



BANK FOR INTERNATIONAL SETTLEMENTS

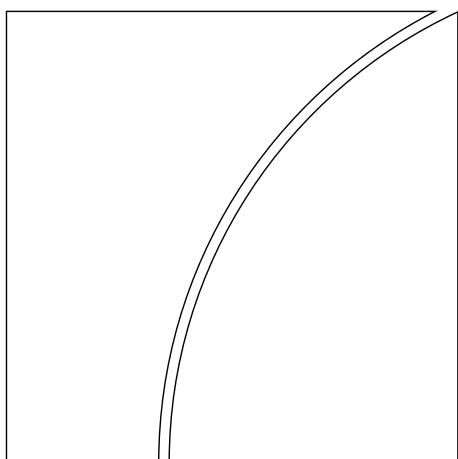
# **71st Annual Report**

1 April 2000 – 31 March 2001

Basel, 11 June 2001



BANK FOR INTERNATIONAL SETTLEMENTS



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## Conventions used in this Report

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

Differences in totals are due to rounding.

# 71st Annual Report

*submitted to the Annual General Meeting  
of the Bank for International Settlements  
held in Basel on 11 June 2001*

Ladies and Gentlemen,

It is my pleasure to submit to you the 71st Annual Report of the Bank for International Settlements for the financial year which ended on 31 March 2001.

The net profit for the year amounted to 271.7 million gold francs, compared with 307.8 million gold francs for the preceding year. Details of the results for the financial year 2000/01 may be found on page 171 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 48.6 million gold francs in payment of a dividend of 360 Swiss francs per share.

The Board further recommends that 44.6 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 175.5 million gold francs – to the free reserve fund.

If these proposals are approved, the Bank's dividend for the financial year 2000/01 will be payable to shareholders on 1 July 2001.

Basel, 22 May 2001

ANDREW CROCKETT  
General Manager

## I. Introduction: a sudden change of fortunes?

The most significant development during the period under review was the sharp slowing of the US economy beginning in the second half of last year. Although a slowdown had long been expected, and even desired, its suddenness was remarkable for a variety of reasons. It seemed to mark the ending of, or at very least a significant pause in, the decade-long global expansion in which the US economy had played a disproportionate but welcome role (see Chapter II). It was accompanied by an apparent interruption of recovery in Japan, as well as by a slowdown in many emerging markets (see Chapter III) and, albeit to a considerably lesser degree, in Europe. And it profoundly disappointed those who had hoped that a “new economy” based on information technology had made both inventory cycles and sharp fluctuations in investment spending a thing of the past.

The usual suspects were quickly rounded up to explain this global turn of events. Oil prices had risen sharply, affecting spending in many emerging market economies even more than in industrial ones. Short-term interest rates had been raised in all the major industrial countries either to resist incipient inflationary pressures or, in the case of Japan, to restore a more normal policy stance in response to some signs of economic recovery. Financial markets were also thought to have played a role as, everywhere, new economy stock indices had fallen substantially from peaks reached in March 2000. Worldwide credit conditions had also tightened, unevenly but inexorably over the year, particularly for lower-quality credits. In these circumstances, some slowing of spending was regarded as natural, and indeed welcome, in countries operating at full capacity. So too was a reversal of the previous trend towards monetary tightening in the countries most affected by the slowdown. In the light of postwar economic history, all of this could be described as a normal development.

Yet, at the same time, there were concerns that less usual forces were at play. The preceding upturn seemed to some observers to have certain of the characteristics of business cycles prior to the First World War; a novel comparison but perhaps not inappropriate given the relentless tide of financial deregulation and globalisation that has typified the last few decades. As with earlier technological revolutions – the canal, the railway, electrification and the car – there was a pronounced increase in related capital accumulation, with the information technology and telecommunications sectors being most favoured in this current cycle. Associated with this, and reinforcing it, were sharp increases in equity prices which encouraged the abundant supply of low-cost venture capital. Moreover, with inflation generally low or falling,

real interest rates stayed relatively low. While these trends were particularly evident in the United States, to varying degrees other countries shared similar experiences. The ensuing perception of global vulnerability, should anticipated benefits fail to materialise, probably contributed to the willingness of many central banks to lower interest rates once the Federal Reserve initiated an unusually aggressive phase of monetary easing in January this year (see Chapter IV).

A further and welcome characteristic of the last few years of expansion, which continued throughout the period under review, was the quiescence of aggregate measures of inflation. In a wide range of countries, both emerging markets and industrial economies, measures of core inflation reacted in an unexpectedly muted way to pressures arising from low unemployment rates, exchange rate depreciation and higher oil prices. In part, this was the result of the greater production capacity, particularly for manufactured goods, generated by the previous long period of heavy investment. Yet other factors also played a role, such as the deregulation of product markets, the globalisation of trade in goods and services, fiscal restraints and the growing credibility of central bankers' anti-inflation objectives. All contributed to creating a "buyer's market" which acted both to dampen inflation and to keep it low.

Of course, with prices generally more sticky, shocks such as higher oil prices had to be absorbed in other ways if profits were not to be affected. This was successfully achieved for much of the period under review. In the United States, most of Europe and Japan, nominal wage increases were surprisingly restrained, reflecting better functioning labour markets in the first two cases and job insecurity and depressed conditions in the last. Moreover, throughout the global economy, there was evidence of a virtuous circle of wage moderation following the moderation of prices. And finally, in the United States in particular, significant gains in labour productivity had been recorded over the previous few years, which helped to contain prices without squeezing profits. Nevertheless, the outlook for profits in many countries has deteriorated sharply in recent quarters, with new economy sectors worldwide being especially hard hit. This contributed materially to the worsening of conditions in financial markets, which then began to feed back to the level of global economic activity.

Another recent feature of ongoing globalisation has been the ease with which large divergences in national saving rates have been dealt with through international capital flows. In the United States, the net private saving rate fell below -6% of GDP last year (a decline of 12 percentage points since 1992), whereas in Japan net private saving rose to almost 9%. While fiscal balances provided some domestic offsets, significant current account imbalances remained, which were accommodated through massive capital flows into the United States, increasingly in the form of equity purchases and foreign direct investment. More broadly, a similar divergence of saving patterns could be seen when contrasting the high-saving Asian and European economies with those of the western hemisphere. Again, foreign direct investment played a large role, particularly in Latin America, in financing the resulting current account deficits.

The capital flows into the United States, as well as other recipient countries, were driven in part by the quest for diversification and perceived opportunities to earn above average investment returns. As a by-product, however, they provided strong support for the US dollar (see Chapter V), which in turn helped to tame inflationary pressures. The fact that the dollar remained strong, even after clear signs of an economic slowdown in the United States, may indicate that the market judged this to be only a temporary interruption before the growth potential of the new economy reasserted itself. A complementary explanation could be that the safe haven aspect of the reserve currency, particularly given perceptions of sound fiscal and banking systems, received increased emphasis as uncertainties mounted about global economic prospects. Whether these assumptions and perceptions will be validated over time remains to be seen.

Not all countries with a need for external borrowing had a similarly easy time. Among other reasons, continuing fiscal excesses in Argentina and fundamental problems in the banking sector in Turkey led to strong interest rate and exchange rate pressures, and in the latter case to a sharp currency depreciation. By the end of April, there had been relatively little contagion from these incidents. Not only was there less leverage in the system than during earlier crises, but international financial markets seemed increasingly adept at distinguishing between different degrees of credit risk (see Chapter VI). The fact that many adjustable peg exchange rate regimes had been replaced by some form of managed floating is also likely to have played a role.

In the period under review, a number of steps were taken to promote a healthier international financial system. Ongoing efforts to improve domestic financial and payment systems, often reflecting the pursuit of internationally agreed best practices, were observable in many emerging market countries. Moreover, intensified competition and consolidation within the financial sectors of the industrial countries drew increased attention from policy-makers. There was a growing consciousness that rapid financial changes and associated credit expansion had historically led to a variety of difficulties (see Chapter VII). The fact that officials were regularly assessing such vulnerabilities was welcome but, of course, no guarantee that the problem of recurrent financial crises had been eliminated.

## Sentiment, asset prices and macroeconomic developments

While shared shocks and real and financial interdependencies increasingly shaped the global economy, idiosyncratic developments related to mood and sentiment in the major regions remained of great significance. Nowhere were economic developments more dramatic than in the United States, where GDP growth accelerated to almost 6% in the first half of 2000 under the influence of strong consumer spending and a further large increase in business fixed investment. Both owed much to the earlier strength of stock markets, which increased consumer wealth while also reducing the costs of business financing. Ready access to credit from a widening variety of sources, many of them foreign, also played a supporting role. Underpinning it all was a

feeling of well-being arising from the belief that new information and communications technology had set both productivity and earnings on a permanently higher growth path.

Yet, as the year progressed, signs began to emerge that risks were accumulating. The Nasdaq fell and kept falling, as did other indices to lesser degrees. As a consequence, nominal household wealth in the United States actually declined in 2000 for the first time in the postwar period. Conversely, household liabilities and debt service requirements as a percentage of personal disposable income rose to near record levels, while the personal saving rate fell still further below zero. While corporate debt levels were in aggregate further from historical highs, the circumstances of smaller enterprises became more problematic. Banks imposed much stricter lending standards, bond market financing for non-investment grade borrowers became almost unobtainable for a time, and vendor financing by technology equipment suppliers also tightened.

Final domestic sales in the United States slowed sharply in the fourth quarter, with all components sharing in the downturn, and consumer confidence also declined markedly. Measured profits fell and profit warnings came in rapid succession. Moreover, there was a growing awareness that reversible factors might have inflated reported profits or diluted share values: rising stock prices encouraged holidays for pension contributions; the growing use of stock options created corporate tax benefits and the potential for shareholder dilution; and the use of common stock to make acquisitions at inflated price/earnings multiples reduced the claims of acquiring firms' shareholders still further. Nevertheless, more favourable economic indicators subsequently reinforced the conviction of those who expected the economic downturn to be only temporary. In particular, the reduction in inventories in the first quarter of 2001 was much greater than had been expected. Moreover, consumer spending held up surprisingly well given announcements of job losses and further recorded declines in consumer confidence.

The sudden change in US economic circumstances was reflected in an unusually rapid shift in the stance of monetary policy. Broadly, both the earlier tightening and later easing phases were consistent with a desire to moderate the business cycle while continuing the pursuit of domestic price stability. Yet, given the increased importance of financial asset prices in the United States and their related dependence on confidence, the Federal Reserve faced significant if subtle constraints on its behaviour. In particular, it was more vital than ever that the decline in rates be judged neither too small nor too large: too small, and spending might fail to revive; too large, and the result might be euphoria in financial markets or, conversely, panic, if markets felt the Federal Reserve knew something they did not. In the event, the first substantial easing in January did lead to a sharp loosening in credit conditions, which further monetary easing helped to sustain. It was also fortunate that another potential constraint on the Federal Reserve's willingness to ease, a rebound in domestic inflation, did not materialise in as substantial a way as might have been expected given earlier increases in energy prices and the more recent acceleration in unit labour costs.

The Japanese economy remained generally weak but demonstrated a similar quarterly pattern to that seen in the United States. Whereas faith in new technology preserved an underlying spirit of optimism in the United States, in spite of the slowdown in the second half of last year, a different sentiment prevailed in Japan. The country was still suffering the consequences of the collapse of the bubble economy a decade earlier – excess industrial capacity and low profits, falling asset values and continuing weakness in the financial sector. Moreover, given the authorities' persistent inability to deal decisively with these issues, popular disappointment about the current situation was matched by the belief that the future was likely to bring only more of the same.

Industrial production in Japan did rise temporarily in the first half of 2000, reflecting the recoveries in the United States and Asia. This generated both higher profits and increased investment, particularly in the IT sector. However, as the external stimulus receded and the effects of the earlier strengthening of the yen became more apparent, this promise faded. Consumers, in contrast, were hesitant throughout. Having previously suffered major losses to their personal wealth, doubtful about the status of unfunded pension schemes, and facing threats to both earnings and employment as industrial restructuring slowly proceeded, consumers were more inclined to save than to spend. Declining retail prices, partly due to positive supply side developments, may have further encouraged this "wait and see" attitude.

For their part, the macroeconomic authorities used what little room for manoeuvre they still had. The zero interest rate policy was briefly suspended as economic conditions seemed to improve during the summer, but was then effectively reimposed in the form of an explicit quantitative target for banks' excess reserves. At the same time, the Bank of Japan stated that this policy would remain in place until consumer prices had stopped falling. This commitment was expected to help sustain the impressive and welcome decline in longer-term rates in the second half of the year. Fiscal policy provided further stimulus to the economy, though its effects were increasingly mitigated by the growing recognition that loss-making investments and government guarantees would eventually prove a significant burden to taxpayers.

Hopes that slow growth in the United States and Japan might be offset by faster growth elsewhere were only partially realised. Like the United States, the other major English-speaking countries grew uncomfortably rapidly in the first half of the year, but most also showed signs of sharp deceleration later, accompanied by interest rate cuts. Only the United Kingdom bucked the slowing trend though, even there, policy rates were ultimately lowered in the light of prospective developments.

Nor did economic activity in the euro area speed up as hoped, although the deceleration in growth was at least less pronounced than elsewhere. With levels of domestic demand relatively robust, reflecting increasing consumer confidence as employment rose unusually rapidly, continental Europe seemed for a time to be insulated from developments elsewhere. Even so, the two-year declining trend of the euro exchange rate failed to reverse decisively. Moreover, the weak euro along with higher oil prices helped to push headline

inflation above the ECB's objective for price stability. When, towards the end of the period under review, indicators showed slowing growth and somewhat improved inflation prospects, there was an eventual cautious easing of policy by the Eurosystem. Indeed, given the recent record of fiscal restraint, it was even possible for a number of European countries to cut tax rates. While originally motivated by structural concerns, the demand side effects of these tax cuts promised to provide a welcome underpinning to future growth prospects.

The emerging market economies recorded an average real growth rate of 6% in 2000. Moreover, all of the major regions and virtually all of the largest economies shared in the expansion. Nevertheless, various signs of stress gradually emerged and stock prices fell on a broad front in the wake of the decline in the Nasdaq. Export growth also tended to decelerate, though in some countries rising domestic demand provided a partial offset.

Export orders for electronic products fell everywhere, but particularly sharply in East Asia. Knock-on effects on exchange rates, however, were much more muted than in 1997 given the trend towards floating, generally positive trade balances, high levels of reserves and a much reduced reliance on short-term capital inflows. China and India were affected to a lesser degree, as they remain relatively closed economies, though each continued to face domestic difficulties arising from still pervasive state ownership and associated fiscal problems. In Latin America, Argentina's persistent inability to control its fiscal deficit raised questions about its debt service capacity and the possible need for debt restructuring. As a result, Argentine bond spreads temporarily rose above 1,000 basis points, and spreads on some other sovereigns also started to widen. Elsewhere in the region, more rapid growth began to lead to inflationary pressures which, while far removed from historical norms, nonetheless prompted a number of central banks to tighten monetary policy. And, with the exception of the oil producers, concerns mounted over the continuing large trade deficits of countries in Latin America and central Europe and their potential exposure should the confidence of foreign investors begin to waver.

### Coping with financial fragility

Over the last 20 years, recurring crises have provided graphic evidence of how problems in the financial system can both generate macroeconomic disturbances and seriously amplify their costs. Some deficiencies have to do with individual institutions, others with market functioning, and still others with the properties of the global financial system itself. Not surprisingly, given concerns about level playing fields as well as contagion effects, extensive efforts have been made by governments in recent years to identify financial vulnerabilities and to deal with them. As doubts surfaced about the durability of the global economic expansion, these efforts took on a new importance.

Some of the financial vulnerabilities highlighted in the period under review were of old vintage. Chief among them was the failure to muster enough will



to restructure decisively the Japanese corporate and banking system. Indeed, allowing the merger of large banks without requiring restructuring implied maintenance of the status quo. Similarly, the extension of the deposit insurance programme and a renewal of government attempts to support declining stock prices may have discouraged banks from taking decisive restructuring measures themselves. The fact that the supervision of financial institutions improved, and that new and more demanding accounting standards were proposed, only partly compensated for these broader shortcomings. Elsewhere in East Asia, financial sector restructuring generally proceeded, but often still not far and fast enough. Broadly speaking, banking systems had not yet been restored to profitability and growth in bank credit remained weak. In central Europe and Latin America, the trend towards the greater involvement of foreign banks continued. On the one hand, this was welcomed since their new capital, technology and management skills were expected to contribute to local financial stability. On the other hand, there were concerns in some countries that foreign entities lacked both the will and the expertise required to lend to smaller, local enterprises.

Some of the other worries which surfaced in the period under review were inherently less concrete. In spite of high levels of profits and capital, banks in some of the countries furthest ahead in the business cycle were suspected of having become inadvertently exposed to credits of higher risk. The fact that loan loss provisions were low was one factor behind these suspicions. Large volumes of syndicated loans to telecoms companies were a further concern, especially in Europe, as it became less likely that these would be quickly paid back using the proceeds of asset sales, initial public offerings and bond issues. A similar set of worries arose in the context of difficulties faced by some issuers in rolling over outstanding commercial paper, which implied that previously negotiated standby lines with banks might be drawn upon. In both cases, anxieties were accentuated by the surprising speed with which a number of previously highly rated companies were downgraded to less than investment grade credit status.

Partly in response to such developments, there was a broad tightening of credit standards by banks in many of the industrial countries and a general widening of credit spreads in traded markets. Yet, in contrast to previous episodes, concerns about the credit standing of financial institutions did not seem to spill over into reduced functioning or liquidity of financial markets. To some extent, this was because of the more cautious attitude that the main dealing institutions had taken towards large trading exposures.

Longer-term efforts to promote a healthier financial system were vigorously pursued. Particularly notable and welcome were the efforts made by the Basel Committee on Banking Supervision, working closely with emerging market supervisors and the private sector, to develop a more risk-sensitive Capital Accord. Details of these as well as the contributions made by other Basel-based groups and committees can be found in the chapter on the Activities of the Bank. Moreover, under the aegis of the Financial Stability Forum, related progress continued to be made in developing standards that could contribute to financial stability, and in providing recommendations

pertaining to problems posed by highly leveraged institutions, offshore financial centres and international capital flows. However, it was in the area of the implementation of international standards that the greatest progress was achieved, as the IMF and World Bank sharply increased the attention paid to such issues on the ground in both emerging market and industrial countries. While an awareness of problems may seem only a step on the way to their resolution, it is an important step nonetheless.

Some limited progress was also made towards resolving differences of view concerning appropriate procedures for the management and resolution of sovereign liquidity and debt crises. These issues again came to the fore in the light of recent Fund support for both Argentina and Turkey. Various examples during the period under review also indicated that sovereign debt restructuring, at least involving bonds issued by smaller countries, could be more successfully managed than earlier anticipated if there was a willingness to apply exit and collective action clauses in existing bond contracts. In turn, given that the possibility of orderly workouts with strong private sector participation now seemed somewhat enhanced, these experiences may have helped tilt the balance, even if only slightly, in favour of a less interventionist approach to sovereign crises.

## II. Developments in industrial countries

### Highlights

Macroeconomic conditions in the industrial countries changed sharply in the course of 2000. Following a strong expansion during the first half, output growth in the United States slowed abruptly during the second. The slowdown was led by an inventory correction and by lower investment in high-tech equipment. It spread quickly from the United States to other countries and regions, particularly to the emerging Asian countries reliant on exports of electronic equipment. With exports stagnating and domestic demand weak, output in Japan declined. Helped by a less indebted corporate sector and a sounder banking system, the euro area proved more resilient to the downturn. However, near-term prospects for the global economy are particularly uncertain at this juncture. One structural, and crucial, factor is the nature of productivity growth in the United States. If the surge in labour productivity growth over the past few years reflects structural improvements which can spread to other countries and buoy future profits, there is a greater chance that the slowdown will be mild and short-lived.

A pleasant surprise last year was that inflation remained moderate despite strong growth during the first half and higher oil prices. Inflation tended to be lower than expected throughout the 1990s despite increased demand pressure and falling rates of unemployment. While stability-oriented monetary policies have played a major role in anchoring expectations of inflation, other temporary and possibly reversible factors have also influenced inflation behaviour.

A further widening of certain financial imbalances in major economies raises several questions. In the United States, dissaving by the private sector rose to more than 6% of GDP, pushing up the current account deficit and raising questions about the sustainability of the resultant build-up of debt in the private sector. In Japan, concerns about unsustainability have focused on the public sector as several years of progressively higher deficits have raised the public sector debt to over 120% of GDP. At the same time, persistent uncertainty about the health of the banking sector and a growing net saving surplus in the private sector in part explained why domestic demand growth remained so weak. In contrast, private and public sector financial balances in the euro area gradually converged towards zero last year.

It is also notable that national investment ratios seem to have become progressively more independent of national saving rates, particularly in Europe. This could imply that international financial markets have become less focused on external imbalances as such and more focused on allocating capital to countries where the rates of return are expected to be higher.

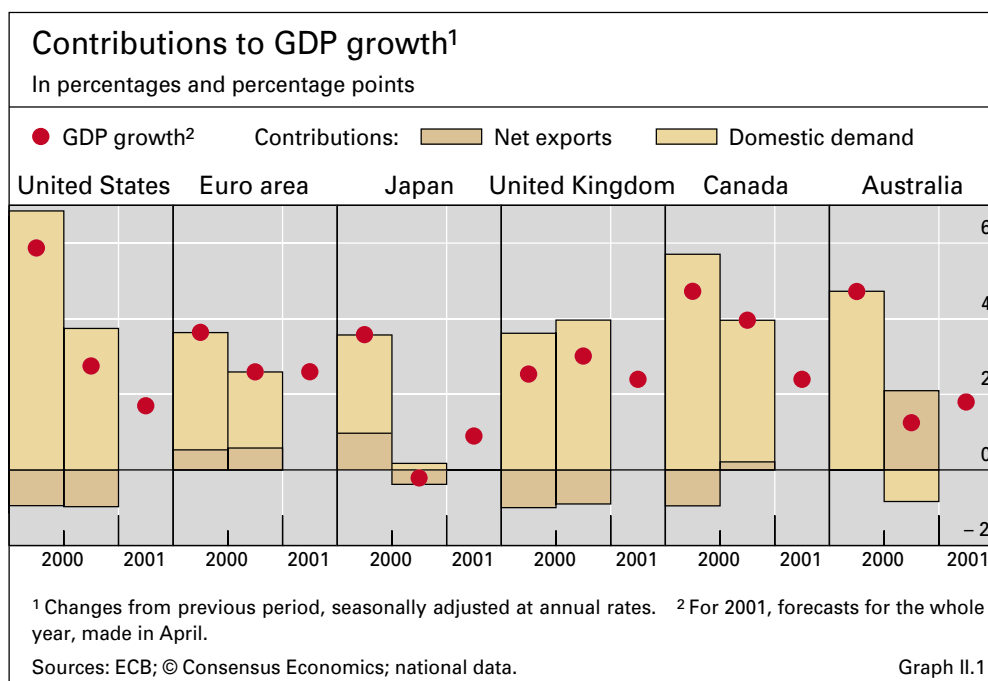
## Buoyant economy through the first half of 2000

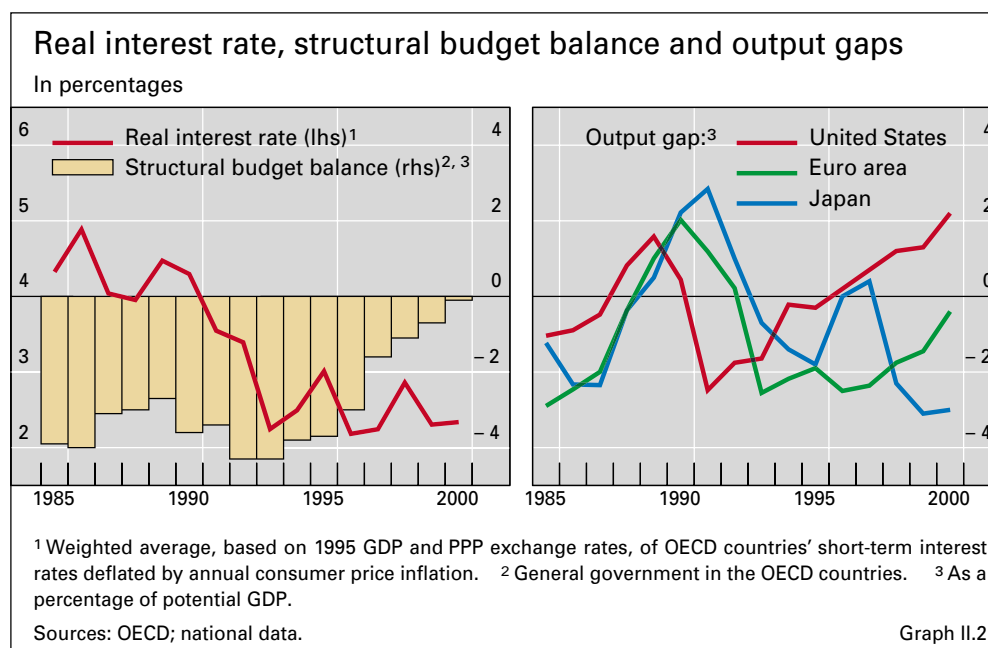
Propelled by strong domestic demand, notably in the United States and other English-speaking countries, output growth in the industrial countries increased to an annual rate of almost 5% during the first half of 2000 (Graph II.1). This was the fastest rate of increase since the late 1980s. As in previous years, US demand growth was mainly driven by consumption, supported by strong income growth arising from favourable labour market conditions as well as sizeable wealth gains. Reflecting the low cost of capital and high prospective rates of return, the growth of investment was also substantial. Investment also grew rapidly in Canada, while in Australia consumption and residential construction accelerated sharply in anticipation of a new indirect tax structure with effect from 1 July. Output growth in the United Kingdom was more moderate, though still high enough to widen the estimated positive output gap. Household spending, supported by employment gains, was the fastest-growing demand component. In contrast, business investment slowed from the rapid expansion of the previous year.

Strong growth driven by US demand

The euro area also expanded strongly in the first half of 2000. While the average annual growth rate of 3½% was well below that of the United States, it nevertheless represented a marked improvement compared with the 1990s. Helped by a competitive exchange rate and favourable global conditions, net exports not only provided a positive contribution to growth but also stimulated investment spending. In addition, with employment growing at an annual rate of more than 2% and unemployment falling, private consumption was another source of strength. Growth was also strong in other European countries during the first half of 2000. Output in Switzerland increased by almost 4%, with business investment being particularly buoyant. Supported by fiscal stimulus and favourable labour market conditions, Sweden also

Growth also strong in continental Europe





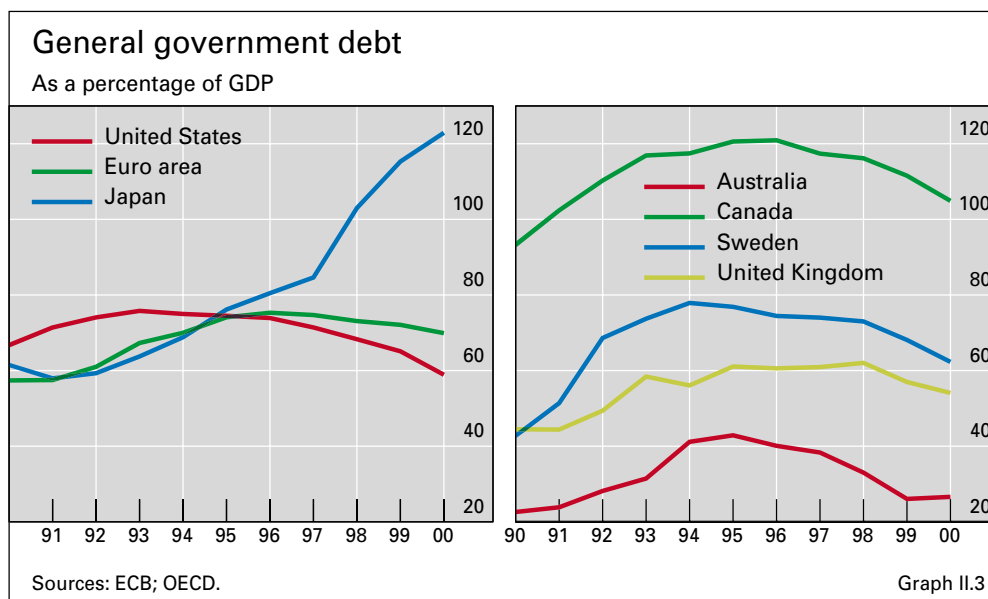
recorded a high rate of expansion. In Norway, the rebound of growth since the middle of 1999 continued, driven mainly by net exports and terms-of-trade gains arising from higher oil prices. However, with the economy approaching (or perhaps even exceeding) full employment, monetary policy had to be tightened to curb inflationary pressure.

Return to positive growth in Japan

Japan returned to positive growth after the recession of 1998 and stagnation in 1999. Aided by the booming US market, as well as the strong recovery in emerging Asia, net exports added 1% to total GDP. Moreover, stronger profits stimulated business fixed investment, notably in high-tech equipment. Public investment also rose, reflecting the effects of budgetary measures adopted towards the end of 1999. Despite publicly guaranteed credit schemes in favour of small and medium-sized firms, credit to the private sector continued to contract. Furthermore, continued uncertainty about job prospects as well as concerns about future pensions, social security and health benefits limited household spending growth.

Policy mix supported growth ...

The combination of healthier fiscal positions and relatively low real interest rates in most of the industrial countries helped growth (Graph II.2). Despite monetary tightening in the three major economic areas, real short-term interest rates remained low, particularly in relation to the vigour of demand. Real long-term interest rates were only slightly higher and even decreased during the course of the year. Fiscal consolidation and resultant declines in public debt ratios undoubtedly contributed to this and helped "crowd in" private investment. In the United States, a progressive improvement of the fiscal balance led to a reduction in the public debt/GDP ratio (Graph II.3). Government receipts in the euro area have benefited from the strengthening of growth as well as from one-off revenues (eg from the sale of UMTS licences). This generated a broadly balanced budget which, given the closing of the output gap, was in line with the Stability and Growth Pact and thus allowed several major countries to go ahead with fiscal reforms and



cut tax rates. Debt reduction has also been a prominent feature of fiscal developments in the United Kingdom, Canada, Australia and Sweden. In Japan, by contrast, the public debt ratio has continued to rise and low interest rates can mainly be attributed to high private saving and an accommodating monetary policy.

Favourable conditions in asset and credit markets were also a factor in the strong growth performance. This was evident in the United States but was also observed in countries such as Canada, Australia, the Netherlands and Sweden. In all cases, wealth gains, combined with low nominal interest rates, encouraged and enabled households to take on more debt to finance purchases of durable goods and housing.

... as did favourable financial market conditions

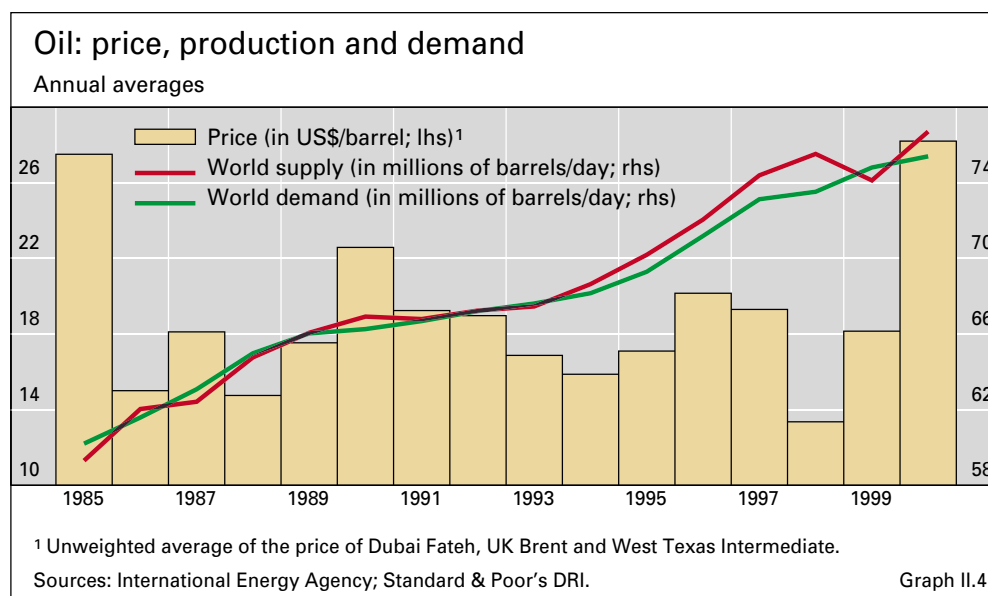
### Slowdown in the second half of the year

Signs of a significant slowdown emerged in the second half of 2000 (Graph II.1). US economic activity decelerated sharply, with growth falling to only 1% in the fourth quarter. Several factors contributed to this turnaround. First, from their trough in 1998, oil prices have increased threefold, representing a "tax levy" equivalent to 1½% of GDP. The reasons why oil prices rose to such a high level are not entirely clear. As can be seen from Graph II.4, the global demand for oil declined in relation to global supply in 2000, following the increase in output quotas by OPEC countries. One explanation might be that, after a decade of low or falling investment in the energy sector, limited refining capacity in the United States led to shortages of light oil in the North American market. In addition, low inventory levels of oil and little excess capacity outside Saudi Arabia, allied with a sharp rise in the price of natural gas and expectations that the United States would continue to grow rapidly, might have added a speculative element to the market price for crude oil.

Major slowdown in the United States due to higher oil prices ...

Second, the progressive tightening of monetary policy since mid-1999, together with a growing perception that the United States was close to

... tighter credit conditions ...



a cyclical peak, led to a significant deterioration in capital markets and borrowing conditions for enterprises. As discussed in Chapter VI, US equity prices fell substantially from their peak in March 2000, resulting in wealth losses for households and a sharp rise in the cost of equity funding. Moreover, a significant tightening of banks' credit standards compounded the effects of widening spreads in the corporate bond market.

... and negative accelerator effects

Third, and perhaps most importantly, various accelerator effects reinforced the downturn, once the US economy had reached a turning point. The demand for automobiles fell sharply and firms faced with excess inventories cut back their orders. Moreover, as future earnings prospects deteriorated and signs of excess capacity emerged, firms cut back investment plans, especially for computers and other high-tech equipment. Indeed, after an unbroken nine-year expansion, equipment investment actually fell in the fourth quarter. In addition, wealth losses, combined with a significant rise in job cut announcements, led to a steep decline in consumer confidence and lower household spending growth.

Downturn spread to other countries ...

While the speed with which economic conditions deteriorated in the United States came as a surprise, so too did the extent and coincidence of the slowdown in other countries. In some cases, the weakening could be attributed to country-specific factors (for instance the slump in residential investment following the introduction of a new goods and services tax in Australia) or strong trade links to the slowdown in the US high-tech sector (as in the case of emerging Asian economies; see Chapter III). However, in most other cases, developments during the second half of last year implied that the transmission channels between countries went well beyond direct trade linkages.

... including Canada ...

One striking example was Canada. The deceleration in output during the second half was apparently due to slower domestic demand, which actually declined in the fourth quarter as firms cut back on inventories and capital spending. However, direct as well as less visible transmission channels were

also at work. Thus the rise in net exports was mostly the result of lower imports. Moreover, cutbacks in orders and output were most pronounced among companies specialised in supplying components to those sectors in the United States (automobiles and telecommunications) most affected by the slowdown.

Japan, where GDP fell during the second half, presented a similar picture. Lower exports to other Asian countries and the United States partly explained the decline of net exports. However, an acceleration of import volumes in conditions of weaker domestic demand contributed even more. Weaker household spending growth also played a role. But the main source of the deterioration in domestic demand conditions was a cutback in public investment. While business investment continued to grow until the end of 2000, the latest *Tankan* survey by the Bank of Japan shows a significant deterioration in business confidence and demand expectations and substantial cutbacks in capital spending plans. These cutbacks could be exacerbated by a decline in banks' ability or willingness to lend. With bankruptcies rising sharply, banks' stock of non-performing loans has started to increase again while their scope for writing off such loans has decreased as unrealised capital gains on their equity portfolio have turned into losses. To restore banks' ability to lend, the authorities proposed a scheme which would encourage banks to dispose of loans to bankrupt or nearly bankrupt companies. The authorities also proposed to create a new agency with the purpose of purchasing up to one quarter of bank-owned equities.

... Japan ...

The euro area also experienced a significant cooling during the second half. It was, however, less pronounced than in the United States and Japan and differed widely across member countries. Reflecting its reliance on exports of manufactured goods and an actual decline in private consumption, Germany's GDP growth fell from 4% in the first half to 2% in the second. Business confidence also weakened. In France, by contrast, economic activity gained strength as the year progressed, with consumer confidence remaining high and business investment accelerating. Producers in both countries had to face worsening growth prospects and stricter borrowing conditions after the global slowdown in the high-tech sector, with shares in the European telecoms sector tracking the decline in US IT stocks. However, having been more aggressive in acquiring US firms, German enterprises were more exposed to potential losses of sales by their affiliates.

... and the euro area

Several factors explain the resilience of the euro area compared with the United States and Japan. First, given robust domestic demand, a corporate sector not overburdened by debt and a strong financial sector, the euro area was better placed to withstand unfavourable external shocks than was Japan. Second, the euro area has less trade with the United States and emerging Asia than Japan, and probably drew strength from continued growth of intra-area trade and capital flows. Third, while the downward correction of equity values in the euro area was even more pronounced than in the United States, the effects on household spending and investment were modest: the proportion of households owning stocks is much smaller and firms are more reliant on retained earnings and banks in financing their investment. This difference in wealth effects helps to explain why consumer confidence has

Resilience of the euro area



remained high in the euro area. Finally, most countries in the euro area are less reliant on the production of high-tech equipment than the United States and emerging Asia, and have seen only a modest rise in IT investment. Consequently, with the exception of telecommunication equipment and services, the euro area faced a smaller risk of potential downward corrections of capital stocks and company debt levels.

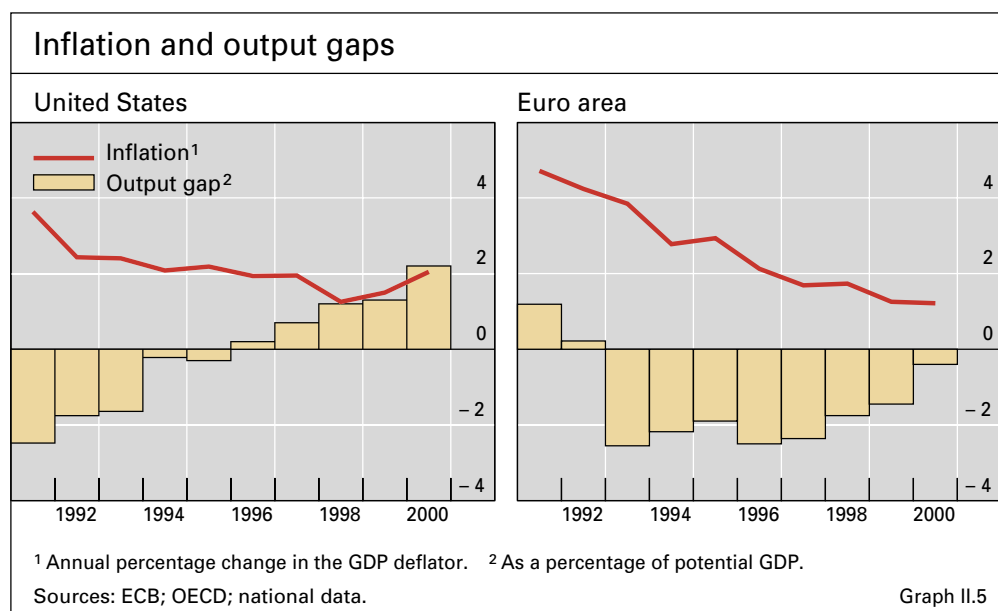
Developments in other countries

Other European countries also experienced only a modest slowdown. Despite some weakening towards the end of 2000 and a relatively high trade share with the United States, growth in the United Kingdom actually increased during the second half of the year, mainly on the strength of household spending and an expansionary fiscal policy. In Switzerland, robust household spending and an exceptionally good labour market performance also limited the externally induced slowdown. Sweden experienced a somewhat larger decline in growth, as it has a relatively large IT sector and is more reliant on exports to the United States. Moreover, with more than half of all Swedish households owning equities, the exposure to equity market developments is among the highest in Europe.

### Recent behaviour of inflation

Only moderate inflationary pressure in 2000

The industrial countries experienced only a moderate rise in inflationary pressure in 2000 despite rapid output growth and higher oil prices. Headline (CPI) inflation rose to 2¼%, but underlying inflation changed only little and the increase in the GDP deflator, the broadest measure of inflation, was only 1¼%. This was somewhat above the outcome for 1999 but well below the average for the 1990s. Inflation was slightly higher than the average in the United States, while in the euro area, exchange rate depreciation aggravated the effect of higher oil prices. In some other countries, indirect taxes led to large one-off price level increases. By contrast, inflation in the United Kingdom was below target for most of last year. In Japan, prices continued



to fall, contributing to the divergence of inflation rates across the industrial countries which has been observed since 1997.

The favourable inflation performance last year prolonged a trend of persistent overpredictions of price changes that had been observable throughout the 1990s. In fact, an unusual characteristic of economic behaviour was the extent to which prices continued to decelerate in an environment of generally rising activity and tightening labour markets (Graph II.5).

Low inflation in the 1990s may be attributable to ...

In addition to monetary policies with price stability as their overriding target, explanations of the recent inflation performance can be classified into three broad categories. The first asserts that some factors affecting the inflation process have *permanently* changed. Consequently, models that economists have traditionally used to forecast inflation are no longer applicable. At the other end of the spectrum are claims that traditional models are still valid as long as various *temporary*, and possibly reversible, supply shocks are allowed for. Explanations of the third category, essentially hybrids of the first two, comprise arguments that the traditional models still hold but that some of the key determinants have changed and produced long-lasting (though not permanent) shifts in the behaviour of inflation.

The first category would include arguments that the greater influence of market forces has improved and continues to improve the growth-inflation trade-off. In less regulated product markets, the demand curves facing firms are likely to be more elastic, encouraging or forcing them to both lower their mark-ups and intensify efforts to reduce costs. In a similar vein, it could be argued that advances in electronic commerce and data communications are leading to changes in how competitive markets function. In effect, supply functions have also become more responsive to changes in prices, with long-lasting implications for firms' price setting behaviour. In addition, there is increasing evidence that various structural changes have helped to reduce inflation and that such changes will continue. Deep price cuts have been seen in European utility sectors (notably telecommunications and energy), following deregulation and privatisation. Furthermore, the creation of a single market with a common currency has progressively reinforced competitive forces throughout the euro area. Likewise in Japan, negative inflation is often attributed to the effect of restructuring and deregulation as well as technological progress and a greater openness to imports.

... better functioning product markets ...

Turning to the second category of explanations, some have claimed that a traditional Phillips curve model tracks inflation quite well as long as the significant fall in primary commodity prices during the 1990s is taken into account. Others have stressed that additional, though still temporary, price or supply shocks also need to be considered. These would include the sharp declines in computer prices and, in the case of the United States during most of the last decade, the modest growth in the cost of medical care and the correction of upward biases in the measured rate of inflation. Leaving aside ambiguities about the precise size of these factors, one implication is that the shocks generating the favourable inflation outcomes are only transitory and may well be subject to reversal. Indeed, the rise in oil prices since 1998

... and the influence of more temporary factors

illustrates how gains from favourable but temporary supply shocks may have to be paid back. Similarly, some of the changes in wage behaviour discussed below may prove only temporary and reversible. This contrasts sharply with the polar “new economy” view that low inflation represents a more fundamental and longer-lasting change in wage and price setting behaviour.

Other explanations include a lower NAIRU ...

At its simplest level, the third category would attribute the low inflation of the 1990s to the declines in structural rates of unemployment (or NAIRUs) observed in several countries. The principal difference compared with the second category of explanations is that the change in the NAIRU is permanent rather than temporary. Yet the traditional model of inflation is still valid and the reduction in inflation is only observable as long as the actual rate of unemployment has not yet reached the new and lower NAIRU. Declines in the NAIRU are frequently attributed to a greater influence of market forces. The functioning of labour markets has greatly improved in the English-speaking countries and more recently in some continental European countries as well. In both the United States and the United Kingdom, the rate of unemployment has fallen below levels that used to be associated with accelerating wage pressure. Likewise, the impressive employment gains and falling unemployment rates in continental European countries have been accompanied by only slightly higher wage pressures to date.

... higher productivity growth ...

Other explanations of how determinants of inflation may have changed have their roots in the way that information technology has altered traditional relationships between economic agents. Probably the most frequently mentioned change of this kind is the acceleration of productivity growth in the United States and a few other countries over the course of the 1990s (see below). Similar to the lower NAIRU, a sustainably higher rate of productivity growth will only reduce inflation as long as demand in the economy has not yet reached the new, higher level of potential output. Moreover, this explanation presumes that expectations of future earnings do not rise excessively such that demand increases ahead of output, as observed in the United States in early 2000.

... and a low-inflation regime

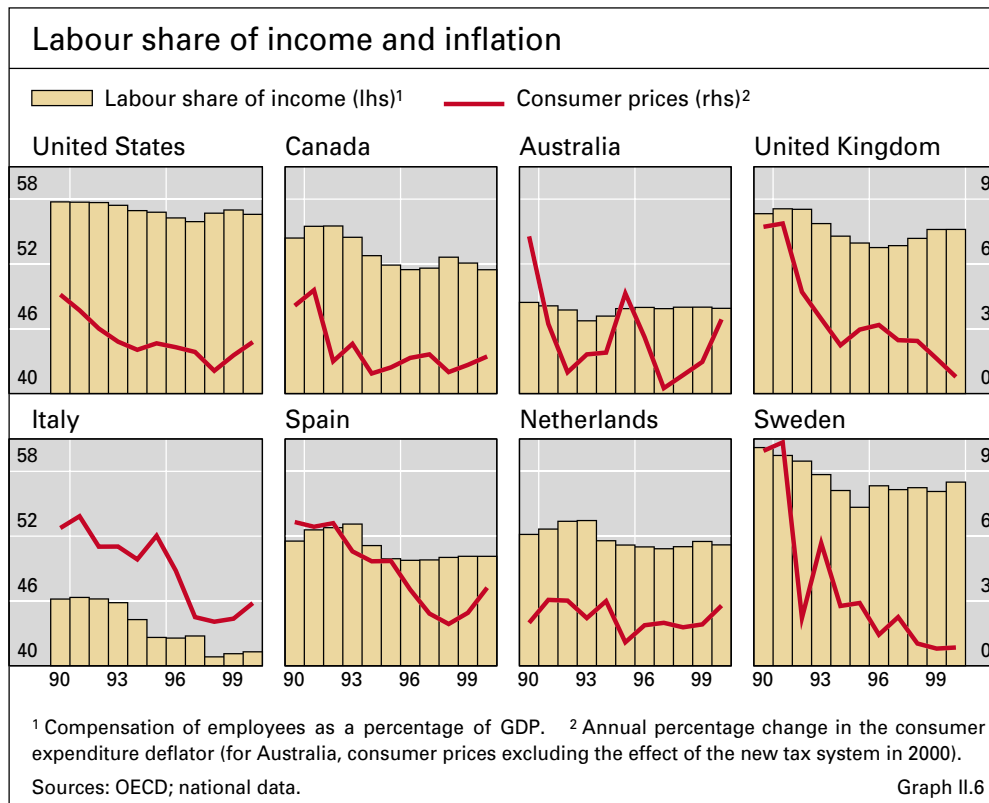
According to still another set of hypotheses, the behaviour of inflation depends on the actual level of inflation. In particular, in a low-inflation regime with monetary policies aimed at price stability, expectations tend to be better anchored and inflation thus more sticky. On this view, the erosion in firms’ ability to raise prices in excess of the expected rate of inflation, and the lower pass-through of costs into prices, have mainly resulted from a decline in the persistence of actual inflation. Thus, during periods of low inflation, workers and firms partly ignore upward shocks to current inflation in determining future wages and prices. Similarly, in a low-inflation environment, exchange rate changes are more likely to be regarded as temporary and reversible, with the result that domestic prices become less sensitive to exchange rate shocks. The experiences of Canada during 1991–93, Italy, the United Kingdom and Sweden following the ERM crisis in 1992 and Australia in the aftermath of the Asian crisis and again last year suggest that the pass-through of exchange rate changes has indeed fallen over the last decade or so.

Against this background, it is not possible to attribute the favourable inflation performance in the 1990s to one single factor. Rather, it seems to be the result of several factors and how they have interacted. Many observers have focused on firms' loss of pricing power (and lower mark-ups) in increasingly competitive national and international markets. If this were the only change, however, low and stable inflation would have been accompanied by a rise in labour's share of income. Yet labour's share of income has been stable or tended to decline over much of the last decade (Graph II.6). Indeed, one striking observation is that, for all the countries shown, inflation rates and wage shares are significantly and positively correlated.

No single explanation ...

One plausible explanation of the trend decline in labour's share of income might be that it has resulted from shifts in relative market power in both product and labour markets. Sellers no longer dominate both markets as they did in the 1970s and 1980s. As already noted, firms (sellers) have lost their pricing power in output markets. At the same time, workers have lost much of their pricing power in labour markets, as various regulations and restrictions in labour markets have been abolished or relaxed, as the proportion of the labour force that is unionised has shrunk, and in some cases also in response to high unemployment. In such an environment, unfavourable shocks (for instance higher import prices) are likely to have only a moderate impact on inflation, as firms cannot shift higher costs into prices and have the power to resist compensatory wage demands. Similarly, an autonomous increase in productivity growth will primarily lead to lower prices and an associated rise in real wages without any adjustment of nominal wage growth.

... but shifts in relative market power change the response to shocks



## Productivity trends and prospects for the world economy

Issues related to productivity growth

While the good inflation performance in the United States and other industrial countries has increased the scope for expansionary policy measures, another factor with implications for the severity and duration of the downturn now under way is the nature of recent developments in productivity. Three questions are key. Has stronger productivity growth been seen in countries other than the United States? To what extent has the surge in US productivity growth been driven by investment in IT capital and developments in the high-tech sector? And how large is the cyclical component in the recent surge in labour productivity growth?

Productivity growth in the United States and Australia

As regards productivity developments in other industrial countries, only Australia recorded higher increases in labour productivity than the United States during the second half of the 1990s (Table II.1). Australia is also the only country outside the United States which experienced an acceleration in labour productivity over that period, compared with the first half of the 1990s and the 1980s. It is also notable that, in both countries, the acceleration is mainly attributable to an apparently higher rate of technological progress, as measured by multi-factor productivity growth (ie the growth in output that cannot be attributed to increases in labour and capital input), and would thus seem more sustainable. Though partly dependent on the data used (see below), the contribution of capital deepening (ie the increase in capital per worker) appears to have been more modest.

Changes in labour productivity in the business sector									
	Output per hour	of which:		Output per hour	of which:		Output per hour	of which:	
		Capital <sup>1</sup>	MFP <sup>2</sup>		Capital <sup>1</sup>	MFP <sup>2</sup>		Capital <sup>1</sup>	MFP <sup>2</sup>
	1996–99			1990–95			1981–89		
annual rates, in percentages and percentage points									
Australia	3.1	1.0	2.1	1.8	0.6	1.2	1.5	0.5	1.0
United States	2.3	0.5	1.8	1.0	0.2	0.8	1.3	0.2	1.1
Germany	2.1	1.0	1.1	2.2	1.2	1.0	...	...	...
Japan	2.1	1.2	0.9	2.9	1.6	1.3	3.1	1.1	2.0
Switzerland	1.9	1.0	0.9	0.7	1.2	-0.5	...	...	...
Sweden	1.7	0.6	1.1	2.1	0.9	1.2	1.5	0.6	0.9
France	1.6	0.5	1.1	2.3	1.4	0.9	3.4	1.1	2.3
United Kingdom	1.5	0.5	1.0	1.8	0.6	1.2	3.4	0.5	2.9
Norway	1.4	0.3	1.1	3.2	0.7	2.5	1.4	0.9	0.5
Canada	0.9	0.6	0.3	1.4	1.1	0.3	1.4	1.3	0.1
Denmark	0.9	0.6	0.3	3.7	1.3	2.4	2.5	...	...
Italy	0.7	0.8	-0.1	2.7	1.4	1.3	2.3	0.9	1.4
Netherlands	0.4	-0.2	0.6	2.9	0.9	2.0	3.4	...	...
Spain	0.4	0.3	0.1	2.6	2.0	0.5	3.9	...	...

<sup>1</sup> Capital deepening. <sup>2</sup> Multi-factor productivity.  
Source: US *Federal Reserve Bulletin*, October 2000 (based on OECD data).

Table II.1

In all the euro area countries included in the table, labour productivity growth declined during the second half of the 1990s. The fall was most pronounced in those countries (France, Italy, the Netherlands and Spain) which have been most successful in improving the functioning of labour markets and promoting employment growth. In France, job creation seems to have been fostered by the decrease in social security taxes for low-skilled workers. Italy, Spain and the Netherlands have reduced previously prohibitive layoff costs and facilitated the employment of temporary and part-time workers. The success of these measures is welcome, but the other side of the coin has been a marked increase in the labour intensity of output and a corresponding fall in the rate of labour productivity growth. The Nordic countries might also be included in this group, while developments in Switzerland are more difficult to interpret. Switzerland has managed to reduce its rate of unemployment from more than 5% to less than 2% in just three years. Yet, contrary to the experience of the euro area countries, labour productivity growth has actually increased compared with the first half of the 1990s.

Lower productivity growth but better functioning labour markets in Europe

Apart from the effects of labour market reforms, the slow rate of labour and multi-factor productivity growth in the euro area compared with the United States may reflect the varying impact of the IT revolution. The United States has benefited far more from the production and use of high-tech equipment than countries in the euro area. Moreover, the benefits from innovation were undoubtedly augmented by the highly competitive US market. In Europe, by contrast, the IT producing sectors as well as the use of high-tech equipment are less advanced and markets less competitive. However, by continuing to liberalise their product and labour markets and duplicating US innovation processes, European countries might still be expected to achieve faster productivity growth over the medium term.

The IT revolution

The United Kingdom and Canada have both experienced a fall in labour productivity growth, possibly because the effects of deregulating labour markets have more than offset those stemming from higher capital spending. Japan has also seen slowing productivity gains, both in the course of the 1990s and relative to the 1980s. Given the low rate of output growth during the last 10 years, this was, perhaps, to be expected. But most of the deceleration in labour productivity can be attributed to an apparently lower rate of technological progress (or increase of multi-factor productivity) and may thus be longer-lasting. By contrast, the contribution of capital deepening has remained relatively stable.

