reference to the liabilities of the scheme at that date. The most recent annual accounts of the Pension and Savings Funds relate to the year ended 30 September 2001.

11. Contingent liabilities

Certain former private shareholders have expressed their dissatisfaction with the amount of compensation being paid to them by the Bank in connection with the mandatory repurchase of the shares not held by central banks. Proceedings are currently pending before the Arbitral Tribunal in The Hague and an action has been initiated before the Commercial Court in Paris. The Bank has declared that should the Arbitral Tribunal increase the compensation, such increased amount would apply in respect of all repurchased shares.

Report of the Auditors

Report of the Auditors
to the Board of Directors and to the General Meeting
of the Bank for International Settlements, Basel

We have audited the accompanying Balance Sheet and Profit and Loss Account, including the notes thereto, of the Bank for International Settlements. The Balance Sheet and Profit and Loss Account have been prepared by the Management of the Bank in accordance with the Statutes and with the principles of valuation described under significant accounting policies in the notes. Our responsibility under the Statutes of the Bank is to form an independent opinion on the Balance Sheet and Profit and Loss Account based on our audit and to report our opinion to you.

Our audit included examining, on a test basis, evidence supporting the amounts in the Balance Sheet and Profit and Loss Account and related disclosures. We have received all the information and explanations which we have required to obtain assurance that the Balance Sheet and Profit and Loss Account are free of material misstatement, and believe that our audit provides a reasonable basis for our opinion.

In our opinion, the Balance Sheet and Profit and Loss Account, including the notes thereto, have been properly drawn up and give a true and fair view of the financial position of the Bank for International Settlements at 31 March 2002 and the results of its operations for the year then ended so as to comply with the Statutes of the Bank.

PricewaterhouseCoopers AG

Ralph R Reinertsen   Anthony W Travis

Basel, 13 May 2002

Five-year summary of the Balance Sheet
(in millions of gold francs)

Financial year ended 31 March	1998	1999	2000	2001	2002
Gold					
Held in bars	*3 037.1*	*2 801.5*	*2 265.4*	*2 195.3*	*1 910.3*
Time deposits and advances	*1 122.4*	*1 077.2*	*1 240.4*	*1 325.8*	*1 299.6*
	4 159.5	3 878.7	3 505.8	3 521.1	3 209.9
Cash on hand and on sight account with banks	7.8	8.3	11.4	20.3	3 292.3
Treasury bills	1 863.9	7 314.0	7 853.9	4 597.8	9 588.1
Time deposits and advances in currencies	34 862.2	32 423.0	41 853.9	44 796.4	45 538.0
Securities purchased under resale agreements	2 781.0	276.0	1 268.1	3 882.0	1 660.7
Government and other securities at term	18 517.1	22 167.9	20 139.9	18 339.5	23 610.9
Land, buildings and equipment	–	124.7	120.7	113.2	115.4
Miscellaneous assets	258.7	44.5	82.0	783.7	699.1
Total assets	62 450.2	66 237.1	74 835.7	76 054.0	87 714.4
Paid-up capital	323.2	323.2	330.7	330.7	330.7
Reserves *(after allocation of the net profit for the year)*					
Legal reserve fund	*32.3*	*32.3*	*33.1*	*33.1*	*33.1*
General reserve fund	*1 016.3*	*1 156.4*	*1 259.1*	*1 303.7*	*1 330.6*
Special dividend reserve fund	*62.5*	*65.5*	*68.5*	*71.5*	*74.5*
Free reserve fund	*1 157.4*	*1 351.4*	*1 550.9*	*1 726.4*	*1 869.6*
	2 268.5	2 605.6	2 911.6	3 134.7	3 307.8
Shares held in treasury	–	–	–	(384.0)	(384.0)
Valuation difference account	247.2	265.4	191.9	56.0	25.5
Deposits					
Gold	*3 473.7*	*3 192.6*	*2 820.2*	*2 842.3*	*2 531.4*
Currencies	*54 023.6*	*57 705.8*	*65 903.7*	*67 274.8*	*79 486.4*
	57 497.3	60 898.4	68 723.9	70 117.1	82 017.8
Securities sold under repurchase agreements	30.7	121.5	103.0	990.6	660.0
Staff pension scheme	257.0	–	–	–	–
Miscellaneous liabilities	1 773.7	1 965.6	2 519.9	1 760.3	1 704.0
Dividend	52.6	57.4	54.7	48.6	52.6
Total liabilities	62 450.2	66 237.1	74 835.7	76 054.0	87 714.4