Productivity growth in other countries

The central point of the second question (the role of the IT sector and IT investment in the United States) is that the higher contribution of capital deepening during the second half of the 1990s can be entirely explained by investment in IT capital (Table II.2). The contribution from other investment in the business sector (non-IT equipment and structures) remained stable at a level well below that of the 1974–90 period. The increased contribution from technological progress seems to have been about equally divided between producers and users of IT equipment. Among the latter, particularly large productivity improvements have been recorded in wholesale and retail trade

The role of IT investment and the IT sector in the United States

Contribution to labour productivity growth in the US non-farm business sector			
	1996–99	1991–95	1974–90
	annual rates, in percentages and percentage points		
Labour productivity	2.6	1.5	1.4
Capital deepening	1.1	0.6	0.8
Information technology capital <sup>1</sup>	1.0	0.5	0.4
Other capital	0.1	0.1	0.4
Labour quality	0.3	0.4	0.2
Multi-factor productivity	1.2	0.5	0.3
High-technology sectors <sup>2</sup>	0.7	0.3	0.2
Other sectors	0.5	0.2	0.1

Note: Authors' calculations based on Bureau of Labor Statistics and Bureau of Economic Analysis data.  
<sup>1</sup> Hardware, software and communication equipment. <sup>2</sup> Computer and semiconductor sectors.  
Source: S D Oliner and D E Sichel, "The resurgence of growth in the late 1990s: Is information technology the story?", *Journal of Economic Perspectives*, Fall 2000. Table II.2

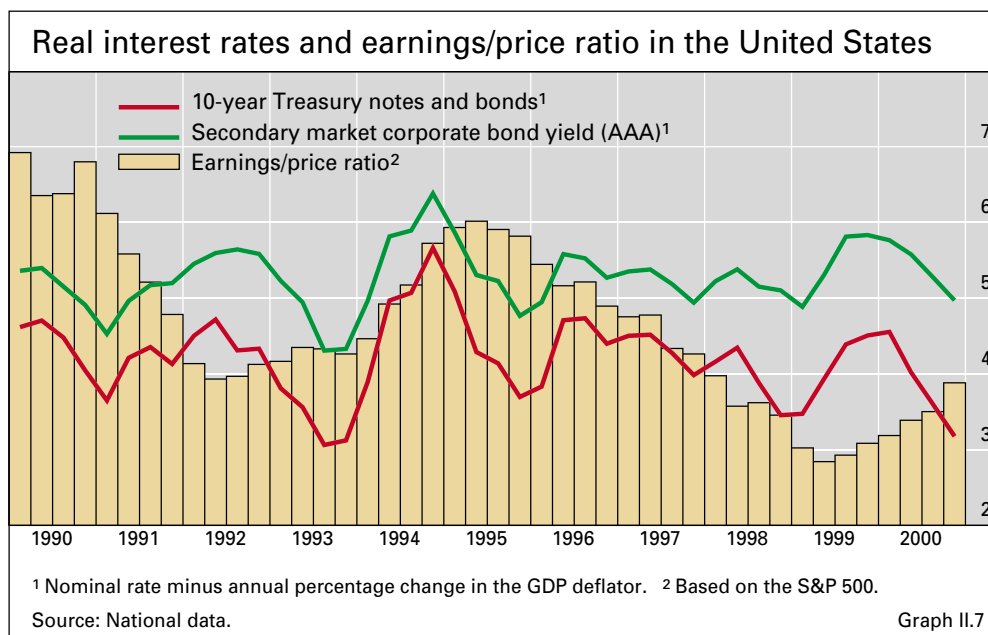
and in the financial sector. In contrast, productivity growth has fallen in transportation and communications as well as in the manufacturing of non-durable goods.

How high is US potential growth?

The third question (the size of the cyclical component of productivity growth) is, perhaps, the most important as regards the near-term prospects for the US economy. Unfortunately, it is also the most difficult to answer. Potential growth in the United States is estimated by many to have increased to around 3.5–4% from 2–2.5% during the 1980s and the first half of the 1990s. With the labour force expanding at just above 1% per year, this would imply continuing labour productivity growth of 2.5–3%. However, this rate was only achieved towards the end of the 1995–2000 period. Moreover, maintaining it would require that capital spending continue to grow at the high rate recorded until the middle of last year. If the potential rate of growth has indeed increased to about 4%, profits and share prices would have a firmer basis of support. Were consumer spending to revive in consequence, the current slowdown in the United States would be shorter-lived, perhaps mostly comprising an inventory correction. In contrast, if the above estimate of long-run output and productivity growth is overstated, current expectations of future earnings growth are also likely to be overstated. In such a scenario, both consumption and investment spending would probably remain sluggish and might even decline further.

Estimates of the cyclical component

Assessments of the permanent or trend component of labour productivity growth based on recent experience suffer from another problem. It is possible that cyclically high levels of demand might have boosted labour productivity only temporarily. This problem is clearly evident in current estimates, which differ widely depending on the assumptions made and the methods used. According to estimates made by the US Council of Economic Advisors, the improvement in labour productivity during 1995–2000 is almost entirely structural, implying that the higher estimates of potential output



growth are justified. By contrast, some private analysts attribute one third to one half of the increase to cyclical factors. Current economic indicators would suggest a relatively large cyclical component. Developments in capacity utilisation rates in industry lend some support to the view that investment (notably in high-tech equipment) may fall back, thus removing one element of support to the labour productivity growth rate seen to date. During the last three years, when industrial output expanded at an annual rate of 5–6%, the capacity utilisation rate remained below the long-run average. And it declined sharply during the second half of 2000 when growth slowed. Moreover, the recent problems faced by many high-tech start-up companies in financing their activities could imply that, in addition to a smaller contribution from capital deepening, labour productivity might be adversely affected by a lower rate of technological progress. Finally, the most recent data on labour productivity growth provide grounds for concern. While hourly productivity was still growing at around 4½% when the economy started to slow last year, it actually declined in the first quarter of this year. Nonetheless, given the speed with which output decelerated and the constraints on adjusting employment, even in an economy with a flexible labour market, the latest figures provide only a partial and imperfect measure of long-term productivity trends.

Current financial market indicators for the United States seem to suggest that investors – rightly or wrongly – have accepted the view that potential growth might be close to 4% (Graph II.7). Following the downward correction of price/earnings ratios since early last year, the implicit return on equities would point to a long-term growth rate of around 3½%, not far below the consensus estimate. This could suggest that equity investors view the recent downward revision of future earnings as only temporary. Using long-term real bond rates as an approximation to long-term growth is more problematic. The outcome depends not only on the nominal rate applied but also on the measurement of inflation expectations.

Financial market indicators



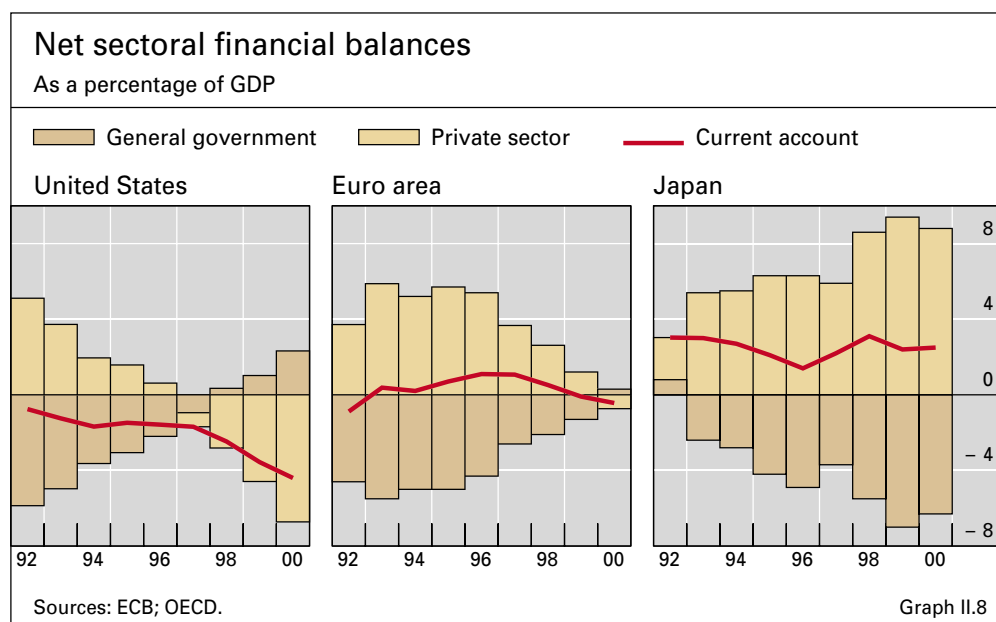
## Developments in financial balances, saving and debt

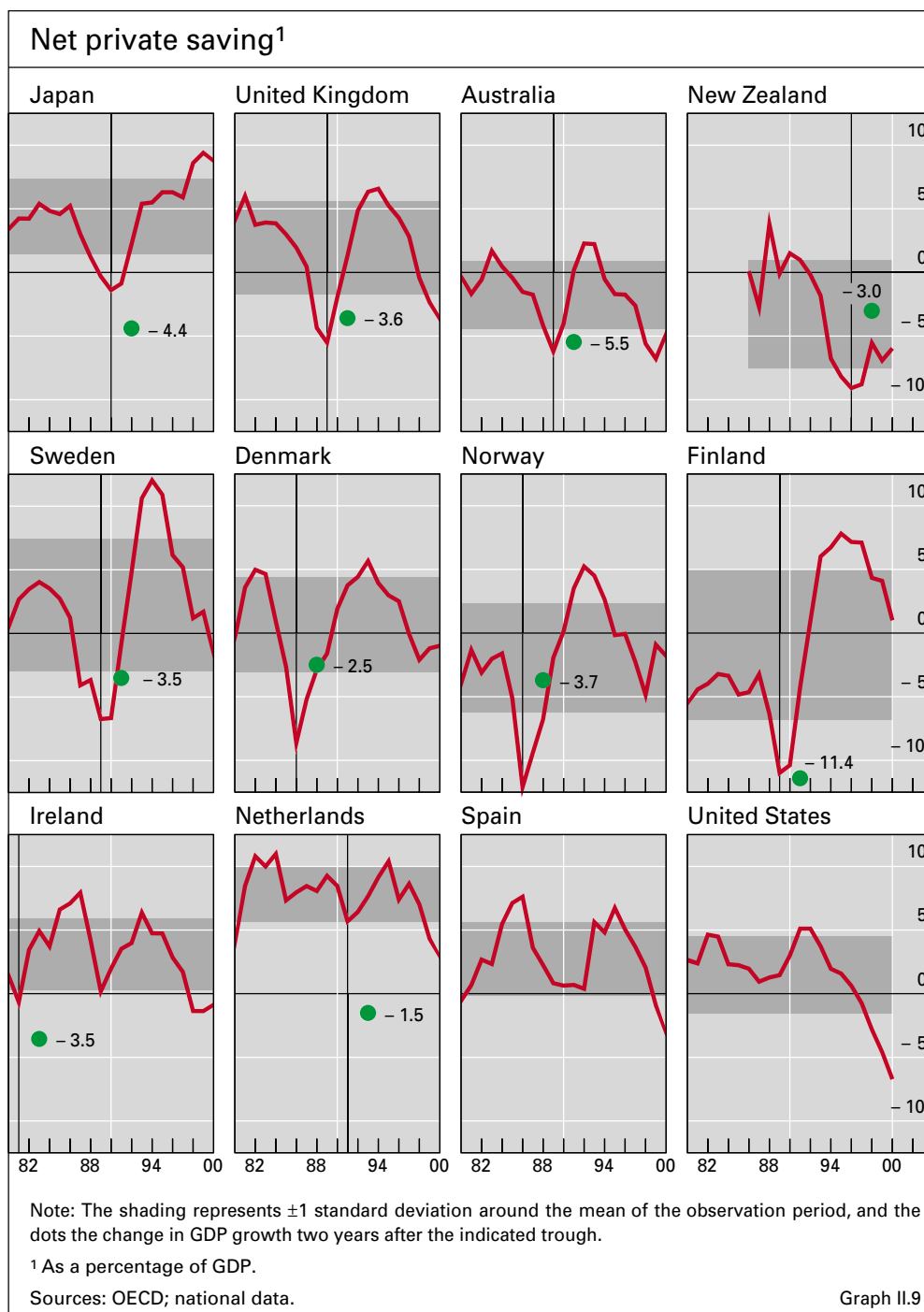
Episodes of major declines in net private saving

As the US economy slowed during the second half of 2000, the question arose of whether any excesses and fragilities masked by the rapid growth over the preceding years would be exposed. This question needs to be approached from several angles. One perspective starts from the observation that net saving (ie saving minus investment) of the private sector fell to  $-6\frac{1}{2}\%$  of GDP in 2000 (Graphs II.8 and II.9), compared with a persistent surplus throughout the 1980s and early 1990s. Although this deficit was easily financed by government and foreign saving, problems could, nevertheless, still emerge. Historically, years in which private sector net saving has fallen significantly below its long-run average (and credit growth to the private sector has been particularly high; see Chapter VII) have typically been followed by a marked slowdown in GDP growth (Graph II.9). This was the case in Denmark and Norway after 1986, in the United Kingdom, Australia and Finland in the late 1980s and in Japan after 1990. Furthermore, in some of the other industrial countries where net private saving was significantly below its long-run average last year (Ireland, the Netherlands and Spain), fears of overheating and financial imbalances have also progressively increased.

Tighter credit conditions

The US private sector financial imbalance also stands out by virtue of the speed with which it emerged: by almost 12% of GDP since 1992. The associated increase in debt (Graph II.10) and fears that slower growth of nominal income and cash flow might cause debt servicing problems were among the factors leading to tighter credit market conditions and stricter lending standards imposed by banks. The proportion of banks which implemented stricter credit standards last year was the highest since the 1990–91 recession. Moreover, by the end of last year, corporate bond spreads were wider than at the height of the 1998 crisis (see Chapter VI). In addition to rising debt levels, the faster technological changes associated with the new economy may have





contributed to bondholders' concern about the creditworthiness of previously highly rated borrowers. Companies which have invested heavily in high-tech equipment face uncertain earnings prospects and are unlikely to generate stable cash flows. In addition, their depreciation costs will initially rise sharply, and even precipitously, if new technologies actually make their capital stock obsolete.

Of course, trends in net private saving and debt in the major economies need to be seen in the light of changes in total saving and investment as well as in their sectoral composition. First, US national saving as a percentage of GDP remained relatively stable during the 1990s. Given the traditionally

Developments in national saving

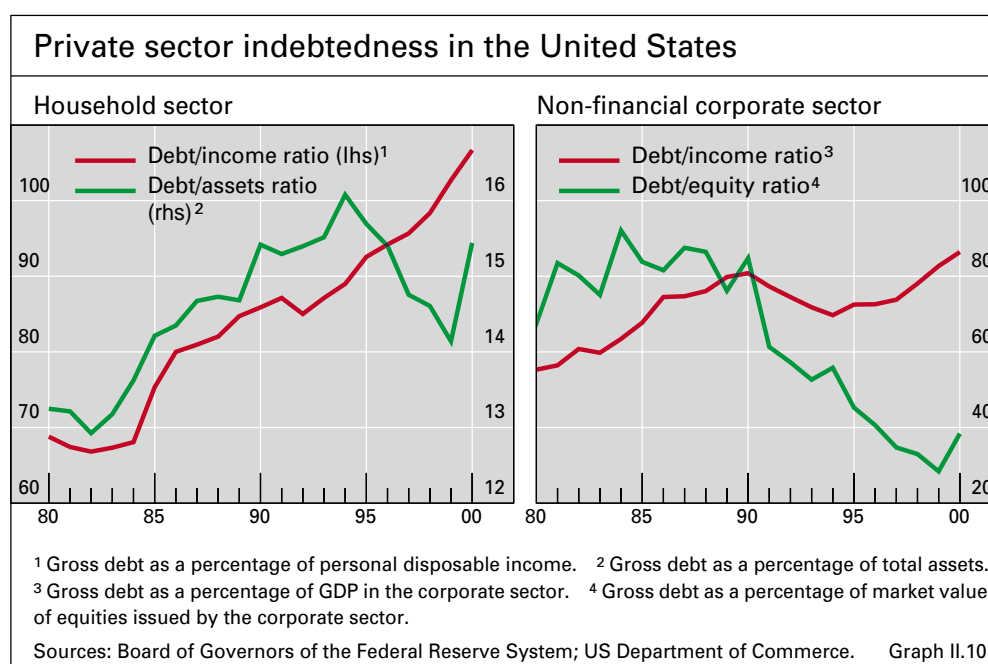
procyclical behaviour of saving and the rapid expansion of income, this apparent stability may conceal a deterioration in the underlying saving rate. Nonetheless, it appears that the rise in the aggregate saving deficit can mainly be attributed to the buoyancy of investment spending. This is in marked contrast to developments in Japan, where uncertainty about the future has kept private saving relatively high and prevented the aggregate saving rate from falling as steeply as the aggregate investment ratio. The euro area presents yet another picture as the aggregate saving and investment ratios have been largely stable over the last decade.

General decline in household saving

Second, the decline in private saving (and the associated rise in financial imbalances and debt) has generally been more pronounced for the household sector (Table II.3). Since its peak in 1992, the saving rate of US households has fallen by almost 9 percentage points and even sharper declines have been observed in Canada, Finland and Sweden. The indebtedness of US households relative to GDP has risen more sharply than that of the corporate sector. Similar developments have been observed in the Netherlands and Australia and, to a lesser extent, in Italy and Canada. Nevertheless, lower mortgage rates in many countries have helped to contain debt servicing costs despite rising indebtedness. In addition, household indebtedness has been stable or declining when measured relative to wealth although, in some cases, this may have changed with the recent sharp fall in equity prices.

Increased indebtedness of US corporations

Third, while the ratio of US corporate debt to corporate value added has indeed increased to an all-time peak, the debt/equity ratio has fallen significantly during the last decade despite large debt-financed equity buybacks (Graph II.10). If investment has been excessive and equity prices have overshoot future earnings prospects, this debt/equity ratio would of course provide a false picture. However, using accounting values instead of market values, the debt/equity ratio last year would still have been below its



Developments in household saving rates								
	in percentages and percentage points							
	Canada	Sweden	Finland	United States	Italy	New Zealand	Denmark	United Kingdom
1990s peak (year)	13.2 (1991)	11.5 (1993)	10.0 (1992)	8.7 (1992)	18.7 (1991)	5.5 (1991)	11.2 (1990)	11.4 (1992)
2000	3.2	2.0	0.7	-0.1	10.4	-1.9	4.2	4.4
Change <sup>1</sup>	-10.0	-9.5	- 9.3	-8.8	-8.3	-7.4	-7.0	-7.0
<i>Debt/GDP</i> <sup>2</sup>	16.2	-4.7	-15.8	18.2	14.3	...	8.2	16.4
	Australia	Netherlands	Japan	Belgium	Germany	Spain	Switzerland	France
1990s peak (year)	9.3 (1990)	14.9 (1995)	15.4 (1991)	18.4 (1992)	13.1 (1991)	14.4 (1993)	10.8 (1993)	16.2 (1997)
2000	3.1	9.4	11.1	14.3	9.8	11.6	8.1	15.8
Change <sup>1</sup>	- 6.2	-5.5	- 4.3	-4.1	-3.3	-2.8	-2.7	-0.4
<i>Debt/GDP</i> <sup>2</sup>	30.0	22.4	12.6	13.5	18.8	16.0	...	-0.2

<sup>1</sup> From 1990s peak to 2000. <sup>2</sup> Change in household debt/GDP ratio, 1981–90 (for Finland, 1992; for Denmark and the Netherlands, 1995; for the United Kingdom, 1987; for Australia, 1988; for Germany, 1991) to latest observation.

Sources: OECD; national data. Table II.3

long-run average. In addition, the ratios of net interest payments to cash flow and current assets were largely stable during the 1990s. Nevertheless, when the debt and liquidity measures are disaggregated by firm size, there is evidence of rising vulnerabilities for small firms. Such firms are more likely to be “squeezed” in financial markets, particularly if they have no established earnings record.

It is interesting to compare developments in the United States since the mid-1990s with those in Japan during the second half of the 1980s. As Table II.4 shows, there are a number of similarities but also significant differences. In both cases, average GDP growth rose compared with the previous five-year period and labour productivity growth as well as the rate of technological progress increased. Both countries also saw the ratio of investment in machinery and equipment to GDP increase, with capital deepening contributing significantly to the growth of labour productivity. In both cases, the investment surge can probably be attributed to higher anticipated rates of return in conditions of low costs of capital. Long-term real interest rates remained stable or fell during the expansion and, when the rise in price/earnings ratios (or the implicit decline in the equity premium) is also taken into account, the overall cost of capital is likely to have been very low. Despite the higher pace of output growth, inflation declined in both countries as faster productivity gains and an appreciating currency helped to dampen cost pressures. Both countries also saw an improvement in the budget balance and a decline in net private saving.

Turning to the differences, the annual average growth of broad money relative to that of nominal GDP during the boom years was somewhat higher in Japan (4.1 percentage points) than in the United States (2.6 percentage points). Moreover, the extent to which the additional liquidity boosted asset

Comparison with Japan in the late 1980s reveals similarities ...

... as well as differences ...

prices was more pronounced in Japan, notably for property but also for equity. The rise in leveraging of the private sector was also sharper in Japan than in the United States and, since most of the corresponding credit growth during 1986–90 can be attributed to bank lending, Japanese banks increased their risk exposure more than US banks during 1996–2000. This is particularly true with respect to the sectoral distribution of loans, as bank lending in Japan was highly correlated with the speculative rise in property prices. By contrast, in the United States, lending to goods and service producers accounted for most of the growth in bank credit.

... notably with respect to the external balance

Another key difference concerns developments in the external account. While Japan experienced a rise in its current account surplus and in net capital outflows during 1986–90, the US expansion was accompanied by a widening current account deficit and a growing need to attract foreign capital. While probably not sustainable in the long run, the external imbalance may have had some benefit in that US enterprises were put under constant pressure – domestically as well as internationally – to improve their profits and rates of return. Japanese firms were also exposed to competitive pressure, particularly from other Asian countries. Nonetheless, their main challenge was to look for favourable investment opportunities abroad.

Correcting the capital stock

The drop in the Japanese investment ratio during 1991–95 may indicate that the investment boom, which included machinery as well as structures, went too far and that the downward correction of a capital stock with a

Comparative developments in Japan and the United States					
	Japan			United States	
	1981–85	1986–90	1991–95	1991–95	1996–2000
GDP volume <sup>1</sup>	3.3	4.9	1.4	2.4	4.3
Labour productivity <sup>1</sup>	2.3	3.4	0.8	1.4	2.7
Consumer prices <sup>1</sup>	2.8	1.3	1.4	3.1	2.5
Non-residential investment/GDP <sup>2</sup>	15.7	17.9	16.7	10.4	12.5
Real interest rate <sup>3</sup>	4.8	4.2	3.6	4.2	4.1
Price/earnings ratio <sup>4</sup>	35.2	69.5 <sup>5</sup>	86.5	17.5	32.4 <sup>5</sup>
Imports/GDP <sup>2</sup>	12.5	8.1	7.5	11.1	13.2
Residential property prices <sup>6</sup>	131	190	172	113	147
Equity prices <sup>6</sup>	211	563 <sup>5</sup>	314	187	452 <sup>5</sup>
Nominal effective exchange rate <sup>6</sup>	129	154	208	99	122
Net private saving/GDP <sup>2</sup>	4.7	1.6	3.7	3.5	-2.8
Budget balance/GDP <sup>2</sup>	-2.8	1.3	-1.1	-4.5	0.1
Current account/GDP <sup>2</sup>	1.8	2.8	2.6	-1.0	-2.7
Net capital inflows/GDP <sup>2, 7</sup>	-1.3	-3.6	-0.9	0.1	3.3
Household saving/disposable income <sup>2</sup>	22.0	17.6	14.0	7.2	3.1
Household debt/GDP <sup>8</sup>	47	61	63	67	74
Enterprise debt/GDP <sup>8</sup>	99	131	132	69	73
Broad money <sup>1</sup>	8.3	10.4	2.1	1.8	8.7

<sup>1</sup> Average annual percentage change. <sup>2</sup> Percentages, average for period. <sup>3</sup> Ten-year nominal rate less annual rate of inflation (consumer expenditure deflator), average for period. <sup>4</sup> End of period. <sup>5</sup> Peak in final year. <sup>6</sup> Index (1980 = 100 for Japan; 1990 = 100 for the United States), end of period. <sup>7</sup> Net direct investment and portfolio flows. <sup>8</sup> Percentages, end of period.

Sources: OECD; national data; BIS.

Table II.4

relatively long economic life is both protracted and painful. By contrast, the US investment expansion has mostly been confined to high-tech equipment with a relatively short economic life. Hence, potential excesses can be more quickly corrected, though potential losses to creditors and investors may still be high.

## Developments in world trade and external balances

With the pickup in global growth to the highest rate in more than 15 years, world trade (in volumes) increased by 13½% compared with 1999 (Table II.5). Foreign trade as a proportion of global output thus rose further last year, continuing a trend that has been evident throughout the postwar period. To a large extent, this trend reflects changes in firms' production processes (Table II.6). Due to more intensive competition in global goods markets, and reinforced by firms' attempts to reap the benefits of increasing returns to scale at the plant level, production processes have become increasingly decomposed, vertically as well as horizontally. Compared with the past, each process now involves a growing number of intermediate stages which are spread across countries and thus contribute to the growing trade shares by country. Thanks to technological progress and lower communication costs, more and more services have also become tradable and this too has contributed to the rise in foreign trade shares. Nonetheless, and somewhat surprisingly, the measured proportion of services in world trade has remained remarkably stable.

Marked increase in world trade and in foreign trade shares of output

Despite the acceleration of trade volumes, the decline in international trade prices (in dollars as well as in SDRs) for manufactured goods observed throughout the 1990s continued last year, providing further evidence of firms' loss of pricing power in global goods markets. Given the sharp rise in oil prices and the turnaround in prices of other commodities, the terms of trade of the industrial countries deteriorated last year. In contrast, developments in foreign trade prices provided a significant boost to real income developments in oil-exporting countries as well as in countries reliant on exports of metals.

Continuing decline in goods prices

World trade and prices				
	1991–97	1998	1999	2000
	annual percentage changes			
Trade volumes	7.1	4.6	5.6	13.4
Trade prices (in US dollars)	0.2	– 6.1	–1.5	–0.3
Manufactures	0.1	– 1.7	–2.0	–6.2
Oil	–2.5	–32.1	37.5	56.9
Other commodities	1.8	–14.7	–7.1	1.8
Terms of trade				
Industrial countries	0.3	1.7	0.1	–3.4
Emerging market economies	–0.7	– 7.1	5.0	6.4

Source: IMF, *World Economic Outlook*.

Table II.5

Foreign trade shares <sup>1</sup>				
	1981–90	1995	1999	2000
	as a percentage of GDP			
United States	7.9	11.6	13.9	14.8
Euro area	11.9	14.3	17.6	19.0
Japan	7.1	8.4	9.1	9.9
United Kingdom	22.9	28.5	33.9	35.9
Canada	23.7	35.9	43.7	46.3
Australia	13.3	18.4	20.5	21.6
Sweden	28.4	37.1	45.0	47.7
Switzerland	28.8	33.1	39.2	41.4
<i>Trade in services/total trade</i>	<i>21.5</i>	<i>20.4</i>	<i>21.2</i>	<i>19.9</i>

<sup>1</sup> Average of exports and imports in goods and services, national accounts definition (in real terms).  
Sources: OECD; national data. Table II.6

Deterioration in the external balance of the euro area

Turning to changes in external balances, one of the more surprising developments in recent years has been the deterioration in the current account balance of the euro area: from a surplus of about \$70 billion in 1997 to a deficit of more than \$30 billion last year (Table II.7). During 1997–99, when demand growth in the euro area was relatively slow, the rise in imports (in both nominal and real terms) far outpaced that of exports. And last year, when the depreciation of the euro helped significantly to raise export growth, imports expanded even faster owing to the combined effect of higher oil prices and a lower exchange rate. Italy accounts for about one third of the deterioration since 1997, reflecting substantial losses of export market shares and a relatively high reliance on imported oil. Germany and Spain account for about 20% each. In the case of Germany, the deterioration has mainly been the result of increasing deficits on the service and net investment accounts while the larger trade deficit in Spain can be attributed to unusually strong import growth.

The United Kingdom has also seen a large deterioration in its current account (2¼% in terms of GDP since 1997), most of which can be attributed to a rising trade deficit. In contrast, Canada and Norway have experienced improvements equivalent to 3½% and 8¼% of GDP respectively. In the case of Norway, this is mainly the result of higher oil prices, while Canada has

Balance of payments in the three major economic areas									
	Current account			Net FDI and portfolio flows			Overall balance <sup>1</sup>		
	1998	1999	2000	1998	1999	2000	1998	1999	2000
	in billions of US dollars								
United States	-217	-331	-435	174	338	487	- 43	7	52
Euro area	35	- 7	- 32	-218	-166	-144	-183	-173	-176
Japan	120	109	118	- 63	- 36	- 60	57	73	58

<sup>1</sup> Calculated as the sum of the first two sets of columns.  
Sources: ECB; national data. Table II.7

Estimated relationship between national saving and investment <sup>1</sup>				
	$\alpha$	$\beta$	R <sup>2</sup>	$\Sigma Bop/Y$
1980–1989	10.5**	0.58**	0.62	2.3
1990–1995	9.3**	0.56**	0.68	2.0
1996–2000	17.2**	0.19*	0.08	3.6
2000	21.9**	0.01	-0.05	4.9

<sup>1</sup> The equation is estimated across 22 industrial countries as  $I/Y = \alpha + \beta(S/Y)$  where  $I/Y$  and  $S/Y$  refer, respectively, to aggregate investment and saving relative to GDP averaged over the periods indicated in the first column.  $\Sigma Bop/Y$  is the average balance of payments/GDP ratio, calculated without regard to sign, and \* and \*\* indicate significance levels of 90% and 99% respectively.

Table II.8

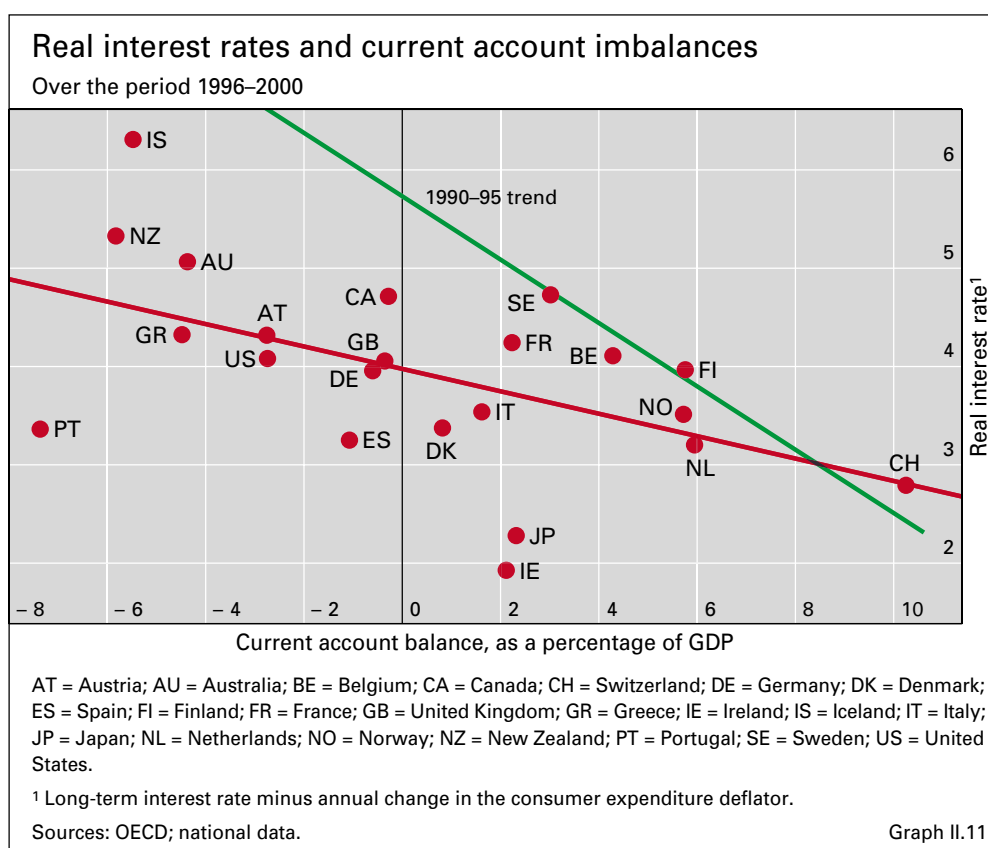
benefited from strong US demand growth, favourable terms-of-trade changes and lower net interest payments.

Another interesting, and somewhat puzzling, development is that the historical relationship between national investment and saving ratios appears to have changed in recent years. As indicated by the decline in the estimated regression coefficients from around 0.6 throughout the 1980s and early 1990s to only 0.2 for the second half of the 1990s (Table II.8), investment ratios appear to have become progressively more independent of national saving ratios. The counterpart to this development has been an unprecedented rise in current account imbalances, raising the question as to the forces behind it.

One explanation might be that as budget imbalances have been reduced, markets have become less concerned about external imbalances. Second, while the move to a monetary union in Europe has significantly increased trade within the region, it has been accompanied by a marked rise in the

Lower correlation between national saving and investment ...

... may reflect the effects of monetary union ...





Current account balances in the major regions					
	1997	1998	1999	2000	Change 1997–2000
in billions of US dollars					
Industrial countries	78	–33	–198	–298	–376
Emerging Asia	26	114	112	88	62
Latin America	–67	–90	– 56	– 48	19
Middle East and Africa	– 2	–49	– 9	58	60
Transition economies	–24	–28	– 2	27	51
Total	11	–86	–153	–173	–184

Source: IMF, *World Economic Outlook*. Table II.9

current account imbalances of its members. Indeed, these changes account for about half of the rise in aggregate imbalances between 1990–95 and 1996–2000.

... more  
accommodating  
capital markets ...

A third, and related, explanation is that current external accounts have been “driven” or facilitated by the sharp rise in cross-border investment and portfolio flows. This is particularly true for capital flows within the euro area, but also applies to flows between the three major economic areas. As Table II.7 shows, net foreign direct investment and long-term portfolio inflows into the United States have increased in step with the widening of the current account imbalance over the last three years. The overall balance for Japan has also been relatively stable, while the deficit for the euro area has gradually decreased despite the deteriorating current account position. One observation supporting the hypothesis that international capital markets have become more accommodating of saving/investment imbalances is that the sensitivity of real interest rates to current account imbalances appears to have fallen during the 1990s (Graph II.11). In other words, the differentials in real interest rates or expected rates of return required to channel excess saving to countries with favourable investment opportunities and current account deficits seem to have narrowed compared with earlier periods.

... or a widening  
global discrepancy

Yet a fourth possibility is that the apparent breakdown in the relationship between saving and investment mainly results from measurement errors in global balance of payments statistics. The emergence of a large current account discrepancy for the global economy dates back, at least, to the early 1980s. Since 1997 this discrepancy has been particularly large, with only about half of the deterioration in the aggregate balance of the industrial countries accounted for by improvement elsewhere (Table II.9). However, experience also suggests that as more complete data become available and more countries report their external transactions, the discrepancy tends to shrink compared with initial forecasts and estimates. Consequently, the widening discrepancy shown in the table may prove to be overstated. This would not only imply that the aggregate external position of the industrial countries may have been somewhat stronger than current data suggest but also that the recent relationship between aggregate investment and saving has been more in line with historical patterns.

### III. Developments in the emerging market economies

#### Highlights

Most emerging market economies recorded a strong macroeconomic performance last year, though they shared in the industrial country slowdown as the year progressed. Average growth rose to its highest rate in four years, with particularly large increases in Latin America and central and eastern Europe (Table III.1). The rise in average growth was accompanied by a convergence of growth rates. This was especially evident in central and eastern Europe, where, for the first time since the regime change, all countries recorded positive rates of growth.

In contrast, there were marked differences across countries in the pace of their structural reforms. In Latin America, the banking sector was further strengthened through mergers and privatisations and an increasing presence of foreign banks. New legislative frameworks to enhance fiscal sustainability were also enacted, although they have not yet been tested in practice. In central and eastern Europe, only a few countries managed to reduce structural unemployment, while the recent crisis in Turkey illustrated, once again, how a weak banking sector can undermine confidence in macroeconomic policies. In Asia, some of the structural weaknesses uncovered by the 1997–98 crisis were addressed. But the success of these policies remains to be tested by the global slowdown now under way.

The aggregate current account surplus of the emerging market economies rose last year, though there were large differences across regions. Higher oil prices, together with some rise in non-oil commodity prices, explained most of the improvement in Africa. Higher oil prices also helped oil exporters in Latin America while masking an underlying widening of the region's current account deficit due to strong domestic demand growth. The buoyancy of exports to western Europe reduced external deficits in most central European countries in spite of higher oil import bills. In contrast, most Asian economies experienced a decline in their external surplus, reflecting not only their relatively high energy consumption but also the slower growth of export earnings towards the end of 2000.

Despite the pickup in growth and higher oil prices, average inflation fell to just over 6%. Inflation in the Asian region, at less than 2%, was actually below that of the industrial countries, while Latin American countries consolidated the impressive improvements achieved during the second half of the 1990s. As discussed in the last section of this chapter, containing inflation has been one of the most striking successes of emerging market countries in recent years. Tighter fiscal policies, a switch to monetary policies having price stability as the overriding target, and structural policies aimed at

strengthening both domestic and foreign competition have all played a part. In addition, once inflation started to come down, forces were released which helped both to consolidate the gains and to lower inflation further. Nonetheless, most countries still face major challenges in keeping inflation low.

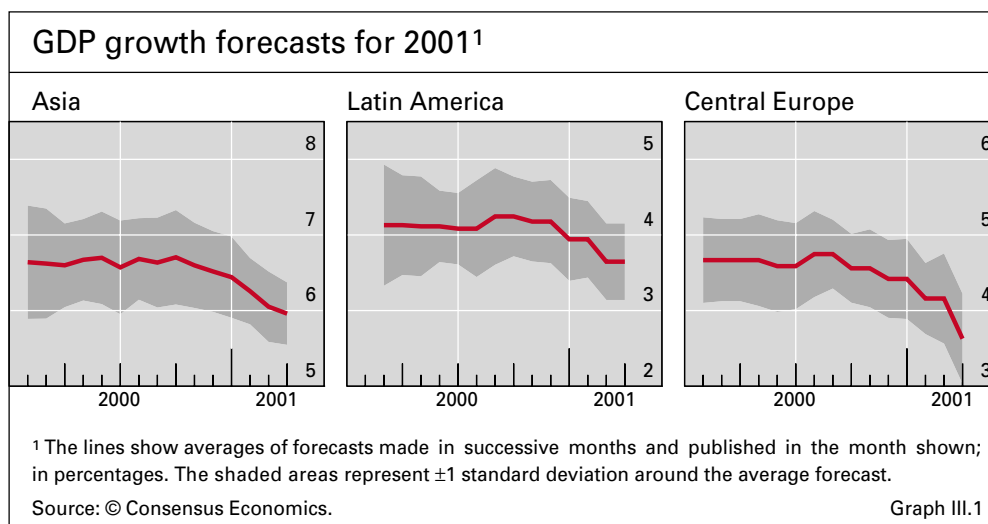
As the year progressed, the slowdown in the industrial countries was increasingly felt in the emerging market economies. In retrospect, the sharp decline in equity prices early in the year was a forewarning of a turnaround

Growth, inflation and current account balances									
	Real GDP			Consumer prices			Current account balance		
	1993–98	1999	2000	1993–98	1999	2000	Average 1993–98	1999	2000
	annual percentage changes						as a percentage of GDP		
Asia <sup>1</sup>	7.5	6.1	7.0	9.6	2.2	1.9	0.5	4.1	2.9
China	10.5	7.1	8.0	11.9	-1.4	0.3	1.6	1.6	1.5
Hong Kong	3.2	3.1	10.5	6.7	-4.0	-3.6	- 0.4 <sup>2</sup>	5.2 <sup>2</sup>	4.7 <sup>2</sup>
India	6.4	6.6	6.0	7.6 <sup>3</sup>	3.5 <sup>3</sup>	5.3 <sup>3</sup>	- 1.1	- 0.6	-1.0
Korea	4.7	10.9	8.8	5.4	0.8	2.3	- 0.1	6.0	2.4
Singapore	8.0	5.4	10.0	1.7	0.5	1.5	17.1	25.3	23.6
Taiwan	6.0	5.6	6.0	2.7	0.2	1.3	2.7	2.9	3.0
Indonesia	3.2	-0.1	4.8	15.4	20.5	3.7	- 1.8	4.1	7.2
Malaysia	6.3	5.8	8.5	3.7	2.7	1.5	- 3.4	15.9	9.2
Philippines	3.6	3.4	4.0	8.0	6.7	4.3	- 3.5	10.3	12.4
Thailand	3.2	4.2	4.3	5.6	0.3	1.5	- 3.6	10.2	7.6
Latin America <sup>1</sup>	3.6	0.2	4.4	73.4	9.1	6.7	- 3.1	- 3.1	-2.1
Argentina	4.5	-3.0	-0.5	3.2	-1.2	-0.9	- 3.6	- 4.4	-3.3
Brazil	3.5	0.8	4.5	213.4	4.9	6.0	- 2.6	- 4.7	-4.2
Chile	6.9	-1.1	5.4	8.5	3.4	3.8	- 4.5	- 0.1	-1.4
Colombia	3.7	-4.3	2.8	21.1	11.2	9.5	- 5.0	- 0.0	0.2
Mexico	2.7	3.7	6.9	19.9	16.6	7.9	- 3.5	- 2.9	-3.1
Peru	5.9	1.4	3.6	17.7	3.5	3.8	- 6.2	- 3.5	-3.0
Venezuela	1.1	-6.8	2.8	56.1	23.6	16.2	2.6	3.6	11.1
Central Europe <sup>1</sup>	4.2	3.1	4.0	20.6	6.5	8.7	- 2.6	- 5.9	-5.4
Czech Republic	1.6	-0.8	3.1	11.2	2.1	3.9	- 3.6	- 3.0	-4.8
Hungary	2.4	4.5	5.2	20.9	10.0	9.8	- 5.6	- 4.3	-3.3
Poland	5.6	4.1	4.1	24.1	7.3	10.1	- 1.2	- 7.5	-6.2
Russia	-5.6	5.4	8.3	151.9	85.7	20.8	2.2	13.5	19.0
Turkey	4.7	-5.0	6.1	84.8	64.9	54.9	- 0.9	- 0.7	-4.8
Saudi Arabia	1.0	0.4	4.1	1.2	-1.6	-0.8	- 5.8	0.3	10.1
Africa	3.0	2.5	3.0	19.7	5.7	4.2	-11.1 <sup>4</sup>	-12.1 <sup>4</sup>	0.8 <sup>4</sup>
CFA zone	3.4	2.4	2.6	9.2	1.4	1.8	- 6.0	- 5.3	-4.5
South Africa	2.5	1.9	3.2	8.3	5.2	5.3	- 0.8	- 0.5	-0.4
<i>Memo:</i>									
<i>G7 countries</i>	2.6	2.9	3.8	2.1	1.3	2.3	- 0.0	- 1.1	-1.6

<sup>1</sup> Weighted average of the countries shown, based on 1995 GDP and PPP exchange rates. <sup>2</sup> Balance of goods and non-factor services. <sup>3</sup> Wholesale prices. <sup>4</sup> As a percentage of exports of goods and services.

Sources: IMF; OECD; national data; BIS estimates.

Table III.1



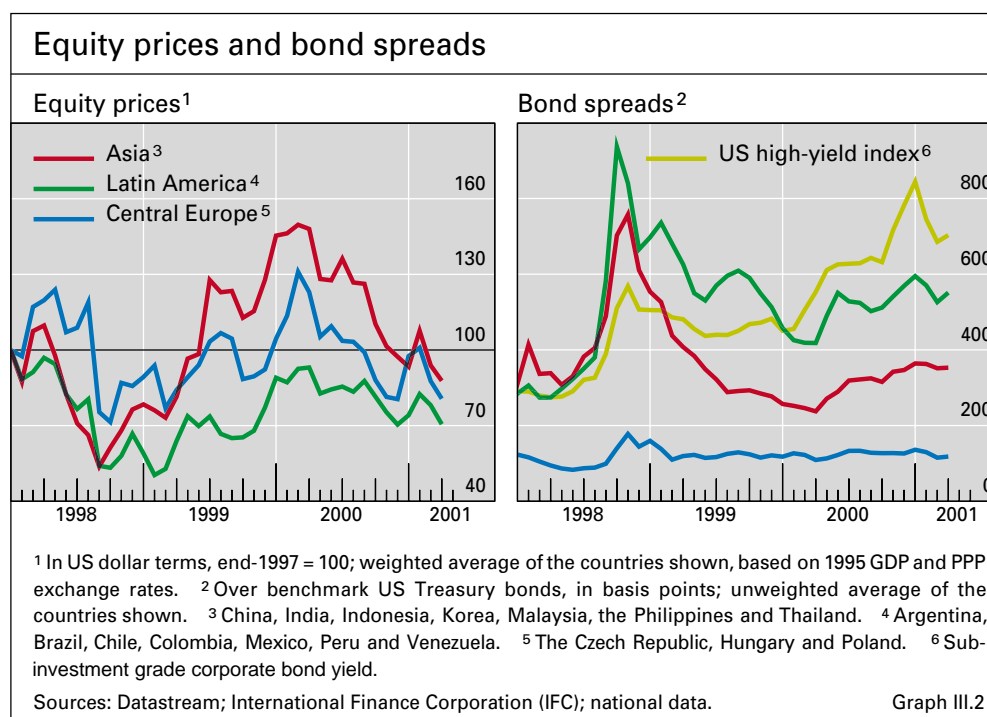
in the global cycle for electronics. Towards the end of 2000, output growth weakened sharply in the countries most reliant on exports of such products, and near-term growth prospects for most emerging market economies have been revised downwards (Graph III.1). The outlook is particularly uncertain in Argentina, Indonesia and Turkey, where confidence in the policies adopted has been undermined. Near-term growth prospects also depend on countries' exposure to changes in global trade as well as international financial conditions. The effects of the turnaround in the electronics cycle have been most pronounced in emerging Asia. By contrast, given their large current account deficits and external financing needs, Latin American countries are more exposed to developments in international capital markets. With less dependence on capital inflows and given the destination of a large share of their exports, the outlook for Africa and central and eastern Europe depends mainly on growth in western Europe.

### Financial market developments and capital flows

The generally favourable macroeconomic performance in the emerging market economies last year must be seen against the background of periodically volatile and unfavourable financial conditions. The downward correction of equity prices in major markets in March 2000 was quickly reflected in the stock markets of emerging economies (Graph III.2). With China as the main exception, Asian markets were particularly hard hit, as the drop in the Nasdaq index was widely interpreted as signalling lower demand for electronics and thus a decline in the export earnings of countries specialising in such products (Table III.2). In some cases, the fall in equity prices was exacerbated by concerns about the slow progress of financial and corporate reforms. This was particularly evident towards the end of the year, when several countries experienced net outflows of portfolio equity investment.

Financial conditions worsened as the year progressed ...

Credit market developments in the industrial countries also affected the borrowing conditions faced by emerging market economies. Both in the spring and towards the end of last year, sovereign bond spreads widened



sharply, especially for countries with high foreign debt, fiscal problems or a weak banking sector (see also Chapter VI). But sovereign spreads generally remained tighter than those for high-yield corporate bonds, as investors perceived the default risk to be much smaller. The shifts in market sentiment influenced net capital flows as well (Table III.3). Due to the more difficult financial conditions in the fourth quarter of last year, bond issuance faltered and net equity inflows also fell sharply. Since foreign direct investment (FDI) was lower as well, net private inflows in 2000 declined to only a fraction of the levels recorded just before the Asian crisis.

Some observers have interpreted the decline in debt outstanding as a deliberate reaction by lenders to the series of crises in the 1990s. But a more positive interpretation is also possible. Over the last two years, domestic interest rates have declined, more countries have floated their currencies and reforms have gradually increased the supply of domestic funds available. In these conditions, borrowers in emerging markets increasingly preferred domestic and local currency sources of finance to borrowing in international

... and net capital inflows remained below pre-crisis levels ...

... with net debt flows particularly weak

	Hong Kong	Korea	Malaysia	Singapore	Taiwan	Thailand
1995–96	0.32	0.16	0.05	0.11	0.05	0.19
1999–2000	0.55	0.45	0.25	0.40	0.27	0.32
	Argentina	Brazil	Chile	Mexico	Poland	South Africa
1995–96	0.06	0.01	-0.08	0.07	0.18	0.02
1999–2000	0.23	0.44	0.23	0.38	0.34	0.36

<sup>1</sup> In national currencies; calculated over two years using weekly observations.  
Sources: IFC; national data. Table III.2

Net private capital flows to emerging market economies				
	1997	1998	1999	2000
	in billions of US dollars			
<b>By instrument</b>				
Foreign direct investment	145	151	150	144
Portfolio equity investment	43	1	22	25
Other private capital flows	-68	-99	-102	-136
<b>By region</b>				
Asia	13	-47	1	- 2
Latin America	68	62	40	39
Africa	17	11	13	9
Central and eastern Europe	3	19	13	3
Others	19	8	4	- 16
<b>Total flows</b>	120	53	70	33
<i>Memo: Change in reserves<sup>1</sup></i>	-62	-35	- 86	-120

<sup>1</sup> A minus sign indicates an increase.  
Source: IMF, *World Economic Outlook*. Table III.3

markets. In addition, there have been structural changes in the supply of credit. Most notably, international banks have strengthened their presence in emerging market economies through acquisitions of local institutions while reducing their cross-border lending correspondingly. Finally, the accumulation of sizeable current account surpluses in Asia has allowed a restoration of foreign exchange reserves as well as a reduction in short-term foreign debt.

The regional composition of net private capital flows changed relatively little last year. Inflows to the Asian region remained close to zero, mainly due to higher repayments of foreign debt. FDI inflows also weakened, as the decline in inflows to Southeast Asia more than offset larger inflows to China (given the country's impending accession to the WTO) and Korea (stimulated by capital account liberalisation). Net private inflows to Latin America were stable while those to central and eastern Europe and Africa remained below the year-earlier level. Despite a small decline last year, FDI was still the most stable source of inflows to the emerging market economies. The distribution of FDI also remained stable and highly concentrated. Five countries (Argentina, Brazil, China (including Hong Kong), Mexico and Korea) received two thirds of total FDI flows to the emerging market economies. Africa, with 50 countries, received less than 5%.

Regional distribution remained stable

## Asia

### *Growth and external sector developments*

Output in Asia rose strongly in 2000, generally outpacing expectations. Even though higher oil prices may have reduced real income in the oil-importing countries by ½–1%, average growth in the region still rose to 7%, with particularly high rates being recorded in Hong Kong, Korea and Singapore.

Recovery outpaced expectations ...

Even Indonesia and the Philippines managed to expand significantly despite political uncertainties and social unrest. The sources of growth differed across countries (Table III.4). In the large and relatively closed economies of China and India, domestic demand remained the principal source of growth. The strengthening of growth in *China* was supported by fiscal stimulus and an accommodating monetary policy. Public investment was increased and various measures (higher public sector wages and the imposition of a tax on interest income) were introduced to encourage consumption. Nonetheless, as state-owned enterprises were widely expected to reduce both their workforces and the social benefits provided to their remaining employees, households tended to increase precautionary saving. The growth of private investment was also moderate, despite the rise in FDI inflows.

... including in  
China

Growth in *India* slowed somewhat last year owing to a combination of poor weather affecting the agricultural sector and deceleration in the services sector. The sharp increase in oil prices and a severe earthquake were other factors adversely affecting growth. Buoyant exports (the fastest expansion since 1997) partly offset slower domestic demand and supported the rupee, which had come under pressure due to the higher oil import bill. The authorities attempted to stem the rupee's depreciation by raising interest rates and mobilising special deposits from non-resident Indians. In addition, the government tightened fiscal policy and advanced the schedule for privatisation, including the reduction of holdings in state-owned banks.

Slower growth in  
India

As exports slowed in the more open Asian economies, domestic demand increasingly became the major source of growth. The shift was most evident in countries relying on exports of electronics (Malaysia and Singapore) but was also noticeable in Hong Kong, Indonesia and Thailand. *Taiwan*, which had been more or less immune to the 1997–98 crisis, experienced a particularly sharp change in both the size and sources of overall growth. Following the decline in the Nasdaq, equity prices fell sharply and the slump was exacerbated by political disputes. Since banks had lent against equities as collateral, attention next turned to the banking sector, where the proportion of bad loans had reached a historical high and profits had shrunk because of

Shift from net  
exports to  
domestic demand  
in other  
countries ...

Domestic demand (DD) and net exports (NEX)										
	Percentage contribution to GDP growth									
	China		Hong Kong		India		Indonesia		Korea	
	DD	NEX	DD	NEX	DD	NEX	DD	NEX	DD	NEX
1994–98	8.6	1.3	3.5	-1.1	7.2	-0.4	3.1	-0.5	0.5	3.9
1999	7.4	-0.3	-5.0	8.1	6.1	0.3	-2.7	3.0	11.9	-1.0
2000	7.5	0.5	9.3	1.2	5.1	0.6	4.7	0.1	5.3	3.5
	Malaysia		Philippines		Singapore		Taiwan		Thailand	
	DD	NEX	DD	NEX	DD	NEX	DD	NEX	DD	NEX
	1994–98	1.9	3.9	5.0	-1.4	4.5	3.0	6.3	-0.2	-2.0
1999	1.7	4.1	0.3	3.0	4.3	1.6	1.9	3.5	2.9	1.3
2000	12.6	-4.0	-1.7	5.6	8.9	0.9	4.3	1.7	3.8	0.5

Sources: JP Morgan, *World Financial Markets*; national data.

Table III.4

overcapacity. Finally, as the demand for electronics fell off towards the end of the year, real growth slowed abruptly.

Despite the importance of exports of electronic products, the relative contribution of net exports increased in both Korea and the Philippines. In the case of *Korea*, however, this reflected a shift in the composition of domestic demand towards less import-intensive components rather than a rise in export growth. In the *Philippines*, a contraction in business investment, attributable to a lack of domestic confidence as well as a fall in foreign portfolio investment, was a major factor behind the decline in domestic demand.

... but not in Korea and the Philippines

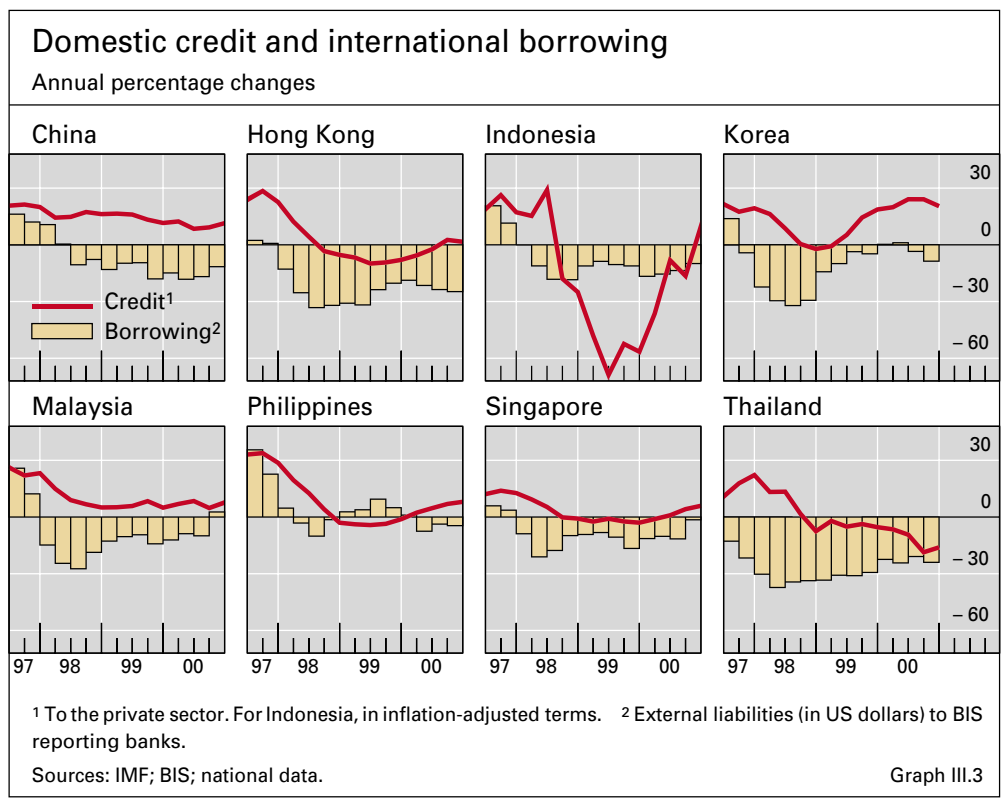
The strengthening of domestic demand last year was generally supported by accommodating monetary policies. Moreover, with many currencies now under regimes of managed floating, the tightening of interest rates in the industrial countries had a relatively small impact on Asian interest rates. China, Malaysia, Singapore and Thailand maintained low rates, reflecting the absence of inflationary pressures. While strong growth and rising inflation led to some interest rate increases in Korea, these were kept moderate due to concerns about the fragility of the corporate sector. Interest rate increases were somewhat larger in India, Indonesia and the Philippines owing to pressure on their currencies.

Accommodating monetary policies

*Banking sector performance and bank lending*

Despite accommodating monetary policies, bank credit growth remained low or negative last year. In fact, throughout the post-crisis recovery, bank lending has been weak everywhere except in Korea (Graph III.3). Developments there

Credit growth remained low except in Korea





partly reflected the relatively high level of investment and the shift (since mid-1999) from commercial paper and corporate bond markets to borrowing from banks. However, the growth of credit was also the result of official intervention, including expanded government guarantees for loans to small and medium-sized firms and the rapid recapitalisation of Korean banks. Recent data for several other countries suggest that bank credit to corporations has begun to grow again.

Progress with  
banking sector  
reform ...

It is always hard to determine whether low or negative credit growth results from a “credit crunch” (ie a situation in which normally promising loans are not made because banks do not have sufficient capital), reflects poor lending prospects, or is attributable to lack of demand. Bank restructuring in Asia has advanced slowly but steadily. A large number of banks have been closed, merged, temporarily nationalised, or sold to foreign buyers. Banking systems now seem sounder than before the crisis, although only in Korea and Malaysia has this been reflected in markedly improved credit ratings. While the economic recovery enabled some borrowers to renew loan servicing, a major role in reducing non-performing loans (NPLs) was played by publicly funded asset management companies. These took over a large proportion of banks’ NPLs in Indonesia, Korea and Malaysia. Thailand recently introduced a similar arrangement, with a view to enabling banks to lend again. The authorities in all Asian countries have also taken steps to strengthen banking supervision and adopted new rules against connected and insider lending.

... but weaknesses  
remain

Yet substantive bank restructuring has been constrained by several factors. Falling equity prices have limited the capacity to raise new capital. The fact that some restructured loans have again become NPLs, and thus a potential drain on capital, is also a cautionary sign at a time when the economies are slowing. Finally, despite the progress made, many weak institutions remain and some banks have not made the operational changes required to rebuild longer-term profits. This state of affairs might explain why banks in some countries have been unable to expand lending.

Greater awareness  
of risks

There are also signs that banks’ assessment of credit risks and prospective returns, rather than their capacity to lend, explains weak credit growth. One is that the recovery in corporate loans has been hesitant even in Hong Kong and Singapore where banks are relatively robust. The fact that Asian banks are actively marketing mortgages and that spreads have narrowed on high-quality syndicated lending provides further evidence that, for some banks at least, capital is not a constraint when the rewards cover the risks.

Lower demand for  
credit

Several factors also suggest that the demand for credit has been low. First, many firms deliberately acted to reduce their gearing, while others simply did not need to borrow. On the eve of the crisis, investment in several countries amounted to around 40% of GDP, with corporate investment spending far exceeding cash flow. After the crisis, rising sales were sourced from existing and unused capacity, so that investment spending stayed low even as cash flow recovered. As a result, the corporate sector ran a financial surplus and had little need for external funding. Second, the sectoral composition of growth limited credit demand, as the credit-intensive sectors remained in recession.

In particular, an overhang of office space and high vacancy rates in major centres depressed construction. In contrast, the export sectors, which are less dependent on credit, expanded strongly.

### *Fiscal policy challenges*

The Asian economies had generally run budget surpluses, or only small deficits, before the 1997 crisis. In its aftermath, however, measures to stimulate domestic demand, large expenditures to recapitalise the banking systems and the effect of the recession on tax receipts meant that most recorded sizeable fiscal deficits in 2000 and saw large increases in public debt (Table III.5). Since government contingent liabilities were also high, and interest payments already accounted for a significant proportion of budget outlays, the accumulated deficits of recent years made debt dynamics an increasing source of vulnerability in the region.

Growing debt has become an issue ...

China has depended on fiscal expansion to stimulate growth over the last three years. This raised the fiscal deficit steadily, from less than 1% of GDP in 1996 to nearly 3% last year. While government debt was still moderate by international standards, the actual fiscal burden increased due to extra-budgetary transactions and the actual and prospective liabilities arising from

... in China ...

Fiscal balances and public debt									
	Nominal balance			Interest payments			Public debt		
	1996	1999	2000	1996	1999	2000	1996	1999	2000
as a percentage of GDP									
Asia									
China	-0.9	- 2.2	-2.9	0.7	0.8	0.8	7.3	12.7	14.6
Hong Kong	2.2	0.8	-0.9	-	-	-	-	-	-
India	-4.9	- 5.4	-5.1	4.3	4.6	4.6	49.4	52.2	53.0
Korea	0.1	- 4.6	1.0	0.5	2.3	2.4	11.9	22.3	23.1
Singapore	14.7	10.3	11.4	-	-	-	74.0	88.5	84.5
Taiwan	-1.8	1.0	-0.3	1.4	1.5	2.0	26.4	27.5	29.8
Indonesia	1.1	- 1.6	-3.2	2.0	3.8	5.7	27.3	105.7	106.9
Malaysia	0.7	- 3.2	-5.8	2.7	2.6	2.7	35.3	37.3	37.0
Philippines	0.3	- 3.5	-3.9	3.4	3.4	4.0	53.2	59.2	64.9
Thailand	0.7	- 2.6	-2.2	0.2	1.2	1.2	16.3	42.4	54.4
Latin America									
Argentina	-2.2	- 2.6	-2.4	1.7	2.9	3.4	35.7	43.0	46.0
Brazil	-5.9	-10.3	-4.5	5.8	13.6	8.1	33.3	49.4	49.5
Chile	2.3	- 1.5	0.2	0.6	0.4	0.5	28.1	29.4	31.1
Colombia	-3.7	- 5.8	-6.9	1.9	3.3	4.5	14.4	29.4	36.8
Mexico	-0.2	- 1.6	-1.3	3.7	3.2	3.3	31.1	25.7	23.5
Peru	-1.3	- 3.2	-3.2	2.4	2.1	2.2	45.2	37.5	35.6
Venezuela	0.7	- 2.3	-1.8	5.0	2.6	2.5	33.8	29.8	...

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

Sources: IMF; Institute of International Finance; national data; BIS estimates.

Table III.5

the resolution of banks' non-performing loans. Contingent liabilities in the pension and social security system are also likely to be high.

... and even more  
in India ...

India's fiscal vulnerability was clear from the federal deficit, which stayed close to 5% of GDP. With the state governments also running large deficits, the overall borrowing requirement was almost 10% last year, raising the level of general government debt to over 60% of GDP and even more if contingent liabilities of the financial sector and state-owned enterprises are also included. Even though the government has increasingly moved away from monetising its deficit, the large debt has led to relatively high real interest rates, thus raising debt servicing costs and crowding out private investment. Realising the critical importance of fiscal sustainability, the government introduced a fiscal responsibility bill aimed at bringing down the federal fiscal deficit to 2% of GDP over the next five years and the public debt ratio to less than 50% over the next 10 years.

... the Philippines  
and Indonesia

Fiscal sustainability also became an issue in other Asian countries. The Philippines has a legacy of poor fiscal discipline and its debt burden, at nearly 65% of GDP by the end of 2000, was among the highest in the region. Already last year, a doubling of the projected budget shortfall was a major factor behind the decline in investor confidence and downward pressures on the exchange rate. Indonesia came even closer to the debt sustainability limit, given the speed with which the public debt grew and the fact that a large part of the debt was in foreign currency. For the past two years, the government has actually relied on official inflows and asset sales to finance interest payments and amortisations. At about 55% of GDP, the public debt in Thailand was still manageable. However, given recent plans to revitalise the financial sector, the debt/GDP ratio could rise quickly unless steps are taken to improve the primary balance.

#### *Reliance of Asian economies on exports of high-tech products*

Lower demand  
growth and falling  
prices

The high-tech sector has increasingly dominated the exports of many Asian economies (Table III.6). Exports of such goods to the United States have

High-tech exports of Asian economies											
	Share of economy's total exports to OECD countries									% change in US imports during year to	
	CN	HK	ID	KR	MY	PH	SG	TH	TW	Jun 00	Feb 01
Computers <sup>1</sup>	6	7	2	13	19	22	54	16	28	8	-6
Telecommunications <sup>2</sup>	7	4	5	6	15	6	5	7	4	43	1
Components <sup>3</sup>	8	18	2	23	24	33	17	11	17	22	-2
Total	20	30	9	41	58	60	77	34	50	19	0

CN = China; HK = Hong Kong; ID = Indonesia; KR = Korea; MY = Malaysia; PH = Philippines; SG = Singapore; TH = Thailand; TW = Taiwan.

<sup>1</sup> SITC division 75: office machines and automatic data processing machines. <sup>2</sup> SITC division 76: telecommunications and sound recording and reproducing apparatus and equipment. <sup>3</sup> SITC division 77: electrical machinery, apparatus and appliances not elsewhere specified and electrical parts thereof.

Sources: OECD; national data.

Table III.6

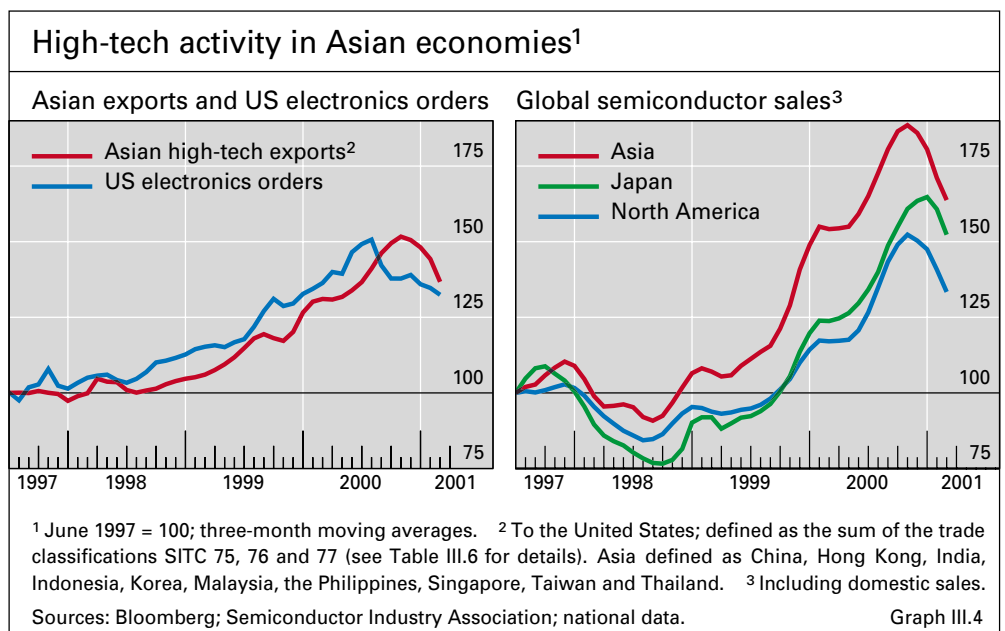
grown fourfold in the past decade. On some measures, electronic goods accounted for two thirds of the recovery in industrial output in the region in recent years. However, during 2000, many Asian economies suffered from both reduced global demand for these products (Graph III.4) and lower prices for components (for example, the benchmark DRAM semiconductor price fell by almost two thirds over the year). This drop in demand for various types of high-tech exports continued into early 2001, and both information on orders placed and comments from industry groups implied further sharp declines.

However, the export figures shown in the table may give a misleading picture of the total influence of high-tech exports on Asia and of the extent to which individual countries are exposed to the downturn now under way. First, in some countries, the high-tech industries are almost entirely foreign-owned. Consequently, except for downward pressure on wages, the fall in prices for electronics may have relatively little impact on the local economies. Second, because of linked production sites, shipments of components between countries account for the bulk of intraregional trade. This not only increases the risk of trade-induced contagion effects but also implies that the local value added portion of exports, and thus the impact on final demand, varies significantly across countries. For example, Korea's imports of high-tech products in 1999 equalled over 60% of its exports, and a third of these imports, principally components, came from other emerging Asian economies. For the Philippines, the local value added portion may be no more than 20%. It is also low for Malaysia and Thailand but relatively high for Singapore and Taiwan.

Despite these caveats, the high and rising technology content of the Asian economies has probably both increased their trend growth rates and accentuated their business cycles. The product cycle of electronics and other high-tech products is significantly more volatile than that of traditional

Impact on final demand depends on local value added

Implications for the business cycle in Asia



manufactured goods. Consequently, were there to be a substantial slowdown in the world economy, demand for computer-related products could fall further as firms delay upgrading their equipment. In the United States, a strong and rising correlation has been observed between firms' cash flows and spending on computers.

#### *The near-term outlook*

Less favourable  
global climate

With the exception of China and India, the Asian economies seem more exposed to the current weakening of global growth than most other emerging market countries. As discussed above, several countries are highly exposed to lower demand for electronics. Total exports will also be affected by generally slower growth in the United States as well as the poor prospects in Japan. Finally, despite reforms, the resilience of financial and corporate structures and balances to a cyclical downturn remains to be tested.

Measures to  
stimulate domestic  
demand

In response to the less favourable growth prospects, lower interest rates in the industrial countries and, in some cases, reduced inflationary pressures, several countries eased monetary policies early this year. In addition to further fiscal stimulus, the Chinese authorities started implementing a programme to liberalise interest rates and capital markets and announced their intention to gradually move towards a more flexible exchange rate. Malaysia and Taiwan planned major increases in public spending and the latest budget in India proposed a further liberalisation of the investment environment as well as new reforms to increase growth.

## Latin America

### *Growth and external sector developments*

Growth rebounded  
last year ...

After a severe recession in 1998–99, the Latin American economies rebounded strongly in 2000. Real GDP expanded by over 4% while inflation remained stable at less than 10% in most countries. Virtually all economies in the region registered positive growth, with the largest two – Brazil and Mexico – being among the best performers. The main exception to this favourable trend was Argentina, where output again declined. Improvements in the external current accounts were modest. Growth was generally stronger in the first half of the year, while in the second the US economic slowdown began to affect exports. In addition, greater volatility in global capital markets and renewed concerns about remaining fiscal vulnerabilities slowed capital flows to the region. By the end of the year, fears had also emerged that political factors could negatively affect economic performance in Argentina, Colombia, Peru and Venezuela.

... mainly due to  
domestic demand  
and oil exports

Although the region's total exports surged by over 20% in value terms in 2000, output growth was, in most countries, driven by domestic demand (Table III.7). Terms-of-trade changes tended to favour the oil exporters, as most agricultural prices stagnated or declined and only metals (especially copper) prices rose significantly. Oil exports also played a key role in bringing the region's current account deficit down to 2% of GDP from 3% in 1999.

Trade, oil exports and growth in Latin America in 2000						
	Current account balance <sup>1</sup>	Net oil exports <sup>1</sup>	Contribution to growth <sup>2</sup>		Terms of trade <sup>3</sup>	Degree of openness <sup>4</sup>
			Net oil exports	Net non-oil exports		
Argentina	- 9.4	3.6	0.5	0.7	6	22
Brazil	-24.6	-6.0	-0.5	0.6	-7	24
Chile	- 1.0	-1.9	-1.3	1.0	2	61
Colombia	0.1	4.3	1.0	-0.3	16	35
Ecuador	1.4	2.4	6.7	-5.3	14	77
Mexico	-17.7	16.4	1.3	-1.9	3	64
Peru	- 1.6	-0.7	-0.6	0.9	-1	34
Venezuela	13.4	26.4	9.8	2.6	44	47
Total	-39.7	44.5	1.0	-0.1	3	41

<sup>1</sup> In billions of US dollars. <sup>2</sup> Of nominal GDP, in percentage points. <sup>3</sup> For merchandise trade, annual percentage change. <sup>4</sup> Sum of exports and imports of goods and services as a percentage of GDP.  
Sources: Economic Commission for Latin America and the Caribbean; JP Morgan; national data; BIS estimates. Table III.7

As the Latin American economies are still fairly closed (with the exception of Chile, Ecuador and Mexico), domestic demand was bound to play the main role in reactivating growth. However, the sources of demand growth in 2000 were unbalanced: investment strengthened only in Mexico and, from a low base, in Colombia. Elsewhere in the region, private consumption outpaced real GDP growth, leading to a sharp acceleration in imports. Moreover, the weakness of domestic investment was accompanied by a decline in inflows of foreign direct investment, notably in Argentina and Chile. Viewed against this background, the buoyancy of consumption and imports, coupled with the recent weakening of external demand, has raised concerns about the sustainability of growth in Latin America even if external financing conditions remain favourable.

Investment remained weak

#### *Changing macroeconomic policy mix*

The Latin American economies had responded to the slowdown in activity and financial market turbulence in 1998–99 with a combination of tighter monetary and fiscal policies and, in some cases, more flexible exchange rate regimes. As the external environment improved in early 2000, the emphasis shifted towards further reducing fiscal deficits while, at the same time, easing domestic monetary conditions. In addition, several countries attempted to improve competitiveness through structural reforms.

Changing policy mix in 2000

The conditions in international financial markets were, for the most part, favourable to Latin America in 2000. Estimated net inflows of private capital to the region were roughly stable at about \$40 billion, covering the bulk of the current account deficit. However, the inflows were volatile, and concentrated on Brazil and Mexico. Moreover, a large portion of bond issues were swaps of previously existing debt for new securities with longer maturities. Spreads for long-term government bonds increased on average during the year, reflecting country-specific concerns.

Favourable financial market conditions

Monetary conditions eased ...

The easing of the external liquidity constraint enabled most countries in the region to relax monetary conditions in 2000. In *Brazil*, the central bank lowered the benchmark rate from 19% at end-1999 to 16½% in July and further to 15¾% in December 2000. This triggered a strong expansion in credit to the private sector, where the financial position of households improved with the rebound of growth and a significant rise in employment. In early 2001, the central bank cut its policy rate by a further 50 basis points, but then raised the rates by a total of 100 basis points from late March to mid-April as the real weakened and demand pressures began to emerge. Interest rates were also cut in *Colombia* and, in the second half of 2000, in *Chile*, while the authorities in *Peru* lowered reserve requirements. In contrast, *Mexico* had to tighten monetary policy in the course of the year to prevent domestic demand from overheating.

... and fiscal performance improved

Fiscal performance improved in most Latin American countries in 2000, with Argentina being a major exception. Revenues were higher due to the cyclical recovery and, in the oil-exporting countries, buoyant oil revenues. Many governments also benefited from lower debt servicing costs; Brazil, for instance, by as much as 5% of GDP. On average, fiscal deficits declined to 2.8% of GDP from close to 4% in 1999, with the largest improvements in Brazil and Chile.

Fiscal responsibility laws enacted ...

In spite of improved fiscal performance last year, concerns about longer-term fiscal sustainability persisted in many countries. To address these concerns, *Brazil* introduced a Fiscal Responsibility Law that requires each tier of government to maintain current expenditure in balance with current revenue, limit spending on personnel, and keep the ratio of debt to current revenue within preset limits. *Argentina* and *Peru* passed laws that mandate spending increases in line with economic growth and the establishment of fiscal stabilisation funds. By imposing such constraints, these laws are intended to increase fiscal credibility in the same way that the adoption of central bank independence and inflation targeting (or a very hard peg) is expected to increase credibility in the monetary sphere.

... but need to be backed up by firm implementation

In Brazil, the fiscal law was backed up by consistent policy plans and solid macroeconomic performance last year, thus making a favourable impression on investors. In Argentina, however, the implementation of the Law on Fiscal Solvency was postponed until 2005, making fiscal discipline less credible (see below). Investors were also unimpressed by the introduction of discretionary fiscal measures in Chile in the second half of 2000.

### *Recession in Argentina*

Need for fiscal reform in Argentina ...

The lack of recovery in Argentina has been the main exception to the favourable macroeconomic performance of the region. While Argentina was hit by a series of external shocks in the past few years, domestic political instability has undoubtedly played a role in delaying investment decisions and dampening consumer confidence. In particular, Argentina's excessively high level of public expenditure put constant upward pressure on interest rates. Not only did this increase debt servicing costs, but tax revenues also suffered. Moreover, the revision of short-term fiscal targets has delayed

the implementation of the balanced budget provision of the Law on Fiscal Solvency, which is essential to lower the tax burden and restore the competitiveness of local industries working within the currency board constraint.

In the absence of the political commitment, particularly at the provincial level, to deal decisively with the fiscal problem, market confidence failed to improve following the agreement with the IMF in December 2000. In March 2001, bond spreads widened again and domestic interest rates rose sharply, reflecting markets' perception of elevated credit risk. In April this year, banks' liquidity requirements were modified, thereby easing the immediate pressure on the government to borrow foreign currency. Over the longer term, however, credit risk perceptions depend on the broader policy framework, including fiscal discipline, real growth prospects, and a sound banking system.

... but lack of political support

#### *Privatisation and restructuring in the banking industry*

Considerable progress has been made in privatising state-owned assets, with proceeds estimated at about \$15 billion for the region in 2000. Brazil accounted for the largest share of the proceeds, while Spanish corporations and banks were the most active in acquiring Latin American assets. Greater emphasis has also been placed on deregulation and the promotion of competition in energy and utilities, telecommunications and transportation services, including the use of private sector concessions to meet infrastructure needs. Although the pace of privatisations is expected to slow over the years, the pool of public sector assets available for sale remains large.

Progress with privatisation

A long-standing impediment to private investment in Latin America has been inefficient financial intermediation. To address this problem, Argentina and Peru have encouraged consolidation in the banking industry, while Brazil and Mexico have launched major bank privatisation programmes. In addition, the region has opened up to foreign banks, which increased their share of total assets in Latin America's banking systems to 40% in 2000 from about 10% in the mid-1990s. By bringing in capital, know-how and technology, foreign banks have strengthened the soundness and stability of banking systems in the region.

Increased role of foreign banks ...

Despite the increased presence of foreign banks and the easing of monetary conditions, bank credit contracted in real terms in 2000, except in Brazil, Chile and Venezuela. One explanation for this phenomenon was the apparent reluctance of foreign banks to lend to public enterprises as well as small and medium-sized firms perceived to be risky and to lack adequate collateral. Moreover, following privatisations, many branches where managers had a good knowledge of their local customer base were closed. Lending behaviour of domestic banks may also have turned more conservative because of the need to restructure operations in an environment of increased competition. In *Mexico*, for example, bank credit to the private sector, relative to GDP, has fallen by half since 1994, even though some \$76 billion of public funds were spent on restructuring banks' balance sheets. In contrast, credit from suppliers and non-bank sources in Mexico expanded strongly, so that production, exports and household purchases of durables were not affected. Also vulnerable were the region's small and medium-sized banks, totalling

... but real bank lending continued to decline



about 300 in Argentina, Brazil and Mexico. Several such banks collapsed in Peru last year. Due to growing competitive forces, the continued existence of others may depend on whether they are able to refocus their business strategy on niche markets.

## Africa

Growth improved in 2000

Helped by higher real income growth in oil-exporting countries and some recovery in non-fuel commodity prices, Africa experienced an improvement in economic activity last year. However, at 3%, average growth remained below that of other regions. Once again, Africa's low degree of integration in the world economy and its undiversified export structure prevented it from reaping the benefits of a surge in world trade. While the sharp rise in oil prices boosted economic activity in North and West Africa, most sub-Saharan countries suffered substantial terms-of-trade losses and a sharp deterioration in their current account deficits. Nevertheless, countries with a sounder policy environment and a better infrastructure such as Botswana and Tanzania still managed to improve their growth performance. In contrast, growth suffered in those countries that were affected either by civil strife (the Democratic Republic of Congo and Zimbabwe) or adverse weather conditions (Kenya).

Higher inflation and external imbalances

Inflationary pressures rose in several countries, driven by the oil price rise and unsustainable fiscal expansion. For example, in Ghana and Zimbabwe annual inflation rates last year rose to 25% and over 50% respectively, in the wake of a sharp deterioration in their fiscal balances. In contrast, inflation in the CFA zone was about 2%, with some countries even experiencing price deflation. In many countries, rising fiscal imbalances seem to have influenced fragile external balances, raising external financing requirements to high levels.

Growth recovered in South Africa but unemployment remained high

*South Africa* experienced a rebound of growth last year. The recovery was accompanied by an improvement in productivity as well as a strengthening of the fiscal position. The improved performance of the economy was reflected in a low current account deficit, a reversal of capital outflows and, after a steep fall in the value of the rand, the return of stability to the exchange market. Yet the continuing slide in the employment rate in the formal sector remains of serious concern. Thus, the economy continues to face the challenge of lowering real wages to create scope and incentive for firms to expand employment and to raise the level of investment. This is the only sound basis for a lasting increase in living standards.

Increasing investment is key to promoting growth

Looking forward, the most important challenge facing virtually all African economies is how to step up the low rate of saving and investment. The principal restraint on both remains poor governance. Much needs to be done to put in place sound macroeconomic policies and to restore confidence in the rule of law. It is also essential to build a financial infrastructure that will help improve confidence and channel domestic as well as foreign savings to appropriate areas. Despite attempts to liberalise the financial system, government control over the banking system has remained pervasive and regulatory and legislative infrastructures inadequately developed. Investment

prospects are also affected by increased political uncertainty, which takes its predictable toll on the credibility of fiscal and monetary policy regimes. As a result of these shortcomings, net capital flows to Africa account for a very small portion of the aggregate flows to emerging market economies. Indeed, many African countries have experienced net outflows in recent years. It has also been particularly unhelpful that the prospects for export diversification have been impaired by inadequate access to markets in advanced economies. The European Union started to remove restrictions on agricultural exports from Africa in 2000 and has urged other countries to follow its lead.

## Middle East

Stimulated by higher oil prices and increases in oil production, average GDP growth in the Middle East rose last year to almost 5%, the highest rate in about a decade. For the major oil exporters, the balance of payments surplus averaged 15% of GDP. However, since the revenue gains were mostly used to pay back debt or strengthen fiscal balances, inflation remained low, except in *Iran* and *Yemen*. To reduce their vulnerability to volatile oil prices, major oil exporters, led by *Saudi Arabia*, have proceeded with reforms to strengthen the non-oil producing sectors while, at the same time, attempting to stabilise crude oil prices by adjusting the supply of oil to expected demand.

Oil revenues stimulated output of oil exporters

In countries less reliant on oil exports, growth slowed somewhat compared with 1999. In *Egypt*, for instance, a liquidity crisis in the banking sector and resulting slower credit growth adversely affected output early last year. Moreover, following major structural changes in the mid-1990s, the reform process seems to have stalled in recent years. The growth performance of *Jordan* and *Syria* improved somewhat in 2000 and inflation remained low. Yet, as in *Egypt*, progress with trade and foreign investment reforms seems to have slowed. *Israel* saw average growth increase to 6% last year. However, given its reliance on exports of high-tech products, it was among the first countries to feel the effects of the turnaround in the global electronics cycle. On the other hand, with inflation well below the central bank's target and the general government budget deficit having been reduced to less than 1% of GDP, policy constraints have become less binding.

Slightly lower growth in most other countries

## Central and eastern Europe

### *Growth and external sector developments*

For the first time since 1988, real GDP in all European transition economies and former Soviet republics rose in 2000, with average growth reaching almost 6% and growth rates converging across the region. The highest rate of expansion was achieved by the oil- and gas-exporting economies (including *Russia*), while some of the resource-poor and inward-oriented former Soviet republics recorded rather low rates. The growth of consumption generally remained below that of GDP, while investment strengthened noticeably in the *Czech Republic*, *Hungary*, *Russia* and *Ukraine*.

Positive growth recorded by all transition economies

Growth driven by exports and oil

Growth in 2000 was for the most part externally driven, supported by the strong expansion in the European Union and high oil prices. Current accounts improved visibly, with Russia recording a large surplus and most other transition economies smaller deficits. Besides paying for higher imports, the transition economies used increased export revenues to build up reserves and reduce their external debt.

Russia's recovery strong but due to transient factors

In *Russia*, the real effective exchange rate rose sharply but remained some 30% below its pre-crisis level, stimulating growth in both export-oriented and import-competing industries. Higher profitability in these industries, in turn, stimulated investment, as retained earnings remained the principal funding source given Russia's underdeveloped financial markets. The downside of the economic expansion was further delay in the implementation of structural reforms, in particular to improve the tax system and public administration. Moreover, weaker industrial growth and a higher inflation rate in the first quarter of 2001 indicated that the positive effects of high energy prices and the rouble's devaluation have begun to wear off. Prospects for the Russian economy thus remain highly dependent on the future development of energy prices and external competitiveness.

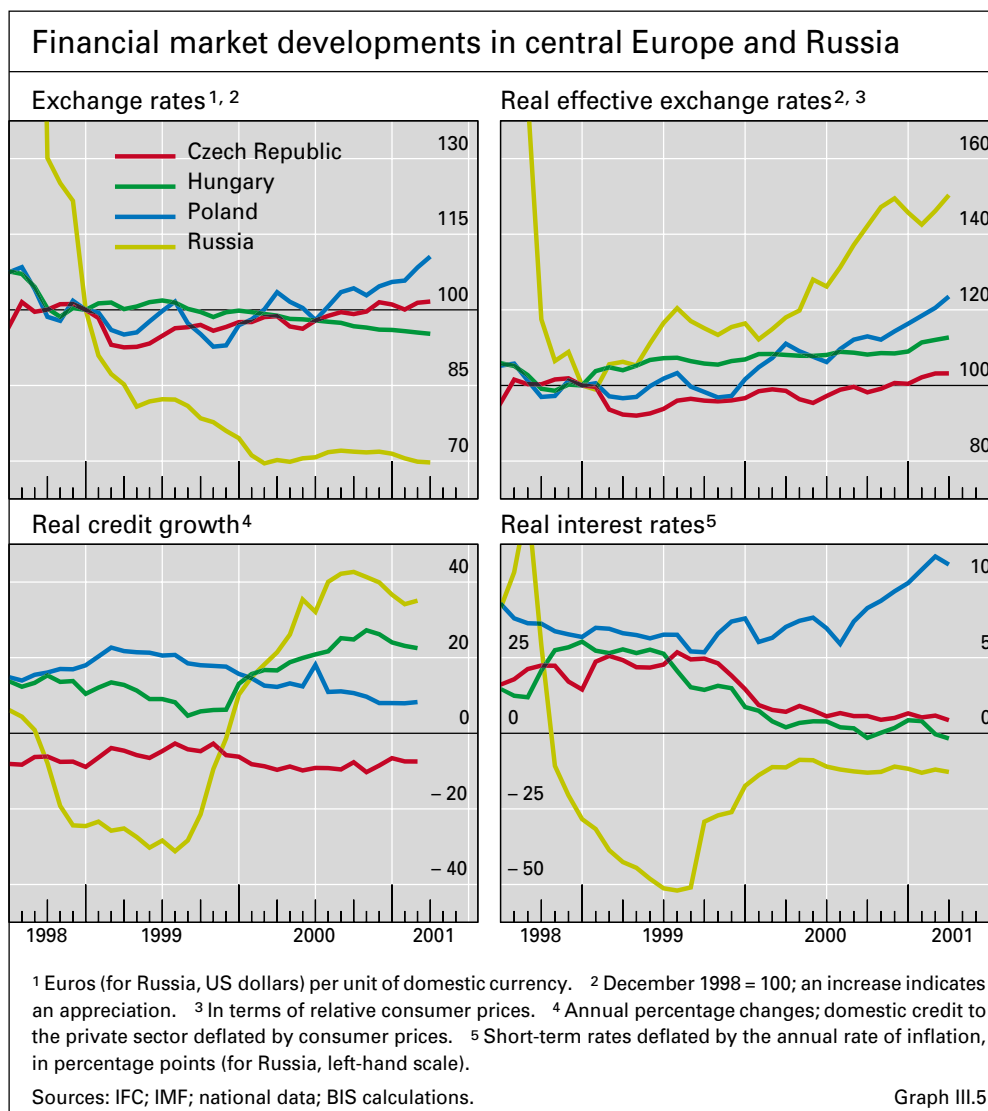
#### *Inflation, macroeconomic policies and unemployment*

Inflation accelerated

Inflation accelerated throughout the region, except in Russia, with the price of oil and gas being the main contributing factor. Other cost-push factors included adjustments in VAT and excise tax rates and administered prices. As utilities remained largely state-owned, increases in administered prices were deemed necessary to reduce public sector deficits and enhance allocative efficiency, in spite of their short-term effects on inflation. In Russia, by contrast, higher world energy prices enabled the authorities to postpone adjustment of administered prices until early 2001, which provided an implicit subsidy to energy users, particularly in the industrial sector.

Interaction of interest rates and exchange rates

Because of buoyant economic activity, macroeconomic policies in the region became focused on possible signs of overheating. Early in the year, capital inflows into Poland and the Czech Republic were strong. This led to pressures for an appreciation of nominal exchange rates and was one factor behind the floating of the zloty in April 2000 (Graph III.5). As the oil import bill surged and domestic demand strengthened, trade deficits widened or remained high. In response, the *Polish* central bank raised interest rates by 250 basis points between January and August 2000. Moreover, it was reluctant to lower them subsequently, partly out of concern for its own credibility as inflation targets had been missed two years in a row. In addition, the central bank felt that fiscal policy was too expansionary and thus cut interest rates only following the announcement of a relatively tight budget for 2001. The *Czech* authorities, by contrast, left nominal interest rates unchanged as the appreciation of the koruna reduced the inflation threat and the economy was still recovering from a prolonged recession in 1997–99. The *Hungarian* central bank raised overnight rates in October in response to signs of rising inflation. It noted that it would have preferred to let the forint appreciate by widening the exchange rate band, given the strong competitive



position of manufacturing, but the government maintained that such a move would be premature and could dampen export growth.

In Russia, high oil receipts and upward pressure on the rouble allowed the central bank to acquire \$16 billion of reserves in 2000, which resulted in an expansion of 60% in base money. Possible inflationary implications of this expansion were muted by a revival in money demand. However, its implications for banking stability were potentially serious, as real interest rates remained negative and the banking sector lacked the expertise to extend a large volume of loans in a prudential manner.

Fiscal policies were, for the most part, accommodative: the Baltic states reduced budget deficits perceptibly, while Hungary kept its deficit at about the same level as in 1999. The deficit in the Czech Republic widened to 5% of GDP owing to the cost of rescuing the country's third largest commercial bank. Russia recorded a large budget surplus in 2000 in spite of spending much of the increased oil revenue on clearing wage arrears and raising minimum wages and pensions.

Money demand expanded in Russia

Increases in fiscal revenues as well as spending

Employment growth still weak

Strong economic expansion brought little relief to the transition economies' labour markets. The Czech Republic and Hungary managed to keep the rate of unemployment under 10% in 2000, while in other transition economies the rate averaged 15–25%. Labour productivity growth in industry averaged close to 15% in 2000 but, with the exception of Hungary, it was achieved largely through cuts in employment. In Russia, however, the labour market did improve significantly and the unemployment rate dropped by 2 percentage points to 10%. While real incomes grew by 10%, real wages remained below pre-crisis levels.

Labour market reform requires deregulation and tax reform

Hungary's relatively good record of job creation indicates that, in addition to maintaining macroeconomic stability and attracting foreign investment, the essential ingredients of a successful employment strategy are labour market deregulation and tax reform. In particular, since jobs in the formal sector are highly protected and workers in the informal sector often pay no tax, employers' social security contributions in the formal sector often amount to 15–20% of GDP compared with 9% in western European countries. This disproportionate tax burden, together with rigid tax laws, significantly increases both the cost and the risk of hiring new employees in the formal sector. Moreover, because of the pressure of unemployment on government budgets, there is the need to run a relatively restrictive monetary policy, which further constrains the scope for growth-oriented policies.

### Crisis in Turkey

Disinflation dependent on structural reforms

Following the adoption of a disinflation programme in late 1999, real growth in Turkey accelerated and confidence returned to financial markets. Output expanded by an estimated 6% in 2000 after a 5% decline the previous year. By the end of October, inflation had fallen to 44% from a 65% annual average in 1999, and overnight interest rates had dropped to 26%. The main objective of the programme was to bring inflation down to single digits by 2003 through structural reforms that would curtail government spending and a crawling peg exchange rate regime. With interest payments on the public debt equivalent to around 14% of GDP at end-1999, the programme was highly sensitive to shifts in confidence and any departure from the assumed pace of structural reforms.

The November crisis was resolved quickly ...

Unfortunately, the sharp rise in oil prices, the vulnerability of local banks in an environment of declining inflation and interest rates, and delays in privatising key state assets gradually worsened the programme setting. Moreover, inflation did not decline sufficiently fast to prevent a loss of external competitiveness, so that the current account deficit widened to nearly 5% of GDP in 2000. As a result, market interest rates rose sharply in late November 2000 and liquidity dried up in the interbank market, causing a medium-sized bank to fail. The ensuing crisis was resolved through a \$10 billion IMF support package that envisaged putting structural reforms back on track.

... but underlying vulnerabilities were not addressed

In early 2001, political disputes led domestic and foreign investors to question anew whether the government commanded sufficient public trust to implement the measures necessary to restructure the weak banking sector

and to cut inflation. The loss of investor confidence led to large capital outflows and a steep rise in interest rates, which forced the authorities to abandon the crawling peg exchange rate regime in late February. With the lira allowed to float freely, the central bank was in a position to provide more liquidity and the exchange rate, along with equity and bond prices, stabilised in late March, some 30–40% below the pre-crisis levels.

The costs of the crisis and its impact on the public sector were considerable. Although exports of goods and tourism services are expected to benefit from the lira devaluation, Turkey could experience a fall in output in 2001. In the short term, inflation seems set to increase sharply as well since, historically, the pass-through of exchange rate movements has been high in Turkey. Moreover, with the stock of short-term external debt estimated at 14% of GDP at the end of 2000, the domestic currency burden of servicing this debt has increased by a third since the depreciation in February 2001. Finally, commercial banks taken over by the government in the last two years are estimated to have some \$12 billion of non-performing loans. Agreement on a rollover of debt and a credible package of banking reforms thus remain critical in achieving macroeconomic stabilisation in 2001.

High costs of the crisis in February

## Changes in the inflation process in the emerging market economies

A welcome aspect of the recent macroeconomic performance of the emerging market economies has been their success in reducing inflation. High inflation (in the range of 30–100%) has almost disappeared among the major economies and fewer countries are now even in the moderate inflation range (15–30%). Indeed, many have reached or are steadily approaching inflation rates that are comparable with those in the industrialised economies.

Sharp drop in inflation in the second half of the 1990s

During the 1990s, many countries implemented wide-ranging structural and policy reforms, often following financial crises. The most notable of these changes have been the significant regime shifts in monetary and exchange rate policies. Moreover, a sharp decline in fiscal deficits, price liberalisation, market reforms and the growing pace of globalisation have all had a considerable impact on inflation (see Chapter II for similarities with the industrial countries). Nevertheless, conducting monetary policy in a low-inflation environment has also posed challenges: inflation not only has to decline, it also has to be stabilised at a low level. To the extent that achieving low inflation has strengthened the credibility of central banks, this will make their task easier.

### *Main features of recent disinflation*

Several features of the disinflation process are noteworthy. First, compared with previous sporadic episodes, the recent decline in inflation is more widespread (Graph III.6, left-hand panel) and has been part of the global phenomenon referred to in Chapter II. Second, it has typically been associated with an increasing focus on price stability in the conduct of monetary policy as well as the adoption by many countries of an inflation targeting regime. Third, output costs of disinflation have differed considerably across countries

A widespread phenomenon with longer-term benefits

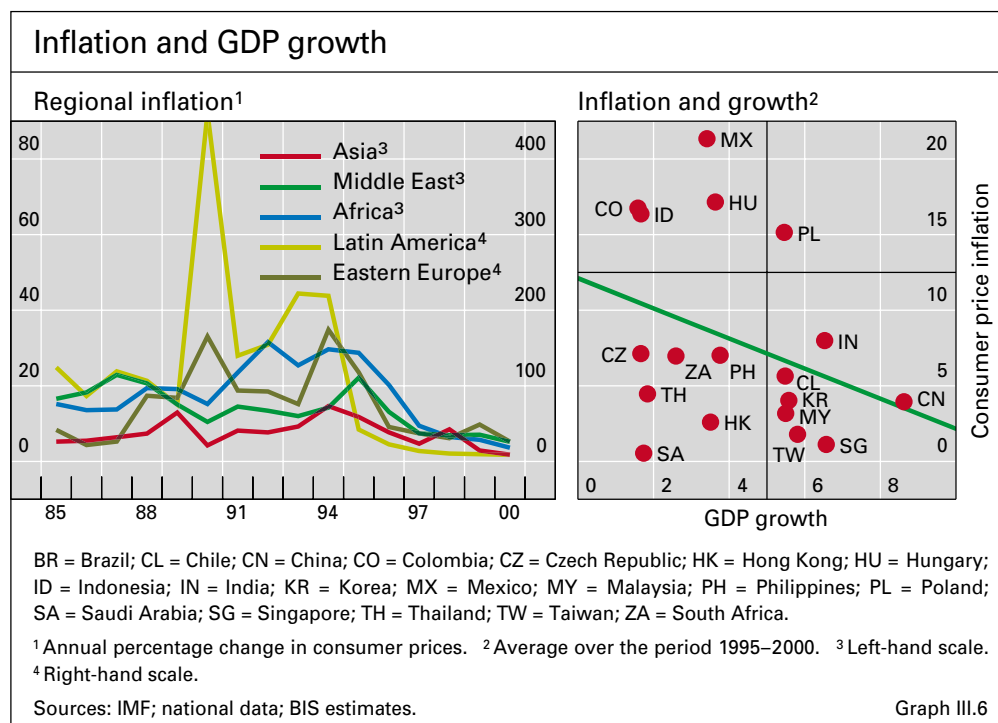
and seem to be negatively related to the initial level of inflation. Nevertheless, the cross-country relationship between growth and inflation during the second half of the 1990s (Graph III.6, right-hand panel) still suggests that lower inflation will eventually produce permanent output gains that more than compensate for the temporary costs of bringing inflation down. This is particularly evident for the Asian economies, which were able to combine low inflation with high growth for most of the last decade.

Varying speed of disinflation

The speed of disinflation has varied significantly across regions and countries. In the Asian economies, where inflation has historically been low, it fell further to between 2 and 5% in the second half of the 1990s and in some economies even to negative levels. The contraction of output played a major role in this and more than offset the effects of rising fiscal deficits and depreciating exchange rates. Latin American countries have experienced a particularly rapid rate of disinflation in recent years: the typical inflation rate fell from moderate or high levels to less than 5% in a number of countries. In Argentina, prices have actually declined over the past two years. The transition to lower inflation in Latin America was preceded by important macroeconomic policy changes such as the adoption of fixed exchange rates, the de-indexing of wages and prices to past inflation and a sharp reduction in fiscal deficits. More recently, several countries have abandoned the traditional fixed or crawling exchange rate regime and adopted a proactive anti-inflation strategy such as inflation targeting.

Relative price shifts in the transition economies

The central and eastern European economies faced a different situation during much of the 1990s as inflation was affected by the large-scale liberalisation of prices following the transition to a market economy. While relative prices are still adjusting, many countries have nevertheless moved



below the moderate inflation range by stabilising wages and tightening fiscal and monetary policies. In the larger central European economies, the move towards lower inflation has been driven by the requirements for their eventual accession to the European Union. At the other policy extreme, several of the newly independent transition economies have adopted currency boards to achieve low inflation. In Africa too, inflation has fallen across the board, with South Africa, for instance, having reduced inflation to only half the level of the early 1990s.

*Sources of disinflation*

What factors explain disinflation in the emerging market economies? Weak demand has tended to curb inflation, as actual was below potential output in many countries during the second half of the 1990s, particularly after the 1997–98 crisis in Asia. Since firms are often forced to reduce mark-ups during a cyclical downswing, this explanation suggests that inflation could move up as demand conditions improve.

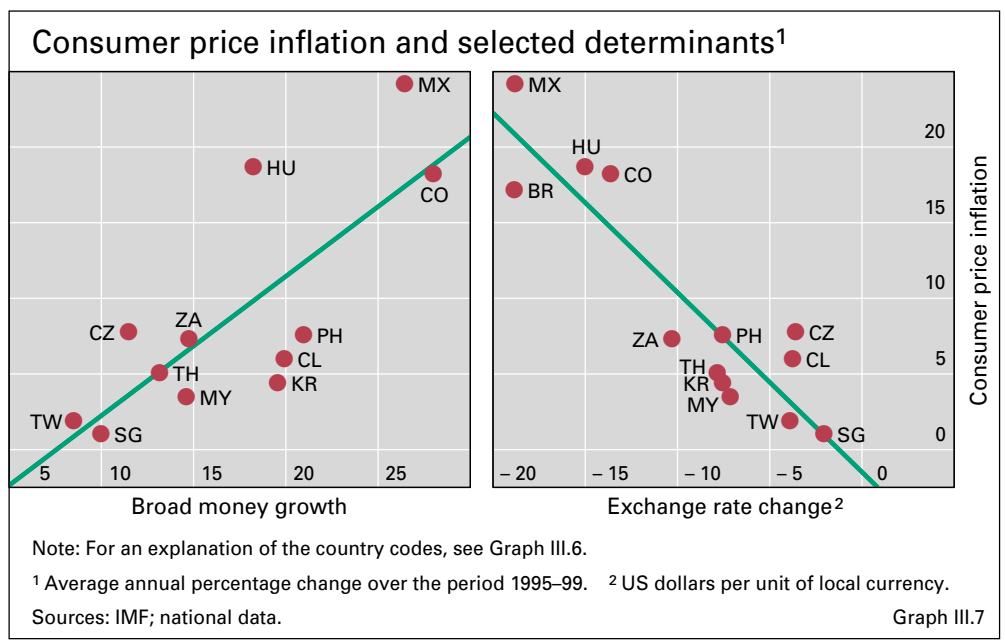
Negative output gaps have kept inflation low

Among other proximate causes, one is the link between inflation performance and the rate of monetary growth. Countries with low inflation have generally experienced low rates of monetary growth (Graph III.7). Nevertheless, annual rates of monetary growth have exhibited high volatility and thus appear to be only marginally aligned with the recent decline in inflation. For instance, in many Asian economies, broad money growth has not decelerated noticeably in recent years but inflation has declined nonetheless. One reason may be that money demand has increased in the wake of financial deepening in Asia and perhaps raised the threshold level of non-inflationary monetary growth.

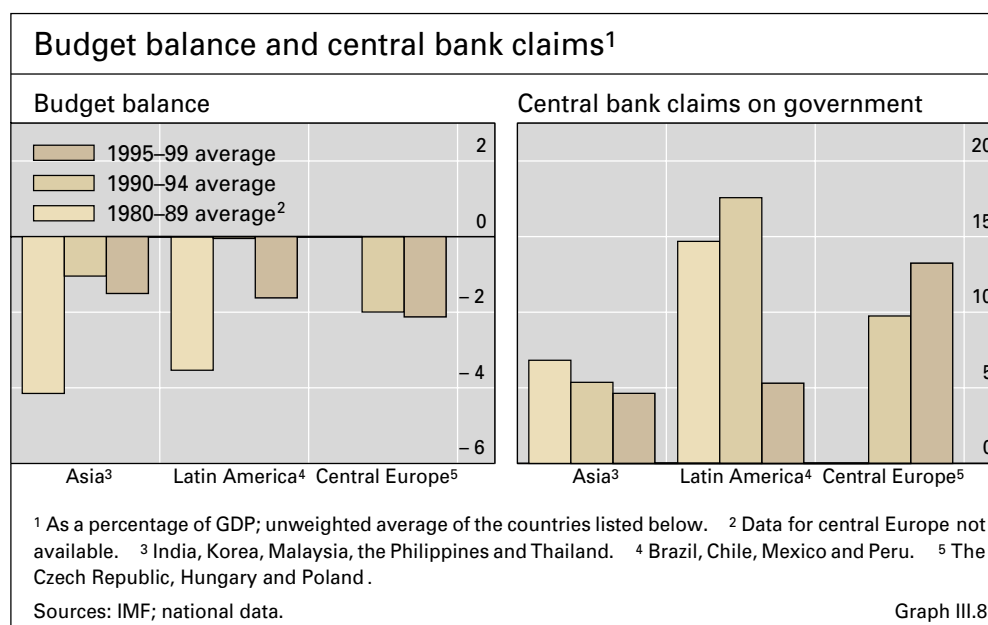
Monetary growth has also declined

What seems better established is that disinflation has typically been preceded by up-front fiscal adjustments followed by fundamental tax and expenditure reforms, sometimes including a medium-term fiscal sustainability

Fiscal policy a major driving force







framework. Fiscal balances have been particularly strengthened in Latin America (Graph III.8), where earlier chronic high inflation was often linked to the monetisation of large fiscal deficits. Financial deepening in all regions has also tended to decouple monetary movements from temporary fiscal problems by allowing the financing requirements of governments to be shifted to the market. Apart from reducing the inflationary bias of fiscal policy, a low fiscal deficit, to the extent that it resulted from tax and expenditure reforms, may also have played a role in generating positive supply side effects.

Historically, exchange rates have played an important role in the inflation process in the emerging market economies, particularly in those (mainly Latin American countries) with a long record of high inflation and volatile capital flows. The degree to which exchange rate changes are reflected in domestic prices depends not only on the competitive conditions facing firms and the state of the business cycle, but also on whether such changes are seen as permanent or temporary. Many countries in the past adopted fixed exchange rates as nominal anchors to achieve low inflation. Thus the fixing of exchange rates traditionally played a role in reducing inflation from high levels (if only temporarily) in many Latin American and central European economies. Fixed exchange rates also helped to deliver low and stable inflation in the East Asian economies before the 1997-98 crisis.

Relying on an exchange rate anchor for disinflation had a downside risk. In many cases – most recently in Turkey – this approach led to a deterioration in external competitiveness and increases in the current account deficit that ultimately proved unsustainable. As a result of the vulnerability of fixed exchange rate regimes to currency attacks, particularly in the presence of a weak banking system and growing capital flows, there has been a movement towards either a more flexible regime or a hard peg. The majority of countries have opted for flexibility. Those that have opted for a hard peg (a currency board or dollarisation) have recognised that it would leave them with little

The role of exchange rate regimes

The move to flexible exchange rates ...

room for an independent monetary policy. Conversely, those opting for a flexible exchange rate regime have retained a role for domestic monetary policy. But, while in principle allowing the exchange rate to be flexible, in practice, they have often attempted to strike a balance between the objectives of ensuring external competitiveness and limiting the exchange rate pressure on domestic prices. Typically this has been done by intervening in the foreign exchange market and/or by moving short-term policy rates.

The recent move towards flexible exchange rates has not, however, been accompanied by a rise in inflation. In Latin America this was particularly unexpected since, historically, depreciation has had immediate effects on inflation expectations. One reason is that the recent transition to a flexible exchange rate regime in the midst of crisis has typically coincided with excess capacity and global disinflation, offsetting part of the direct impact of exchange rate changes on consumer inflation. Moreover, as alluded to above, many countries succeeded in preventing their exchange rates from depreciating significantly, despite their declared intention to float (see Chapter V).

... was followed by contained depreciation ...

In addition, a credible stability-oriented monetary and fiscal policy may have contributed to moderating wage and price expectations. The greater fiscal prudence in Latin America referred to above was of crucial importance in this regard. Finally, over the past decade many countries have implemented far-reaching structural reforms aimed at improving domestic competitive conditions. A particularly important change has been the increasing integration of emerging market economies into the global economy. As a result, the capacity of firms to pass on import costs into final prices when the exchange rate depreciated has been significantly constrained (see Chapter II). As the share of the new economy increases in the emerging markets, these global pressures seem set to intensify further.

... and a lower pass-through

### *Keeping inflation low*

One important issue arising from the above is whether the current low inflation rates will be sustained. In other words, have macroeconomic policy changes significantly reduced the risk of a recurrence of high inflation?

A fundamental prerequisite for sustaining low inflation is eliminating the potential inflationary bias of fiscal policy. The active use of fiscal policy to support growth during a recession needs to be followed by measures to reduce deficits once recovery starts. Increasing debt servicing burdens due to the high cost of recapitalising the banking sector and the associated rise in public sector debt levels could pose a threat to fiscal credibility, particularly in some of the previously fiscally sound East Asian economies. Moreover, progress with long-term fiscal reform has been hampered by the slow pace of privatisation of state-owned enterprises and political resistance to more fundamental adjustments to taxes and expenditures. To the extent that these factors raise doubts about the long-term sustainability of fiscal policy, they affect the credibility of fiscal regimes and hence the expectation that inflation can be maintained at a low level.

Keeping inflation low when fiscal risks are still present

Another critical question is how far the decline in inflation has become self-fulfilling. The indexation of wages and prices generally decreases as

Policy credibility is crucial

inflation falls since the need for protection against high inflation disappears. Insofar as inflation expectations also decline, increases in nominal wages would reflect productivity improvements better, thus lessening the role of “catch-up” wage pressures in the inflation process. Moreover, producers would be more reluctant to pass on temporary cost increases into prices. A related effect is that a low and stable inflation environment enhances the transparency of relative price movements, sharpening the response of consumers to price changes and increasing price competition among firms. The strength of this effect depends on how far economic agents perceive the decline in inflation to be permanent.