Five-year summary of the Profit and Loss Account

(in millions of gold francs)

Financial year ended 31 March	1998	1999	2000	2001	2002
Net interest and other operating income	314.9	370.4	376.6	338.7	293.1
Less: costs of administration					
Board of Directors	*1.3*	*1.3*	*1.2*	*1.1*	*0.9*
Management and staff	*39.4*	*40.9*	*40.6*	*39.3*	*39.0*
Office and other expenses	*15.0*	*18.6*	*19.4*	*18.5*	*18.7*
Costs of administration before depreciation	55.7	60.8	61.2	58.9	58.6
Depreciation	–	*6.0*	*7.6*	*8.1*	*8.8*
	55.7	66.8	68.8	67.0	67.4
Net profit for the financial year	259.2	303.6	307.8	271.7	225.7
Dividend	52.6	57.4	54.7	48.6	52.6
	206.6	246.2	253.1	223.1	173.1
Transfer to general reserve fund	41.3	49.2	50.6	44.6	26.9
	165.3	197.0	202.5	178.5	146.2
Transfer to special dividend reserve fund	3.0	3.0	3.0	3.0	3.0
	162.3	194.0	199.5	175.5	143.2
Transfer to free reserve fund	162.3	194.0	199.5	175.5	143.2
	–	–	–	–	–

Board of Directors

Nout H E M Wellink, Amsterdam
Chairman of the Board of Directors,
President of the Bank

Lord Kingsdown, London
Vice-Chairman

Urban Bäckström, Stockholm
Vincenzo Desario, Rome
David Dodge, Ottawa
Antonio Fazio, Rome
Sir Edward George, London
Alan Greenspan, Washington
Hervé Hannoun, Paris
Masaru Hayami, Tokyo
William J McDonough, New York
Guy Quaden, Brussels
Jean-Pierre Roth, Zurich
Hans Tietmeyer, Frankfurt am Main
Jean-Claude Trichet, Paris
Alfons Vicomte Verplaetse, Brussels
Ernst Welteke, Frankfurt am Main

Alternates

Bruno Bianchi or Stefano Lo Faso, Rome
Roger W Ferguson or Karen H Johnson, Washington
Peter Praet or Jan Smets, Brussels
Jürgen Stark or Stefan Schönberg, Frankfurt am Main
Marc-Olivier Strauss-Kahn or Michel Cardona, Paris
Paul Tucker or Paul Fisher, London

Subcommittees of the Board of Directors

Consultative Committee
Audit Committee

both chaired by Lord Kingsdown

Senior Officials of the Bank

Andrew Crockett	General Manager
André Icard	Deputy General Manager
Gunter D Baer	Secretary General, Head of Department
William R White	Economic Adviser, Head of Monetary and Economic Department
Robert D Sleeper	Head of Banking Department
Renato Filosa	Manager, Monetary and Economic Department
Mario Giovanoli	General Counsel, Manager
Günter Pleines	Deputy Head of Banking Department
Peter Dittus	Deputy Secretary General
Josef Tošovský	Chairman, Financial Stability Institute

BIS member central banks

Central Bank of the Argentine Republic

Reserve Bank of Australia

Austrian National Bank

National Bank of Belgium

Central Bank of Bosnia and Herzegovina

Central Bank of Brazil

Bulgarian National Bank

Bank of Canada

The People's Bank of China

Croatian National Bank

Czech National Bank

National Bank of Denmark

Bank of Estonia

European Central Bank

Bank of Finland

Bank of France

Deutsche Bundesbank

Bank of Greece

Hong Kong Monetary Authority

National Bank of Hungary

Central Bank of Iceland

Reserve Bank of India

Central Bank of Ireland

Bank of Italy

Bank of Japan

The Bank of Korea

Bank of Latvia

The Bank of Lithuania

National Bank of the Republic of Macedonia

Central Bank of Malaysia

Bank of Mexico

Netherlands Bank

Central Bank of Norway

National Bank of Poland

Bank of Portugal

National Bank of Romania

Central Bank of the Russian Federation

Saudi Arabian Monetary Agency

Monetary Authority of Singapore

National Bank of Slovakia

Bank of Slovenia

South African Reserve Bank

Bank of Spain

Sveriges Riksbank

Swiss National Bank

Bank of Thailand

Central Bank of the Republic of Turkey

Bank of England

Board of Governors of the Federal Reserve System

National Bank of Yugoslavia

Printed in Switzerland   Werner Druck AG, Basel