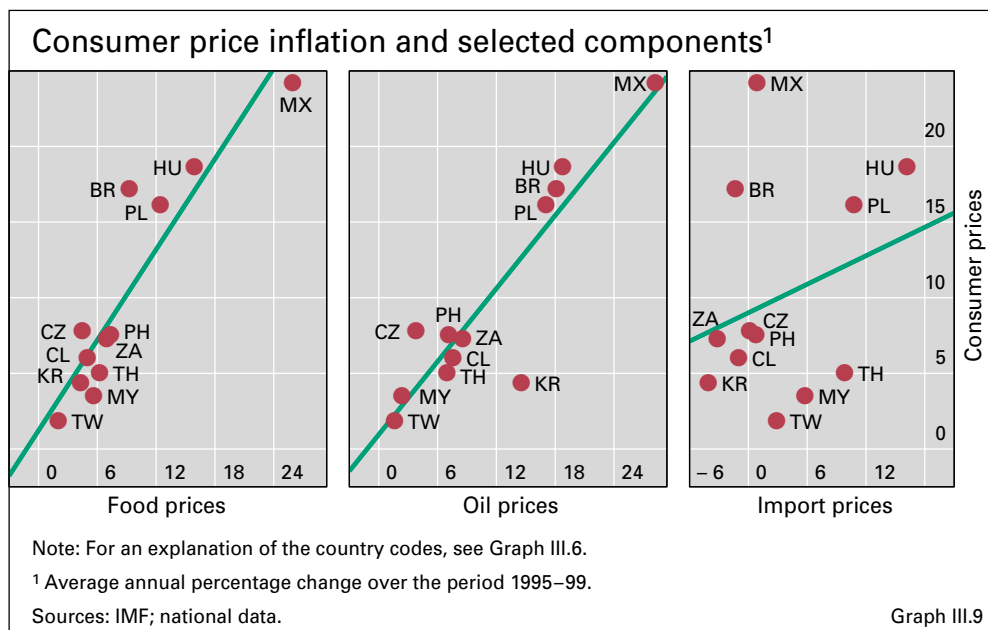
Inflation targeting  
can bring long-  
term benefits ...

To help reduce future inflation risks, a number of countries have recently adopted inflation targeting. This strategy offers several potential advantages. First, the commitment of monetary policy to price stability is particularly important for countries with a history of fiscal excesses and monetary mismanagement. An inflation targeting strategy should help central banks resist political pressures and encourage them to focus on a consistent objective over time. Second, the transparency and accountability of inflation targeting can be exploited by central banks to promote public communication so as to gain support for and enhance the credibility of the anti-inflation regime. Third, once inflation has been reduced to a low level, the forward-looking approach of inflation targeting provides a mechanism by which central banks can lower long-term inflation expectations in the economy. This would be an important advantage since, especially for Latin America, actual reductions in inflation do not in themselves seem sufficient to lower the inflation expectations incorporated in nominal bond rates by similar amounts.

... but potential  
problems remain

Yet to realise these advantages several conditions must be met. One is that the financial system be strong enough to adjust to interest rate variations by the central bank. In addition, the exchange rate must be sufficiently flexible to absorb exogenous shocks but not so volatile as to pose a threat to price stability. The potential for conflict between internal and external objectives is particularly high in countries which are relatively more exposed to external shocks and have large unhedged foreign liabilities. Further, targeting the inflation rate implies adequate knowledge of the variables driving inflation. Modelling this process constitutes a separate challenge, given poor data, high volatility of certain inflation components and imperfect knowledge of the transmission mechanism of monetary policy changes.

The extent to which the current low inflation rate is sustained also depends on short-run supply factors. The sensitivity of inflation to import prices (notably oil prices) tends to be higher than in industrialised economies because of the greater dependence on imports. In addition, food prices are affected in large measure by agricultural shocks and are, therefore, volatile. Relative prices and the average rate of inflation may also be influenced by changes in administered prices. This factor has played a particularly important role in the transition economies, where large-scale price deregulation in the early 1990s led to a ratcheting-up of overall inflation in the short run while, in some cases, the pressure spilled over to the longer term through monetary



accommodation. However, countries that have kept administered prices artificially low face a similar “catch-up” problem.

Graph III.9 demonstrates the cross-country relation between changes in food, oil and import prices and the economy-wide rate of inflation during the second half of the 1990s. As is evident from the graph, in several cases favourable supply shocks have played a large part in the recent decline in inflation. However, to the extent that these supply factors are reversible, they pose a challenge to central banks in maintaining future price stability. While this might suggest that the volatile supply components should be excluded from the inflation target, doing so risks increasing public confusion over what price stability really means.

Given all these complications, a broad consensus has developed that neither industrial countries nor emerging market economies should attempt to achieve a given inflation target over too short a period. One important consequence of having an inflation target that is unrealistic, or defined within too narrow a range, is that it might require large interest rate movements, in particular when the economy is affected by adverse supply shocks. Especially for emerging market economies, this trade-off between price and interest rate stability needs to be considered seriously. Failure to meet an explicit inflation target may undermine the credibility of the monetary authority, but the interest rate changes required to meet the target may have severe economic repercussions, especially if the banking system is weak.

Unrealistic inflation targets should be avoided

## IV. Monetary policy in the advanced industrial countries

### Highlights

The period under review was marked by uncertainty and a major shift in the policy stance. Short-term interest rates in many countries generally continued to rise through the early part of last year in the light of strong growth and increasing inflationary pressures. As the period progressed, however, the global interest rate cycle turned in response to perceptions that activity was starting to weaken rapidly. By early 2001 evidence had begun to mount that a significant slowdown was indeed under way in a number of countries, leading central banks generally to lower interest rates. In spite of the change of direction in policy rates during the period under review, long rates in the major industrial countries broadly tended downwards and yield curves moved towards inversion over much of the period. However, more normal relationships were re-established after March 2001.

The global pattern of changes in economic conditions and financial markets was most evident in the United States. Policy continued to tighten during the first half of last year, but this was reversed in early 2001 when signs of a dramatic turnaround in economic activity became apparent. The Federal Reserve twice cut interest rates in unanticipated inter-meeting moves, in part to bolster conditions in financial markets, which are arguably more important in determining the level of demand in the United States than elsewhere.

In Japan the zero interest rate policy was abandoned in August as the central bank judged that the recovery had become self-sustaining and concerns regarding the risk of deflation abated. With downward pressure on the price level increasing during the autumn, and a sharp deceleration of activity around the year-end, the Bank of Japan also relaxed monetary conditions in early 2001. A particularly worrisome development was the gradual but cumulatively large decline in equity prices. There was concern that this might have some impact on the stability of the financial system, given the lack of clear evidence that restructuring had really begun in earnest.

In the euro area, headline inflation remained close to 2%, the upper limit of the Eurosystem's definition of price stability, during the spring of last year. However, it jumped in the summer and rose further in the autumn, reflecting higher oil prices and the weakening of the exchange rate. These developments contributed to a steady rise in policy rates. As these influences were reversed, inflation fell but there was no firm evidence of a weakening of economic activity until early 2001. With its projection

suggesting that inflation would be slow to return to the price stability range, the Eurosystem elected not to reduce interest rates until May.

The interest rate cycle also turned in many of those countries that have an explicit target for inflation. During the first half of the period, the last phase of the earlier tightening in monetary conditions was completed. The rise in headline inflation experienced in most of these economies in late 2000 was judged to be the result of temporary factors, such as the increase in oil prices, and a further tightening of policy was deemed to be unnecessary. In early 2001, the principal central banks with explicit inflation targets cut interest rates in response to downward revisions in forecasts of output growth for the near future.

The achievement and maintenance of low inflation in economies all over the world, amid the continuing expansion of financial markets, have had important implications for central banks. A particular problem concerns the choice of indicators on which to focus when setting policy rates. In this area, central banks have explored a wide range of information variables drawn from both the real economy and, increasingly, financial markets. The importance of communicating with financial markets has grown and policymakers increasingly have to consider the markets' reaction in determining the appropriate timing of policy decisions.

## United States

The period under review was a difficult one for policymakers. During the first three quarters of 2000, inflationary pressures appeared to be building. At the same time, however, share prices and other financial indicators warned of an impending slowdown in consumption and investment spending. Moreover, uncertainty about future productivity growth clouded the outlook for inflation, as well as the prospects for firms' profits and the near-term health of financial markets. Then, towards the end of 2000, new data heralded a dramatic deceleration in economic activity. Significant uncertainty surrounded the potential depth and length of the expected period of below par economic performance. How rapidly monetary policy should ease, particularly given the possibility of an unwelcome rebound in stock prices, called for an unusual degree of judgment about both the economy and market psychology.

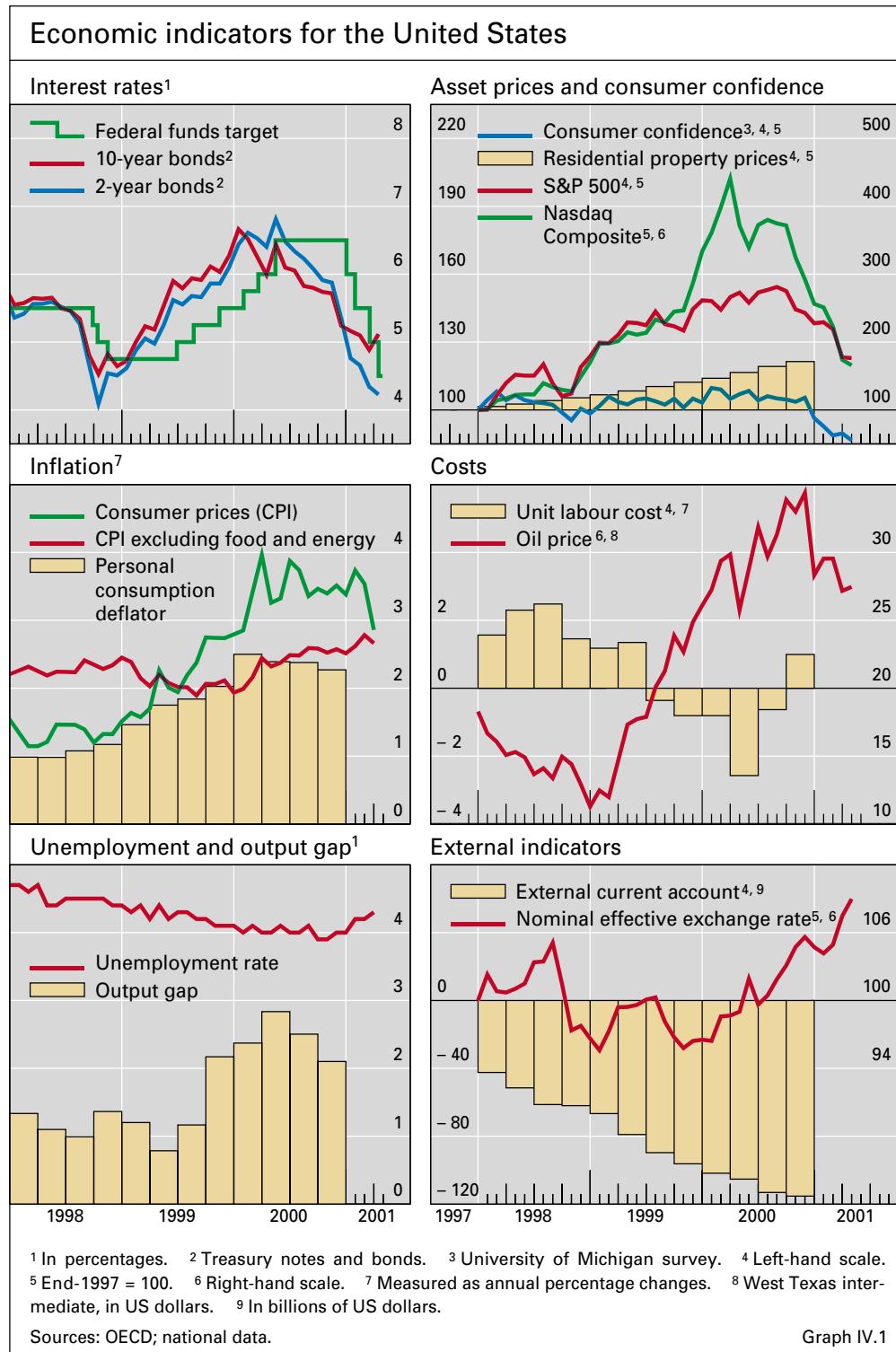
Inflationary pressures

The beginning of the period saw the culmination of a year-long tightening of monetary policy by the Federal Reserve. The raising of the federal funds rate target by 50 basis points in May 2000, following increases totalling 1¼ percentage points dating back to June 1999, was part of a measured attempt to restrain a rapid rate of expansion in aggregate demand with potential implications for inflation. However, in late spring and summer, forward-looking indicators suggested an incipient slowdown in economic activity. This led the Federal Open Market Committee (FOMC) to put on hold further increases in its target rate, although it continued to maintain a bias towards tightening. Through the autumn, the risk of an increase in inflation remained at the forefront of the FOMC's assessment. On the one

Monetary tightening continued up to May 2000 ...

... with a risk of higher inflation still present in autumn

hand, measures of core inflation continued to hover around 2%, a level deemed to be consistent with price stability, and evidence of an economic slowdown was accumulating. On the other hand, persistently high oil prices appeared to be causing upward revisions in long-run inflation expectations, while continued tightness in labour markets, as reflected in increases in compensation and unit labour costs, threatened to push underlying inflation rates higher.



By December, it was clear that a significant slowdown in economic activity had begun, as evidenced by a sharp fall in retail sales, an excessive accumulation of inventories, a marked reduction in consumer wealth, and sharp declines in both consumer and business confidence. At the same time, financial conditions in both equity and corporate debt segments deteriorated considerably (see Chapter VI).

Evidence of a sharp downturn surfaced in late 2000

In response, after changing its bias in December to reflect the increased risk of economic weakness, the FOMC lowered interest rates on 3 January 2001. The timing and size of the move, between meetings and twice the standard magnitude of policy rate changes, appeared to catch markets by surprise, as equity prices rose sharply and long-term bond prices fell. The likely reason for the surprise move was to demonstrate a prompt response to unfolding events and thereby bolster the confidence of both consumers and financial market participants. Following a further 50 basis point cut in the federal funds rate at the FOMC's late January meeting, and the continued improvement of conditions in financial markets, except for stock prices, it seemed possible that a prolonged period of slow growth could be avoided. After factoring in the effects of this rate cut, the Federal Reserve projected in mid-February that annual growth would fall only slightly below its estimated long-run potential during 2001, and that headline inflation – based on the personal consumption expenditure index – would be around 2%. But as time passed, further evidence accumulated, raising the odds of a longer and sharper downturn. At its meeting in March, the FOMC again lowered interest rates by 50 basis points; on 18 April, it repeated this cut following an inter-meeting consultation; and on 15 May it reduced rates by another 50 basis points. This brought the total reduction in the federal funds rate to 250 basis points in the first five months of the year, the sharpest rate of easing in the postwar period. While the spread between long- and short-term interest rates generally narrowed during 2000, this process was reversed in early 2001 in the aftermath of the easings of policy. For instance, the yield on the 10-year Treasury note increased by 56 basis points between 23 March and 20 April.

A surprise interest rate cut in early 2001 ...

... followed closely by four more rate changes

Underlying the evolution of monetary policy in the United States over the last few quarters, as in previous years, was a debate centred on the question of whether the sustainable level of productivity growth had increased (see the discussion on policy indicators below). In the earlier phase of tightening, the Federal Reserve had been anxious to obtain accurate estimates of the output gap to assess the inflationary implications of robust aggregate demand. In contrast, as equity prices continued to fall and output growth decelerated sharply in the fourth quarter of 2000, the focus of both policymakers and market participants switched for a time to the shorter-term prospects for productivity growth. The preferred outcome was that productivity growth would be sustained, with favourable implications for profits, stock prices and spending. Such an outcome (see Chapter II) would also imply that some of the apparent imbalances in the US economy were more sustainable than might have been thought. Of course, if the maintenance of higher productivity growth meant fewer hours worked, as well as lower employment and household income, the danger remained that consumer confidence might nevertheless be negatively affected.

Uncertainty over productivity growth remained



## Japan

Prices declining  
but interest rates  
raised

Given significant GDP growth and rising industrial production in the spring of 2000, the Bank of Japan faced a difficult question. Should it, and if so, when should it abandon the zero interest rate policy that had been adopted a year earlier? The Policy Board increasingly took the view that the ongoing decline in consumer prices primarily reflected supply side developments, including deregulation and changes in the distribution channels. Downward pressure on prices stemming from a weakness of demand seemed to be diminishing. As the year-on-year rate of decline of prices (excluding fresh food) stayed at  $-0.3\%$  during the spring, and with some indications that a recovery was under way, the target for overnight rates was raised to  $0.25\%$  in August. Although this entailed a slight tightening of monetary conditions, the Bank of Japan argued that they remained stimulatory on balance.

The economy  
slowed ...

During the autumn and winter, however, the economy slowed again and the underlying rate of decline of consumer prices increased. Long-term bond yields, which had been stable during most of the year, fell from  $1.8\%$  in October to  $1.7\%$  in December and reached  $1.1\%$  in early March 2001. This decline suggested that financial markets expected the economy to weaken further. Moreover, it became increasingly apparent that little progress had been made in reducing the stock of non-performing loans, as write-offs were replaced by new non-performing loans.

... in the wake of  
the US slowdown  
and falling equity  
prices

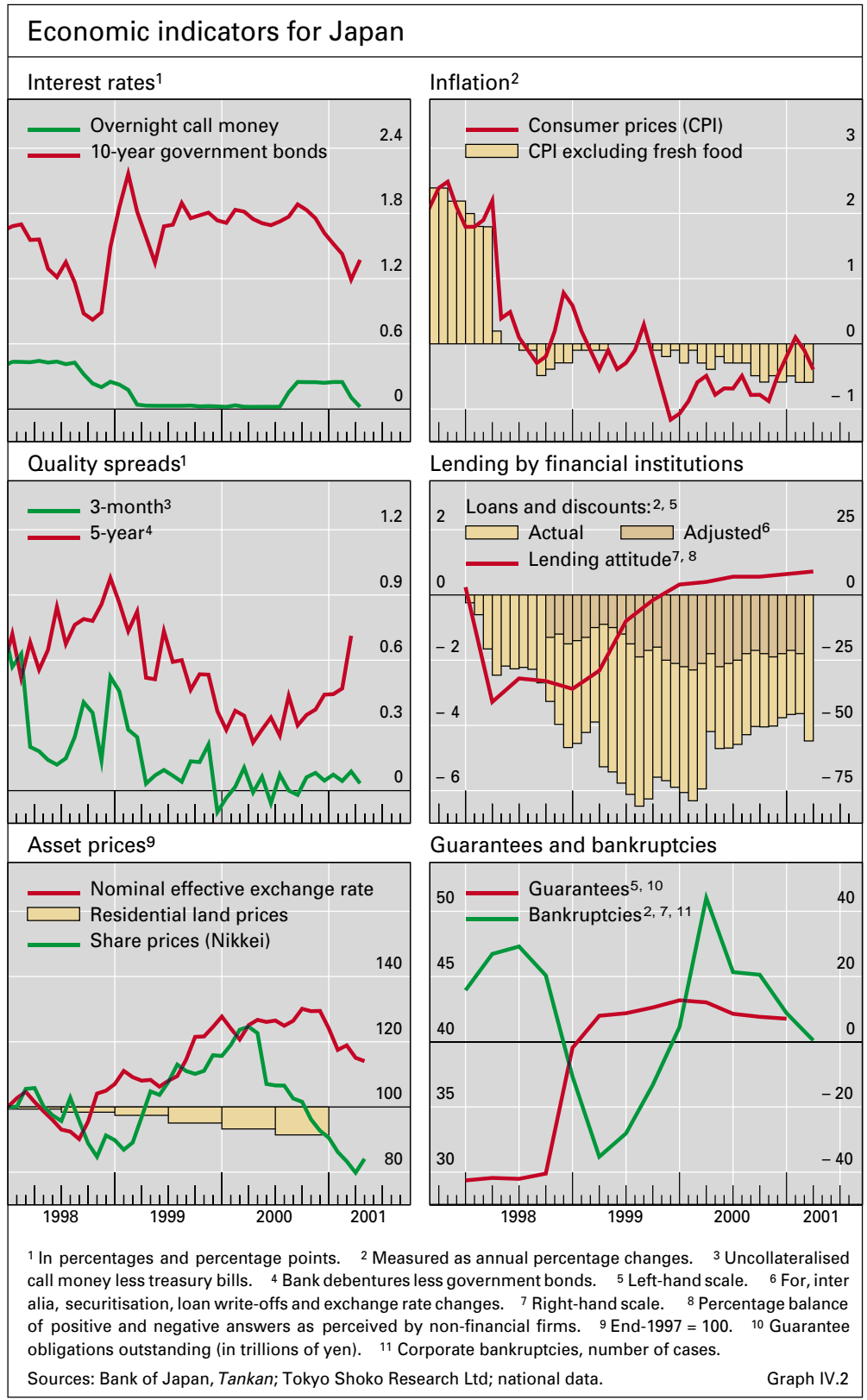
Several factors contributed to these developments. In particular, the sharp drop in exports to Asian countries, due largely to the impact of the US slowdown on these economies, led to a decline in industrial production in the first quarter of 2001. Another factor hindering the incipient recovery was a further erosion of banks' ability to lend resulting from the large fall in equity prices that had started in the spring of 2000. In the past, banks had mitigated the impact of loan losses on profits by realising capital gains on their stock portfolios. However, they now had little leeway to do this as equity prices, measured by the Nikkei index, reached a 15-year low in the spring of 2001.

Policy relaxed in  
February ...

In the light of these worsening economic conditions, and with the growing possibility of the United States entering a recession, the Bank of Japan in early February 2001 took further measures to support the economy. In order to increase the provision of liquidity, it introduced a new lending (lombard) facility under which banks could borrow on request at the official discount rate, which was lowered from  $0.5\%$  to  $0.35\%$ . This facility effectively provided a ceiling for overnight rates in the interbank market. Further policy measures were undertaken in the same month, with the target for overnight rates being reduced to  $0.15\%$  and the official discount rate cut to  $0.25\%$ . As evidence of a pause in the recovery mounted, other monetary policy measures were taken in March. By changing the operating target from the overnight rate to the outstanding volume of current account balances at the Bank of Japan, and by expanding the latter from  $\text{¥}4$  trillion to  $\text{¥}5$  trillion, the overnight interest rate was pushed towards  $0.05\%$ .

... and March

Along with the other policy changes in March, the Bank of Japan announced a “CPI guideline”. This stated that the new measures would remain in force until consumer prices had stopped falling, presumably with a view to generating expectations that interest rates would stay very low for an extended period, thus lowering the entire yield curve. While the Bank



remained cautious regarding the introduction of an explicit medium-term target for inflation, the announcement underlined the growing importance it attached to avoiding further declines in prices.

Quantitative easing

With overnight interest rates essentially at zero, there was no room for a further relaxation of interest rate policy. Moreover, the Bank of Japan felt that the likelihood of quantitative easing supporting economic activity was limited by the weakness of the financial system and the corporate sector. In particular, increases in the monetary base through large-scale purchases of government bonds were unlikely to encourage banks to expand lending, given the state of their balance sheets and the low demand for new loans. In addition, while purchases of foreign exchange might induce a depreciation of the yen, thereby stimulating the export sector, some firms might not be able to pass on any rise in import costs owing to the weakness of domestic demand. A depreciation could therefore reduce profit margins in some sectors, potentially having a contractionary effect on activity. And it could also be problematic in that it would have a negative impact on other economies in the Asian region.

Importance of reforms

With the effectiveness of monetary policy limited, and fiscal policy constrained by the rapid growth of public debt in recent years, the onus of returning the economy to growth was increasingly seen to be on reforms aimed at resolving the widespread balance sheet problems in the financial and corporate sectors. Raising the core profitability of banks on a sustainable basis was also viewed as an essential element of any successful strategy. While low levels of interest rates were welcome in that they supported demand, they were also seen as reducing incentives to restructure since non-performing loans could be refinanced at very little cost. This made it all the more imperative that the low interest rate policy be accompanied by other incentives to push through structural reforms.

## Euro area

The weakening euro a complicating factor

The monetary policy environment in the euro area was also difficult last year, with the outlook for inflation again shifting rapidly. The main challenge facing the ECB up to the autumn of 2000 was to prevent the energy-linked rise in inflation from becoming embedded in wage contracts and triggering second-round effects. Subsequently, the chief problem was to determine to what extent the slowdown in the United States and the world economy more generally would dampen activity and reduce price pressures in the euro area. A complicating factor was the weakening of the euro and the risk that the rate of depreciation could accelerate. While the exchange rate was not a target of policy, it influenced inflationary pressures both directly through import prices and potentially indirectly through inflation expectations (see also Chapter V).

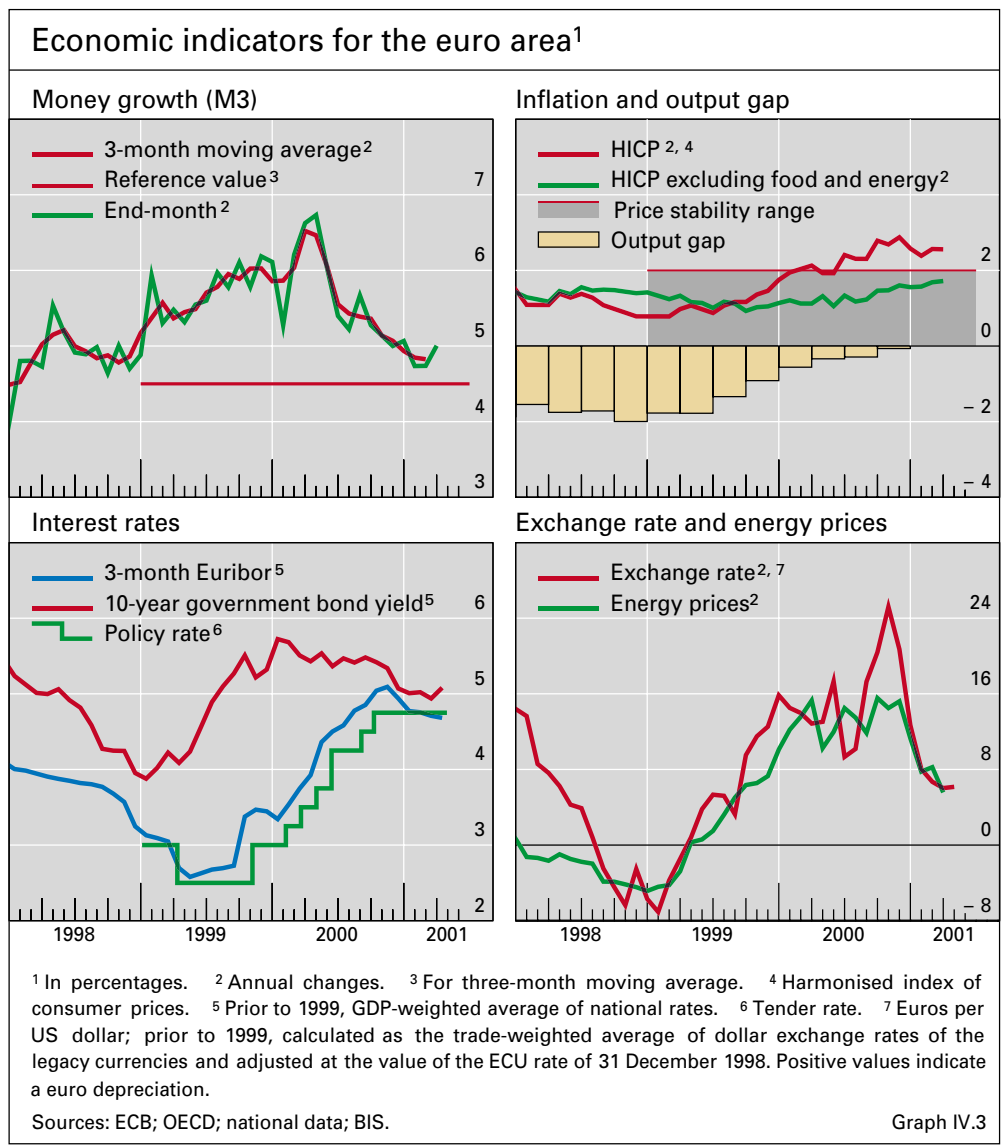
Headline inflation rose in response to oil prices and exchange rate depreciation

In early 2000, the ECB continued the process of gradually tightening monetary policy that it had initiated in late 1999. Headline inflation, as measured by the year-on-year change in the harmonised index of consumer prices (HICP), which had reached a low of 0.8% in January 1999, rose steadily thereafter,

and peaked at 2.9% in November 2000. This acceleration was largely attributable to the surge in oil prices and the cumulative depreciation of the euro by 16% between January 1999 and December 2000. These developments were associated with a marked increase in import prices, which rose by 22% in the 12 months to September 2000. Despite the fact that underlying inflation, as measured by the HICP exclusive of food and energy prices, remained very well behaved, the repurchase rate was raised in a series of steps from 3.0% in early 2000 to 4.75% in the autumn. For some months, the Governing Council maintained a “wait and see” attitude even as the US economy began to slow sharply and inflationary pressures in the euro area showed some signs of abating. With wage increases remaining moderate and the prospects for growth revised downwards, the ECB reduced rates in May 2001.

Several factors appear to have played a role in conditioning the Eurosystem’s policy response. In announcing its policy framework, the Governing Council had stated that a temporary breach of the 2% threshold should not be seen as incompatible with price stability. Nevertheless, given the institution’s limited track record the authorities may have been concerned

Factors conditioning policy



that their credibility would have suffered had there not been at least a limited policy response to the target being breached. In addition, M3 growth above the 4.5% reference value, the first pillar of the policy framework, urged caution. A further influence on monetary policy was the historical sensitivity of wages in many continental European economies to movements in inflation and labour market tightness. With headline inflation rising and unemployment in the euro area continuing to decline from 9.5% in January 2000 to 8.6% in December, there was a possibility of higher inflation expectations and second-round adjustments in labour markets.

Risk of second-round effects

In the event, long bond yields remained stable around 5.5% for much of the year and then started to decline, reaching 4.9% in mid-March 2001. On the one hand, this could be viewed as primarily driven by a similar downward trend in US long rates, a conclusion consistent with subsequent trends to higher bond rates in both the United States and Europe. On the other hand, it could suggest that the upward movements in headline inflation did not influence inflation expectations because the Eurosystem's stability-oriented policy continued to be seen as credible in financial markets and among the general public. The latter interpretation seemed further supported by the absence of evidence to date that the rise in headline inflation had become embedded in labour costs.

Policy remained credible

### Inflation targeting countries

The centrepiece of the monetary framework in many industrial countries is an announced quantitative target for inflation. Indeed, the number of central banks adopting such a strategy increased in the period under review as both Iceland and Norway announced inflation targets in March 2001.

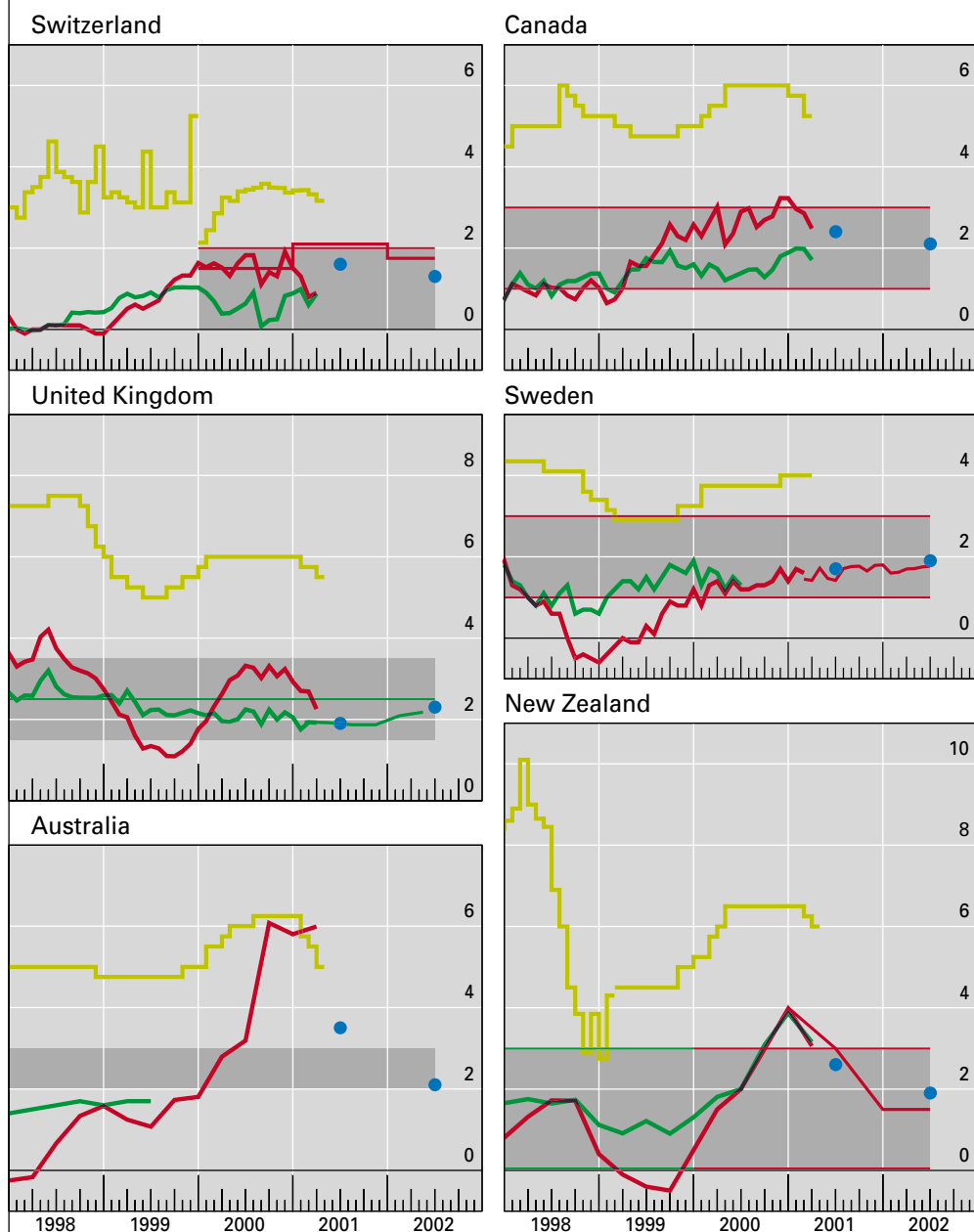
In the first half of 2000, central banks in most countries with inflation targets implemented a final phase of the general tightening of policy which had begun in 1999. Thereafter, they kept interest rates fairly stable up to the end of the year. The Bank of England actually held policy rates steady for nearly all of last year, reflecting the fact that, while domestic demand was strong and labour markets remained tight, there was almost no evidence of increases in underlying inflation rates. The interest rate cycle then turned downwards in early 2001. Policy rates were lowered in Australia, Canada, New Zealand, Switzerland and the United Kingdom, as inflation remained subdued while output growth was forecast to fall below trend largely owing to similar developments in the larger industrial countries.

Interest rates followed the US cycle

In the period under review, the paths of short-term interest rates in the industrial countries targeting inflation resembled that of the US federal funds rate, consistent with a pattern that has been evident for at least the past two years. In fact, most of these countries were at a similar point in the business cycle to that of the United States. This was true of Canada in particular. From November 1999 onwards, almost all changes in official interest rates in Canada followed on the heels of changes in the federal funds rate. With four fifths of Canadian trade conducted with the United States, and with highly connected capital markets, the monetary policies of the two countries often chart a similar, albeit not identical, course.

## Inflation and policy rates in countries with inflation targets<sup>1</sup>

— CPI inflation      — Central bank inflation forecast       Inflation target  
— Underlying inflation<sup>2</sup>      ● Market inflation forecast<sup>3</sup>      — Policy rate<sup>4</sup>



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

<sup>1</sup> Inflation rates are measured as annual percentage changes. CPI inflation is targeted by Canada, Sweden, Australia (since October 1998) and New Zealand (since 2000), while underlying inflation is targeted by the United Kingdom (and previously also by Australia and New Zealand). <sup>2</sup> For Switzerland and Canada, CPI excluding food and energy prices (for Canada also excluding indirect taxes); for the United Kingdom, retail price index excluding mortgage interest payments; for Sweden, CPI excluding indirect taxes, subsidies and house mortgage interest expenditure; for Australia, CPI excluding seasonal food, petrol, mortgage interest payments, public sector charges and other volatile prices (publication suspended in June 1999); for New Zealand, CPI excluding credit services. <sup>3</sup> Of annual CPI or, for the United Kingdom, underlying inflation; surveys conducted in April 2001. <sup>4</sup> For Switzerland, actual three-month Libor (the target band is set 50 basis points above/below Libor); prior to 2000, lombard rate. For Canada, ceiling of the operating band; for the United Kingdom and Sweden, repo rate; for Australia, cash rate; for New Zealand, cash rate (prior to March 1999, call rate).

Sources: © Consensus Economics; national data.

Graph IV.4

High aggregate demand in 2000

As suggested by the similarity in their interest rate cycles, the central banks with explicit inflation targets had to grapple with common policy issues. Until the autumn of 2000, one of their main concerns was economic overheating, as demand was thought to be outstripping supply. In addition, labour markets appeared to be tight, although generally modest changes in unit labour costs gave little sign of wage increases accelerating above productivity gains. Nonetheless, a number of central banks continued to tighten policy for fear of allowing underlying inflationary pressures to build. The Bank of Canada raised its key policy rate by 50 basis points in May 2000, the fourth increase since November 1999; the Reserve Bank of Australia raised its cash rate by 50 basis points between April and August 2000, on the heels of previous increases amounting to 75 basis points; and the Reserve Bank of New Zealand increased rates in April and May by a total of 75 basis points. The Swedish economy also continued to grow at an above average rate in 2000, although the Riksbank judged it could postpone a further increase in interest rates until later in the year.

Central banks faced similar issues, such as continuing uncertainty over productivity growth ...

A first issue of interest to policymakers was whether the productivity gains observed in the United States since 1995, and believed by many to be largely permanent, would materialise in their economies as well. This was an important question, since uncertainty about the trend in labour productivity made it difficult to assess potential output and inflationary pressures, and thus the appropriate policy stance. In most countries with inflation targets, only small and relatively recent increases in productivity growth could be detected. Moreover, most such increases seemed to be explicable by cyclical factors. The one important exception was Australia, which had enjoyed very high productivity growth throughout the 1990s. Nevertheless, in the United Kingdom some members of the Bank of England's Monetary Policy Committee (MPC) stated that they had leaned towards cutting interest rates during 2000 on the presumption that long-term productivity growth had risen. The postponement of rate increases during 2000 in Sweden also reflected the belief that the level of sustainable productivity growth had increased, in part due to the strong performance of the domestic IT sector.

... the impact of oil price increases ...

A second issue was how to treat the further sharp increase in oil prices after mid-2000, which subsequently pushed headline inflation rates above the targets of most central banks. Interest rates were not raised in response, as it was generally felt that the oil price shocks were transitory. However, a number of inflation targeting central banks made it clear that, while they would not react to the first-round effects of these price shocks, they would consider tightening policy further if indicators pointed to the emergence of second-round effects. The Reserve Bank of Australia held interest rates steady even as a combination of tax increases and the jump in oil prices pushed headline inflation up sharply in the third quarter. In Canada, long-term inflation expectations barely rose with the increase in oil prices, and remained near the midpoint of the Bank of Canada's inflation target range. Towards the end of 2000, declines in oil prices alleviated pressure on headline inflation in most countries, which significantly reduced the probability that second-round effects of earlier price increases would materialise.

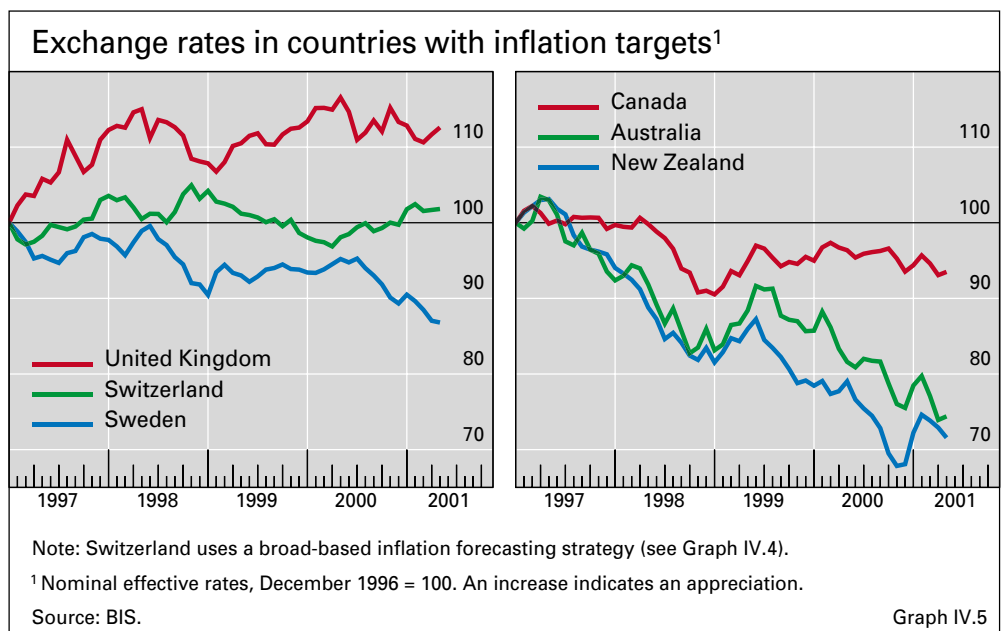
A third issue for policymakers during the period related to exchange rate developments. For most of 2000, one of the main concerns in the United Kingdom was the growing sectoral imbalance caused by the high value of the pound against the euro. This was reflected in poor growth performance in some exporting sectors, while at the same time domestic demand grew rapidly. A decline in interest rates might have precipitated a depreciation of the pound, thereby helping exporting industries, but this would have fuelled a further increase in an already worryingly high level of domestic demand. Given continuing expectations that its aggregate inflation target could be met, the Bank of England held the main policy rate steady at 6%.

... and the puzzling course of exchange rates

The exchange rate also attracted attention in Australia and New Zealand, as the currencies depreciated very significantly. In the event, the ultimate influence of the depreciations on the stance of policy was less than might have been expected from past experience. In each country, the central bank judged that the pass-through of exchange rate changes to inflation had declined recently, and was therefore more inclined to wait and see whether currency movements would feed through to core inflation rates. In contrast, the Swiss National Bank felt that the degree of pass-through remained high. It therefore welcomed the appreciation of the Swiss franc vis-à-vis the euro as a means of curbing the inflationary impulses in the first half of 2000 that had arisen from the previous weakness of the nominal exchange rate.

In the second half of the period under review, the inflation outlook became more benign as projections of output growth were revised downwards in most countries. This largely reflected an expected decline in the pace of world economic activity, but also the previous tightening of monetary policy. However, the anticipated drop in growth was less than in the United States, as was the perceived likelihood of a particularly sharp downturn. This view was supported by fewer signs of financial imbalances in most of these economies, notably in credit and asset markets, compared

Projections of output growth revised downwards in early 2001





with the United States. Even so, indications of sectoral imbalances were apparent in some cases. In Australia, housing prices reached exceptional levels, and in Canada, both personal and corporate debt were near historical highs as a percentage of GDP (see also Chapter II).

In the event, the combination of projections of weaker growth and stable core inflation prompted many central banks to cut interest rates. In Canada, there was a perception that a slowdown could be under way due, in part, to a decline in US demand for Canadian exports. Moreover, there were also concerns that growth in consumption and investment could fall, in line with developments in the United States. As a consequence, the Bank of Canada began lowering interest rates in January 2001. At its meeting in January, the MPC at the Bank of England still judged that the risk of higher inflation was roughly balanced against the danger of below par growth taking hold. However, the Bank eased policy in February, after inflation had fallen temporarily to almost 1 percentage point below its target; and further cuts of 0.25 percentage points each were made in April and May. In Australia, with domestic demand already weak, fourth quarter slowdowns in economic activity in both the United States and Japan added support to the view that the decline in growth might be sustained. The Reserve Bank reduced its cash rate three times between February and April, viewing the cuts as still consistent with inflation falling to within the 2–3% target range over the subsequent two years.

Interest rates  
lowered in  
Canada ...

... the United  
Kingdom ...

... and Australia

## Rethinking how to conduct monetary policy

The most important change in the macroeconomic environment in the last two decades has arguably been the worldwide process of disinflation. While many factors have no doubt contributed to the current state of low and steady inflation (see Chapters II and III), the growing commitment by central banks to achieve and maintain price stability has been instrumental in bringing it about.

Problems finding  
reliable indicators

Despite their success in controlling inflation, central banks have faced the problem of finding reliable indicators to guide them in setting their policy rates. Since the breakdown of the Bretton Woods system and the widespread adoption of flexible exchange rate regimes, the search for such indicators has been a high priority given central banks' need to manage monetary policy more actively. In the 1970s, monetary targets were widely adopted to serve a dual role as explicit nominal anchors for guiding expectations and information variables for conducting policy. However, in most countries, financial liberalisation and innovation eventually reduced the reliability of money aggregates as indicators of future economic developments. Today, among the major industrialised countries only the two-pillar strategy of the Eurosystem still gives a prominent role to monetary indicators. Through the 1980s, central banks increasingly relied on a variety of information variables for guiding policy decisions, with real economic indicators, such as measures of the underlying production capacity and the potential output of the economy, being given renewed emphasis. The subsequent adoption and pursuit of announced inflation targets in many countries provided a

transparent and credible vehicle through which to implement a broad-based monetary strategy. Nevertheless, making the objective of policy clearer probably made the identification of reliable policy indicators more rather than less urgent.

In itself, the diverse and changing experience of central banks would suggest that a common set of reliable indicators for monetary policy purposes remains elusive. Moreover, the growth of financial markets in recent years has broadened the set of information variables at the disposal of policymakers, increasing the likelihood of heterogeneity. In addition to having important implications for the tactics of monetary policy, the increased significance of financial markets has also materially complicated the communication of policy changes to the public.

### *The choice of policy indicators*

Unexpectedly low inflation in many industrial countries since the mid-1990s has forced central banks to re-examine traditional indicators and the models used to assess inflationary pressure. The United States, where real GDP growth has remained far above, and unemployment far below, historical norms, provides the most striking example. Since a standard view of the inflation process among many central banks is based on the Phillips curve, abnormal behaviour of output and unemployment relative to their perceived long-run equilibrium values has been a key reason for the recent systematic overprediction of inflation.

Traditional indicators have been misleading ...

One of the principal problems has been growing uncertainty regarding potential output. In recent years, much attention has been focused on understanding the behaviour of total factor productivity, in particular the extent to which measured increases reflect secular rather than cyclical factors. However, it is not always recognised that estimates of both the capital stock and the labour force are just as critical in assessing potential output. Measuring the capital stock is always fraught with difficulty, but it becomes even more so in periods of rapid technological progress, which can quickly render capital obsolete and its use unprofitable, thereby complicating the assessment of capacity utilisation rates. Likewise, shifts in labour force participation rates and demographic trends can have an impact on the effective supply of labour and therefore on the productive capacity of the economy. Moreover, calculation of the NAIRU, which is also critical in determining the contribution of labour to potential output, may be biased by influences (such as lower commodity prices or a stronger exchange rate) that temporarily reduce inflationary pressures and inflation expectations. Problems such as these have led many analysts to fall back upon purely statistical methods to provide estimates of potential output. And, while many central banks have gone down this path, they are understandably hesitant to base policy on such measures, recognising that these provide no information about the economic forces underlying the estimates.

... due in part to difficulties in projecting productivity growth

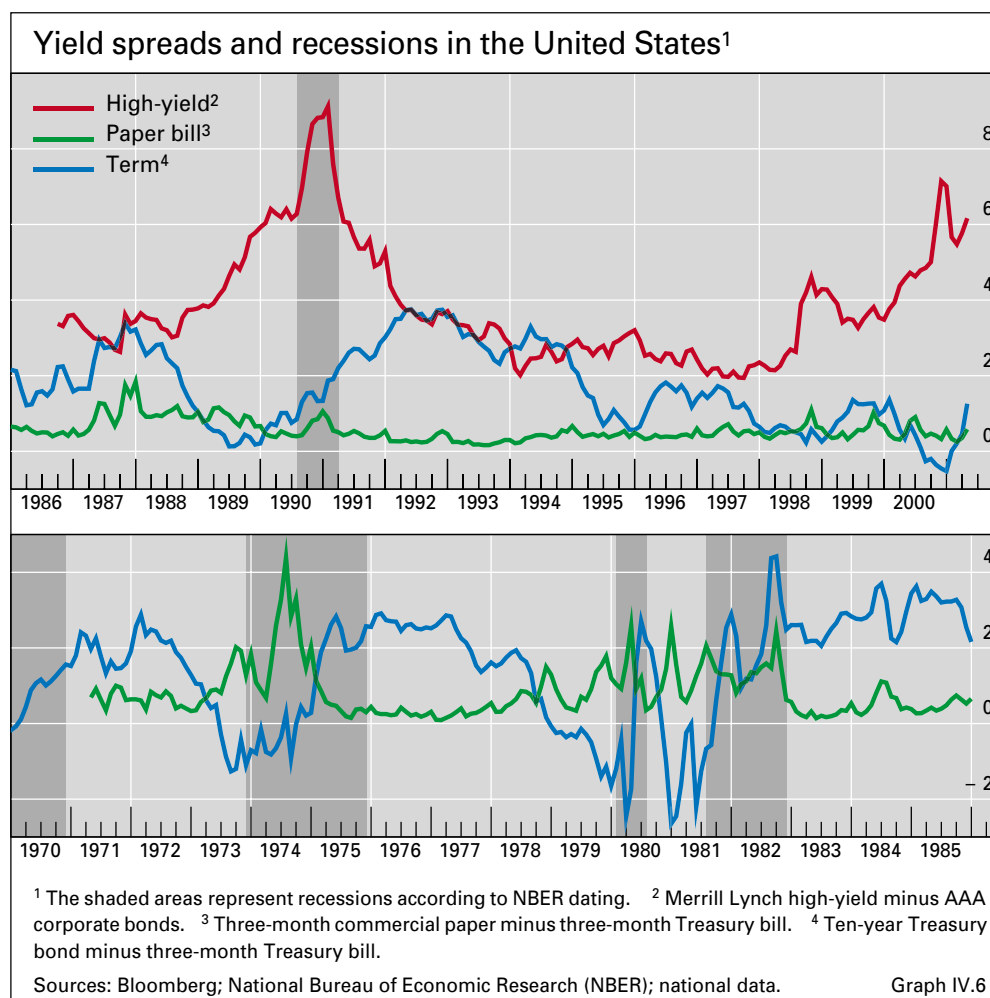
Partly in the light of the difficulties of interpreting real economic indicators, and with the growing importance of financial markets in the transmission mechanism of monetary policy, central banks have increasingly

Financial indicators may be more useful

paid attention to financial indicators as a guide for monetary policy. One set of examples includes various yield spreads. In the past, the term spread, that is, the difference between long-term bond yields and short-term rates, proved a useful indicator of future economic activity in many countries. In addition, in the United States, the difference between commercial paper and short-term Treasury bill rates also seemed to have predictive power for output growth. Movements in both of these spreads have been closely related to changes in monetary policy; for instance, a sharp decline in the term spread leading to an inverted yield curve has usually accompanied a significant increase in policy rates. Because most recessions since the early 1970s appear to have been precipitated by a tightening of monetary policy to fight inflation, the term spread has been a good indicator of impending weakness in economic activity.

For much the same reason, however, this spread would fail to predict slowdowns not primarily induced by monetary policy. The recession in the United States that began in 1990 seems to be a case in point. On that occasion, it was a sharp rise in the spread between high-yield and investment grade corporate debt that appeared to foreshadow the slowdown. There is, in fact, some evidence that this spread has also been a useful indicator of output growth in the more recent past. The likely reason is that it can reflect

Quality spread



changes, some of which may be induced by monetary policy, in credit conditions that influence investment by small and medium-sized firms. Arguably, the high-yield spread is potentially a more useful indicator than other interest rate differentials to the extent that its movements are not specifically tied to the course of monetary policy, but also reflect other developments driving the business cycle.

Nominal exchange rate changes and related import price developments have also been utilised in assessing inflationary pressure in many countries. These movements have direct effects on inflation as well as an influence on wage setting behaviour and changes in non-tradable goods prices. However, as discussed above and in Chapter II, recent experience suggests that the exchange rate pass-through into inflation has diminished or been delayed. This would seem to reduce the potential importance of these indicators for monetary policy.

Exchange rate

Finally, as mentioned earlier, monetary or credit aggregates have played a varying role in the conduct of monetary policy over the past 30 years. Central banks, with a few notable exceptions, have increasingly expressed doubts about their indicator properties for near-term movements in both inflation and output. At the same time, their information content seems likely to differ across financial systems. For instance, broad monetary aggregates are likely to be more useful in countries where banks are the main external source of investment funding. By contrast, in countries where firms fund themselves mainly by issuing equity and debt, such as the United States or the United Kingdom, other indicators such as broad credit aggregates, equity prices and risk spreads are likely to be more relevant. Regardless of these differences, the monitoring of credit and monetary aggregates may still be useful in assessing longer-term threats to financial stability (see Chapter VII).

Monetary aggregates

*Communicating with financial markets*

Besides broadening the range of potential indicators for monetary policy, the rapid development of financial markets has also posed communication challenges for central banks. In particular, the authorities have generally made greater efforts to be transparent with markets, with a view to avoiding market surprises. For instance, while in the 1980s some central banks, including the Federal Reserve and the Reserve Bank of Australia, conducted monetary policy by guiding overnight interest rates towards an undisclosed target, central banks now typically announce policy changes immediately. They also provide more and timelier information about the reasons underlying policy changes. Moreover, some central banks, including the ECB and the Bank of Japan last year, have started to announce their projections or forecasts for future inflation and other variables.

Policy changes announced immediately

Despite this, questions remain as to whether communication could be improved further. One controversial issue concerns whether central banks should prepare markets for future policy actions, for instance by announcing a “bias” as is done by the FOMC, providing other indications about their next policy move or even publishing their projections for the likely future course of interest rates. Doing so may allow central banks to influence longer-term

Announcing possible future policy actions ...

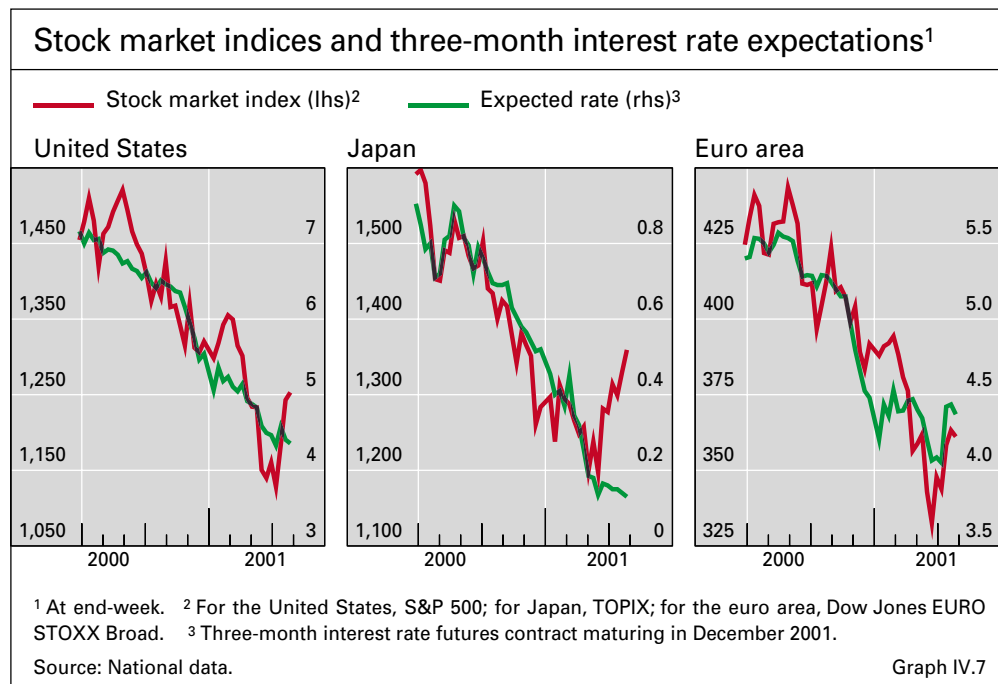
interest rates more effectively and hence strengthen the transmission of monetary policy impulses to the economy. However, several factors suggest that this may be both more difficult and less desirable than was perhaps previously thought.

... may yield little gain ...

First, having to decide on both current policy rates and the likeliest course of future interest rates greatly complicates the decision-making process and may prove unmanageable, especially if policymakers meet frequently. Second, policymakers may not have a single view of what their likely future decisions might be. Many central banks conduct monetary policy through a formal or informal committee that reviews the state and probable near-term evolution of the economy. They then reach agreement on the current level of interest rates, either by consensus or by voting. Under such an arrangement, it would be difficult to adopt a firm stance about future interest rate changes. Third, deviating from earlier announcements regarding likely future interest rate levels could damage a central bank's credibility. Even if deviations were warranted by new information, markets might simply take a different view about the significance of unfolding events. Hinting at future policy moves may thus unnecessarily constrain the central bank's options.

... except, perhaps, under extraordinary circumstances

These considerations suggest that little may be gained by seeking to provide precise indications about possible future policy changes except, perhaps, under extraordinary circumstances. For instance, this might be appropriate in situations in which interest rates are far from their normal levels, such as in the United States in the early 1990s, when the federal funds rate was kept low because of financial sector headwinds. In such situations, returning rates to more normal levels without intimating such changes to the markets would risk engendering greater market volatility. However, rather than announcing possible future policy changes, it might still be preferable to outline under what conditions interest rates would be adjusted and let



financial markets form expectations by judging for themselves whether those conditions are in place. The Bank of Japan effectively followed this strategy in indicating that the relaxation of monetary policy in March 2001 would be maintained until year-on-year changes in the price level became zero or positive.

Another important issue regarding communication strategies is how central banks can convey to the markets which factors have the strongest influence on policy decisions when many variables change at the same time. For instance, equity prices often fall when output growth is expected to decline, but central banks also typically reduce interest rates in response to the expected slowdown. Such measures may be misinterpreted as indicating that policy is geared to supporting asset prices. This danger increases if the wealth-to-income ratio is high, equities are a large share of wealth and real activity is a key factor in the inflation outlook. That this problem is of practical importance is evident from Graph IV.7, which shows that, as equity markets fell in the three major economies last year, market expectations of future short-term interest rates were also lowered.

#### *The tactics of monetary policy changes*

The growth of financial markets has also had implications for the tactics of monetary policy, in particular the timing of policy changes. As mentioned above, in many central banks a formal monetary policy committee makes interest rate decisions at preannounced points in time. As noted by the Bank of Canada last year, when it moved to a schedule of fixed announcement dates, this reduces uncertainty for market participants since they do not have to worry about policy moves on other dates except under extraordinary circumstances. However, if a fixed meeting schedule is indeed used, a question still arises concerning the pros and cons of policy changes between meetings, such as the interest rate cuts by the Federal Reserve in early January and mid-April 2001. Although the need for interim interest rate changes depends on the frequency of policy meetings – policy committees that meet twice a month, as at the Bank of Japan and the ECB, may have little need for interim policy changes – central banks will always wish to retain this option. They may particularly wish to do so in the case of disturbances to financial markets that arise quickly and can lead to dramatic changes in the economic outlook.

Fixed policy  
announcements

The desirability of changing policy in the inter-meeting period is related to the broader issue of whether central banks should try to avoid surprising financial markets. In general, central banks should act consistently over time and communicate their intentions clearly in order not to spring surprises. An unanticipated change in policy might end up unsettling markets if it is interpreted to mean that the central bank has negative private information or has lost control of developments. Nevertheless, occasions may still arise when policy intentions and market expectations diverge sharply. Obviously, a central bank should not refrain from pursuing policies it deems appropriate simply because they are not expected by financial markets. Nevertheless, this fact may be relevant to the choice of tactics. On the one hand, there

Concern over  
surprising markets

may sometimes be merit in central banks taking firm policy measures, even between policy meetings, in order to clarify their intentions and not to appear hostage to market views. On the other hand, the above-mentioned concerns about unsettling markets imply that it might be desirable for central banks to implement the desired but unexpected changes in interest rates only gradually.

A closely related issue is whether central banks should normally smooth interest rates. A central bank engages in smoothing if, in response to new information, it distributes changes in interest rates over time. Thus, in this case, one would expect a number of small interest rate changes in the same direction rather than a single large one. There is in fact circumstantial evidence that central banks do engage in this practice (Table IV.1). However, the observed pattern may be due to gradual shifts in the central bank's view of the state of the economy rather than a consciously gradual shift in the policy instrument itself.

One argument in favour of distributing interest rate changes over time is that policy changes may have stronger effects on financial variables and aggregate demand if they are expected to continue in the same direction. Smoothing may thus make monetary policy more potent, permitting the central bank to achieve the desired effect on demand while reducing interest rate volatility. A second argument in favour is that it makes it easier for market participants to ascertain how central banks respond to news. Sudden, large switches in the direction of interest rate changes could make it more difficult for observers to judge which information is most important in conditioning the overall stance of policy. A third, and related, argument in favour of smoothing is that it can also guard against losses to central bank credibility if frequent rate reversals are interpreted by markets as revealing a lack of

Evidence of  
interest rate  
smoothing

Arguments for ...

Meeting frequency and interest rate smoothing				
	Frequency of policy committee meetings <sup>1</sup>	Average absolute change in policy rate <sup>2</sup> between reversals	Average number of policy rate changes between reversals	Average number of weeks between reversals of policy rate
Australia	monthly	3.5	5.6	111
Canada	8 times a year	2.1	6.7	52
Euro area	bimonthly	1.5	3.0	39
<i>Germany</i>	<i>bimonthly</i>	<i>0.4</i>	<i>4.9</i>	<i>20</i>
Japan <sup>3</sup>	bimonthly	.	.	.
Sweden	monthly	1.6	8.5	60
United Kingdom	monthly	2.0	4.8	65
United States	8 times a year	2.0	6.0	84

Note: For Australia, cash rate (1990–2001); for Canada, ceiling of the operating band (1994–2001); for the euro area, rate for standing facility (1999–2001); for Germany, repo rate (1990–98); for Japan, overnight call money (uncollateralised, 1990–2001); for Sweden, repo rate (1994–2001); for the United Kingdom, repo rate (1990–2001); for the United States, target for federal funds rate (1990–2001).

<sup>1</sup> Current practice. <sup>2</sup> In percentage points. <sup>3</sup> During the period March 1991–August 2000, there were no policy reversals.

Table IV.1

confidence or inconsistency in policymaking. However, there is also an argument against smoothing interest rates. If central banks overestimate the need for gradualism in setting policy, warranted policy changes may be enacted with a delay, which in turn could accentuate swings in inflation and output.

... and against smoothing

The growth of financial markets also means that market conditions may exert a greater influence on the timing of monetary policy moves. One example is provided by situations in which market liquidity is limited (such as over the year-end or in special cases such as the Year 2000 changeover) and central banks might abstain from changing interest rates in order to avoid triggering sharp market reactions. A second example concerns episodes of market turbulence. In such instances, central banks must judge the significance of the disturbance, particularly with regard to potential ramifications for the real economy. If central banks do decide to take action, intervention can range from selectively providing liquidity to reducing interest rates, as the Federal Reserve did following the stock market decline in 1987 and during the episode of heightened market volatility following the Russian debt moratorium in 1998. Such actions, however welcome, still run the risk of being misinterpreted as indicating that policymakers are responding to the level of asset prices, which also tend to fall in periods of stress.

Market conditions and the timing of policy changes



## V. Foreign exchange markets

### Highlights

The continuing strength of the US dollar vis-à-vis most currencies, but particularly against the euro, was one of the salient features of foreign exchange markets in 2000. The relative stability of the yen, at the surprisingly high level against the dollar reached last year, and the general weakness of the euro were an extension of trends that had begun in 1999. The depreciation of the yen and some recovery of the euro in recent quarters marked a partial reversal of these earlier patterns.

The movements of the main currencies appeared to be driven mostly by prospective growth differentials and portfolio and foreign direct investment (FDI) flows. A series of official foreign exchange interventions in the autumn provided some support for the euro. The dollar's renewed strength vis-à-vis the euro in early 2001 was particularly puzzling in the light of the unexpectedly sharp slowdown in the United States and associated monetary easing. It seemed to indicate entrenched market expectations regarding the medium-term growth prospects in the two economic areas. In fact, in stark contrast to the pattern of the 1980s and most of the 1990s, interest rate differentials seemed to influence exchange rates primarily through their effect on growth expectations.

The magnitude of some other exchange rate movements was also somewhat unusual by historical standards. The Australian and New Zealand dollars fell to all-time lows, while the Canadian dollar depreciated substantially. The Swiss franc also broke with previous exchange rate patterns, strengthening against the euro when the euro fell against the US dollar.

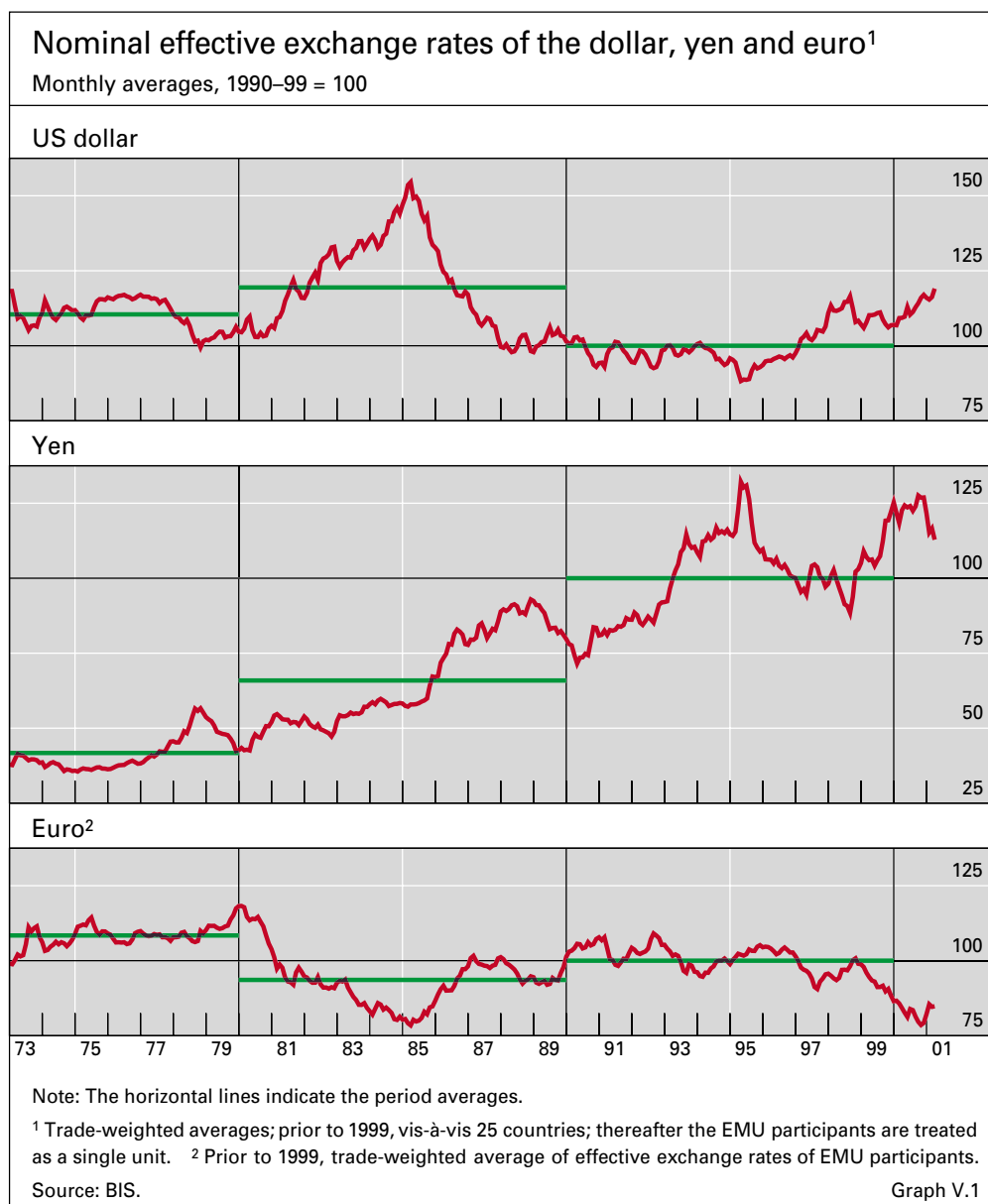
After a period of relative stability in 1999, a number of emerging market currencies began to weaken against the dollar during 2000 in a context of slowing global demand and falling US equity prices. Despite isolated episodes of tension, however, foreign exchange markets were broadly calm.

Global foreign exchange market activity remained well below levels reached in 1998. At the same time, bid-ask spreads for the main currency pairs stayed tight. While short-term volatility increased in some market segments, overall liquidity appeared not to have deteriorated.

### The dollar, yen and euro

#### *Key developments and long-term perspectives*

In 2000 and early 2001, the dollar appreciated in nominal effective terms by about 11% to a level last seen in 1986 (Graph V.1). In contrast, the nominal effective exchange rate of the euro fell by 4% to a historical low, 16% below the 1990s average for the "synthetic" euro. The yen remained stable in



effective terms between January and November 2000, but by early April 2001 it had depreciated by 13%.

The period under review was characterised by continued dollar strength against the euro and, to a lesser extent, the yen. Against the euro, the dollar’s appreciating trend persisted, notwithstanding brief episodes of euro recovery in May–June 2000 and November 2000–January 2001 (Graph V.2). The euro reached its lowest level vis-à-vis the dollar in October at \$0.82, a 19% fall since January 2000 and a 30% decline since its launch in January 1999. Taking a “synthetic” euro as a benchmark, this level was last seen in late 1985. The magnitude of the euro’s depreciation in 2000 was remarkable, exceeded only by that of the Deutsche mark in 1981 and 1985–86, two periods of extraordinary dollar strength. Against the yen, after strengthening somewhat in early 2000, the dollar remained stable over most of the year and fluctuated in an unusually narrow range of ¥105–110. In November, however, the yen started to weaken, and by April 2001 it had lost almost 15% against the dollar.

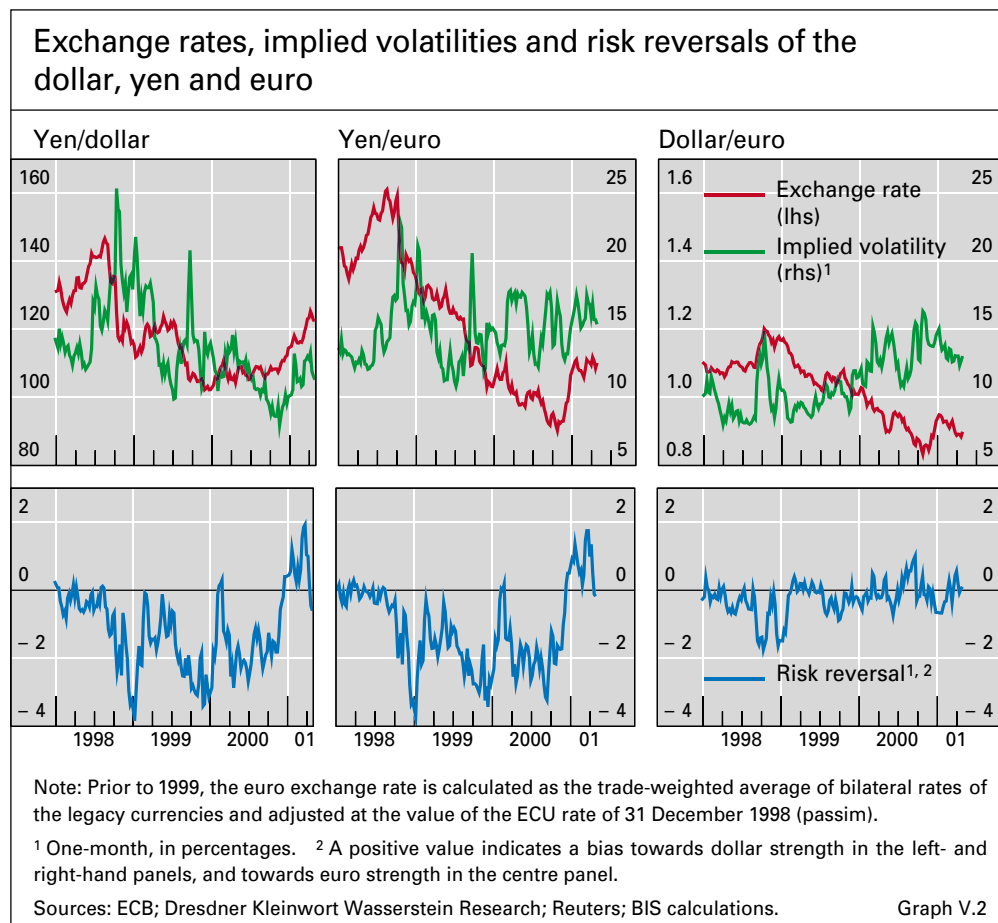
Persistent dollar strength

Short-term effects ...

In terms of its relationship with the yen, the euro reached an all-time low of ¥89 in late October, amounting to a 14% fall since January 2000 and a 33% drop since January 1999. Between November 2000 and early April 2001, however, the yen depreciated against the euro by 21%.

This configuration of exchange rate movements has had implications for growth outcomes and prospects across major regions in the world. The dollar's strength in effective terms helped redistribute world aggregate demand from the United States to economies with less buoyant demand, such as the euro area. At the same time, it placed a certain additional pressure on some countries with currencies firmly tied to the dollar, such as Argentina. The yen's decline in effective terms since November 2000 could prove beneficial for Japan's uncertain recovery, ending a long period in which the currency either failed to support or acted as a drag on the country's exports. Depending on its extent, however, further depreciation of the yen might create difficulties for exporters in the Asian region, already affected by weakening demand in the United States. Were the US slowdown to have an impact on the dollar, the main degree of freedom in the system would appear to be the euro exchange rate, an appreciation of which would be more easily absorbed given relatively more robust growth in Europe.

The prevailing pattern of exchange and interest rates among the main currency areas may also have implications for potential financial disturbances driven by certain trading strategies. In particular, if the view becomes entrenched

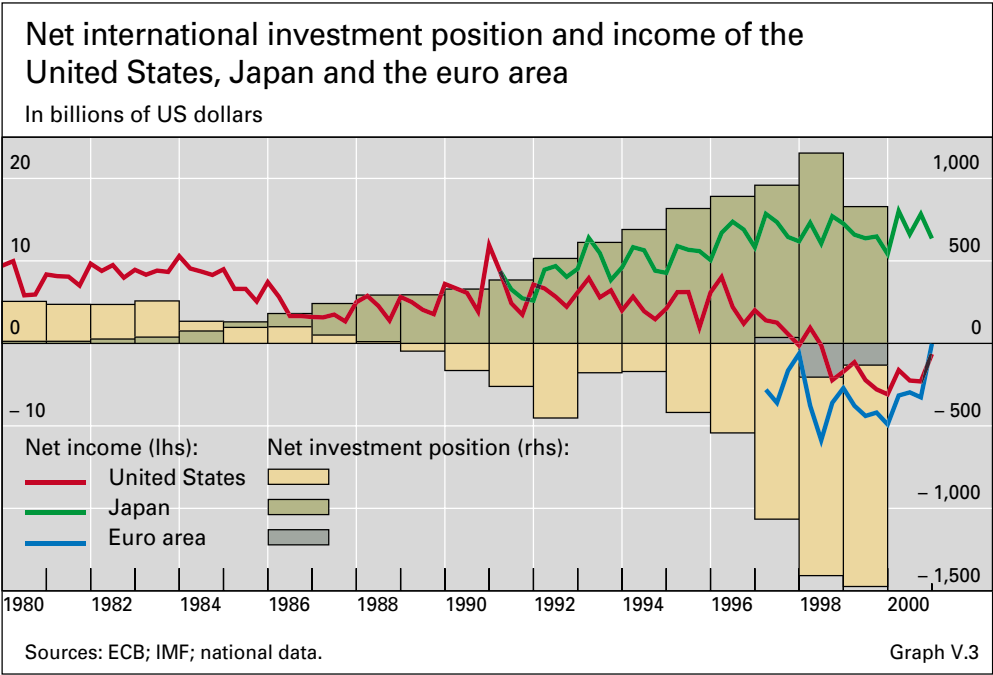


that there is a limited or no immediate prospect of a yen strengthening, it might seem profitable for investors to build up short yen positions through yen carry trades. Indeed there is anecdotal evidence that such trades have been increasing since autumn 2000. Not least, carry trades could contribute to the accumulation of pressure on currencies of emerging market countries with comparatively tight exchange rate commitments. The large dollar/yen movement in autumn 1998 highlighted the fact that in some cases they can even induce sharp spikes of short-term volatility in the major foreign exchange markets.

In a longer-term perspective, the issue of the sustainability of current exchange rate levels was raised again as the US current account deficit reached a record \$435.4 billion (or 4.4% of GDP) in 2000, increasing the external liabilities of the United States further (Graph V.3).

... and long-term perspectives

One approach to assessing the longer-term appropriateness of exchange rate levels consists in estimating models of fundamental equilibrium exchange rates (FEERs), which are based on real exchange rate levels that are compatible with a stable ratio of external debt to potential output in the long run. While estimates of FEERs vary substantially across empirical studies and are typically very uncertain from a statistical standpoint, they tend to support the view that the dollar at current levels is above its long-term equilibrium value vis-à-vis the euro and, to a lesser extent, the yen. However, it should also be borne in mind that net income on the US international investment position turned negative only as recently as 1998. Since then it has remained stable as a fraction of US exports and is extremely small compared to US output. Moreover, while official dollar reserves continued to rise in 2000 and early 2001, their increase financed a smaller portion of the US deficit in 2000 than in 1999, with the share falling from 42% to 30% (Table V.1). Portfolio and FDI flows remained strong and covered 78% (1999: 64%) and 36% (1999: 38%) of the US deficit, respectively.



Official foreign exchange reserves					
	1997	1998	1999	2000	Amounts outstanding at end-2000
in billions of US dollars					
	Changes, at current exchange rates				
Total	56.1	55.9	129.6	139.5	1,908.7
Industrial countries	-12.0	-11.3	40.7	54.5	774.8
Asia <sup>1</sup>	8.5	62.2	79.1	46.4	688.4
Latin America <sup>2</sup>	10.9	- 8.3	-8.0	2.4	127.6
Eastern Europe <sup>3</sup>	4.9	5.1	0.6	21.2	95.2
Other countries	43.8	8.2	17.2	15.0	222.7
	Changes, at constant exchange rates <sup>4</sup>				
Total	113.5	18.6	181.0	172.1	1,908.7
Dollar reserves	72.5	51.3	140.3	130.3	1,450.5
Non-dollar reserves	41.0	-32.7	40.7	41.8	458.2

<sup>1</sup> China, Hong Kong, India, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan and Thailand. <sup>2</sup> Argentina, Brazil, Chile, Colombia, Mexico and Venezuela. <sup>3</sup> Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Slovakia and Slovenia. <sup>4</sup> Partly estimated; valued at end-of-year exchange rates.

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

### *Factors driving exchange rate movements*

Exchange rate movements are notoriously difficult to explain. The three most actively traded currencies in the period under review were no exception. In particular, it is difficult to find explanations that could be valid for all currency pairs simultaneously.

Arguably, the persistent strength of the dollar against the euro and, to a lesser extent, the yen was rooted in the belief that the US economy, propelled by higher productivity growth, would in the medium term continue to expand at a considerably faster pace than the other main currency areas. Sustained capital inflows in the form of equity, particularly FDI, lend support to this argument. The decline in the US equity market throughout the year, echoed elsewhere, did not appear to shake this belief, except perhaps transitorily. Nor did signs of an abrupt slowdown in the United States, consistent with the view that it would either be short-lived or have a stronger impact outside the country than anticipated in most forecasts. The role of the dollar as a safe haven par excellence could underpin this second explanation.

Using the same logic, however, it is harder to account for the comparative strength of the yen vis-à-vis the euro, especially seen from a somewhat longer-term perspective. In this case, a greater weight would need to be attached to the fluctuations in the prospects for the recovery of the Japanese economy during the past year. Accordingly, the weakening of the yen against the other main currencies since November 2000 would signal a long-awaited correction in line with Japan's relatively poor economic performance. A more careful look at the available data on short-run growth forecasts, capital flows and the response of foreign exchange markets to news can cast further light on these interrelationships.

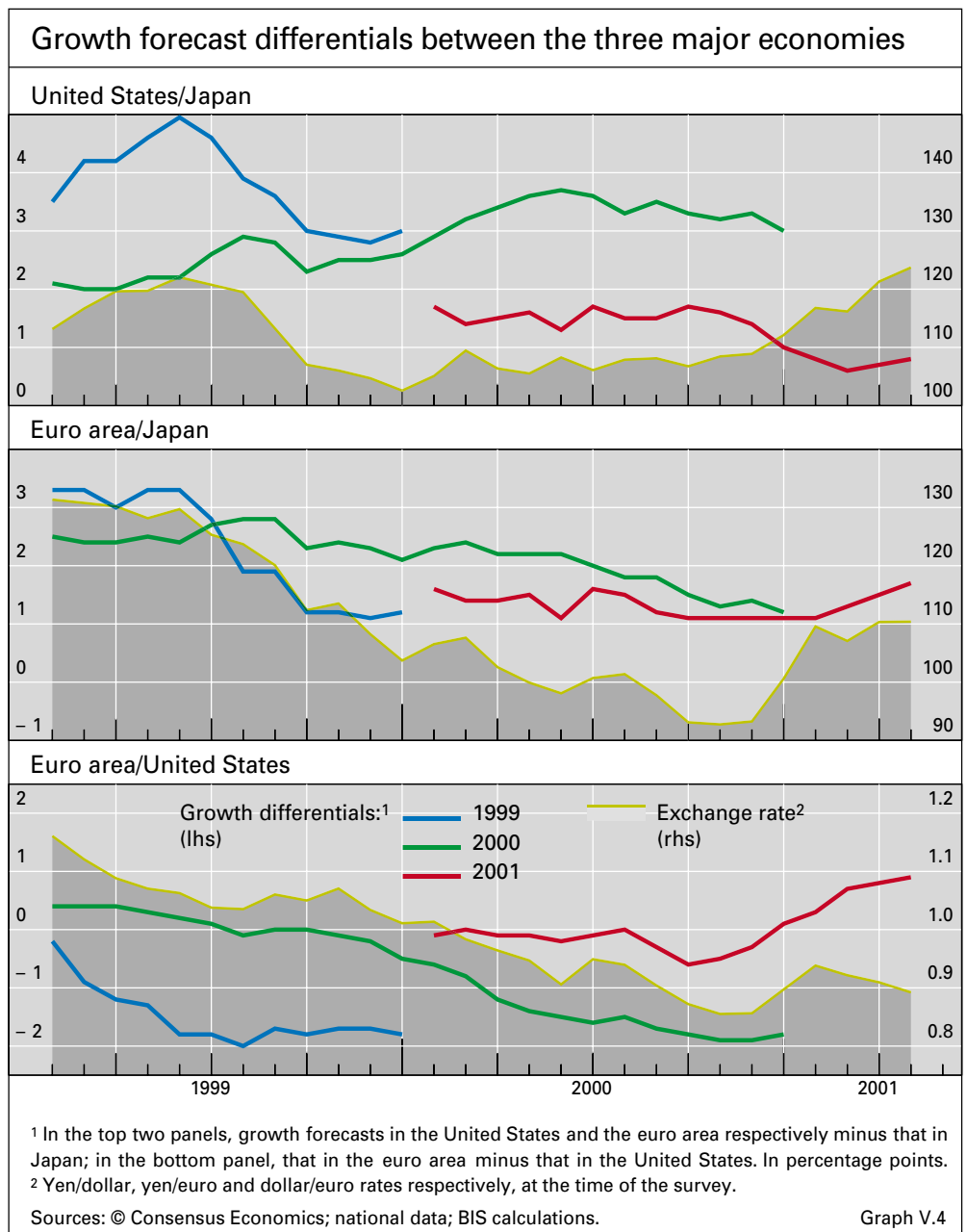
Medium-term growth prospects underpinned dollar strength ...

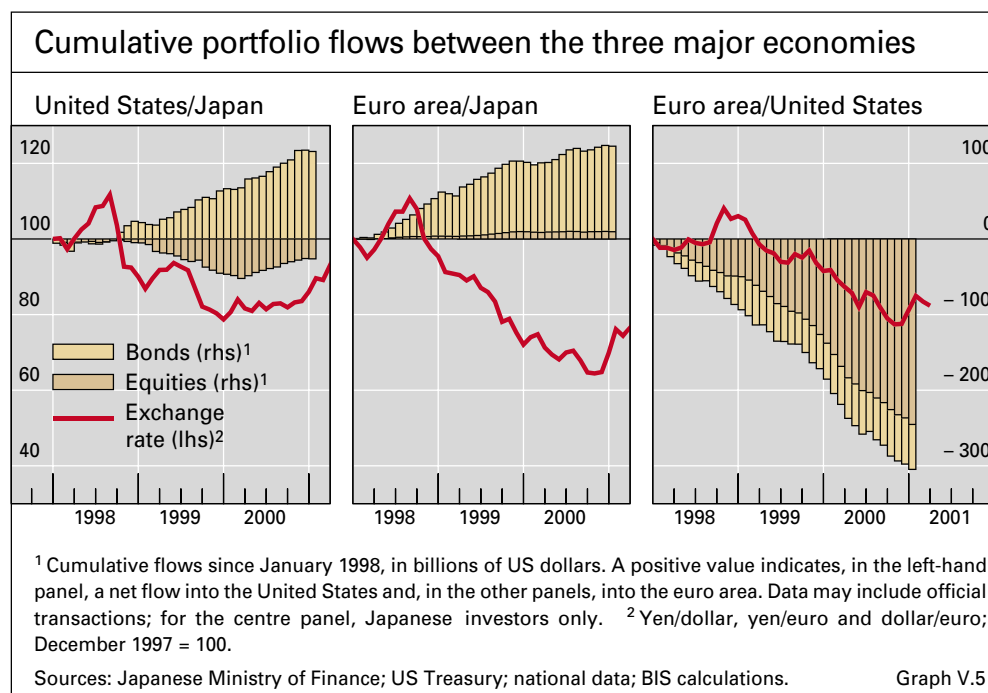
... but not the robustness of the yen

The evolution of revisions in expectations of growth differentials across the three main currency areas one to two years ahead is broadly consistent with movements in exchange rates, at least until late 2000 (Graph V.4). The dollar's appreciation against the euro during most of 2000 appears to have been underpinned by revisions in market participants' one- to two-year forecasts of growth differentials favouring the United States. Similarly, the yen's rise against the euro over most of last year coincided with a narrowing of expected growth differentials between the euro area and Japan, as prospects for the Japanese economy brightened temporarily. Moreover, the dollar's stability against the yen over the first three quarters of 2000 was in line with expectations of fairly constant growth differentials between Japan and the United States.

However, given this evidence, the subsequent strength of the dollar would appear to be something of a puzzle. Starting in November, the

Some puzzles





dollar appreciated against the yen in spite of expectations of converging growth paths in the US and Japanese economies. Furthermore, the dollar's appreciation against the euro in the first quarter of 2001 is inconsistent with indications that market participants anticipated faster growth in the euro area than in the United States in the course of the year.

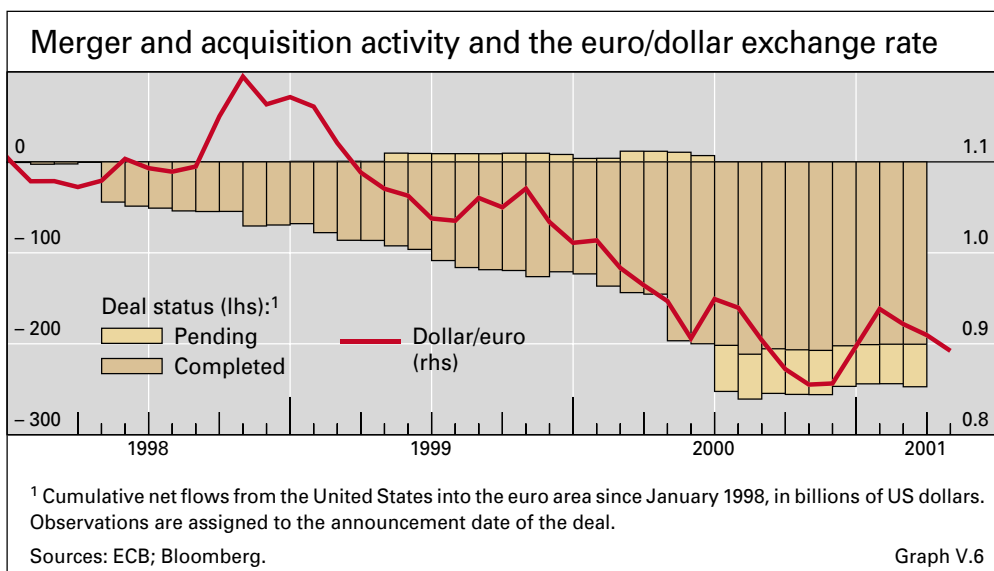
The persistent strength of the dollar could be rationalised if the comparative medium-term growth prospects for the United States remained resilient to the abrupt slowdown in the economy. In 2000, such views and expectations of "new era" rates of return on US assets arguably underpinned a sharp rise in net portfolio, largely equity, flows from the euro area (Graph V.5). Notably, net equity flows from the euro area to the United States reached \$110 billion in 2000, compared to only \$16 billion of bond flows. These flows did decline somewhat towards the year-end, but remained positive.

More tellingly perhaps, those same expectations seemingly continued to support large FDI flows, generated mostly by transatlantic mergers and acquisitions (M&As), throughout 2000 even though their pace did slow compared with 1999 (Graph V.6). Admittedly, it is difficult to draw conclusions about the causal relationship between M&As and exchange rate movements in the absence of detailed information on the financing of such deals and the timing of related cash flows. Even so, there is statistical evidence that on average the dollar did appreciate against the euro on days on which major acquisitions of US companies by euro area companies were announced. Moreover, the trend in M&As was clearly consistent with the behaviour of the exchange rate and could be seen as a sign of the medium-term attractiveness of dollar assets more generally. Against this background, however, the persistent portfolio and FDI outflows from Japan to the euro area underline the anomaly of the comparative strength of the yen for much of the period.

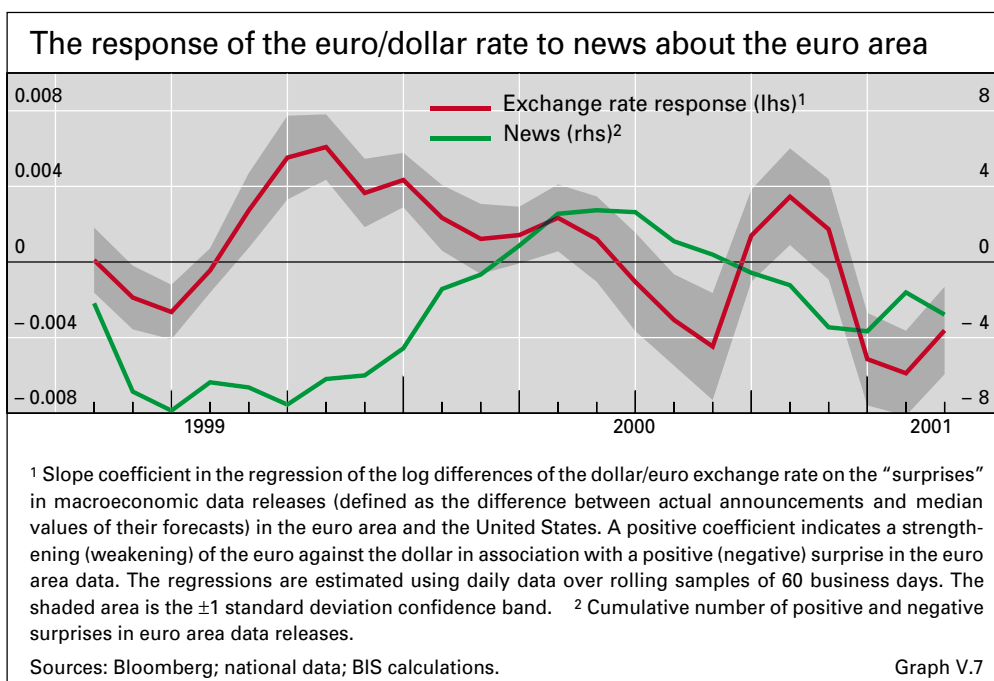
The relevance of medium-term growth prospects associated with entrenched perceptions of economic paradigms may also be inferred from the

Portfolio and FDI flows supported the dollar against the euro

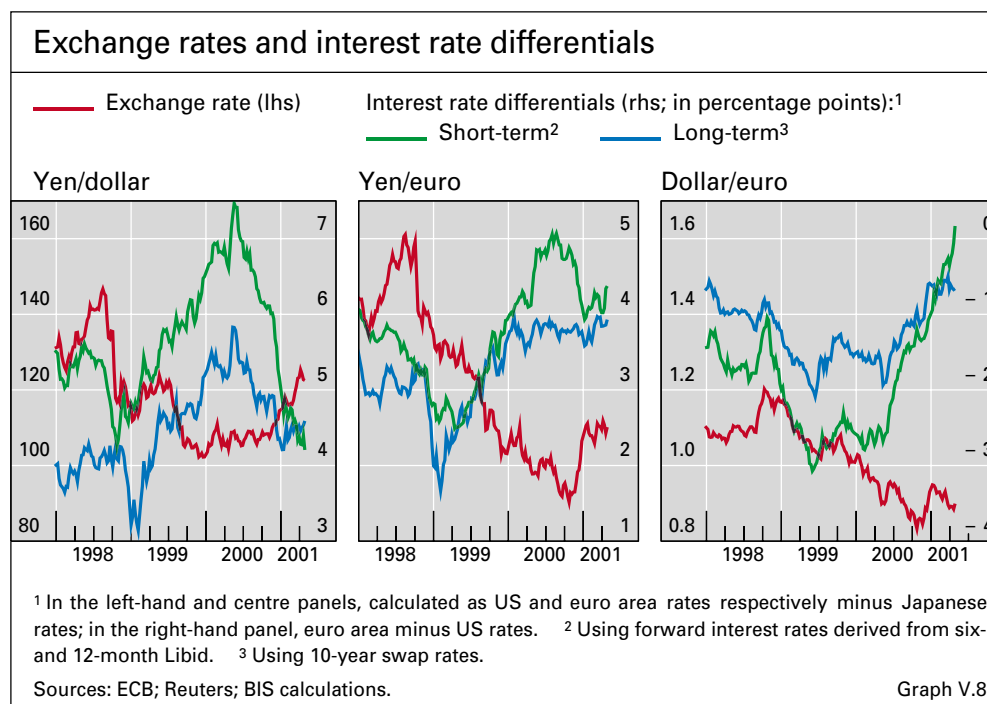
The euro's asymmetric reaction to news



asymmetric reaction of the euro to “news” about macroeconomic indicators in the euro area since the inception of the new currency. Evidence of this asymmetry is provided by rolling regressions of daily percentage changes in the euro/dollar exchange rate on “surprises” about key data released in the euro area, such as the Ifo index or industrial production in Germany. For most of 1999, the euro declined following largely disappointing data releases in the euro area (Graph V.7). In contrast, the currency failed to respond accordingly when news from the euro area became more favourable in late 1999 and early 2000. This asymmetry appears indicative of a persistent negative market sentiment towards the European currency. Market participants have tended to rationalise this on the basis of lagging structural adjustments in continental Europe in spite of the progress made in addressing this problem (see Chapter II).







Decoupling of interest rates and exchange rate changes

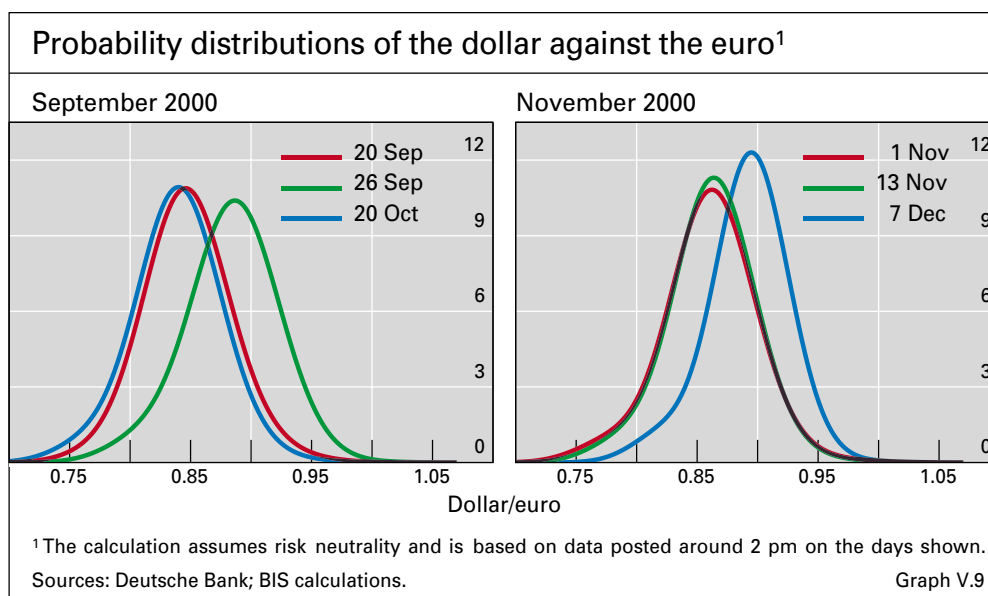
A corollary of the significance of growth prospects in driving exchange rates is what might otherwise appear to be a puzzling relationship between short-term interest rate differentials and exchange rates. In 2000 and early 2001, a substantial narrowing of short-term interest rate differentials favouring the United States, compared to the euro area, coincided with a depreciating trend of the euro (Graph V.8). To the extent that market participants consider inflation to be under control, such a narrowing would tend to be positively correlated with growth prospects and hence with returns on investments other than government bonds or money market paper. On balance, market participants may have considered the Eurosystem's monetary policy stance to be excessively tight inasmuch as it may have negatively influenced the outlook for euro area growth. The divergent behaviour of long-term interest rate differentials and exchange rate movements is consistent with the view that markets believed inflation to be under control (see Chapter IV). Likewise, the increasing importance of cross-border equity flows, in the form of portfolio or FDI flows, relative to bond investments lends further support to this broad explanation of events.

#### *Foreign exchange market intervention in the euro/dollar market*

In the second half of 2000, against the background of the protracted weakening of the euro against the dollar and its implications for medium-term inflation, the ECB and national central banks of the Eurosystem intervened several times in foreign exchange markets. On 22 September, they acted jointly with other G7 monetary authorities. On 3, 6 and 9 November, the ECB announced again that it had intervened in conjunction with the Eurosystem's national central banks to buy euros.

The September intervention had less impact ...

The first intervention episode highlights the difficulties that central banks may encounter when they try to influence the level of a sharply declining exchange rate when markets are assigning more weight to a much weaker



rather than a much stronger rate. Information extracted from option prices suggests that following the September intervention, traders changed their expectations of future exchange rate levels only temporarily, and did not alter their assessment of the balance of risks between a much stronger and a much weaker euro (Graph V.9). Consistent with this evidence, the euro resumed its downward trend vis-à-vis the dollar.

In contrast, the second round of intervention appears to have been, on balance, more successful. In the wake of the euro's recovery from its trough, after the three interventions in early November, traders seemed to become more concerned about the possibility of a much stronger rather than a much weaker euro. Although this change in market sentiment took several days to materialise, as evidenced by the cautious path of the euro following the interventions, it seemed to indicate that the Eurosystem's action provided some support for the euro.

... than those in November

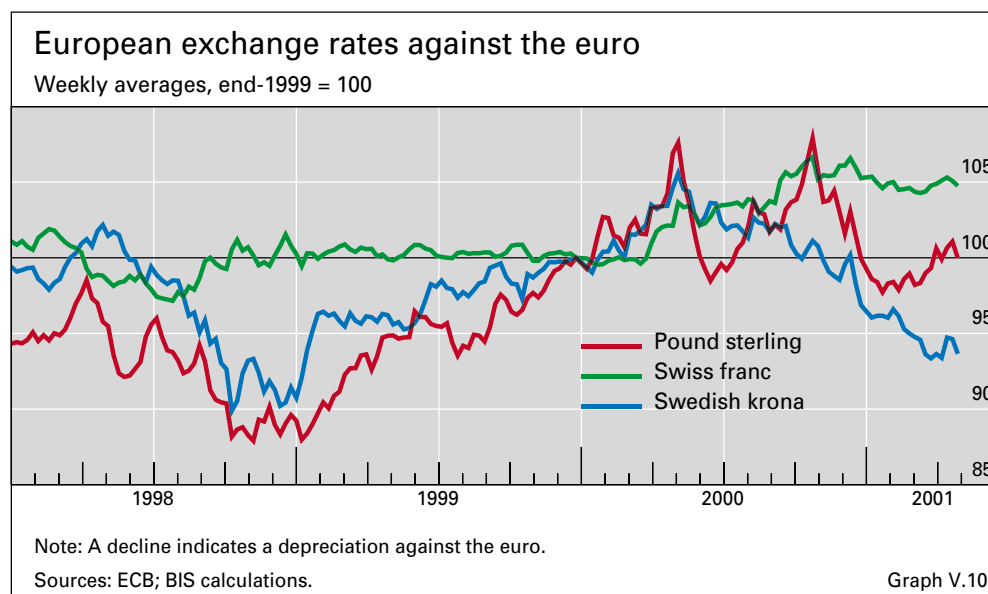
## Developments in other foreign exchange markets

### *European currencies*

The pound sterling continued to follow an intermediate path between the dollar and the euro. In contrast to its relative stability against the dollar in 1999, the pound depreciated by about 15% between January and mid-September 2000 but recovered somewhat thereafter. Against the euro, sterling's strengthening trend in 1999 ended in April 2000, giving way to wide swings (Graph V.10). The pound's movements against both the dollar and the euro were broadly consistent with revisions in market forecasts of growth differentials over most of 2000, but appeared less clearly so in early 2001. Like that of the three main currencies, the behaviour of sterling did not appear to be significantly influenced by changes in short- or long-term interest rate differentials.

Expected growth differentials influenced the pound

Up until May 2000, the Swedish krona followed the pound in its appreciating trend against the euro. However, from then to mid-April 2001, the krona declined steadily, losing about 12% against the euro, despite the fact



The performance of the high-tech sector weighed on the krona

that Sweden's economy was outperforming that of the euro area. The krona's weakness has been attributed mainly to the concurrent downturn in the Nasdaq. In particular, traders focused on the dominance of the high-tech sector in Sweden, where the leading electronics firm accounts for 15% of total exports and ½ percentage point of the country's current growth rate. Since 1999, daily percentage movements in the krona's nominal effective exchange rate have on average amounted to almost half the daily percentage changes in the Nasdaq.

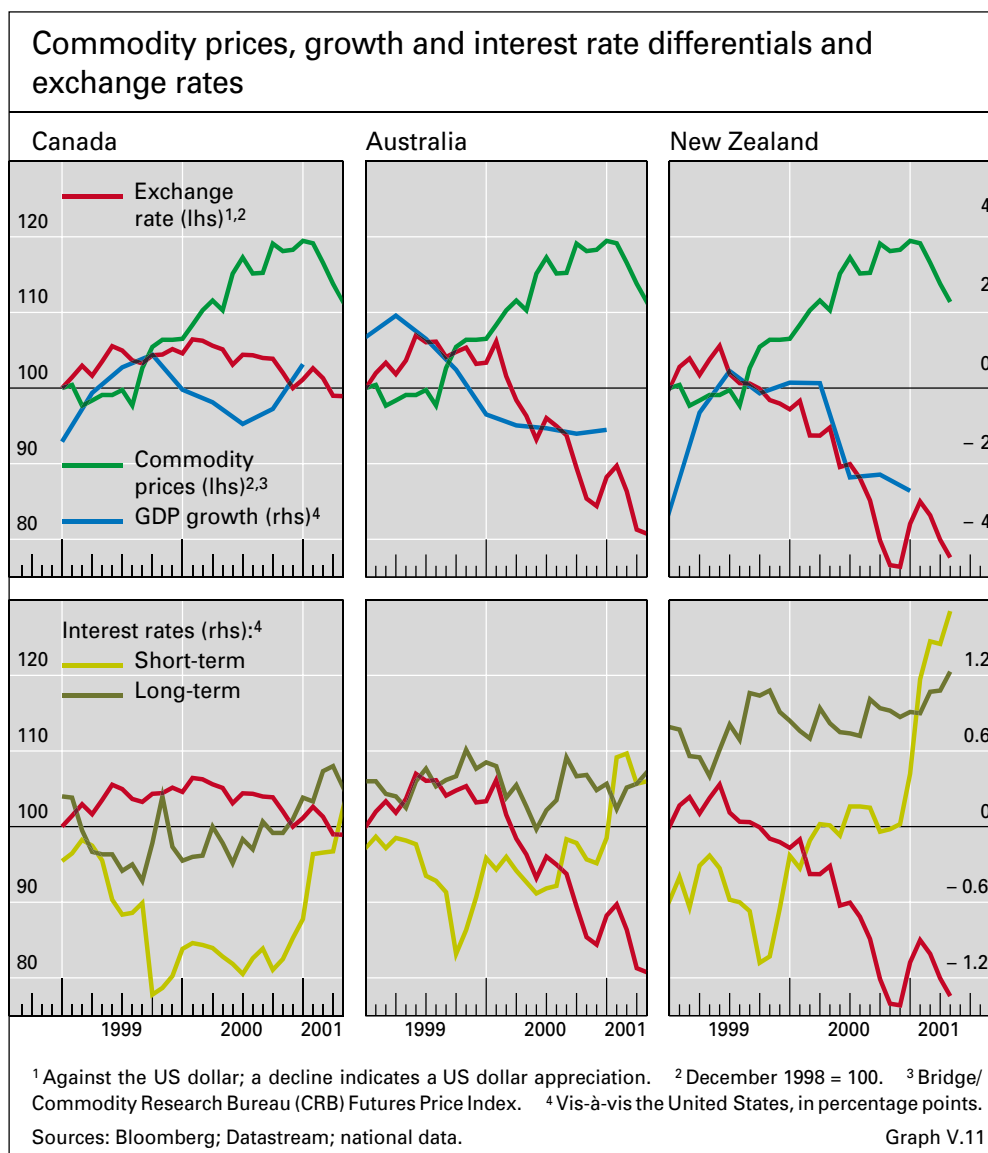
The changing link between the Swiss franc and the euro

In late March 2000, the Swiss franc began to appreciate against the euro, breaking away from the tight trading range that had prevailed from the beginning of 1999. Furthermore, the franc has since appeared at times to follow a new pattern: strengthening (weakening) against the euro when the euro falls (rises) against the dollar, in clear contrast to its earlier behaviour vis-à-vis the Deutsche mark, against which it tended to weaken (strengthen) when the mark depreciated (appreciated) against the dollar. This change in pattern was not associated with less synchronous cyclical developments in the euro area and Switzerland. Rather, it appeared to be rooted in market participants' perception that the Swiss authorities favoured the disinflationary effects of a stronger franc in the light of the tightening by the Swiss National Bank on 23 March 2000, which reflected its concern about the franc's weakness against the dollar at the time.

#### *Currencies of other industrial countries*

Marked depreciation of dollar bloc currencies

In certain other industrial countries during the period under review, the size of exchange rate movements was exceptional and again not obviously explainable in terms of underlying fundamentals. The depreciation to historical (or close to historical) lows of the currencies that have traditionally belonged to the dollar bloc was noteworthy. Between January 2000 and the end of March 2001, the Canadian dollar weakened by an overall 8% against the US dollar to \$0.64, close to its all-time low in 1998. The Australian dollar depreciated by about 23% to a record low of close to \$0.48 at the end of



March this year, while the New Zealand dollar fell by almost 25% and hit a low of \$0.39 in mid-October 2000. The speed with which the Australian and New Zealand currencies declined was almost without precedent. The Canadian dollar's fall was also steeper than average, though not so extreme.

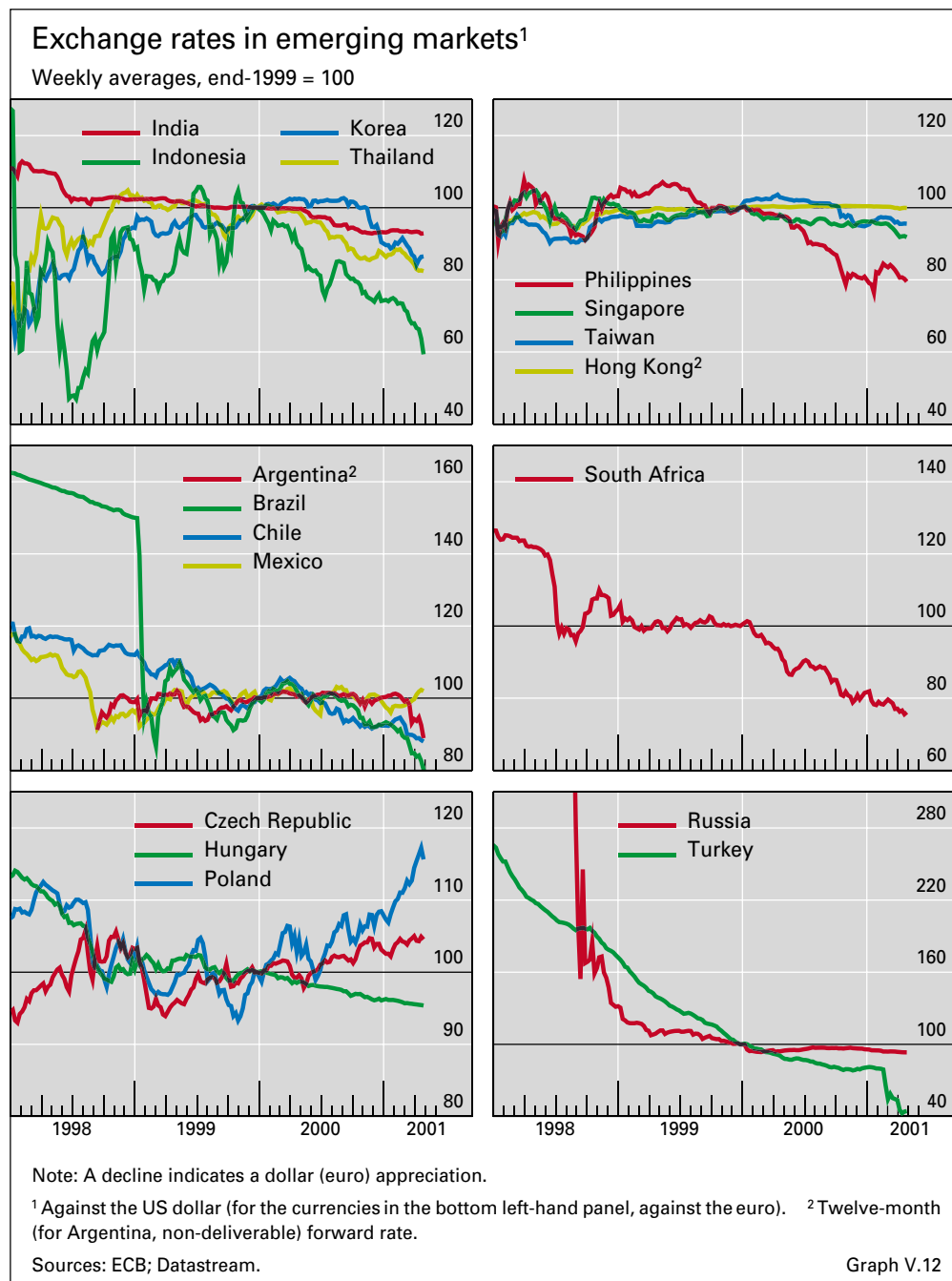
Admittedly, larger growth gaps vis-à-vis the United States and sizeable current account deficits weighed on the currencies of the smaller and more open economies of Australia and New Zealand (Graph V.11). Moreover, although Australia's productivity growth exceeded that of the United States in 2000 (see Chapter II), market commentary suggested a perception of Australia as an "old economy", with a relatively small share of the information technology sector. This might help account for the weakness of its currency and stock market. The weakness of the Canadian dollar, however, is harder to explain in the light of Canada's current account surplus and the narrowing of growth differentials with the United States. Commodity prices, which have long been viewed as an important factor driving the Canadian dollar and, even more so, the Australian and New Zealand dollars, rose over most of 1999 and 2000, but failed to support these currencies.

### Emerging market currencies

There were two main aspects to foreign exchange market developments in emerging market countries during the period under review. First, after a spell of relative stability in 1999, several emerging market currencies began to weaken in the course of 2000. Second, despite these instances of weakness and isolated episodes of tension, foreign exchange markets in emerging market countries remained broadly calm.

During 2000, a number of Asian currencies depreciated against the US dollar (Graph V.12) and, to a lesser extent, in real effective terms. The rupiah, the baht and the Philippine peso declined significantly against the dollar throughout the year, while the won and the New Taiwan dollar remained on the strong side for most of the year before weakening to different degrees

Weakening of emerging market currencies against the US dollar



towards the year-end. In Latin America, the real and the Chilean peso drifted down against the US dollar at a similar pace during 2000, but the real began to decline more rapidly in early 2001. In Africa, the rand's relative stability against the dollar in 1999 gave way to a downward trend against both the dollar and the euro in 2000 and early 2001.

Most central and eastern European currencies remained fairly robust against the euro. The Czech koruna appreciated, while the forint depreciated modestly in accordance with its crawling band regime. Despite a considerable depreciation after being floated in April 2000, the zloty posted an overall appreciation against both the euro and the dollar from January 2000 to April 2001. In contrast to 1999, when it had weakened against the dollar and the euro, the Russian rouble was remarkably stable against the dollar in 2000 and strengthened against the euro.

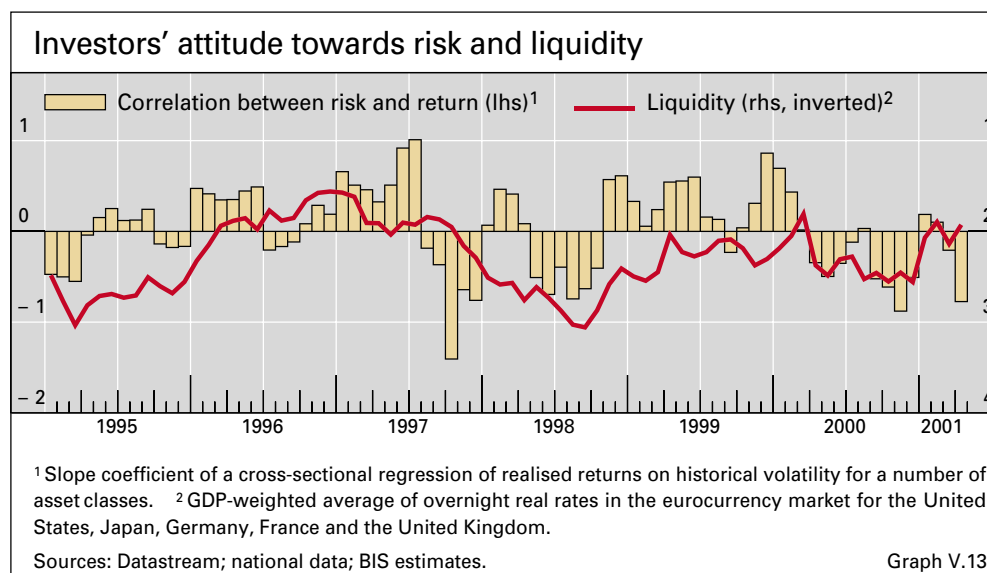
In addition to domestic factors, which are discussed in detail in Chapter III, a number of broad external forces also exerted an influence on emerging market currencies. While these forces had supported the currencies in 1999, they were less favourable during the period under review. The slowdown in world demand in 2000, compounded in many countries by inflationary pressures stemming from rising oil prices, had an overall negative impact on domestic growth rates and current accounts, and hence on local currencies. Exchange rates were also affected to different degrees by the association of domestic currencies and stock markets with US equity markets (Table V.2). The decline of US equity prices over the course of 2000, and specifically the rapid fall of the Nasdaq, appeared to weigh on some

The role of  
external factors

Stock markets, exchange rates and high-tech exports in emerging market economies			
	Stock market indices <sup>1,2</sup>	US dollar exchange rates <sup>1</sup>	High-tech exports <sup>3</sup>
	weekly percentage changes		in percentages
Asia <sup>4</sup>	0.38	0.10	41
Hong Kong	0.54	0.03	30
India	0.37	-0.02	3
Indonesia	0.32	0.11	9
Korea	0.51	0.37	41
Philippines	0.18	0.04	60
Singapore	0.34	0.08	77
Taiwan	0.39	0.08	50
Thailand	0.39	0.07	34
Latin America <sup>4</sup>	0.42	0.15	19
Argentina	0.34	-0.10	0.4
Brazil	0.52	0.38	3
Chile	0.34	0.21	0.1
Mexico	0.47	0.11	29

<sup>1</sup> Correlations with the Nasdaq over the period January 2000 to mid-April 2001. <sup>2</sup> In US dollar terms.  
<sup>3</sup> Share of economy's total exports to OECD countries. <sup>4</sup> Average correlation and sum of exports of the economies shown.

Sources: Datastream; International Finance Corporation; OECD; national data. Table V.2



currencies, such as the won, the Chilean peso and the real. However, there is no evidence that the correlation between changes in dollar exchange rates and returns on the Nasdaq depended on the share of the high-tech sector in domestic output. Changes in investors' attitude towards risk and in leverage opportunities in the course of 2000 may also have been unfavourable to emerging market currencies (Graph V.13). Net portfolio outflows appear to have hurt some Asian currencies, particularly the won, towards the end of 2000 (see Chapter III).

Markets remained broadly calm

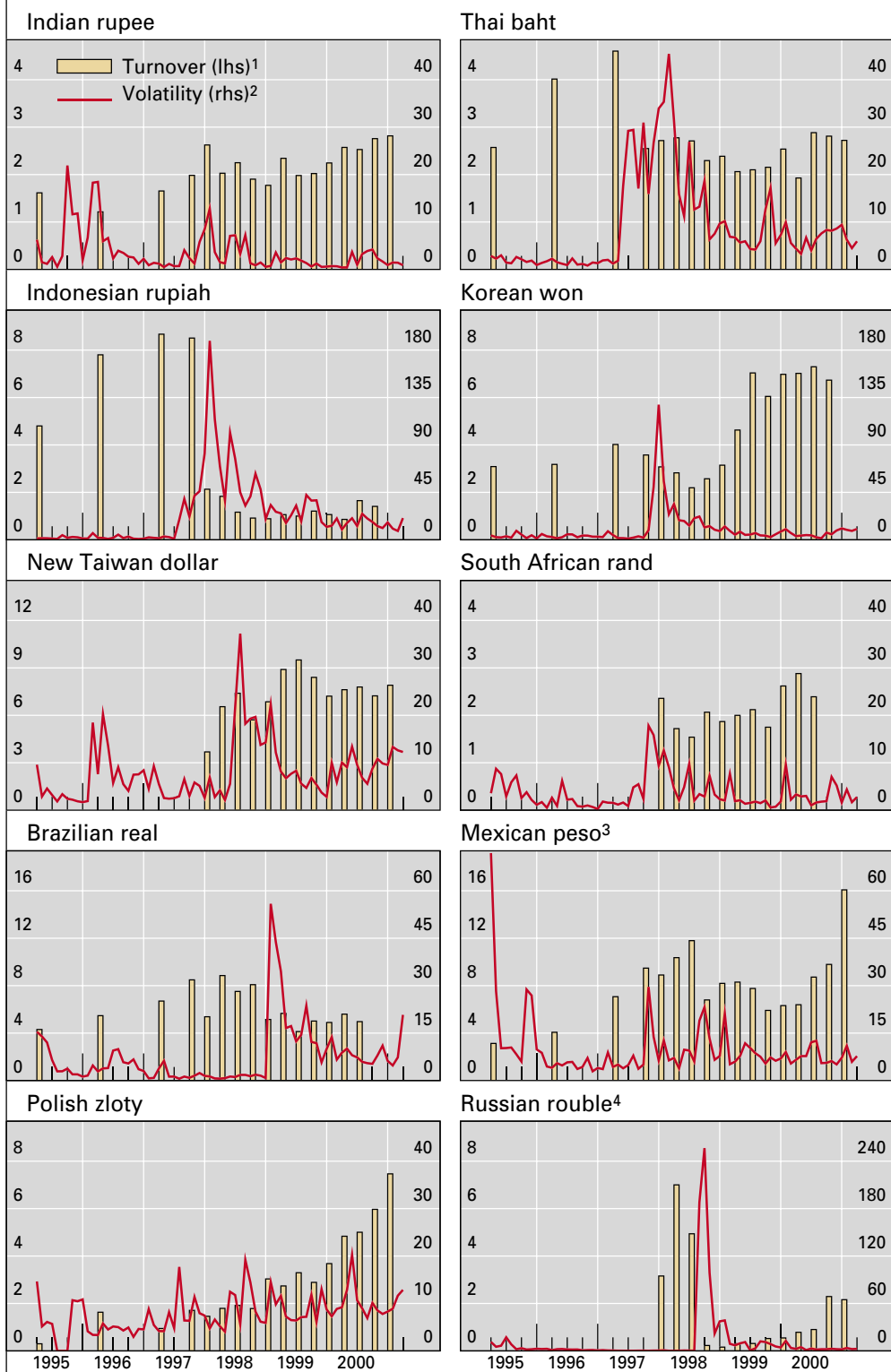
Notwithstanding the depreciation of a number of currencies, foreign exchange markets remained broadly calm during the period under review, as in most of 1999. Short-term volatility continued to be generally low and trading activity increased somewhat (Graph V.14). Trading in markets that had dried up following the crisis in 1998, such as Russia, revived. However, a sudden and sharp crisis hit Turkey in February 2001. When the Turkish lira's crawling peg proved unsustainable, the currency fell by more than 40% against the dollar and the euro (see Chapter III). Even so, this episode had remained localised at the time this chapter went to press.

The role of the exchange rate as an anchor

That the Turkish crisis did not spill over to other markets arguably reflected two factors. First, the reduction in position-taking in foreign exchange markets during the period under review, and the seemingly greater capacity of international financial markets to distinguish between different qualities of credit, may have attenuated the spread of the turbulence (see Chapter VI). Second, the resilience of foreign exchange markets may have been enhanced in recent years as exchange rate policies have become more flexible, consistent with the trend in emerging market countries towards floating more freely and relying more on new monetary policy frameworks to anchor inflation (see Chapter III).

There are two pieces of statistical evidence that exchange rates have become more flexible than before the Asian crisis. First, the volatility of exchange rates vis-à-vis their main reference currency has tended to be somewhat higher in absolute terms, as well as compared to the volatility of

## Turnover and volatility in emerging markets



<sup>1</sup> Estimates of local turnover in the domestic currency as reported by the respective central banks, net of double-counting, per trading day in the month shown (in billions of US dollars) except: for South Africa, Brazil and Mexico, including other currencies; for Indonesia and Poland, on a gross basis and, for 1995 and 1996, annual averages; for Thailand, 1995 second half and 1996 annual averages; for Russia, since 1999, interbank trading volumes only. <sup>2</sup> One-month standard deviation of annualised daily percentage changes in the exchange rate against the US dollar. <sup>3</sup> Since October 2000, turnover includes small swaps. <sup>4</sup> Break in series due to an increase in the number of reporting dealers since October 2000.

Sources: Central banks; Datastream; BIS calculations.

Graph V.14



Exchange rate and interest rate volatility in emerging markets <sup>1</sup>								
	Exchange rate volatility				Interest rate volatility <sup>2</sup>		Ratio <sup>3</sup>	
	Jan 1995–Dec 1996		Jul 1999–Mar 2001		Jan 1995– Dec 1996	Jul 1999– Mar 2001	Jan 1995– Dec 1996	Jul 1999– Mar 2001
	bilateral <sup>4</sup>	effective <sup>5</sup>	bilateral <sup>4</sup>	effective <sup>5</sup>				
Hong Kong	0.2	3.0	0.1	3.6	10.9	15.8	0.02	0.01
Indonesia	1.4	4.0	13.9	14.4	0.9	3.3	1.55	4.26
Korea	2.4	3.9	4.7	5.4	14.2	5.6	0.17	0.83
Philippines	1.3	3.1	5.9	6.7	42.8	15.4	0.03	0.38
Singapore	1.9	2.5	2.7	3.3	46.1	35.7	0.04	0.08
Taiwan	2.0	3.2	2.1	3.4	24.2	6.6	0.08	0.32
Thailand	1.0	...	4.1	...	27.7	32.3	0.04	0.13
Argentina	0.1	2.1	0.1	3.5	29.9	58.8	0.00	0.00
Brazil	3.0	4.6	6.2	6.6	42.0	4.3	0.07	1.45
Chile	3.4	...	4.7	...	8.6	14.1	0.40	0.33
Mexico	9.2	10.3	4.9	5.4	38.9	18.9	0.24	0.26
Czech Republic	3.0	3.0	4.1	3.9	7.9	3.6	0.38	1.12
Hungary	4.1	4.0	2.2	2.2	4.8	6.9	0.85	0.32
Poland	5.1	4.9	7.3	6.8	10.2	9.3	0.50	0.78
South Africa	4.3	...	5.9	...	5.7	3.4	0.77	1.77

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

Sources: National data; BIS calculations. Table V.3

domestic short-term interest rates (Table V.3). Second, although emerging market currencies have continued to be less variable in dollar terms than in nominal effective terms, the volatility of bilateral dollar exchange rates has risen faster than that of nominal effective exchange rates. Hence, while the dollar has continued to play an important role for emerging market currencies in Asia and Latin America, its influence appears to be somewhat smaller now, and that of effective exchange rates greater, than before the Asian crisis.

Nevertheless, while freer than in the past, exchange rate management appears not to have been entirely forsworn. In 2000 and early 2001, exchange rate volatility continued to be low in absolute terms, as well as relative to dollar/yen or euro/dollar volatility.

### Liquidity in foreign exchange markets

The issue of whether liquidity in foreign exchange markets had declined, and if so what the implications might be, remained prominent during the period under review. Broadly speaking, a market can be considered liquid when large transactions can be executed with little impact on prices. However, no data are available that would allow liquidity in this definition to be measured directly for foreign exchange markets. Instead, attention has traditionally focused on other measures which indicate only indirectly whether a market is liquid or not: trading volumes, which are related to depth; bid-ask spreads, which measure tightness; and volatility, which is generally considered to be a measure of risk.

Foreign exchange market turnover							
	Daily turnover, in billions of US dollars					Annual average changes, in percentages	
	1989	1992	1995	1998	2000 e	1989–98	1998–2000
Total outright	590	820	1,190	1,500	1,100	11	–14
Spot	350	400	520	600	450	6	–13
Forwards/swaps	240	420	670	900	650	16	–15

Sources: Lehman Brothers Foreign Exchange Research (for 2000); BIS. Table V.4

A preliminary look at these indirect measures of liquidity provides a mixed picture. In 2000 and early 2001, turnover in global foreign exchange markets continued to be well below the levels reached before the financial turbulence in autumn 1998 (Table V.4). This would be the first reversal of this sort since the first comprehensive survey of foreign exchange market activity was conducted in 1989. In addition, volatility increased in some market segments. Both of these developments might imply that markets had become less liquid. However, spreads in foreign exchange markets remained tight, suggesting no change.

In order to form a more accurate view on market liquidity, this evidence should be examined against the background of three major structural changes in foreign exchange markets over the last few years: the launching of EMU, the rapid growth of electronic broking in the interbank markets, and the trend towards concentration in the banking sector.

#### *The changing structure of foreign exchange markets*

The main impact of the establishment of EMU appears to have been on trading volumes. On 1 January 1999, the consolidation of the 11 legacy currencies eliminated at a stroke about 8% of global turnover, and this decline was not subsequently reversed by any increase in trading in the euro compared to that in its predecessor currencies. The share of trading in the euro against the dollar in 2000 appeared to be lower than that of its predecessors in London and Zurich but higher in Frankfurt and Tokyo (Table V.5). The euro/yen market remained very small, like the mark/yen market in 1998. Trading in dollar/sterling seems to have grown at the expense of euro/sterling in recent years.

The impact of EMU

In terms of the tightness of market spreads, there is no evidence that the introduction of the euro has changed market conditions in any significant way. Bid-ask spreads in the euro/dollar market in 2000 generally matched those on dollar/mark trading in 1998. This also appeared to be the case for transactions involving the yen or the Swiss franc. Trading in sterling was an exception, as spreads on euro/sterling during the period under review were appreciably wider than those on sterling/mark in 1998. There are also no indications that short-term volatility patterns of the euro's exchange rates were significantly different from those of the mark before 1999 (Table V.6).

Currency composition of foreign exchange turnover <sup>1</sup>								
	United Kingdom		Japan		Germany		Switzerland	
	April 1998	April 2000	April 1998	2000 Q2	April 1998	April 2000	April 1998	July 2000
	Percentage share in the total local trading volume							
Euro <sup>2</sup> /dollar	22	28	7	13	52	65	21	15
Dollar/yen	13	15	76	67	6	7	11	6
Dollar/sterling	14	33	3	...	4	2	5	11
Euro <sup>2</sup> /sterling	3	2	0	...	3	3	2	0
Euro <sup>2</sup> /yen	2	1	4	3	2	4	2	1

Note: For 2000, informal estimates.  
<sup>1</sup> Spot, forward and swap transactions. <sup>2</sup> For April 1998, Deutsche mark.  
Source: BIS. Table V.5

The growing role of electronic broking

The second major structural change has been the growing share of electronic broking in the interbank market at the expense of direct dealing and voice broking. In 2000, 85–95% of interbank trading in the major currencies was conducted using electronic brokers, compared to about 50% in 1998 and 20–30% in 1995. Two brokers, EBS and Reuters, currently dominate this market segment, with EBS mostly covering trading in the dollar, euro, yen and Swiss franc, and Reuters being used predominantly for transactions involving the pound. While market participants using traditional means of trading typically needed several transactions to obtain information on market prices, electronic brokers automatically provide traders with the best price available to them, depending on their and their counterparties' credit limits. As a result, foreign exchange dealers have tended to enter fewer transactions and turnover has declined. At the same time, the expansion of electronic broking, which is more cost-effective than traditional means of broking, has led to a substantial reduction in bid-ask spreads in the interbank market.

Concentration in the banking sector

The third structural development is the continuing trend towards concentration in the banking sector. This has had a direct impact on turnover, in that the number of foreign exchange traders has declined significantly in recent years. Moreover, together with the expansion of electronic broking, consolidation has led to a marked shrinkage in the number of banks that

Volatility in the major foreign exchange markets <sup>1</sup>			
	Dollar/yen	Euro <sup>2</sup> /yen	Euro <sup>2</sup> /dollar
1980–89	10.2	7.3	10.9
1990–99	11.2	10.7	9.5
1997	11.5	11.4	8.6
1998	17.5	15.4	8.2
1999	12.6	14.2	9.3
2000–2001 Q1	9.6	16.7	13.4

<sup>1</sup> Standard deviations of annualised daily returns computed over calendar months. <sup>2</sup> Prior to 1999, Deutsche mark.  
Sources: ECB; BIS calculations. Table V.6

quote two-way prices on a wide range of currency pairs. There are currently not more than 20 global players in foreign exchange markets that can provide such services, a noticeable decrease compared to the mid-1990s. The impact of consolidation on trading volumes has been compounded over the last few years by the reported withdrawal of capital from market-making and position-taking and by the reduction in the number and activity of market participants, in particular macro hedge funds. However, it is difficult to discern any impact of these changes on bid-ask spreads or exchange rate volatility.

Assessing the overall impact of these structural changes on market liquidity so far is not straightforward. The evidence on turnover, bid-ask spreads and volatility, as well as market commentary, suggests that the euro's arrival did not bring about any significant change in market liquidity. The growing market share of electronic broking has certainly lowered trading volumes and narrowed spreads but its influence on liquidity appears less clear-cut. It is also difficult to see any noticeable effect of consolidation on liquidity. However, the last two trends do seem to have had two implications. On the one hand, the interbank market seems to function more efficiently now than in the mid-1990s. On the other hand, narrower spreads and hence lower profit opportunities have led to a reduction in resources devoted to market-making. These developments suggest that structural changes may actually have improved liquidity under normal conditions, like those during the period under review. Nevertheless, whether they have also exacerbated market participants' inability or unwillingness to provide liquidity under circumstances of stress remains an open question.

No noticeable change in market liquidity to date

Looking ahead, the spread of electronic broking and the concentration of banks in the interbank market are leading to a reorientation of business towards customer transactions. One manifestation of this development is the increasing use of platforms for automated trading between banks and customers, which can be seen as a way of extending the advantages of electronic trading to this type of business. Two firms, Cognotec and Currenex, are currently active in this market, while two new competitors are about to enter: Atrix, which is backed by Reuters and three of the largest commercial banks, and FXall, which is supported by another group of major banks. How these developments may influence market liquidity in the future is yet another open question.

Looking forward

## VI. Financial markets

### Highlights

Financial markets reversed course last year. In the world's major equity markets, an extraordinary five-year run of price increases ended with the deflation of what was in retrospect a global asset price bubble. The markets that had risen the most tended to fall the farthest, with those for technology stocks showing the most pronounced boom-and-bust pattern. In bond markets, the narrowing of credit spreads in 1999 gave way to a widening of spreads last year. These price reversals affected emerging markets, with wider sovereign spreads and weaker equity markets in Asia and Latin America in particular. The easing of US monetary policy in the early months of 2001 sparked a narrowing of credit spreads but only a tentative recovery in equity markets. The uncertain outlook for earnings left it unclear whether the stock price correction had run its course.

To a large extent, the price reversals in 2000 were an adjustment of excesses engendered by previous optimism about corporate earnings. In the technology sector, the gap between share price increases and earnings growth had widened over time. When investor sentiment shifted, the various national technology stock indices fell together, regardless of differences in underlying earnings performance. In the credit markets, telecommunications firms had borrowed heavily when their prospects were seen to be good, but the accommodation by investors soon gave way to concerns about high leverage. While the slowing of the global economy and diminishing prospects for corporate earnings clearly played a role in the market declines, there was nonetheless a notable lack of readily identifiable news about fundamentals to explain many of the sharp price movements.

Equity offerings and bond issuance by higher-risk borrowers, especially technology companies, slowed from a very rapid pace in the first half of 2000 to subdued levels in the second. Lower-rated borrowers turned increasingly to the money market, where credit spreads did not widen as much. Still, highly rated companies remained active in primary markets. Facing a declining supply of government securities, investors looking for safety during periods of deteriorating credit conditions turned to highly rated securities, such as those of Fannie Mae and Freddie Mac.

Notwithstanding the general worsening in financing conditions, investors in emerging markets tried to distinguish between potential borrowers according to credit risk but seemed to find few willing borrowers among the creditworthy. Continued current account surpluses limited the demand for external financing. In fact, owing to record deposits by Asian and oil-exporting countries, net flows to BIS reporting banks in 2000 from developing

countries as a group exceeded the net outflows driven by repayments during the financial crises of 1997–99.

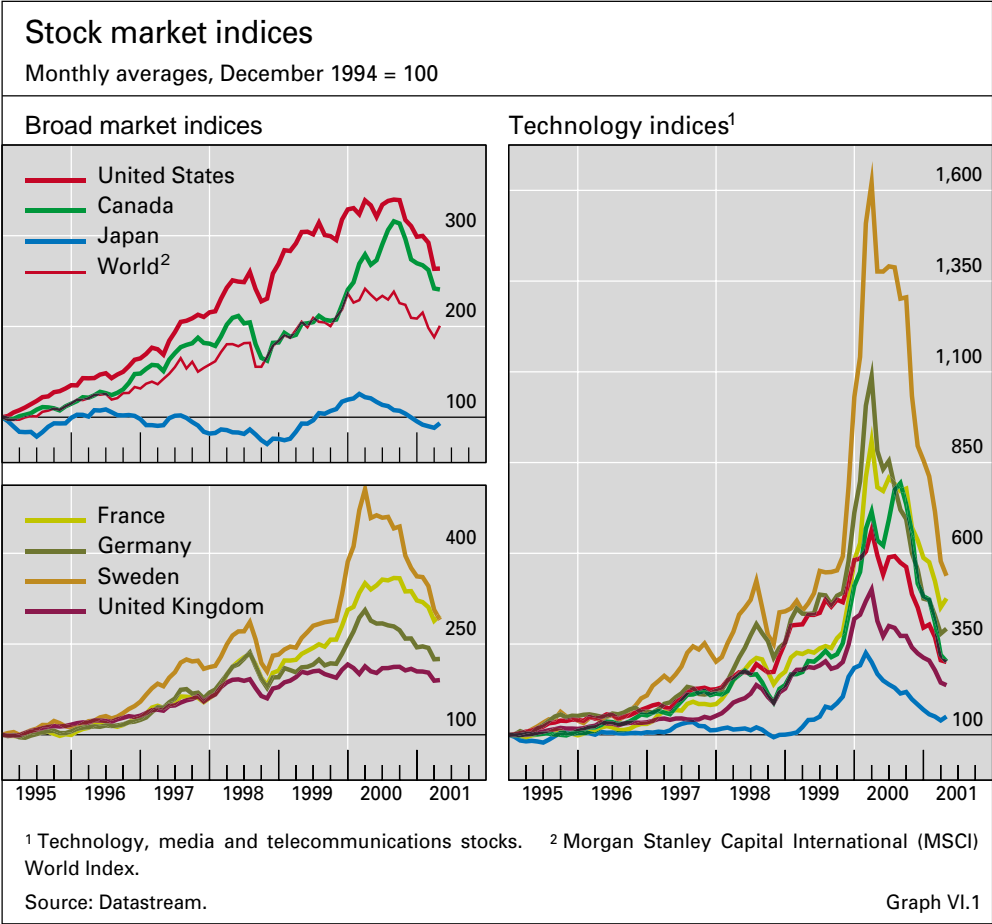
A notable aspect of the recent period of deteriorating financing conditions was the smooth functioning of financial markets in the face of sharp price movements. In the early part of 2000, the process of adapting to declining supplies of new government paper had raised concerns about how some major markets, in particular US fixed income markets, would operate. Concerns about market functioning receded in the latter half of the year. Investors grew increasingly comfortable using private instruments such as interest rate swaps for hedging, price discovery and other purposes for which government securities tended to be used in the past.

**Equity markets**

*Asset price bubbles versus fundamentals*

From April 2000 to the first quarter of 2001, stock prices around the world generally declined sharply. Stock markets had suffered price falls of a comparable magnitude in 1990, the last time the global economy sank into a recession. The reasons for the declines, however, differed fundamentally between the two periods. In August and September 1990, the MSCI World Index fell by 21%. These losses were arguably rooted in fundamentals in that

Stock markets declined in 2000 as in 1990 ...



... but for different reasons

they primarily reflected the supply shock of a doubling of oil prices following Iraq's invasion of Kuwait. In the more recent global episode, the MSCI index decreased by 23% between April 2000 and March 2001. This time, however, the losses seemed to represent the deflation of a worldwide equity price bubble rather than a collapse driven primarily by macroeconomic developments. Nevertheless, the changing macroeconomic circumstances undoubtedly shaped the timing and extent of the price declines.

Extraordinary price increases ...

Evidence supporting the view that there was a global stock market bubble can be derived from the fact that several markets experienced an extended period of extraordinary price increases, followed by a nearly simultaneous reversal of those increases (Graph VI.1). This coincidence of price movements occurred despite somewhat divergent macroeconomic fundamentals. The five-year period to March 2000 saw the S&P 500 index increase threefold. The Stockholm market posted the most spectacular gains, rising nearly fivefold during the period. The markets of Paris, Amsterdam, Frankfurt and Toronto did not lag far behind, increasing by between 150% and 250%. The price rises appeared to be driven largely by a mutually reinforcing process of investor optimism and herding. At their peak in March, US share valuations were on average 33 times the trailing earnings per share, an unprecedented price/earnings multiple. Prices in all of these broad markets started to fall in spring 2000, with those falling the most tending to be the ones that had risen the farthest.

... followed by a sudden reversal

The pattern of rising prices and subsequent reversal was most apparent for technology stocks. During the long run-up in the prices of these stocks, market analysts had justified the high valuations by predicting that earnings growth would accelerate. Some observers had also argued that the technology sector was largely immune to an economic slowdown or to a rise in interest rates. These predictions, however, proved unfounded. In fact, the growth in earnings never caught up with the increases in prices, so that price/earnings ratios kept rising. In the US technology sector, stock prices rose over five years at a rate almost five times the growth of earnings (Table VI.1).

In technology stocks, earnings failed to catch up with prices

Price/earnings ratios, price changes and earnings growth for technology stocks							
	Price/earnings ratios			Percentage changes			
	March 1995	March 2000	March 2001	March 1995–March 2000		March 2000–March 2001	
				Prices	Earnings	Prices	Earnings
Sweden	34.5	120.8	19.1	1,217	276	– 65	124
Germany	16.9	63.3	30.4	909	169	– 64	– 24
France	11.3	63.8	21.0	804	60	– 49	55
Italy	12.8	56.0	26.1	732	90	– 44	19
Netherlands	14.7	64.6	33.0	654	71	– 58	– 18
Canada	20.4	59.0	14.7	586	137	– 53	88
United States	19.2	53.2	24.7	509	120	– 55	– 2
United Kingdom	15.4	72.1	36.0	352	– 3	– 49	2
Japan	57.3	169.3	89.3	254	20	– 55	– 15

Sources: Datastream; BIS calculations.

Table VI.1

The gap between price increases and earnings growth was even greater for technology stocks in European countries. In the United Kingdom, technology stock prices rose even as earnings fell. Moreover, stock prices started to fall after a period of rising interest rates and the growth of earnings in the technology sector weakened at the first sign of an economic slowdown. Price/earnings multiples did decline, but, as is usually the case, this reflected falling stock prices rather than rising earnings.

A remarkable feature of the price declines in technology stocks was the similarity of their timing and magnitude. Most decreases started in March or April 2000, and generally amounted to between 50% and 70% by March 2001. This occurred despite wide dispersion in earnings growth rates across countries (Table VI.1). These highly synchronised price movements cannot be fully explained by fundamental similarities in the circumstances of the technology sectors in the various countries. Rather, they are arguably better understood as reflecting the high degree of uncertainty about valuations, which may have led investors to seek quantitative anchors in other stock markets. The main anchor appears to have been the Nasdaq index, the most quoted index for technology stocks. Thus, with little else to go on beyond a general weakening of earnings growth, most technology stock indices fell in tandem with the Nasdaq.

Uncertainty made Nasdaq a price anchor

This anchoring process helps to explain why European equity markets tracked US markets lower during 2000 despite somewhat divergent macro-economic fundamentals. Admittedly, the large number of transatlantic mergers and acquisitions undertaken by European firms in recent years established a link between the earnings of European corporations and US economic conditions. Nevertheless, the correlations of returns between the European and US markets seemed larger than could be explained by fundamentals alone.

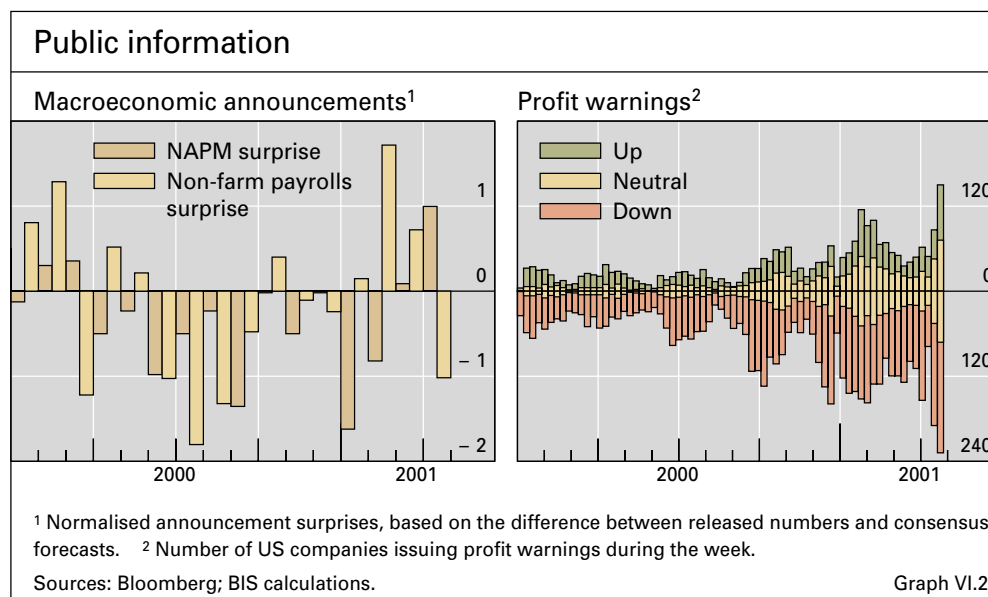
#### *Information and stock prices*

The recent fall in stock markets was not instantaneous but unfolded over several months, with the bulk of the price declines occurring in two rounds. The first of these took place in April and May 2000, while the second started in September 2000 and continued, with a brief interlude in January, through the first quarter of 2001. In both cases, market participants around the world focused on the information perceived to influence US monetary policy and the effect of this information on the Nasdaq index in particular. However, the two episodes differed markedly regarding the significance of public information in accounting for specific daily price movements.

The most notable aspect of the first round of price declines was the lack of identifiable and significant new information that could account for the sudden fall in prices. In this respect, the episode was similar to the global market declines of October 1929 and October 1987. During the first few months of 2000, the most watched macroeconomic data releases, such as the US non-farm payrolls number, indicated a persistently strong US economy (Graph VI.2). This led to uncertainty about how far monetary policy would tighten and, in combination with increasing market nervousness over valuations, resulted in heightened volatility. But only in early April 2000 did

A lack of news to account for the price declines





the technology sector as a whole start on its downward course, seemingly prompted solely by a shift in investor sentiment. One exception was 14 April, when the Nasdaq index fell by 10% on the release of consumer price data. The market recovered within a week, however, even in the absence of new macroeconomic data. Overall, the Nasdaq index fell by nearly 20% in April and May, apparently pulled down by deepening investor pessimism in the absence of favourable economic news.

For the second round of price declines, it is easier to identify information that moved the markets. This round started in September, when a growing number of listed companies in the United States began to warn that analysts' earnings estimates would not be met. The next few months saw increasingly weak US macroeconomic data, culminating in the release of a survey by the National Association of Purchasing Management (NAPM) on 2 January 2001, indicating that the economy was slowing more rapidly than initially thought. As more companies revised their profit forecasts downwards, investors began to appreciate the link between earnings of individual companies and the performance of the economy at large; both narrow technology indices and broader markets fell steadily. The Nasdaq index declined by 42% between September and the end of the year, while the MSCI World Index fell by 13%. The markets started to recover on 3 January 2001, when the US Federal Reserve surprised market participants with a 50 basis point cut in its policy rate. The Nasdaq index gained 14%, its largest ever single-day rise. The recovery proved to be temporary, however, despite further cuts in the US policy rate. With profit warnings weighing heavily on the markets, share prices resumed their slide in February and March.

In April 2001, a seemingly minor piece of news spurred a two-week rally that revealed an underlying optimism about corporate earnings prospects. Early in the month, an announcement by a major manufacturer of personal computers that it had met its earnings estimates sent the Nasdaq soaring by 9% and the S&P 500 by over 4% in a single day. Several days later, a surprise policy rate cut by the Federal Reserve reinforced the rally. After two weeks, the Nasdaq

Profit warnings weighed heavily on the markets

Investors still optimistic

had gained 33% and the S&P 500 14%. The price increases lifted valuations for the S&P 500 to 27 times trailing earnings, a price/earnings multiple that was almost double the historical average. Optimism ran even higher for Nasdaq stocks, for which the price/earnings multiple was six times that of the S&P 500.

### *The Tokyo stock market and Japanese banks*

Among the world's major equity markets, the most notable exception to the five-year trend of rising prices was Tokyo. This market had remained weak until 1998 (Graph VI.1) and joined the global trend only in 1999. Like other major markets, Tokyo was bolstered by a booming technology sector. In addition, developments in the banking sector provided the major boost. In 1999, market participants took the Japanese government's injection of ¥7.5 trillion into 15 major banks as a sign of a serious effort to strengthen a weak banking system. Foreign investors were among those impressed, as evidenced by significant portfolio inflows from abroad. Large bank mergers sustained the market's momentum.

Developments in banking ...

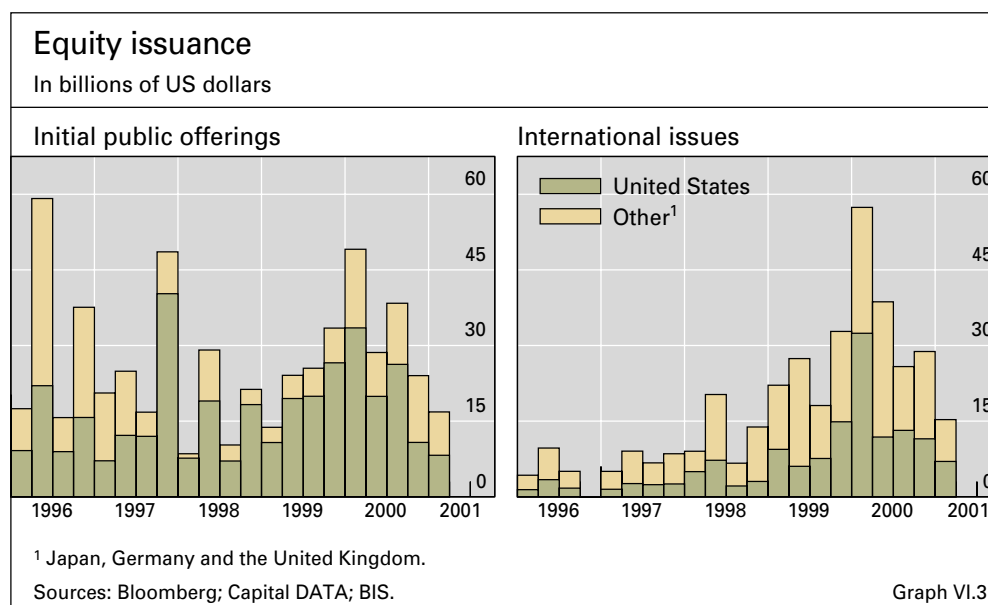
The Tokyo market then started to slide again in 2000, ahead of declines elsewhere. Early in the year, there was no easily identifiable news that could account for the falling prices, as was the case in the subsequent first round of declines in the US market. Only in May did the influence of the US market become evident, as the technology sector of the Japanese market saw prices fall sharply in tandem with the Nasdaq index and foreign investors began to sell. In the summer, estimates by the Financial Services Agency of Japanese banks' non-performing loans seemed to weigh heavily on the market. In October, selling pressure intensified with the bankruptcy of Chiyoda Seimei, a life assurance company, and the continued decline in the Nasdaq index. The weakness of the Tokyo market made it more difficult for Japanese banks to raise cash by selling their cross-shareholdings and to realise enough profits to absorb writedowns of non-performing loans. In early 2001, the Japanese government began to contemplate buying those shares from the banks, so as not to delay the desired reduction in cross-holdings. The de facto return to zero policy rates in March and the election of Prime Minister Koizumi in April brought renewed strength to the market.

... a major factor in the Tokyo market

### *Implications for the real economy*

The deflation of the global technology stock bubble has already had discernible real consequences. In particular, the effect on investment through the cost of capital was immediately apparent. Technology start-ups, which had relied heavily on initial public offerings (IPOs) for raising capital, were especially hard hit. Gross proceeds of IPOs in the United States, Japan, Germany and the United Kingdom fell from their near record pace of \$49 billion in the first quarter of 2000 to \$29 billion in the second, and declined still further in the first quarter of 2001 (Graph VI.3). Announcements of international equity issues by US companies fell proportionately even more, although those by non-US firms continued to be strong for one further quarter. Some start-ups took advantage of the modest recovery in stock prices during the summer, leading to a temporary burst of activity in the IPO market.

Effect on investment already apparent



The stock market decline has also had consequences for the reported incomes and cash flows of US companies through their defined benefit pension plans and stock option grants. In 1998 and 1999, profits had been boosted by the fact that gains in the stock market had resulted in an overfunding of defined benefit plans, which companies could report as income. The decline of the market in 2000 deprived many companies of that income, and further declines could result in plan shortfalls that would add to expenses. At the same time, technology firms had increasingly tended to issue stock options to employees as a form of compensation. In the United States, the exercise of these options allowed companies to reduce their taxes and thus add to their cash flows, at the cost only of diluting the share values of existing shareholders. For some of the larger technology companies, these tax benefits accounted for as much as 60% of cash flows from operations. At current stock prices, however, a substantial amount of stock options will not be exercised. These companies are now finding themselves with increased tax bills even as their sales slow and their inventory costs rise.

Stock options allowed companies to reduce their taxes

Consumer confidence, unemployment and the stock market			
	Estimated effects <sup>1</sup>		
	1992–94	1995–97	1998–2001
	US consumer confidence		
Nasdaq returns	-0.081	0.181	0.133*
US unemployment rate	-0.715*	-0.482	-0.379
	French consumer confidence <sup>2</sup>		
CAC 40 returns	0.009	-0.134	0.037
French unemployment rate	-0.184*	0.125*	-0.191

<sup>1</sup> Sum of regression coefficients from two quarterly lags of stock returns and two monthly lags of unemployment rates, respectively. An asterisk indicates significance at the 1% level based on the chi-squared statistics for a Wald test of the joint significance of the coefficients. <sup>2</sup> Based on the EU indicator for France.

Sources: Bloomberg; national data; BIS calculations.

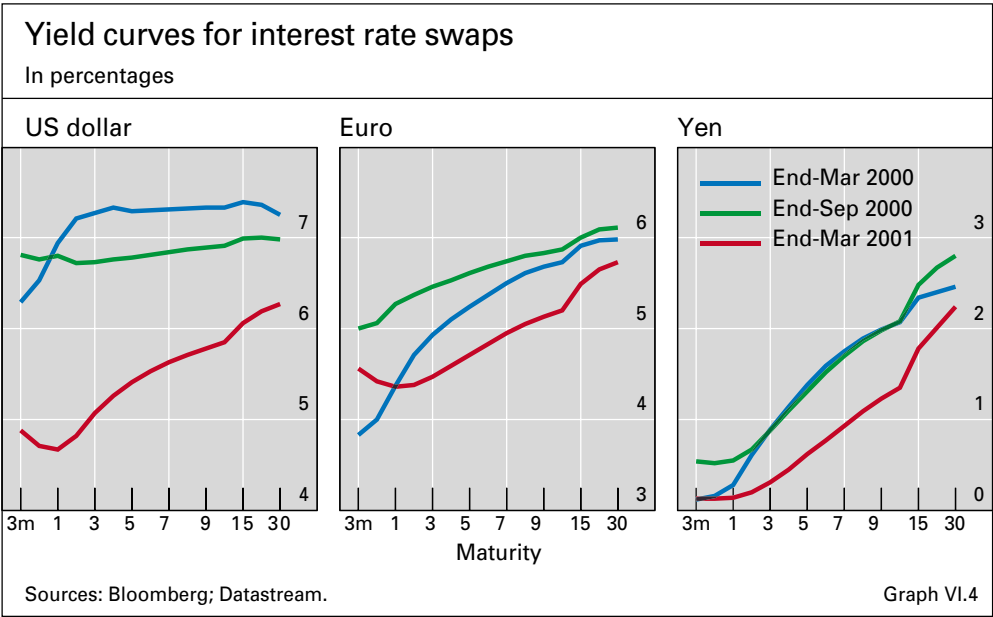
Table VI.2

A possible effect on consumer confidence may have further-reaching ramifications. While the wealth effect of equity prices on consumption may depend on what stocks households actually hold, and thus on the performance of broad price indices, recent shifts in the confidence of US consumers seem to have been driven largely by movements in the relatively narrow Nasdaq index. As shown in Table VI.2, consumer confidence in the United States for much of the 1990s, and in France in the early 1990s, tended to move in line with the unemployment rate rather than stock market returns. Since 1998, however, Nasdaq returns have become a more important driver of consumer confidence in the United States than the unemployment rate. Though stocks traded on Nasdaq may not constitute a large part of households' portfolios, the prices of these stocks may now be seen as a leading indicator of productivity in the economy. Thus, they may potentially exert a disproportionate influence on consumers' spending decisions.

Nasdaq drives US consumer confidence

Fixed income markets

In parallel with equity markets, bond markets during 2000 suffered from reduced corporate earnings prospects and increased investor risk aversion. Credit spreads widened over a broad range of instruments, and net issuance of long-term debt securities slowed from 1999's record levels. In the first half of the year, the wide spreads and the rise in the general level of long-term interest rates did not keep borrowers, especially telecommunications firms, from raising money in the bond market. In the second half of the year, however, lower-rated issuers found it increasingly difficult to borrow in the long-term market, and many then turned to banks. The difficulty did not seem to extend to highly rated issuers. In fact, declining supplies of US government debt induced some of them to offer their own paper as substitutes for purposes of collateral, hedging and benchmark pricing. In the first quarter of

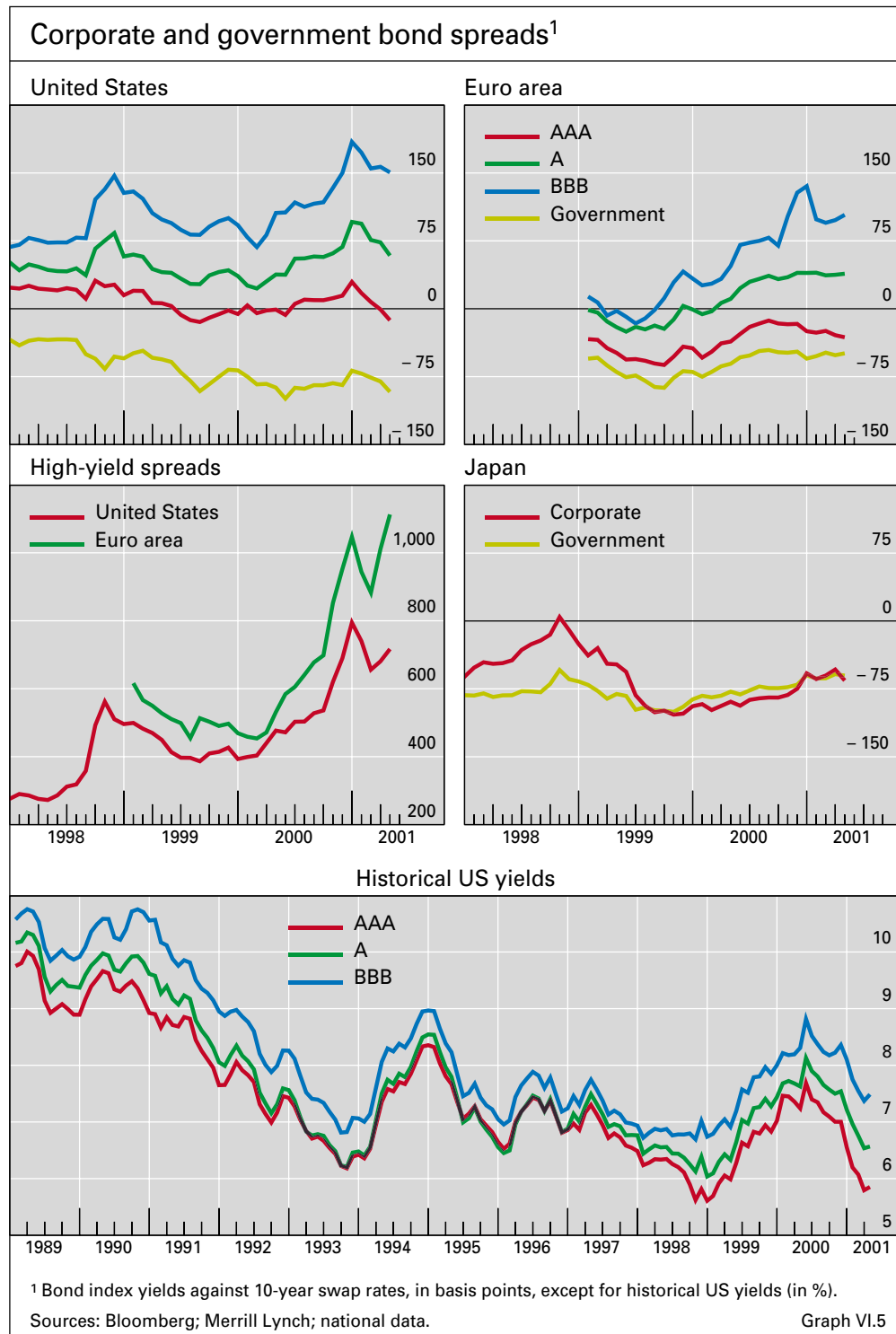


2001, a narrowing of credit spreads and a general fall in interest rates brought lower-rated issuers back to the global capital markets.

*The pricing of credit risk and response of borrowers*

Three phases of credit risk repricing

Fixed income markets went through three distinct phases during 2000 and the early part of 2001. The first phase, lasting roughly from January till August, saw upward-sloping yield curves and a generalised widening of credit spreads in North America and Europe (Graphs VI.4 and VI.5). These increases affected

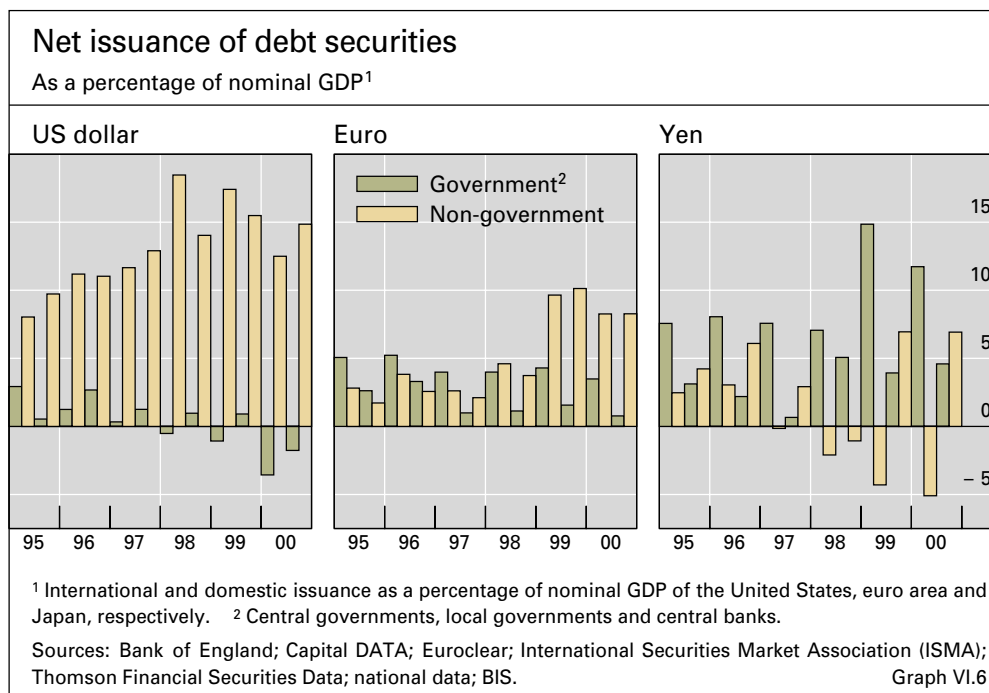


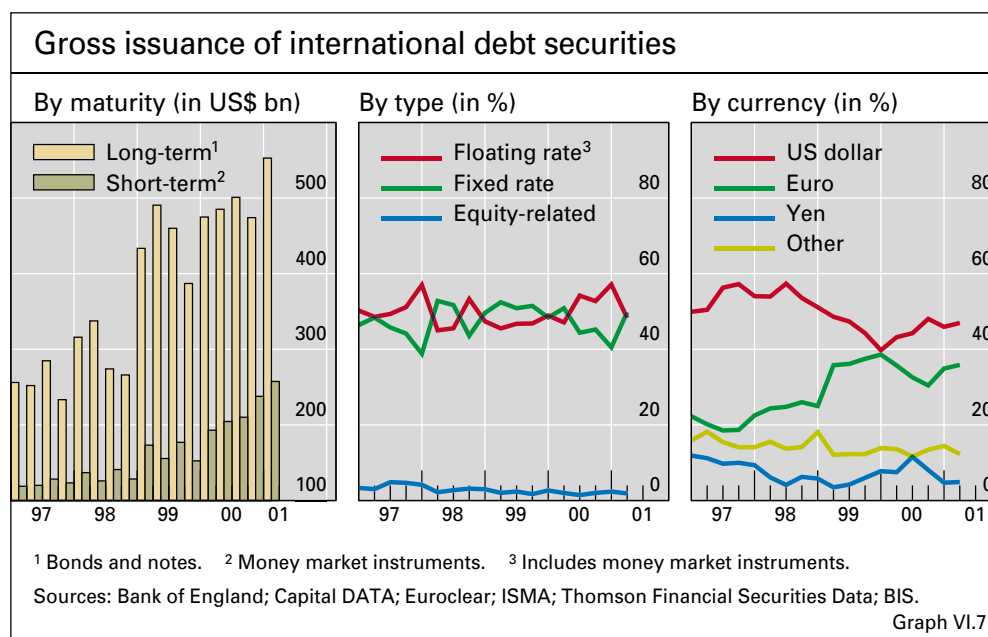
borrowers' choice of financing vehicle but had little impact on overall borrowing activity. During the second phase, from September to December 2000, yield curves began to flatten and credit spreads diverged markedly across different debt classes. In particular, investors were unreceptive to issues by any but the highest-rated borrowers. The final phase, covering the end of 2000 and the first few months of 2001, witnessed a sharp downward movement in yield curves and a modest decline in spreads from the very high levels reached in late 2000. This spurred a recovery in issuance by lower-rated borrowers.

The first phase of rising yields and widening spreads did not seem to dampen overall fund-raising in the capital markets. This phase spanned both the final rally in equity markets and the beginning of their downturn. The increased uncertainty about the outlook for corporate earnings, as signalled by high levels of volatility in equity markets, resulted in a widening of credit spreads on most debt classes. Among investment grade securities, the widening was especially pronounced for euro-denominated debt, with spreads over swaps rising even for the highest-rated issues. Spreads on AAA-rated securities denominated in US dollars were roughly constant, but those on other US dollar debt categories widened to levels last seen in the months following the financial crisis of autumn 1998. Despite these conditions, primary market activity held up well in the first half of 2000. Net issuance by non-government borrowers slowed only slightly (Graph VI.6). Widening euro and US dollar credit spreads led some international borrowers to issue in the yen market, where interest costs were relatively low. Gross issuance of international debt securities denominated in yen rose to a record \$221 billion in 2000 (Graph VI.7). Market participants' expectations of further monetary tightening, as reflected in the upward-sloping yield curves, may have induced some borrowers to advance their issuance plans.

A first phase of wider spreads reflecting uncertain earnings ...

... did not dampen borrowing





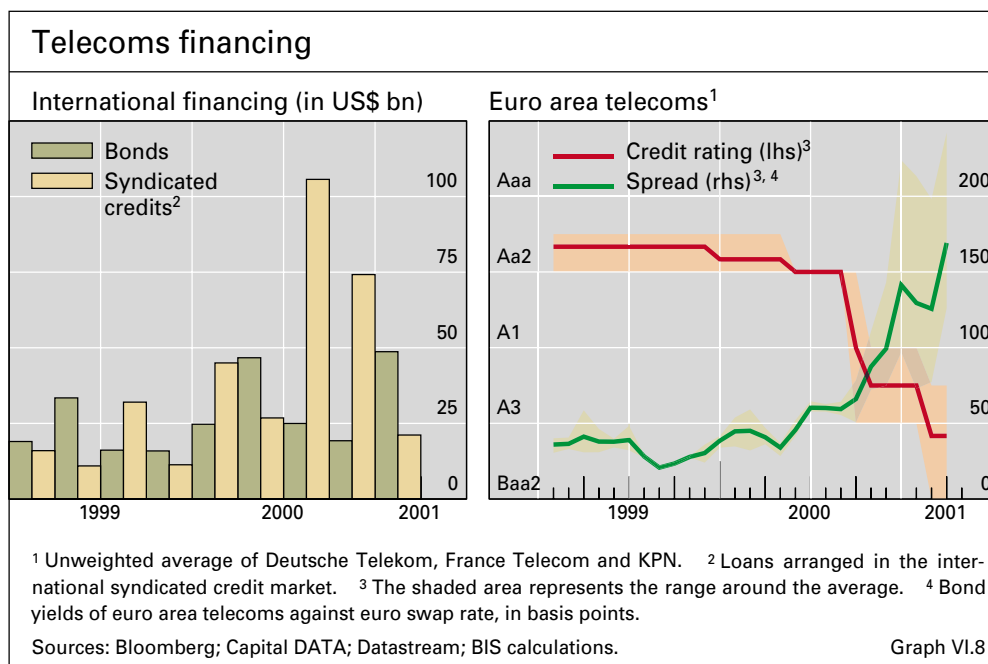
European telecommunications companies took advantage of favourable sentiment about their prospects by borrowing heavily during the first phase. Telecoms in general raised \$71 billion from the international bond market during the first half of the year (Graph VI.8). Their demand for funds stemmed largely from acquisition activity and bids for third-generation mobile telephone licences in Europe. The availability of financing and the high prices paid at the government auctions of those licences, especially at the UK auction in April and the German auction in August, reflected an optimism similar to that which had supported the high valuations of other technology stocks.

The second phase of widening credit spreads had a more significant impact on borrowing. With the waning of market participants' perceptions of a soft landing scenario, yield curves flattened in the third quarter, suggesting that overall levels of interest rates were unlikely to rise further. Spreads on the highest-rated debt remained more or less stable during this period, but those on BBB-rated and high-yield issues widened dramatically, reaching very high levels by the end of the year. As a result of these divergent trends in spreads, issuance by lower-rated borrowers slowed noticeably towards the end of 2000, while highly rated European banks and US government-sponsored enterprises (GSEs) remained active in the primary market.

The robust demand for AAA-rated debt arose in part from a lack of government debt. Investors who used to purchase government securities during periods of deteriorating credit conditions instead bought highly rated private sector or quasi-public paper. In the US dollar market, GSE securities, particularly the obligations of Fannie Mae and Freddie Mac, have been among investors' favourite alternatives to US Treasury securities. In recent years, Fannie Mae and Freddie Mac have sought to improve the liquidity of their securities through large, regular issues in US dollars and euros, and in so doing to establish their obligations as benchmarks for pricing and hedging other securities. Concerns had emerged in the early part of 2000 about the credit standing of Fannie Mae and Freddie Mac after proposals were

In the second phase, lower-rated issuance declined

GSEs benefited from declining government issuance ...



introduced in the US Congress to remove their government credit lines and local tax exemptions. This legislative pressure abated towards the end of the year, when the GSEs undertook to raise their capital ratios and improve their disclosure practices.

The rapid deterioration in financing conditions for lower-rated borrowers in the latter part of 2000 suggested a shift in sentiment about the earnings prospects of the technology, media and telecommunications sectors. Telecoms were especially hard hit. The high prices at the auctions for third-generation mobile telephone licences in Europe would by themselves have justified some downgrading of credit ratings and a widening of credit spreads. The actual extent of the downgrades and rise in spreads (Graph VI.8), however, also implied a re-evaluation of the revenue prospects for telecoms. In September, downgrades of two of the larger European telecoms consisted of multiple ratings notches, unusually drastic steps by rating agencies. Credit spreads for the two companies widened by an average of 103 basis points from September to December. Consequently, telecoms in general, which had been among the most active issuers in the international debt securities market in the first half of 2000, reduced their issuance in the second half of the year and relied more heavily on the syndicated loan market.

... while telecoms suffered from a shift in sentiment

Rather than cutting back their issuance, some borrowers responded to the uncertain interest rate outlook by relying more heavily on short-term and floating rate issues (Graph VI.7). In the international debt securities market, short-term issues rose to 30% of gross issuance in 2000, compared to 27% in 1999. Floating rate issues accounted for 53% of gross international issuance in 2000, up from 47% in 1999.

Borrowers turned to the money market ...

High and volatile spreads in the normally stable commercial paper (CP) market around the turn of the year led some issuers to draw down their backup credit lines with banks. A fourth quarter widening of the yield spread between highest-rated and less highly rated US dollar issues has



been a common occurrence in recent years. However, in 2000 the CP market witnessed an unusually large year-end increase that persisted well into the new year (Graph VI.9). This widening was driven by several factors, including credit rating downgrades of large issuers, such as Xerox and Lucent Technologies, the anticipation that California power utilities would default in January, the shift of borrowers towards short-term debt issues at the end of the year, and the reluctance of banks to extend backup credit lines without an additional risk premium. In response, many borrowers moved to refinance their short-term paper in the long-term debt markets when long-term borrowing conditions improved in the first quarter of 2001.

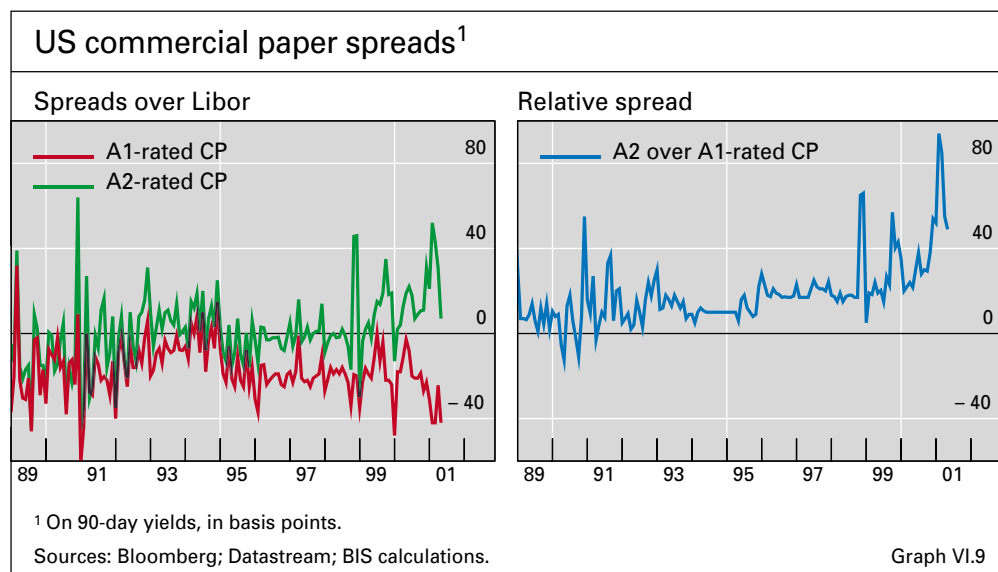
... as troubles affected the CP market

In the third phase, lower yields and narrower spreads ...

During the third phase of credit spread movements, issuance by lower-rated borrowers recovered. In the early part of 2001, yield curves in swap markets for all three major currencies shifted downwards, reflecting a worsening of growth prospects and an expected lowering of policy rates. This was accompanied by a fall in credit spreads, as market participants took a more benign view of the credit downgrades of the previous phase. The dramatic decline in overall borrowing costs resulting from both the shifts in the yield curve and the narrowing of credit spreads encouraged borrowers to return to capital markets. Telecommunications companies in particular promptly took advantage of the improved market conditions. Telecoms issued \$49 billion in the international debt securities market in the first quarter of 2001, including the largest ever corporate bond issue: \$16 billion by France Telecom.

... revived lower-rated issuance

This recovery in issuance partly reflected front-loading of financing by borrowers who thought that the improvement in credit conditions might not last and partly the release of the pent-up demand for capital from the last quarter of 2000. If the slowdown in global growth proves to be more severe than is currently expected, credit spreads could resume their widening trend. Alternatively, if growth recovers quickly, yield curves could begin to shift upwards again. In the face of such uncertainty, borrowers apparently chose to secure financing in capital markets while borrowing costs remained modest by historical standards (Graph VI.5).



Prospective cutbacks in bank lending also supported bond issuance in the early part of 2001. The deterioration in credit conditions in the latter half of 2000 had left banks with unintended exposures to lower-rated borrowers. During 2000, commercial banks had provided large amounts of short-term financing to telecoms in the expectation that these loans would be refinanced in capital markets. Activity in the international syndicated credit market reflects the scale of bank lending to telecoms: credits arranged for telecommunications companies increased to \$252 billion in 2000 from \$70 billion in 1999. In the event, the widening of spreads in the latter half of 2000 made it more difficult for telecoms to refinance these loans in capital markets and consequently left banks looking for ways to reduce their exposure to telecoms.

Issuance in early 2001 refinanced bank borrowing

### *Credit cycles in 1990 and 2000*

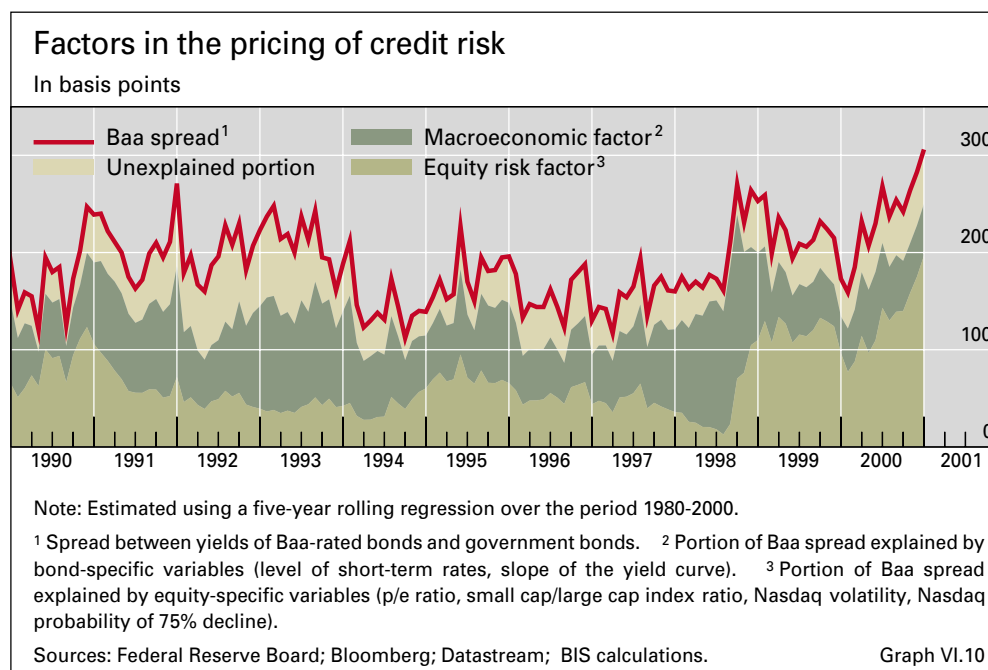
Despite wide credit spreads and the stop-and-start nature of issuance, the downward revision of the corporate earnings outlook generally proved less of a shock to bond markets than to stock markets. In some sectors, in particular telecoms, the widening of credit spreads in 2000 did mirror the collapse of the equity market bubble. However, debt markets had been much slower than equity markets to recover from the financial crisis of 1998, when spreads had last reached levels comparable to the highs recorded towards the end of 2000. As a result, they did not have as far to fall. Nevertheless, the overall financial health of the corporate sector did play a key role in driving developments in both stock and bond markets. From this perspective, 2000 had much in common with 1990. On both occasions, concerns about excessive leverage, high oil prices and a slowing US economy resulted in a similar weakening of equity markets and widening of credit spreads. Both episodes illustrated the implications of financial cycles for the market price of credit risk (see Chapter VII).

There is some evidence that the bond market began to be concerned about corporate asset valuations in late 1998, a year and a half before downward revisions in these valuations started to cause sharp declines in the overall level of equity prices. This is illustrated in Graph VI.10. The graph decomposes the yield spread between Baa-rated bonds and comparable US Treasury securities into the part explained by broad macroeconomic factors and the part explained by factors that have traditionally driven equity prices. The second set of factors – including the price/earnings ratio, the valuations of small and large capitalisation stocks, and market volatility – played a relatively more important role in determining the yield spread during 1990 and 1998–2000 than it did during the intervening years.

Equity risk factors played an important role in 1990 and 2000 ...

Notwithstanding the common elements behind corporate bond market developments in 1990 and 2000, there were also a number of important differences between the two episodes. For one thing, in 2000 the widening of credit spreads was clearly a worldwide development, being observed also in Europe and other regions. In 1990, corporate debt markets outside the United States were much less developed, and heightened credit risk premia were largely a US phenomenon. Second, bank balance sheets have tended to

... but there were important differences



be healthier in the more recent episode, so bank lending is unlikely to contract as sharply today as it did in the early 1990s. Third, while issuance slowed somewhat in 2000, particularly for borrowers of medium and low credit quality, there was no parallel to the dramatic drop in high-yield issuance that occurred in 1990. Fourth, the stock of outstanding high-yield bonds in 1990 was predominantly composed of obligations of relatively well established companies that had been involved in leveraged buyouts. Investors at that time felt confident in their ability to value the underlying assets. The more recent wave of high-yield issues, in contrast, financed working capital in the fast-growing technology sectors with relatively little in the way of tangible assets. As a result, in 2000 there was a much closer connection between the turbulence in equity markets and that in bond markets, both of which reflected increased uncertainty with regard to asset valuations.

### External financing for emerging markets

Price declines in the financial markets of industrial countries during 2000 spilled over into emerging markets. This contributed to wider bond spreads and weaker equity markets in Asia and Latin America in particular. Yet the spillover effects were more limited than those experienced during other recent episodes of deteriorating financial conditions. Moreover, investors seem to have distinguished better between individual countries according to their economic circumstances, with spreads widening for economies perceived to be higher credit risks but otherwise changing little. Nevertheless, weak demand for external financing and structural changes in investor behaviour continued to depress bank and securities flows to emerging markets.

Most emerging equity markets followed those of industrial countries lower during 2000 and the early part of 2001. Asian markets declined the most, largely because of the relatively heavy weight of technology stocks in these markets (see Chapter III). The decline in the Nasdaq index per se also appears to have weighed on emerging stock markets, even after the sectoral composition of these markets is accounted for. This was particularly the case in Latin America, as can be seen from an examination of the estimated coefficients from a regression of equity returns in emerging markets on sectoral factors and Nasdaq returns (Graph VI.11). The graph shows that once the sectoral effect has been removed, the Nasdaq by itself has little explanatory power for most of the Asian markets studied in most years, with the exception of 1998. For the Latin American markets, by contrast, the Nasdaq has had a statistically significant, if generally weak, independent effect on the local return for at least one of the four markets in every year since 1996.

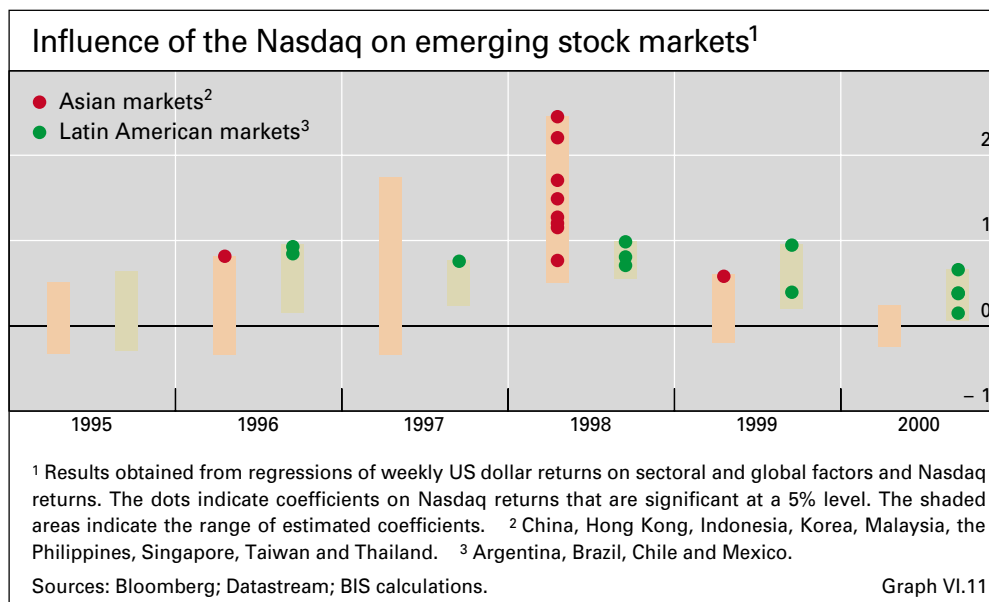
Sectoral correlations influenced emerging equity markets

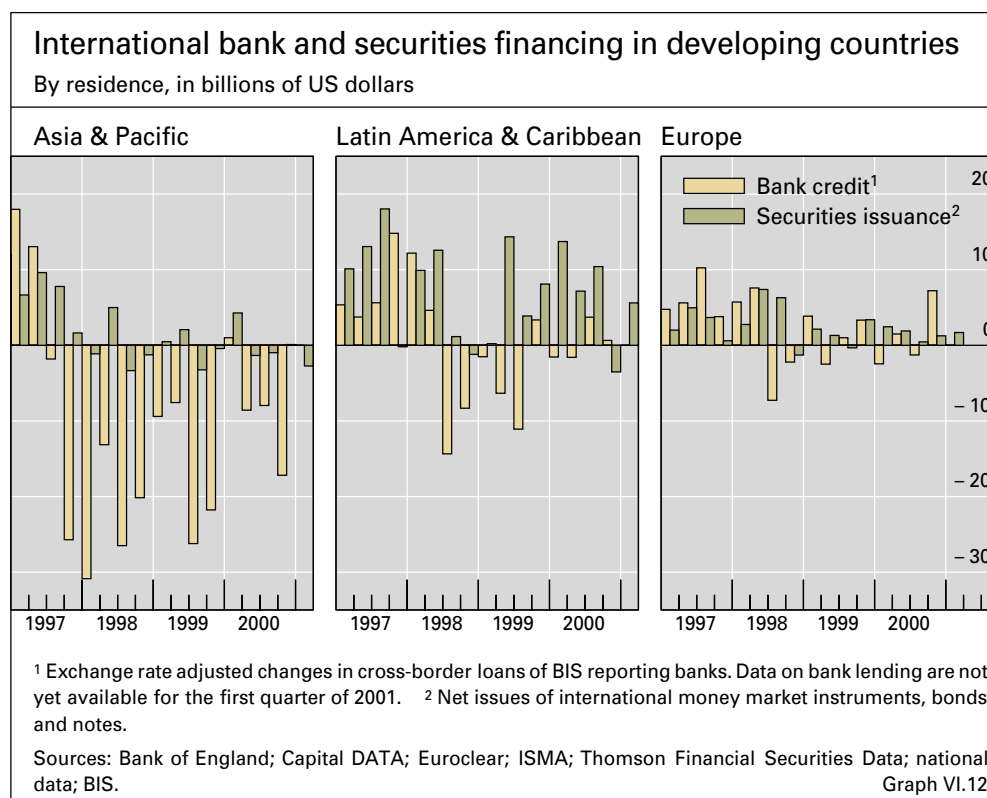
While developments across equity markets were similar, spreads on emerging market sovereign debt became decoupled from those on issues by comparably rated borrowers in the industrial countries. Emerging market spreads followed high-yield spreads wider on a few occasions, notably during the second quarter of 2000 and towards the end of the year, but on the whole remained tighter (see Graph III.2). Investors moved swiftly to reprice the debt of countries facing specific challenges, such as Argentina, the Philippines and Turkey. Yet credit spreads for a number of large emerging market borrowers, including Brazil, Korea, Mexico and Thailand, remained more or less constant during the year.

Sovereign spreads tighter than high-yield spreads ...

Despite the relatively favourable financing conditions, international bank and securities flows to developing countries remained subdued (Graph VI.12). Net issuance of international debt securities by these countries totalled \$42 billion, similar to amounts raised in 1998 and 1999. Four countries – Argentina, Brazil, Mexico and Turkey – accounted for three quarters of

... but bank and securities flows remained low





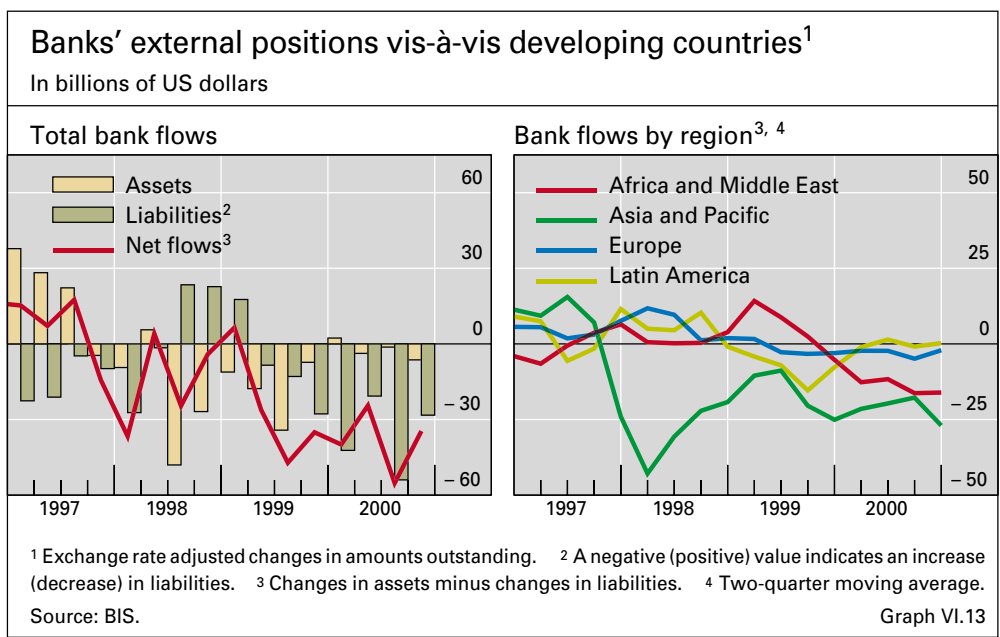
this figure. Asian and European borrowers came to the market to refinance maturing international bonds, but raised little in the way of net new financing.

The low level of securities issuance was accompanied by continued weakness in bank lending. BIS reporting banks' cross-border claims on developing countries fell by a further \$10 billion in 2000, significantly less than the \$70 billion decline in 1999. Banks did increase their exposure to a few countries in Europe and Latin America, but these increases were largely offset by further repayments from developing countries in Asia and Africa.

Several factors have contributed to the decoupling of emerging market spreads from high-yield spreads and the persistently low level of financing flows to developing countries. One factor affecting both loans to emerging economies and deposit flows from them has been their improved external position (see Chapter III). As a group, developing countries posted their largest current account surplus in two decades in 2000. The stronger external position of oil-exporting countries was responsible for much of this improvement.

In 1999, a large portion of the current account surpluses posted by developing countries in Asia had been recycled into the international financial system in the form of repayments of bank loans. In 2000, such surpluses tended to be recycled by depositing the surplus foreign exchange with international banks. Indeed, because of record deposits by Asian and oil-exporting countries, in 2000 net flows to BIS reporting banks from developing countries as a group exceeded cumulative net outflows from these countries during the financial crises of 1997–99 (Graph VI.13). Developing countries deposited a record

Current account surpluses recycled in the form of deposits

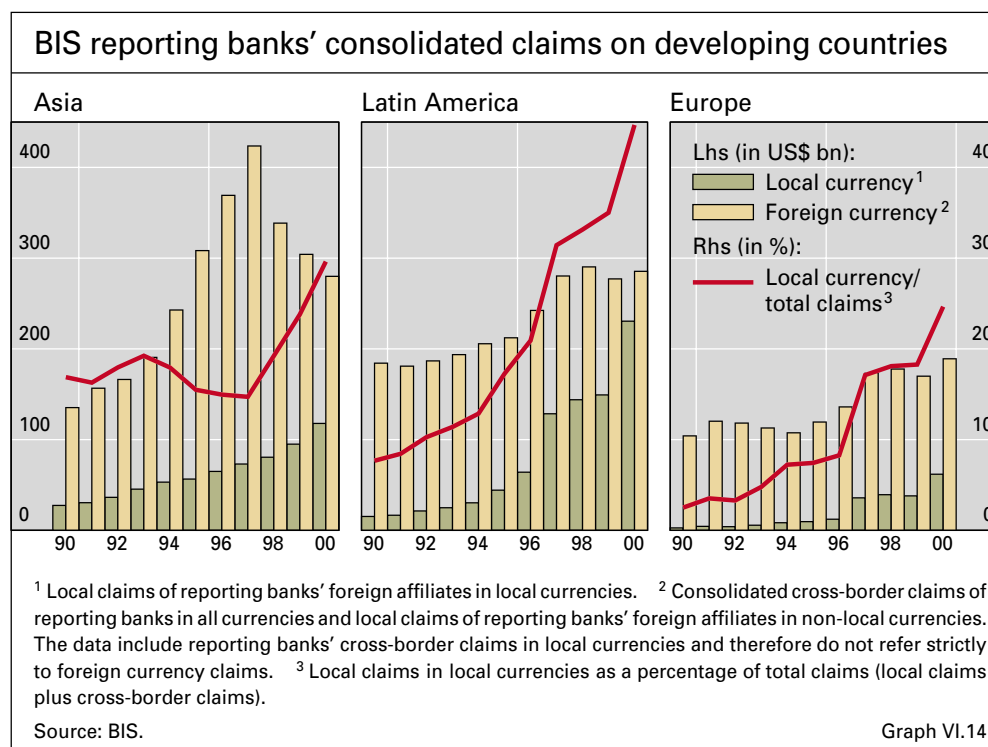


\$145 billion with international banks in 2000, equivalent to approximately 125% of their aggregate current account surplus. However, in contrast to the 1970s, when petrodollars deposited by oil exporters with international banks had supported an increase in cross-border lending to developing countries, recent deposit flows were not recycled back to the developing world.

A second factor influencing credit flows to emerging markets in recent years has been the lower profile of investments in these markets among active global investors. In response to losses experienced during the financial crises of 1997–99, proprietary trading desks and hedge funds cut back their involvement in the trading of emerging market debt. This had an adverse impact on the liquidity of emerging market securities. But it also lessened the role of global credit conditions and risk appetites in determining emerging market credit spreads, thereby helping to weaken links between emerging market and high-yield spreads.

A third structural change in emerging market financing was the growing presence of foreign banks in local financial systems. In recent years, Spanish banks have purchased a number of banks in Latin America, especially in Brazil, Chile and Mexico. These acquisitions contributed to a near fourfold increase in BIS reporting banks' local currency denominated claims on the region between 1995 and 2000 (Graph VI.14). Such claims are now almost equivalent to the reporting banks' foreign currency claims on Latin American borrowers. Likewise, German, Italian and other European banks have expanded their presence in central Europe, in particular Poland, resulting in a sharp increase in foreign banks' local currency claims on that region. Foreign banks have been slower to expand their local presence in Asia. But there is a definite upward trend, despite the retrenchment of Japanese banks in the late 1990s. Foreign banks' expansion into local financial systems may have acted as a restraint on cross-border lending by prompting acquiring banks to re-examine their overall country exposure.

Foreign banks entered local financial systems



## Market functioning

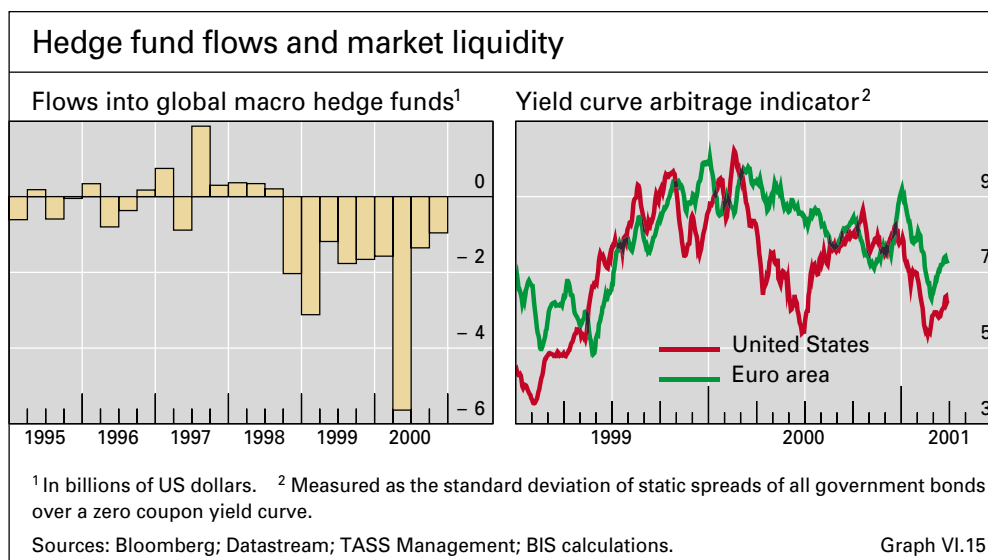
Markets functioned smoothly despite price drops

A reassuring feature of financial markets during 2000 was how well they functioned in the face of falling prices, high volatility and shifts in underlying issuance patterns. A previous flight to liquid, low-risk instruments in the third quarter of 1998 had triggered a vicious circle of deteriorating liquidity in fixed income and equity markets. This had severely strained the functioning of the global financial system. In the course of 2000, the bursting of the equity market bubble, the repricing of credit risk and the uncertain outlook for supply conditions in major government bond markets gave rise to similar concerns, albeit less serious ones, about the ability of markets to function smoothly. In the event, however, markets appear to have responded relatively smoothly to these pressures.

Liquidity proved resilient in equity markets

Despite an unusually large number of sudden sharp price movements, equity markets continued to operate and prices seemed to be reflecting shifts in investor sentiment as well as new information. Nineteen of the 100 largest daily percentage changes in the S&P 500 index since 1980 occurred in 2000 or the first quarter of 2001, and some of these triggered circuit breakers that halted trading on stock exchanges temporarily. Nonetheless, liquidity proved resilient in most markets and transactions could generally be executed.

One reason for the sharp price movements was the steady increase during the period under review in the number of profit warnings, whether positive, negative or neutral (Graph VI.2, right-hand panel). The release of such information reflected the coming into force of new US Securities and Exchange Commission regulations requiring public companies to make materially relevant information available to the public at the same time that



it is provided to analysts and large investors. The new regulations may have served not only to quicken the response of markets to corporate-level information but also to reduce the effect of trading flows on prices. Until recently, such information was likely to be conveyed to the market, with some noise, through the trades of the better informed investors.

The commercial paper (CP) market also functioned as intended. The abrupt widening of spreads around the turn of the year reflected an unusually high number of downgrades of large corporate issuers. The downgrades obliged the main buyers of CP – money market mutual funds – to sell the downgraded paper, in order to stay within regulatory limits on their holdings of low-rated instruments. Still, as already noted, both highly rated and low-rated firms successfully issued a large amount of money market debt in the fourth quarter, demonstrating that the market as a whole did not shut down. Those issuers who did lose access to this market were able to draw on the liquidity backup facilities they had arranged with banks for precisely such a contingency.

Borrowers lost access to the CP market ...

... but were able to draw on backup lines

Another sign that markets functioned well during this period was the absence of any major failures of institutions active in securities trading, whether as dealers or position-takers. In 1990, issuance and trading of high-yield bonds ground to a virtual halt because of the demise of Drexel Burnham Lambert, at the time the predominant underwriter and market-maker in this market. In the third quarter of 1998, the counterparty risks from a single troubled hedge fund, Long-Term Capital Management, led rapidly to a loss of liquidity in fixed income markets. The 1998 episode in turn induced many large financial institutions to scale back or close their proprietary trading operations and to monitor their credit exposures more closely. In both cases, the sudden departure of an entity that had been perceived as a key provider of liquidity in certain sectors caused surprisingly strong repercussions in markets more generally. No such process was evident during this most recent episode, however. This suggests that efforts to strengthen risk management since the 1998 crisis may have borne fruit.



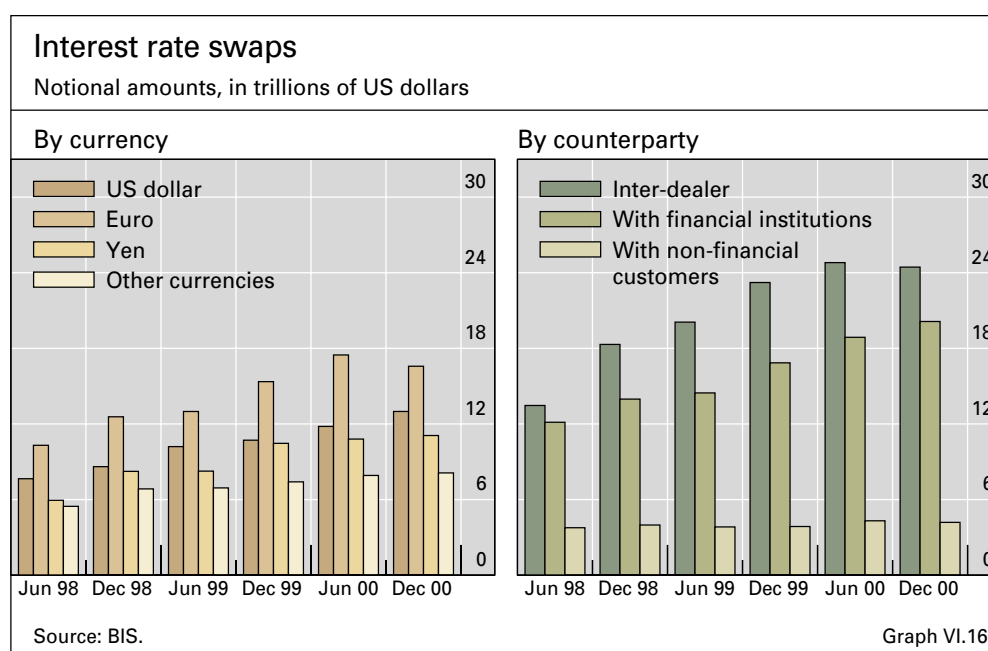
Investors finding private instruments ...

... to substitute for government securities

At the beginning of 2000, the process of adapting to decreasing supplies of new government paper led some market observers to express concerns about how major debt markets, especially the US dollar market, would operate in normal times, let alone during periods of market stress. Market participants had come to rely heavily on government securities as benchmarks for pricing other securities, as a means of hedging and positioning in both duration and volatility, as bases for futures contracts, and as collateral for secured borrowing. The smooth functioning of financial markets during 2000, however, suggests that market participants found private instruments that could substitute for government paper in many of these roles. In the US dollar market, participants became more comfortable using agency issues and swaps for benchmarking and hedging purposes. In the euro-denominated market, the adjustment to private benchmarks was less dramatic, given that investors had already become accustomed to using the euro swaps curve for pricing and hedging purposes. Moreover, the drop-off in government bond issuance was expected to be less steep.

A decrease in the liquidity premium during 2000 reflects this adjustment process. The autumn 1998 crisis had raised investors' concerns about liquidity risk and in turn contributed to large deviations of yields on individual government securities from a fitted yield curve (Graph VI.15). As measured by the size of these deviations, liquidity concerns reached a peak in the first quarter of 2000. As investors grew increasingly comfortable holding non-government debt and pricing and hedging such issues with instruments other than government bonds, this indicator declined in both the euro and US dollar markets. A significant step in the stabilisation of the liquidity premium in the US Treasury market was the ending of the anomalous inversion of 10-year and 30-year yields in September.

Interest rate swaps appear to be the leading candidate to replace government securities as the pre-eminent benchmark instrument. The notional



amount of outstanding interest rate swaps increased by 11% in 2000, to \$49 trillion (Graph VI.16). The swaps market in the euro legacy currencies was larger in notional terms than the market in dollars even before the introduction of the single currency. Since 1999, the market in euros has extended its lead over that in dollars, with swaps being used for hedging, price discovery and other purposes for which US Treasuries tended to be used in the dollar market. The dollar market is following the lead of the euro market, increasingly using swaps for hedging and other purposes. However, US Treasuries have yet to be clearly displaced as the dominant benchmark in the dollar segment.

Swaps gaining benchmark status ...

The ability of swaps to take on many of the functions formerly performed by government bonds has been supported by the gradual alleviation of certain concerns regarding credit risk. Dealers and customers have developed a set of collateralisation and documentation standards that appears to have gained wide acceptance in markets for swaps denominated in the core global currencies. By reducing the credit risk exposures associated with outstanding swap positions, these measures may have contributed to a decoupling of swap spreads and corporate credit spreads during 2000 and the first part of 2001.

... but dealers highly concentrated

Nevertheless, swaps markets have had to adjust to a steady decline in the amount of risk capital available to support trading as a result of mergers and reduced risk appetites among the large dealing institutions. This is evident in data for the second half of 2000, when inter-dealer activity in swaps declined even though total activity grew. As the number of active market-makers dwindles, it may become increasingly difficult for dealers to offset customer orders in the inter-dealer market. Such a development could in turn have a negative impact on the liquidity that swaps dealers can offer to customers.

## VII. Cycles and the financial system

### Highlights

Over the past few decades, the liberalisation of financial systems has improved the provision of financial services and the allocation of resources. Nevertheless, liberalisation has arguably also increased the scope for pronounced financial cycles. In turn, these cycles can contribute to the amplification of cycles in the macroeconomy, and in the past have all too often ended in costly banking system crises. While both industrialised and emerging market economies have been affected, the damage caused by financial instability has been particularly serious for emerging market countries.

At the root of these cycles typically lies a wave of optimism generated by favourable developments in the real economy. This optimism contributes to the underestimation of risk, overextension of credit, excessive increases in asset prices, overinvestment in physical capital and, in some cases, overly buoyant consumer expenditures. Eventually, when more realistic expectations emerge, the imbalances built up in the boom need to be unwound, sometimes causing significant disruption to both the financial system and the real economy.

Addressing the problems created by financial cycles poses an exceedingly difficult, yet increasingly important challenge for supervisory authorities and central banks. In principle, policymakers can increase the resilience of the economy to these cycles and also respond directly to the build-up of financial imbalances. In practice, however, responding in this way is not straightforward and raises a number of conceptual and implementation issues. Looking forward, resolving these issues will be important to ensuring the ongoing stability and benefits of liberalised financial systems.

### Financial cycles

Financial factors have long played a role in shaping business cycles. However, as domestic financial systems and international capital flows have been liberalised, this role has grown. Developments in credit and asset markets are having a more profound effect on the dynamics of the typical business cycle than was the case a few decades ago, and have also contributed to the increased frequency of banking system crises.

Both industrialised and emerging market economies have been affected. Many industrialised countries experienced financial excesses in the late 1980s. These excesses helped propel economic expansions, but also sowed the seeds for the contractions and financial distress of the early 1990s. And again, since the mid-1990s, economic expansions have been underpinned by strong

Financial developments have affected economic cycles more ...

asset markets and solid credit growth. More recently, in some countries, the financial cycle appears to have turned once more (see Chapter VI), with developments in the financial sector contributing to a slowdown in growth.

In many emerging market economies, financial cycles have been particularly pronounced, typically being reinforced by large swings in the flow of international capital. The cost of these cycles has been high, with the direct costs of resolving banking crises often exceeding 10% of GDP, and the indirect costs in terms of lost output higher still. The turmoil in a number of Asian economies in the late 1990s is but one illustration.

When financial systems were heavily regulated and central banks focused on controlling the monetary or credit aggregates, the scope for damaging financial cycles was constrained. Typically, under these regimes, rapid monetary expansion was met with a tightening of direct controls on bank lending or an increase in interest rates. These responses restricted the increase in leverage and limited the exposure of regulated financial institutions to imbalances in asset markets. Although such regulated environments led to potentially severe credit misallocation, they were less prone to the large cyclical swings seen in today's more liberalised environment.

... since liberalisation ...

With financial liberalisation has come a significant deepening of private sector financial balance sheets, including a marked increase in debt levels relative to GDP and larger holdings of market-linked financial assets. Credit growth has also become more sensitive to both underlying economic conditions and perceptions of risk, and the links between asset markets and credit growth have been strengthened. Private sector spending, too, is increasingly sensitive to movements in asset prices. Overall, the picture is one in which the health of the macroeconomy and that of the financial system have become much more closely intertwined.

Ensuring the stability of the financial system is thus an important objective of many policymakers. Over recent decades, numerous episodes of instability have had their roots in poor macroeconomic policy, including high inflation, and inadequate risk management by financial institutions. However, experience also suggests that financial imbalances can develop in low-inflation environments. Indeed, notwithstanding recent improvements in risk management practices, it may be the case that sustained low inflation, particularly if accompanied by strong central bank credibility and robust economic growth, generates the very optimism that helps fuel credit booms and unsustainable increases in asset prices. In such an environment, the upswing of the business cycle may be accompanied by the overextension of credit markets and the excessive accumulation of capital, and the downswing by the subsequent unwinding of these imbalances. Dealing with such cycles can pose considerable challenges for both monetary and regulatory authorities.

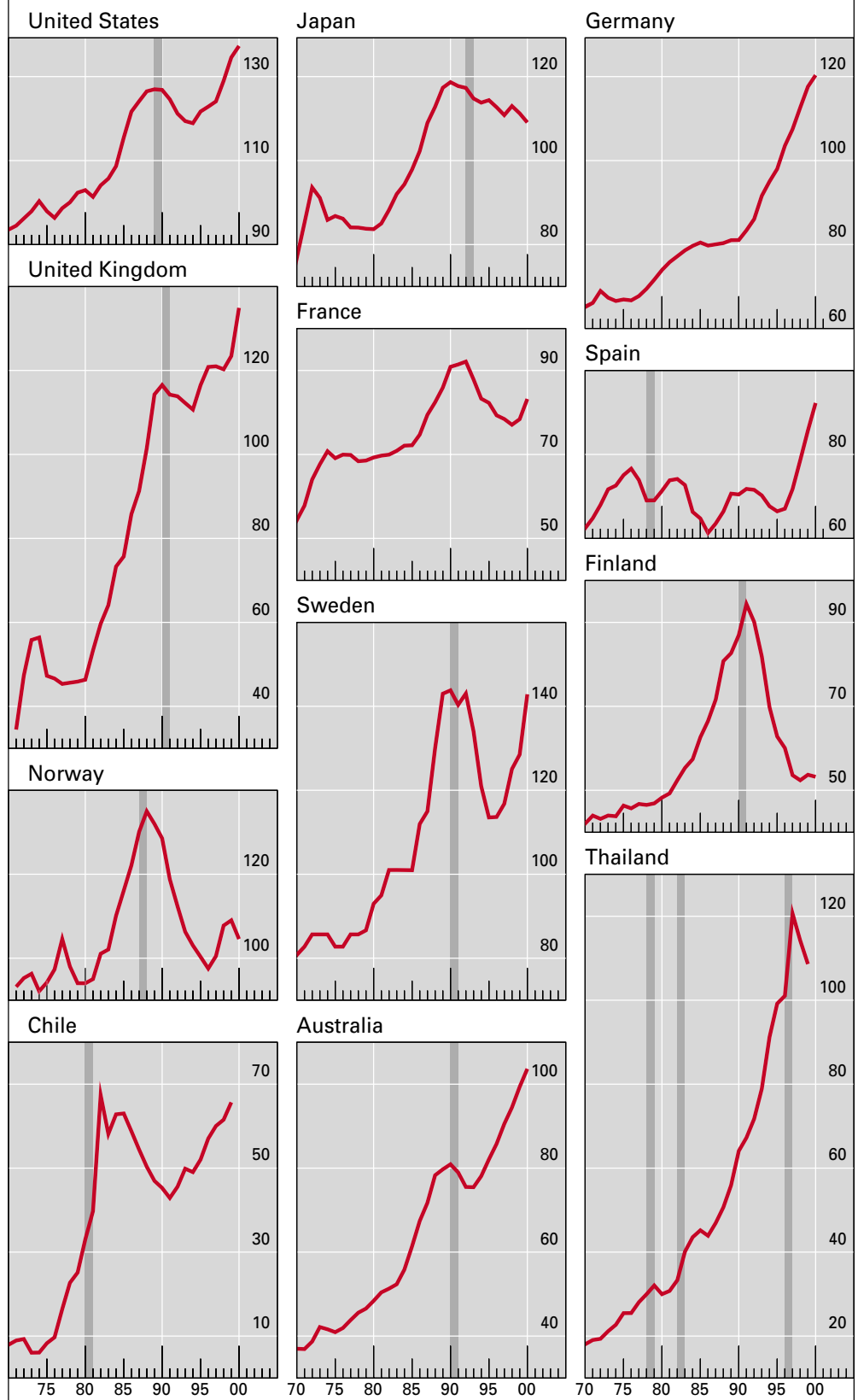
... presenting new challenges for policymakers

#### *Credit and asset prices*

Cycles in credit and asset prices typically occur in tandem and are often mutually reinforcing. Rising asset prices can stimulate economic activity and, by raising the value of collateral, reduce the cost of borrowing and increase

Booms and busts in asset markets ...

# Credit cycles and financial stress<sup>1</sup>



<sup>1</sup> Private credit as a percentage of GDP; comparability across countries is restricted by differences in the definition of private credit. The shaded areas mark the onset of stress in the financial system.

Sources: G Kaminsky and C Reinhart, "The twin crises: The causes of banking and balance-of-payments problems", *American Economic Review*, June 1999; national data; BIS estimates. Graph VII.1

the availability of finance for both firms and households. Faster growth and additional borrowing can then feed back into higher asset prices. The interaction between credit and asset markets can be even more powerful when asset prices are falling and economic conditions are deteriorating. In particular, falling prices reduce the value of existing collateral held by financial institutions, and can thus lead to substantial losses by these institutions and ultimately a significant contraction in the supply of credit.

Over recent decades, movements in property prices, in particular those of commercial property, have been central to the most pronounced financial cycles. In part, this reflects the important role that property plays as a source of collateral for bank loans. In addition, the commercial property market seems especially vulnerable to large swings in both prices and new construction activity. Substantial booms and busts in this market lie behind many of the problems experienced by banks in Australia, Finland, Japan, Norway, Sweden, the United Kingdom and the United States in the late 1980s and early 1990s, and more recently in a number of Asian countries.

Developments in residential property markets have also shaped financial cycles, although typically they have not been the major direct source of financial instability. Rather, declines in residential property prices have

... most notably those in the property market ...

... have historically generated financial instability

Credit and asset price cycles <sup>1</sup>									
	Credit/GDP ratio <sup>2</sup>			Residential property prices <sup>3</sup>			Commercial property prices <sup>3, 4</sup>		
	Trough to peak	Peak to trough	1995 Q4 to 2000 Q4	Trough to peak	Peak to trough	1995 Q4 to 2000 Q4	Trough to peak	Peak to trough	1995 Q4 to 2000 Q4
	early 1980s to late 1990s			early 1980s to late 1990s			early 1980s to late 1990s		
United States	25	- 7	16	.	.	30	39	-50	35
Japan <sup>5</sup>	36	-11 <sup>6</sup>	- 5	115	-22 <sup>6</sup>	-12	132	-51 <sup>6</sup>	-35
Germany	.	.	23	59	-17 <sup>6</sup>	-16	233	-43	51
France	22	-14	2	87	- 8	24	407	-52	88
Italy	18	- 8	11	102	-11	9	194	-54	70
United Kingdom	72	- 8	19	215	-12	68	125	-27	22
Canada	28	- 1	11	102	- 3	10	54	-53	33
Spain	11	- 5	26	230	- 6	43	601	-70	210
Australia	28	- 5	22	86	.	34	578	-49	25
Netherlands	.	.	46	.	.	88	113	-20	69
Belgium	22	- 4	2	.	.	22	136	-26	32
Sweden	53	-30	27	121	-16	49	1,027	-83	123
Switzerland	45	.	- 3	101	-25	- 6	131	-31	1
Denmark	12	-14	12	87	-19	46	277	-35	43
Norway	40	-37	4	175	-26	68	245	-44	12
Finland	48	-42	-10	286	-58	57	912	-49	24
Ireland	.	.	40	.	.	124	48	-17	153

<sup>1</sup> Cycles defined by peaks and troughs of the credit/GDP ratio and property prices respectively. <sup>2</sup> Changes over the relevant period in percentage points. <sup>3</sup> Percentage changes over the relevant period. <sup>4</sup> Data typically refer to major cities. <sup>5</sup> Property prices refer to land only. <sup>6</sup> No trough identifiable; calculated to end-2000.

Sources: Frank Russell Canada Limited; Investment Property Databank Ltd; Jones Lang LaSalle; Ministère de l'Équipement, des Transports et du Logement; National Council of Real Estate Investment Fiduciaries (NCREIF); Nomisma; OPAK; Ring Deutscher Makler; Sadolin & Albæk; Wüest & Partner; other private real estate associations; national data; BIS estimates. Table VII.1

tended to create financial headwinds, with dampened consumer spending retarding recovery from economic downturns. The upward trend in household indebtedness seen in many countries over recent years has probably increased the potential for similar headwinds in the future.

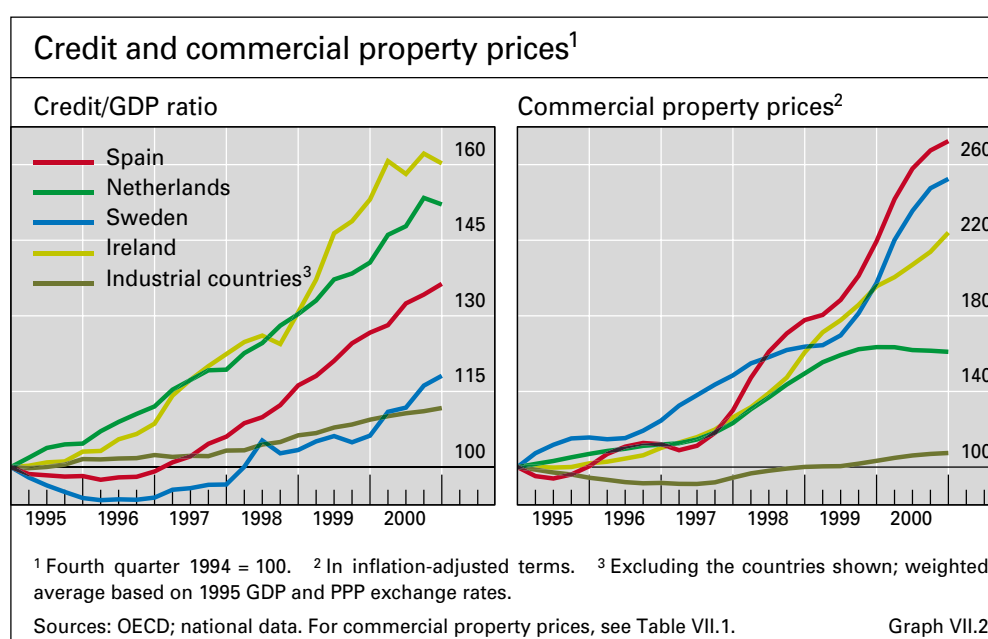
Since the mid-1990s, those industrialised countries experiencing the fastest rate of credit growth have also tended to record the largest gains in commercial property prices. For instance, credit has grown particularly rapidly in Ireland, the Netherlands, Spain and Sweden, and commercial property prices in the major cities of these countries have increased markedly. Globally, however, despite signs of overheating in some cities, the upswing of the current cycle has not translated into the same widespread boom in commercial property markets as witnessed in the 1980s. In most industrialised countries, including France, Germany, Italy, the United Kingdom and the United States, commercial property prices, in real terms, remain well below previous peaks despite recent increases. In Japan, which continues to suffer from the unwinding of the 1980s property price boom, prices have declined for the past 11 years.

In the current financial cycle, lending backed by residential mortgages has grown rapidly in a number of countries and large price gains have been recorded. In Australia, Norway, Sweden and the United Kingdom, for example, these gains have pushed the nominal and real prices of residential real estate beyond the peaks reached in the late 1980s.

Credit cycles are usually also associated with cycles in equity prices, although the links tend to be looser than those between credit and property prices. Nevertheless, a striking characteristic of the upswing of the financial cycle in the second half of the 1990s was an extraordinary rise in equity prices, particularly in the technology and communications sectors. For a time, these gains appeared to be self-reinforcing, with higher equity prices contributing to stronger economic growth, even higher levels of confidence about the

Commercial property prices in most industrialised countries remain below previous peaks

The 1990s upswing was characterised by extraordinary gains in equity prices



future and an increased willingness of banks to provide credit, particularly to firms in sectors with rapidly rising equity prices.

While part of the equity price gains of the late 1990s has been reversed over the past year or so, the health of most banking systems, to date, appears to have been largely unaffected. Notwithstanding this general resilience, the exposure of many banks to the equity market has increased over the past decade. This greater exposure arises from larger proprietary trading operations, an expansion in lending to households to finance the purchase of equities, and an increased reliance on fee-based income derived from asset management and broking businesses. Moreover, households are more exposed to equity price movements and these exposures are increasingly visible, particularly in defined contribution pension schemes. This suggests a more important wealth effect everywhere, but particularly in the United States.

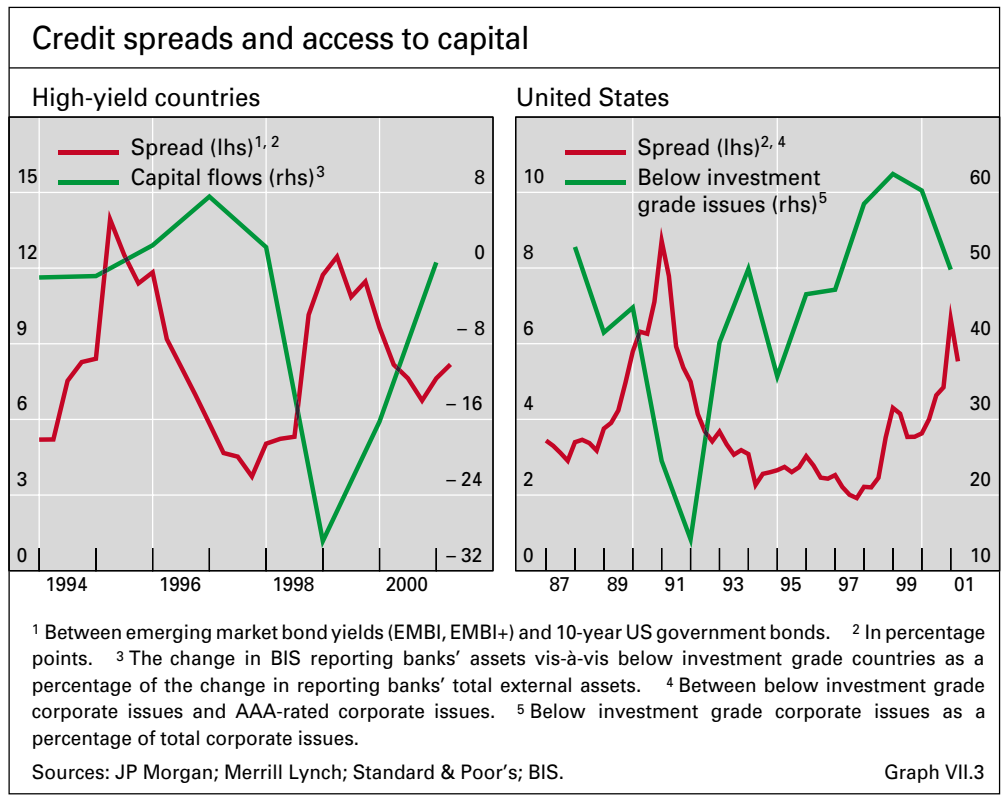
Banks and households are increasingly exposed to equity markets

*Cyclical behaviour of institutions and markets*

Financial cycles are also characterised by cycles in the appetite for risk, as well as cycles in the pricing and assessment of risk by both markets and financial institutions. In periods of strong economic growth, the appetite for risk appears to rise along with optimism about the future. One manifestation of this is a relaxation of lending standards, including less stringent covenants and collateral requirements. Relatively high-risk borrowers also gain easier access both to bank-intermediated finance and to the capital markets.

Economic booms are characterised by a relaxation of lending standards ...

These patterns have been evident over recent years. Strong growth in the Asian economies in the early and mid-1990s led to unprecedented inflows of foreign capital, ultimately financing highly risky investments. In the United





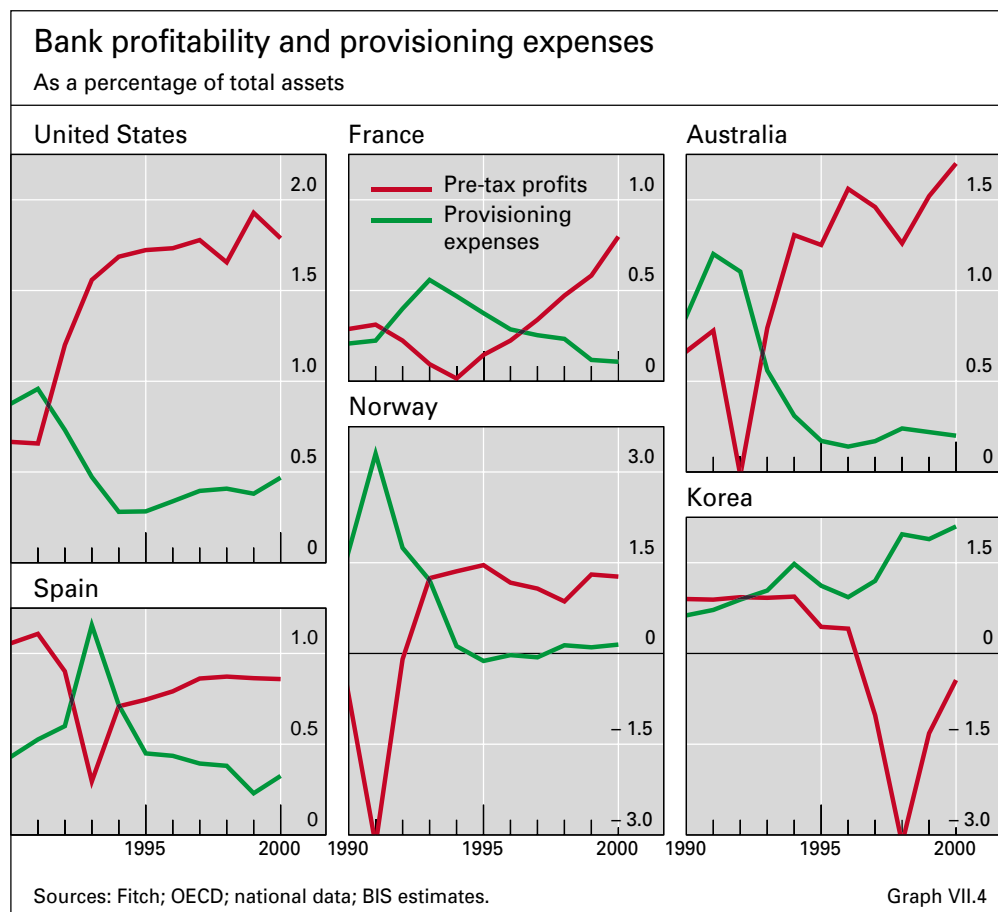
States too, a loosening of credit standards, particularly in the period 1996–98, contributed to rapid growth in syndicated loans to below investment grade firms and in sub-prime lending to households. Similarly, this period saw a significant increase in the issuance of relatively high-risk corporate bonds. In Europe, lending standards were also eased in the second half of the 1990s, as evidenced by an increase in loan-to-value ratios for residential mortgages in some countries.

... narrowing credit spreads ...

The price of credit risk also moves procyclically, falling in economic booms and increasing in downturns. During periods of rapid credit growth, many banks are prepared to shave lending margins to sustain, and even build, market share. For example, in Japan in the late 1980s and across Asia in the mid-1990s, lending spreads were barely high enough to cover operating costs. In the United States, bank lending margins on commercial and industrial loans fell during much of the 1990s before increasing in 1998, particularly for the most risky borrowers. Lending margins have also been under downward pressure in a number of European countries, partly due to an intensification of competition. The cyclical movement in the price of credit risk is also evidenced in bond spreads, with credit spreads tending to narrow in periods of strong growth and widen in recessions.

... and higher bank profitability ...

An important factor underlying these general patterns is the tendency for bank profits to rise in economic booms and to fall, often sharply, in economic downturns. The decline in profitability in downturns often leads to a lower tolerance for risk, and in some cases to a noticeable reduction in the



Profitability of major banks in 1999 and 2000									
	Number of banks	Pre-tax profits		Provisioning expenses		Net interest margin		Operating costs	
		1999	2000	1999	2000	1999	2000	1999	2000
		as a percentage of total average assets							
United States	12	2.17	1.79	0.44	0.63	3.34	3.22	3.84	4.10
Japan <sup>1</sup>	16	0.42	0.37	0.90	0.52	1.14	1.07	0.89	1.01
Germany	4	0.43	0.55	0.28	0.18	0.95	0.82	1.65	1.74
France	4	0.69	0.83	0.20	0.18	1.14	0.94	1.85	1.91
United Kingdom	4	1.43	1.53	0.33	0.21	2.30	2.21	2.40	2.39
Canada	6	1.17	1.31	0.24	0.29	1.94	1.93	2.59	2.74
Spain	4	1.21	1.33	0.33	0.35	2.62	2.63	2.65	2.62
Australia	4	1.72	1.85	0.24	0.20	2.72	2.43	2.55	2.39
Sweden	3	0.84	1.09	0.01	0.07	1.27	1.39	1.50	1.66
Switzerland	2	0.82	0.96	0.12	0.04	0.70	0.73	2.55	2.90

<sup>1</sup> 1999 figures refer to the fiscal year ending 31 March 2000; figures for 2000 are annualised first half data for the fiscal year 2000.  
Source: Fitch. Table VII.2

supply of credit, with banks typically either reorienting their portfolios towards relatively safe assets or charging higher lending margins.

The main contributor to the cyclical pattern in bank profitability is the cyclical nature of aggregate loan losses, and in particular that of provisioning for these losses. For reasons discussed later, provisioning only increases after a significant deterioration in credit quality has materialised. This means that, typically, provisions only rise in economic downturns and often do so over a very short period of time.

The close relationship between profits and provisions is evident in the current cycle. Over the second half of the 1990s, the return on equity for commercial banks in the United States persistently exceeded returns earned over at least the previous 20 years. At the same time, the provisioning expense incurred by US banks declined significantly. Similarly, the rate of return on bank equity in the euro area, while substantially lower than in the United States, steadily increased during the 1990s with a simultaneous decline in provisioning expense. Recently, high levels of bank profitability have also been supported by low levels of provisioning expense in Australia, Sweden and the United Kingdom.

... explained, in part, by a decline in provisioning for bad loans

## Mechanisms behind financial amplification

To the extent that the financial system can be regarded as excessively procyclical, the main underlying explanations rely on inappropriate responses by financial market participants to changes in risk through time. These inappropriate responses can arise from a variety of sources, including the way in which risk is assessed, the incentives that individuals face in responding to a given assessment, and the nature of the regulatory framework. Of these three factors, the assessment of risk through time is probably the most important.

### *The assessment of risk through time*

Favourable  
economic  
developments ...

Financial cycles often have their origin in favourable supply side developments. History is replete with examples of economic liberalisation, the discovery of new resources or the development of new technologies spurring strong economic growth and generating a powerful wave of optimism. The optimism is often reinforced by the fact that these developments cause not only an acceleration in economic activity, but also a reduction in inflation and an increase in the share of national income going to profits.

... justify higher  
asset prices ...

In such favourable circumstances, substantial rises in asset prices are warranted. The difficulty is that the size of the increase is not well anchored, depending as it does on expectations of an uncertain future. In many business cycle expansions, expectations appear to become overly optimistic and, consequently, risk appears to be underestimated. The result is that asset prices can be bid up to unsustainable levels and credit growth can far outstrip growth in nominal GDP.

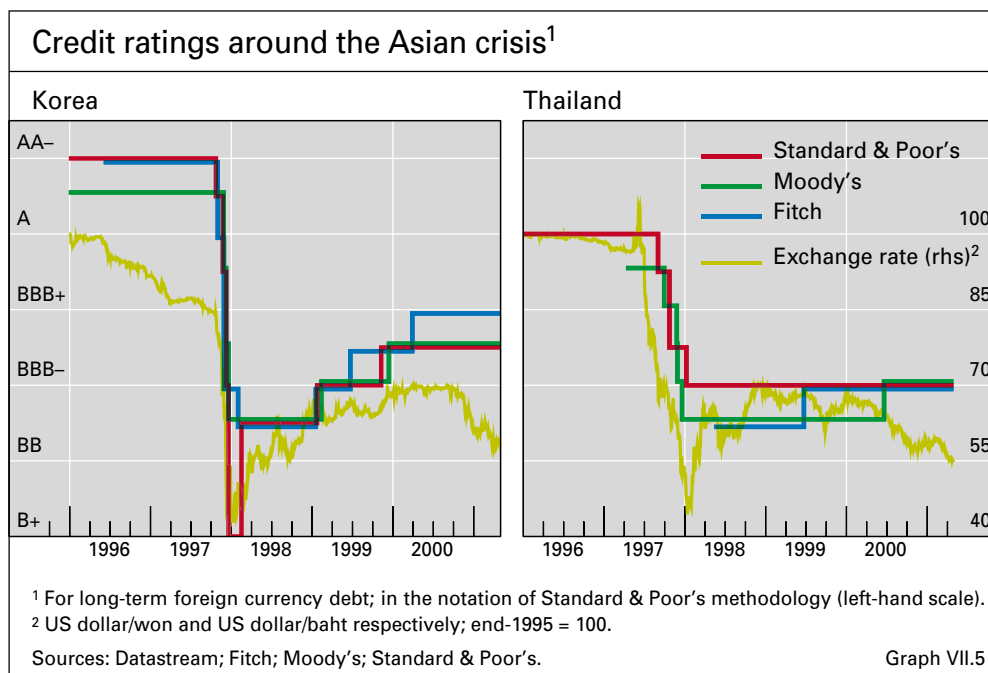
... but  
overoptimism ...

The tendency for investors, entrepreneurs and financial institutions to become overly optimistic in booms can be explained by a number of factors, some of which rely on cognitive biases. Psychological experiments indicate that when individuals evaluate possible outcomes they tend to exhibit “disaster myopia”, placing too little weight on low-probability adverse events. Moreover, there is a tendency for individuals to relieve “cognitive dissonance” by routinely interpreting information in a way that reinforces prevailing beliefs. A consequence of these biases is that in a period of strong growth, low inflation and high profitability, information is often interpreted as being consistent with a continuation of favourable conditions while accumulating evidence of possible future problems is heavily discounted. But if growth should slow under the weight of financial imbalances and overinvestment in physical capital, or if profitability declines due to increased competition and faster wage growth, such beliefs can suddenly shift, and subsequent information will be interpreted in a much more negative light. A wave of pessimism can then quickly follow.

... and the  
tendency to  
extrapolate present  
conditions ...

Another related explanation for the underestimation of risk in recent booms is the tendency for many of the risk measurement approaches currently in use to implicitly extrapolate present conditions into the future. For example, methodologies for measuring credit risk that rely on equity prices tend to show a lower risk of corporate defaults in booms, as equity prices are rising and volatility is falling. Similarly, the internal ratings systems used by banks to measure risk tend to indicate a decline in risk when current default rates are low. In part, this reflects the short horizons over which risk is often measured using such systems. Also, external credit ratings are often only adjusted after the materialisation of adverse events, rather than when risk is building up. As an illustration, during the Asian crisis ratings downgrades mostly occurred only after the large devaluations had taken place, with ratings rising once again as the crisis passed.

The extrapolation of current conditions may be appropriate if macro-economic conditions are very persistent. In this case, the current state of the economy provides the best, albeit imprecise, guide to the future. If this



view of the world is correct, an implication is that risk might not increase in an economic boom since there is no reason to expect that, simply because the economy has experienced a period of strong growth, a downturn in the near future is more likely. In contrast, if the forces that generate the boom sow the seeds of the downturn, as often appears to be the case, then, at some point during the boom, risk begins to build up. The subsequent rise in defaults in the downturn might therefore be better thought of as the materialisation of risk built up during the boom, rather than as an increase in risk in the downturn.

From a practical perspective, it is difficult to identify if and when risk actually begins to increase during a boom. There are no clear answers. However, history suggests that episodes of rapid credit growth, strong gains in asset prices, narrow lending spreads and high levels of investment tend to be followed by stresses in the financial system. Such periods are arguably characterised by higher than average levels of risk, even if current economic conditions are strong. The failure to recognise this risk can play an important role in amplifying the upswing of a financial cycle.

... can amplify an economic upswing

### *Incentives*

The incentives that lenders face in responding to a given assessment of risk can also affect the evolution of financial cycles. Perhaps the clearest example is the incentive for an individual bank to tighten lending standards in a downturn. While each bank might reasonably assume that the health of the economy is independent of its own actions, this leads to a fallacy of composition in that, if every bank behaved in the same way, the health of the economy would almost surely be affected. Even if an individual bank recognised this fallacy, it would still have an incentive to tighten lending standards in a downturn. This incentive might be overcome through some

The divergence of private and social incentives ...

form of coordination across institutions, but such an approach is problematic in competitive banking systems.

... can also exacerbate the procyclicality of the financial system

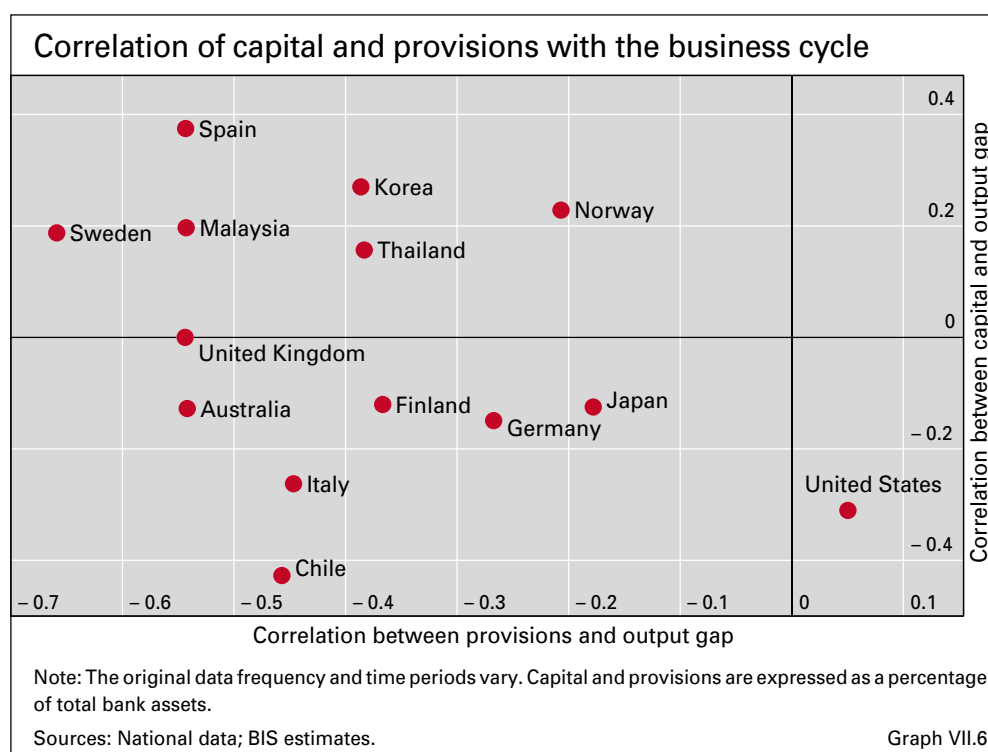
Incentives can also be distorted by the existence of improperly designed financial safety nets and various forms of limited liability. These arrangements can lead to lenders giving insufficient weight, from a social perspective, to downside scenarios, since some of the losses incurred in these scenarios are likely to be borne by others, including taxpayers. Finally, remuneration arrangements that focus on short-run outcomes and relative, rather than absolute, performance may discourage a long-term perspective and an assessment of aggregate risk.

### Accounting and regulatory policies

The design of accounting and regulatory rules can also affect the way in which financial institutions respond to changes in perceived risk. Nevertheless, the recurrence of financial cycles throughout history suggests that the structure of regulation is not the primary factor causing these cycles.

Provisioning rules are currently backward-looking ...

As noted earlier, provisioning practices are an important factor influencing the cyclicity of bank profitability. In many countries, accounting rules only allow a provision to be created after a clearly verifiable deterioration in credit quality has occurred. Moreover, there are often restrictions on the tax deductibility of provisioning expenses. The result is that it can be difficult for a bank to increase provisions in an economic boom even if it correctly judges that the future ability of its borrowers to repay has deteriorated. While the additional profits that arise from underprovisioning could be retained on the bank's balance sheet, rather than paid out as dividends or used to finance share buybacks, this is not always possible given the pressures on bank management to maximise the return on equity.

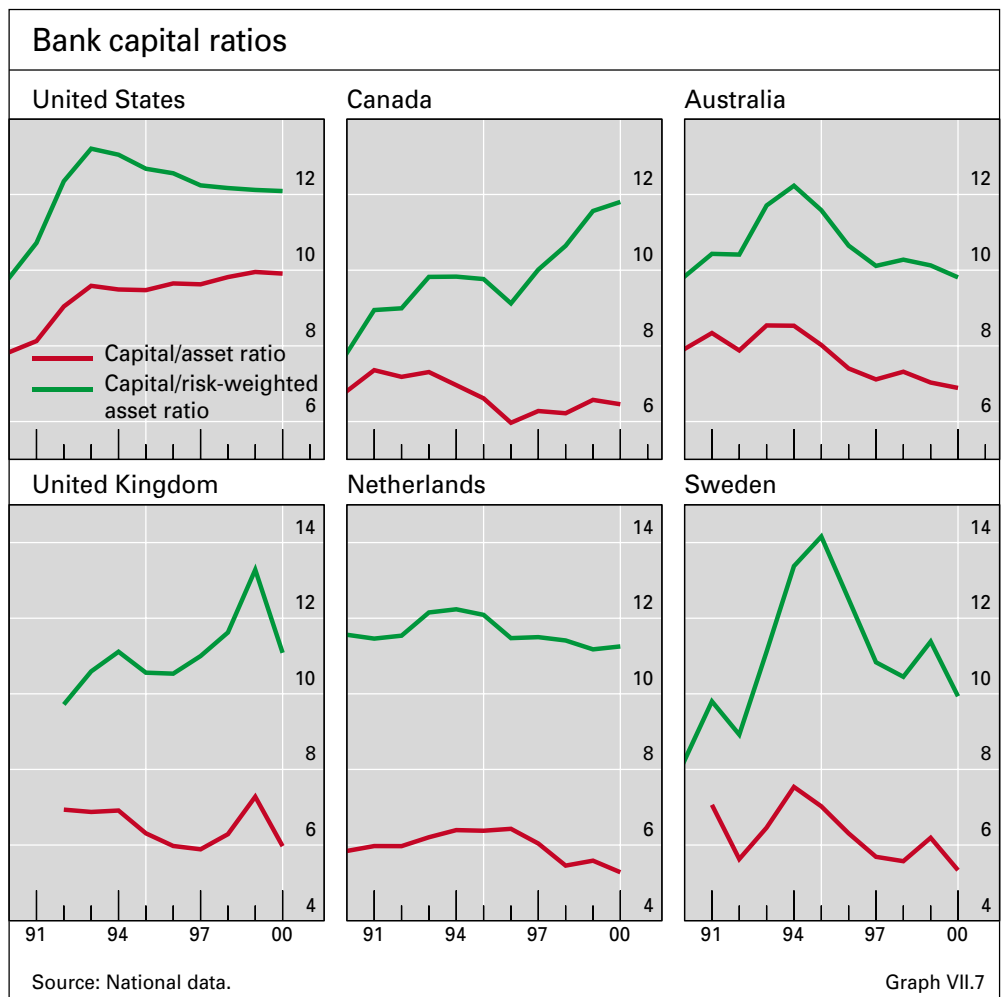


The structure of bank capital regulation can also potentially affect the dynamics of financial cycles. While a regulatory system built around minimum capital ratios might contribute to the overall stability of the financial system, it might also, under certain circumstances, exacerbate economic downturns. The reason is that widespread losses might cause a number of banks to significantly cut back lending, in particular to avoid the substantial reputational and other costs that can arise if minimum capital ratios are breached. Any tightening of controls or lending standards in response to the losses might also amplify the downturn.

While the evidence on the importance of these regulatory channels is mixed, it seems reasonable to suggest that the contraction of bank lending that typically accompanies an economic downturn would be mitigated if capital ratios rose during the preceding upswing. Current capital rules require an increase in the *level* of capital in a boom if lending is expanding, but they do not require an increase in the *ratio* of capital to assets. In fact, under current rules, the capital requirement for a given portfolio does not change through time as the riskiness of the portfolio changes. Moreover, given the potential for underprovisioning in economic booms, the banking system's overall cushion to offset losses may even fall during such periods.

... and current minimum capital requirements are not very risk-sensitive

Looking across countries, there does not appear to be a robust relationship between banks' actual capital *ratios* and the business cycle. Since



Capital ratios do not move systematically with the business cycle

the mid-1990s, some banking systems have recorded an increase in the aggregate capital ratio, while in others this ratio has declined. Perhaps the clearest observation to emerge from cross-country comparisons is that in those countries that experienced banking system problems in the late 1980s and early 1990s, capital ratios rose substantially only after the problems surfaced. They then declined gradually as economic expansions became firmly entrenched. To some extent, the rise in capital ratios in the early 1990s may have reflected regulatory pressures, but another important factor was the need for the troubled banks to demonstrate their renewed strength to the market. Once this had been done and economic growth had recovered, the higher capital ratios came to be seen as an impediment to shareholder value and, as a result, subsequently declined.

### Possible policy responses

Policymakers can respond to financial cycles ...

In principle, supervisory, regulatory and monetary policies could be used to respond to the problems created by the recurrence of financial cycles. An important issue for policymakers, however, is whether they should respond in this way and, if they were to do so, what form the policy response should take.

One common view is that the best contribution policymakers can make to financial and macroeconomic stability is to ensure that inflation is low and stable, that the financial infrastructure meets widely accepted international standards, and that adverse financial events are addressed in a timely fashion. Proponents of this view point to the fact that many of the cycles that ended in severe financial stress have occurred in countries where inflation was high or bank supervision was weak and market disclosure inadequate. They also highlight the practical problems (discussed later) of framing a more activist policy response.

... but opinions differ ...

An alternative view is that while the above conditions are necessary for the maintenance of financial stability, they are not sufficient. In particular, it is clear that even low-inflation countries remain susceptible to costly financial cycles arising from waves of excessive optimism. Accordingly, it could be argued that financial and macroeconomic stability would be enhanced by the authorities giving more serious consideration to policies that reduce the sensitivity of the economy to these cycles or, more ambitiously, contain their development through discretionary changes in regulatory and supervisory instruments or in policy interest rates.

... on whether and how this should be done

In part, these different views, at least with respect to the feasibility and desirability of discretionary changes in policy instruments, reflect different assessments of whether financial imbalances can be identified by policy-makers. While unsustainable credit booms and asset price misalignments are easily identifiable *ex post*, they are much more difficult to spot *ex ante*. One line of argument is that policymakers are unlikely to make consistently better judgments about the sustainability of current trends than are private institutions. As a result, they should refrain from interventions designed specifically to contain the upswing of a financial cycle. A counterargument

is that the case for a policy response need not depend upon the ability of policymakers to make better judgments than the private sector. Rather, the fact that policymakers have different responsibilities and incentives may well mean that they respond quite differently to the same assessment of current trends. For instance, policymakers are likely to be more concerned than the private sector with potential downside scenarios, particularly if there are common exposures across financial institutions. They might also be expected to have longer time horizons and to have incentives that are not distorted by the existence of a financial safety net.

### *Supervisory and regulatory policies*

If policymakers are to respond to the recurrence of financial cycles, an obvious starting point is to do so using prudential supervision and regulation. Here the authorities have three broad options: improving the public's understanding of aggregate risk; establishing rules that make the financial system and the macroeconomy less vulnerable to financial imbalances; and responding directly to imbalances by making discretionary changes in prudential requirements.

The first of these options addresses the central issue of the measurement of risk through time. The supervisory authorities might be able to improve the public's assessments of aggregate risk by, for example, the publication of reports and speeches by senior officials. Supervisors could also ask financial institutions to carry out stress tests directed at highlighting and assessing exposures to particular vulnerabilities, and require additional reporting or disclosure of risks. Steps in this direction have recently been taken by some supervisors in countries experiencing rapid credit growth and large increases in property prices.

Policymakers can highlight changes in risk through time

The second option is to design regulatory arrangements that might act as a kind of built-in stabiliser, limiting the procyclical nature of the financial system. In this regard, the rules governing bank capital and provisioning are particularly important. Together, capital and provisions provide a bank's main protection against adverse events, with, in principle, capital protecting against unexpected losses and provisions covering embedded or expected losses.

Regulatory arrangements such as ...

Changes recently proposed by the Basel Committee on Banking Supervision to the rules regarding bank capital will align *relative* capital requirements much more closely with measures of *relative* risk. This will by itself significantly lessen many of the distortions that have arisen under the current Capital Accord and strengthen the soundness of financial institutions. Moreover, refinements to relative capital requirements and an increased emphasis on supervisory review and disclosure (Pillars 2 and 3) are likely to contribute to earlier recognition of problems by supervisors, banks and markets. To the extent that this leads to less regulatory forbearance and to earlier corrective action, many of the worst excesses associated with the financial cycle might be avoided.

... minimum capital requirements ...

The proposed changes also mean that the regulatory capital requirement on a given portfolio will change through time in line with the evolution of *measured* risk. This has the potential to further increase banks' soundness and



reduce the procyclicality of the financial system. The degree to which this potential is realised, however, depends in part on how closely measured risk tracks underlying risk. If risk is underestimated in an upswing, then regulatory capital requirements in a boom may well be too low, leaving the banking system unduly exposed to an economic downturn. On the other hand, the stability of the financial system is likely to be enhanced if the emergence of financial imbalances leads to the recognition of increased risk and hence to higher levels of capital in the banking system.

In measuring risk an important issue is the time horizon over which the assessment is made. The proposed changes to the Capital Accord do not specify a particular assessment horizon; banks are expected to evaluate risk over the future based on current conditions and their experience with the borrower. The proposals note, however, that given the difficulties in forecasting *distant* events, a bank must take a conservative view of the projected information. At the same time, in quantifying risk for the calculation of capital requirements, the proposals rely on the one-year probability of default associated with a given risk category, as is common practice. An open issue is whether this quantification method will lead banks to also assess risk over a one-year horizon. If so, then risk assessment may arguably become too short-sighted. Assessment horizons longer than one year might be appropriate if the time taken by a troubled bank to raise capital or restructure its balance sheet is usually longer than one year. This is more likely to be the situation if the troubles are shared by a number of banks. Moreover, there may be a case for longer assessment horizons if the one-year horizon leads to frequent shifting of loans between risk categories, generating undesirably large swings in required minimum capital ratios over the course of a business cycle.

... forward-looking provisions ...

Provisioning rules can also be designed to act as a form of built-in stabiliser. A step in this direction has been taken in Spain. Under recently introduced rules, banks are required to create a provision against future losses at the time a loan is originated, with the size of the provision being determined by the long-term historical loss experience for the particular type of loan. This approach is likely to reduce the cyclicity of bank profitability by increasing provisioning expense in good times, with the additional provisions providing a cushion against loan defaults in bad times.

Such rules, however, have been criticised on conceptual grounds. The creation of a provision leads to a writedown of the net assets of a bank. From an accounting perspective, such a writedown at origination is generally considered inappropriate, since the fair value of a correctly priced loan should not be less than its face value. While supervisors might take comfort from the additional cushion that the writedown provides, accounting authorities often argue that this type of rule-based provisioning can lead to a distorted picture of the true health of an institution.

Another approach to provisioning is to require a provision to be created whenever the interest margin on a loan does not cover the expected losses arising from a possible default. Under this approach, provisions would generally not be required at origination, assuming that the risk has been fairly

priced, but might be required subsequently if the bank assessed that a borrower's credit quality had deteriorated and the loan rate remained unchanged. An extension of this approach would be to do away with provisions for bad loans and to move to full fair value accounting for all financial assets and liabilities.

Whatever the merits of forward-looking provisioning and, ultimately, full fair value accounting, there are a number of important difficulties. First, given that loans typically do not trade in markets, their valuation is inevitably subjective, depending on the bank's own assessment of the likelihood of repayment. Some accounting authorities worry that this subjectivity opens up the possibility for bank management to artificially smooth profits. Second, the impact of forward-looking provisioning and fair value accounting on the cyclical nature of the financial system depends very much on whether risk is assessed correctly through time. If risk is systematically underestimated in economic booms, loans will tend to be overvalued during periods of strong growth, either indirectly through underprovisioning or directly in the case of fair value accounting. In such circumstances, extending fair value accounting to all financial instruments would contribute to the procyclicality of the financial system. On the other hand, if risk is correctly assessed to increase in long-running expansions, then cyclical nature is likely to be reduced, with banks recognising that some of the income earned in good times effectively represents the payment of a premium to cover expected defaults in a downturn.

If the misassessment of risk is a significant problem, the case for some form of enforced provisioning at origination is stronger. Given the objections of accounting authorities, one option would be for supervisors to require financial institutions to hold capital not only as cover for unexpected losses, but also to cover some form of "prudential provision", calculated on the basis of long-run average loss experience. The effect of this would be to increase the amount of capital in the system during periods of low loan defaults.

The rules regarding collateral valuation and loan-to-value ratios could also act as a form of built-in stabiliser. Countries that have used long-term valuation concepts in valuing collateral, and that have enforced strict loan-to-value ratios for mortgage lending, appear to have had less procyclical financial systems, although the exact role of these factors is difficult to disentangle from other factors. Within the framework of the proposed changes to the Capital Accord, one option would be an explicit recognition that, through time, collateral values tend to be correlated with the probability of default, so that in periods in which loan losses are likely to be high, collateral values are likely to be low.

The third supervisory option, relying not on rules but on discretion, is to vary regulatory capital and provisioning ratios through time in response to changes in aggregate risk. This could be done by explicitly changing the minimum capital requirements that apply to all banks or by implementing changes on a bank by bank basis through the process of supervisory review. Either approach might be justified if supervisors thought changes in aggregate risk were not being adequately factored into individual banks'

... and valuation principles can serve as built-in stabilisers

Prudential requirements might also be changed through time ...

decisions. In a boom, higher levels of capital and provisions might help retard the development of financial imbalances by making lending more expensive and would increase the banking system's protection against a possible downturn. Such a response could be viewed as consistent with a strengthening of the macroprudential focus on financial regulation.

... but this presents particular problems for policymakers ...

Varying capital and provisions in a discretionary way through time, however, poses a number of challenges. Foremost amongst these is the identification of the relevant cycle. Another is the potential for such adjustments to create moral hazard. If the private sector came to believe that the authorities had adopted a regime in which policy instruments were systematically adjusted to contain overall financial system risk, then less attention might be devoted to the assessment of aggregate risk. Furthermore, if an episode of financial instability did occur, the authorities might feel partly to blame for not having adjusted their policy instruments earlier. As a result they might be less likely to take the required corrective action and more likely to engage in public sector bailouts. Moreover, the authorities' reputation could be damaged, ultimately undermining their ability to carry out their responsibilities.

... although infrequent changes need not be ruled out

At a more practical level, there are also many difficult implementation issues. For example, should any changes apply to all banks or should they be made on a bank by bank basis through the process of supervisory review? If they are to be made on a bank by bank basis, should they apply only to those banks with the greatest exposures to the cycle, or just to those that are the most systemically important? How would supervisors make the necessary judgments, and how would they defend their judgments publicly? Finally, would such supervisory action simply push financing into the unregulated sector? The difficulty of resolving these issues means that it is problematic for supervisors to vary capital and provisions frequently with the goal of reducing the amplitude of financial cycles. However, they need not rule out changes on an infrequent basis.

### *Monetary policy*

Monetary policy can also be used to address financial cycles ...

Monetary policy can also, in principle, be used to address financial cycles. The basic rationale is simple. The expansion of credit is an essential ingredient in the build-up of imbalances in the financial system and in any concomitant excessive accumulation or misallocation of real capital. As already noted, the stability of the general price level of goods and services may not provide a sufficient safeguard against such excesses and hence against the risk of financial instability. In present-day fiat monetary regimes, as opposed to commodity-based regimes, such as existed under the gold standard, the main exogenous constraint on the creation of credit in the monetary sphere is the reaction function of the authorities, typically in the form of adjustments to policy interest rates. Unless that reaction function includes a response to the build-up of financial imbalances, these imbalances could be unwittingly accommodated.

... but this raises difficult issues, including ...

This argument, however, also raises a number of thorny issues. They include the identification of potential imbalances, the reconciliation of

financial stability with the objective of stabilising prices and the efficacy of interest rate adjustments in dealing with financial imbalances.

From the perspective of the identification of financial imbalances, the situation of the monetary authorities is fundamentally similar to that of their prudential counterparts. Both are confronted with significant challenges in identifying financial imbalances *ex ante*. Nevertheless, one difference is that, if the central bank does not perform supervisory functions, it might lack adequate access to supervisory information. It is not, however, entirely clear how detailed the information about individual institutions needs to be to identify the more generalised imbalances that typically lie at the root of system-wide instability. To the extent that this information is important, appropriate mechanisms for its provision to the central bank could be developed. Another possible difference is that, by virtue of its broad responsibility for macroeconomic stability, the central bank may actually be more keenly aware of the general interactions between the financial system and the macroeconomy.

... identifying  
financial  
imbalances ...

A second issue is whether the use of interest rates to address financial imbalances is potentially inconsistent with a central bank's price stability objective. Over recent years, many central banks have adopted regimes in which the policy interest rate is set to ensure that the expected inflation rate at the forecast horizon is at, or close to, the target rate. Under a narrow interpretation of these regimes, a central bank should only respond to developments in the financial sector if those developments affect the inflation forecast. Under a broader interpretation, however, there could be circumstances in which financial imbalances are developing and where it would be appropriate to set interest rates at a higher level than warranted by the immediate inflation outlook. The rationale for doing so would be that, by containing the financial imbalances, the central bank might help avoid future financial instability, and perhaps even a related undershoot of its inflation objective. While the higher interest rates might be at the "cost" of some deviation of inflation from the target in the short run, such a policy could be viewed as consistent with ensuring price stability over some longer horizon.

... resolving  
potential conflicts  
with other goals ...

The potential tension between financial stability and a narrow interpretation of inflation targeting is perhaps clearest in periods in which favourable supply side developments have resulted in strong growth, a reduction in inflation and overly optimistic expectations about the future. In such an environment, the real return on capital, and thus the "natural" (or Wicksellian) rate of interest, is likely to have risen. Yet an inflation targeting framework might actually call for lower interest rates (see Chapter IV). Such a reduction in rates, however, might simply reinforce the wave of optimism, particularly if the central bank is seen as highly credible, ultimately contributing to even larger financial imbalances.

While higher interest rates may be appropriate in these circumstances, such a policy can create significant political economy problems. Given the current understanding of how monetary policy is set, it may be difficult for the central bank to explain convincingly to the public why interest rates are being increased for financial stability reasons if there are no obvious inflation

pressures. Moreover, if the central bank is successful in containing financial excesses, it may come under criticism for undermining what to many people appeared to be a strong and sustainable boom.

Conversely, lowering interest rates for financial stability reasons does not appear to present the same type of political economy problems. This raises the potential for asymmetric responses, with central banks cutting official rates rapidly after a financial disturbance, but being reluctant to increase them when financial imbalances are building up. This may encourage risk-taking, with the public expecting that monetary policy will be used to “bail out” the financial system whenever a disturbance occurs.

A third issue is the effectiveness of higher interest rates in containing financial imbalances. On the one hand, the use of monetary policy might be preferred to supervisory policies on the grounds that higher interest rates would affect regulated and unregulated entities alike. On the other hand, a relatively small increase in rates might actually be counterproductive if it led to greater confidence in the central bank’s anti-inflation commitment and hence even more optimistic expectations about the future. As a result, large increases in interest rates might be required to make an appreciable difference. The effect of such increases would, however, be difficult to predict. Moreover, unless the increase in rates were reversed quickly when the financial imbalances began to unwind, a severe recession might follow, with the economy labouring under the combined effect of falling asset prices and high real interest rates.

These difficulties mean that, as is the case with supervisory policies, considerable caution needs to be exercised in using monetary policy specifically to contain financial imbalances. However, these difficulties need not rule out the very occasional use of monetary policy in this way.

In framing any response, the need for coordination amongst authorities with different responsibilities is particularly important. In most countries, the various instruments discussed above are not under the control of a single institution. Prudential supervision is often undertaken outside the monetary authority, and tax, accounting and disclosure rules are set by still other policymakers. Further, not all these policymakers have financial stability as a core objective. Without the requisite coordination between central banks and supervisory, taxation and accounting authorities, there is a risk that appropriate policy responses might not be forthcoming.

... and ensuring the policy’s effectiveness

In framing any policy response, coordination is important

## VIII. Conclusion: the recent past as prologue?

All eyes turned towards the United States as growth in the world's largest and most vibrant economy decelerated abruptly in the second half of last year. Moreover, answering the obvious question – where to from here – took on added importance given the failure of Japan to show signs of sustainable recovery amid indications of softening elsewhere. These events confirm that the business cycle has not disappeared. Moreover, they indicate that those forecasters who simply extrapolate the recent past are sure, by definition, to miss the turning points. This lesson applies to bankers, trying to anticipate future loan losses, as surely as it applies to economists.

These developments also sparked debate about the limitations of a number of policy prescriptions which still enjoy widespread support. Low inflation, while just as desirable as ever, increasingly appears to be an insufficient condition for ensuring macroeconomic and financial stability. Likewise, the achievement of a sound banking system does not preclude disruptive financial turbulence arising from other sources. Finally, it has become increasingly apparent that monetary authorities and financial regulators can no longer do their jobs adequately without effective domestic and international dialogue. Sadly, these new insights lead only to the old conclusion that things always turn out to be more complex than they appear at first glance.

Making predictions about the near-term growth prospects for the United States is complicated by the coexistence of a number of competing paradigms, all of which have some plausibility. The first to be advanced has a supply side focus, and might be called the “new era” story. It emphasises the increased growth potential of the United States, higher underlying profits justifying higher asset prices, and the greater capacity of firms to prevent large inventory swings. This is essentially a soft landing scenario implying a V-shaped recovery. The second story is more demand-oriented and, thus, has a somewhat Keynesian flavour. On this view, regardless of positive supply side developments in the United States, aggregate demand has grown too fast and for too long. Unwinding such excesses in the postwar period has always entailed a period of below par growth, even in cases where measured inflation was not high. The third paradigm emphasises both supply side and demand side elements, and has its intellectual roots in European thinking during the prewar period. A cycle begins with accelerating credit expansion and optimism possibly justified by new technology, followed by “excessive optimism” and overinvestment. It ends with the collapse of profits feeding back into stock prices and, eventually, a reduced capacity of the financial system to support new spending. Clearly, this last scenario would imply a harder landing, even without having been preceded by any significant degree of aggregate inflation.

Whichever paradigm one subscribes to, developments in the United States seem likely to affect other countries more than in the past, and vice versa. On the real side, trade links have been growing for decades. More recently, flows of foreign direct investment and mergers and acquisitions in particular have greatly magnified the role played by multinational firms, whose consolidated profits increasingly reflect developments worldwide. Moreover, the growing complexity of the international supply chain for high-tech products means that inherent product cycles in this rapidly expanding industry have powerful effects virtually everywhere. Improved communication in itself has facilitated the international transmission of shifts in mood and confidence, with attendant effects on consumption and investment.

Capital markets, whose size and scope have greatly increased in recent years, provide further international linkages. There has been a growing tendency for bond rates, stock prices, credit spreads and risk premia in various markets to show similar movements, with the direction commonly set in the United States. Moreover, these connections also increase the likelihood that any failure in the functioning of one market will quickly be manifested elsewhere. Such linkages are clearly important in themselves, but they also imply that the diversification of risk in capital markets could become progressively more difficult. And, as was seen at the time of the LTCM crisis, never more so than when the markets are under stress. Finally, while the process of consolidation within the financial industry remains primarily domestic, growth in the cross-border activity of the largest banks provides another channel through which shocks could be transmitted internationally.

Given these linkages, two simple implications suggest themselves. The first is that domestic policies have international effects and are thus a legitimate subject for international debate. The delayed restructuring of the Japanese corporate and financial system could affect many non-Japanese, particularly in East Asia. Should the US downturn last longer than expected, any failure of European policymakers to sustain growth in Europe would be bound to have repercussions elsewhere. In addition, how US policies might seek to cushion a protracted downturn, and the importance policymakers might attach to resulting exchange rate movements, is clearly of great significance to the world in general and to those who have recently invested in the United States in particular. Similarly, policies designed to make domestic financial systems more resilient would obviously be of interest to foreign institutions potentially offering new sources of investment capital and expertise.

The second implication is that there needs to be more, and more effective, international cooperation. Meeting this need will be made more difficult if the new governments in Washington and Tokyo choose to focus more single-mindedly on domestic affairs, if the European Union becomes too preoccupied with the issue of enlargement, and if policymakers from emerging markets shun all cooperation because they feel marginalised by processes centred in the industrial countries. There is also a growing risk that, if the less palatable implications of globalisation are not effectively managed, developments could tilt in the opposite direction. Excessive reliance

on regional solutions is one possibility. Recourse to outright protectionism, which is still thought to be a viable option by many, is another. Should the eruption of long-standing latent trade frictions or worsening economic circumstances bring such tendencies to the surface, they will have to be vigorously resisted if the economic gains of the last few decades are not to be jeopardised.

## Policies to promote macroeconomic stability and growth

Good policymaking demands knowing not only what the objective is but also how to achieve it. As this Annual Report went to press, uncertainty attended both issues. For many commentators, a rapid rebound in spending and growth in the United States seems clearly desirable. It would avoid an extended slowdown and validate the potential offered by the new economy. Moreover, arguments can be mustered to support the view that such an outcome is possible, albeit likely to need some assistance from policy. Consumers still have assets vastly in excess of their liabilities. Stock market analysts still expect profits to recover to a double digit growth path and investment to be boosted accordingly. The continuing strength of the dollar and large capital inflows to the United States seem to offer further grounds for optimism.

Others, however, question both the desirability and the likelihood of such a quick recovery. There are many well recognised financial imbalances in the US economy, including historically high debt levels for both consumers and corporations, and a mounting external debt as well. This leads some to conclude that an only moderate recovery and expansion might actually be a better outcome, as it would allow the imbalances to be worked off gradually and avoid the possibility of a still sharper setback later. This conclusion would be bolstered by any doubts as to whether the growth rate of potential output has really accelerated as much as some have claimed. If not, a robust recovery might more easily reignite inflationary pressures.

For those who would consider it prudent to avoid a sharp rebound, it is perhaps fortunate that the same financial imbalances make such an outcome seem less likely. There also appear to be other forces working in the same direction, perhaps quite powerfully. Stock prices have already fallen a long way but, by most traditional measures, equities still seem highly valued. The outstanding stock of recently purchased consumer durables and loss-making investment in equipment, particularly in the IT area, could easily lead to new spending being postponed. If demand did slacken, the downside of faster productivity growth would be fewer hours worked and more unemployment, with feedback effects on consumer confidence. For its part, the financial sector, once it begins to focus on the risks to which declining corporate profits are exposing it, might also prove unwilling to finance new spending plans for quite some time.

The Federal Reserve initially perceived the balance of these risks to be on the downside. In early January this year it began a process of aggressively reducing interest rates which continued through to mid-May. Concerns that



prevailing high debt levels and tightening credit standards might limit the effects of these moves were mitigated by the fact that there was seen to be scope for further cuts if deemed necessary. The decline in benchmark long-term rates up to March 2001 was consistent with such an expectation, and also with the view that the Federal Reserve would not be constrained by any significant increase in inflationary pressures. Since then, however, worries about inflation have been voiced more frequently, as long rates rose back above levels seen prior to the easing of policy. Higher levels of compensation, a downturn in productivity growth, persistent energy shortages and the implications for inflation of a possible fall in the dollar were all sources of concern.

The near-term outlook for the US economy will also be influenced by the ultimate shape of the tax cut legislation proposed by the new administration. A tax reduction of \$1¼ trillion, to be implemented between 2002 and 2011, has already been approved by Congress. However, it remains uncertain whether a tax rebate with effect for this year will also be included in the final legislation. The desirability of such a rebate depends very much on the macroeconomic outcome envisaged. If the economy recovers rapidly, a front-loaded fiscal expansion will tend to worsen underlying savings deficiencies in the United States. Conversely, this rebate would be more appealing if the economy was expected to be significantly weaker. The problem of course is that such a policy decision has to be made up front, based on a highly uncertain macroeconomic forecast.

What can be said with considerably more certainty is that restoring prospects for a recovery in profits will go a long way towards offsetting any prolonged economic weakness. Fortunately, the United States has many attributes in this regard. Labour markets and wages tend to be flexible and the legal structure for organising debt workouts and closing excess capacity is well established. The financial industry, while sharing in the diminished expectations for profits, appears generally sound. The fact that the overhang of investment goods is primarily in the IT sector, where depreciation rates are rapid, is also expected to prove helpful. Moreover, since the savings and loan crisis of the early 1990s, politicians have understood more clearly that the early resolution of financial sector problems is ultimately much less costly than forbearance.

Such strengths cannot be said to characterise the Japanese economy. On the contrary, the decade-long process of corporate and bank restructuring left a legacy of trend declines in asset prices, excess industrial capacity and, above all, continuing poor prospects for profits. The major impediment to fundamental change is still the special interest political system in Japan and the culture of mutual obligation. Ongoing fiscal infusions and guarantees to support the economy, while originally intended as stopgap measures, have been increasingly used as a substitute for politically painful measures which would threaten the survival of many firms and temporarily raise the unemployment rate. While there is now more talk of action under a new prime minister, this will only materialise once a political consensus has emerged for real change.

Another unfortunate problem is that not only does the prospective pain of restructuring intensify the longer it is delayed, but the ability of policymakers to ease the pain with macroeconomic stimulus becomes more circumscribed. Policy interest rates in Japan have effectively reverted to zero and, with prices still falling, real interest rates are once again positive. Moreover, successive fiscal packages have raised the ratio of public debt to GNP to more than 120%. Nevertheless, were far-sighted structural reforms to proceed, it might still be worth taking further risks on both policy fronts to ensure that increases in demand cushion the resulting rise in unemployment.

The Bank of Japan has previously been willing to purchase a wider than normal range of assets. It could conceivably broaden the range still further were the government to provide guarantees that would preserve the Bank's independence in the face of credit losses. Unsterilised purchases of assets denominated in foreign currency could also be considered, although clearly the interests of other national authorities would also have to be taken into account. The recent commitment not to raise policy rates until the CPI stopped falling was helpful. However, it might also be worth considering a more explicit commitment to a price level or inflation targeting regime. Such a framework would allow the public to anticipate a substantial rebound in prices and thus negative real interest rates. At the same time, it would give some reassurance that eventual price increases would not be allowed to get out of hand, as occurred in similar circumstances in the 1930s.

Whether further fiscal stimulus is to be recommended will depend on the desired balance between shorter-term exigencies and the need for longer-term fiscal retrenchment. The shorter-term need for fiscal stimulus will be determined in part by shifts in confidence associated with the restructuring process. On the one hand, the associated job losses might reduce confidence but, on the other, leadership as opposed to drift might have the opposite effect. Of course, if increased spending on the social safety net could be funded by reductions in unproductive public sector investments, even an unchanged fiscal stance might provide material benefits. As for the longer-term need for fiscal retrenchment, a credible plan for dealing with this problem clearly needs to be laid out as quickly as possible. What is harder to accept, however, is that a period characterised by needed restructuring in Japan and a simultaneous slowing in the global economy would also be the appropriate moment to actually begin such a process.

Compared to the conundrums besetting policymakers in the United States and Japan, the problems confronting their counterparts in the euro area seem trivial. On the face of it, there are no major financial imbalances affecting either consumers, corporations or governments. Moreover, significant but unremarked progress has been made in many countries in enhancing the efficiency of labour and product markets, and in introducing other structural reforms to improve allocative efficiency over time. This is not to say that further reforms are not needed. Tax regimes have artificially raised the cost of labour and tax burdens remain very heavy. Some sectors urgently await further deregulation. And there is a growing awareness that the potential

productivity gains offered by new technology will only be fully realised with the aid of greater flexibility in labour markets and increased training.

An indication of such underlying problems affecting European markets is that skills shortages increasingly began to appear as the expansion continued, and that inflation stayed stubbornly above the Eurosystem's announced target. It was this latter consideration, together with the sense that otherwise all was well, that helped explain the Eurosystem's "wait and see" attitude with respect to the emerging signs of economic slowdown. In addition, many national central banks in the euro area have traditionally shown a marked preference for taking a medium-term view in conducting monetary policy, thereby eschewing what they consider excessive policy activism. Whatever the merits of these views, policymakers in Europe did remain open to the possibility that the economic prospects for the euro area might now be more closely tied to those of other regions than in earlier decades. As a result, the authorities relaxed monetary policy slightly in mid-May. They should also be prepared to ease further in the event that forces, whether global or local, lead to a still clearer reduction of inflationary pressures.

One possible source of disinflationary pressure in the euro area could be a significant upturn in the value of the euro, perhaps against both the dollar and the yen. This would, of course, be associated with inflationary implications for the United States and a weakening of disinflationary pressures in Japan. The logic underlying such a scenario need be no more complicated than the anticipation of a reversal of euro weakness, whose magnitude and duration were never easy to explain in the first place. But a possible ancillary argument for euro strength rests on the assumption of an extended period of relatively faster growth in Europe, primarily reflecting more hesitant growth in both the United States and Japan. However, the continued failure of the euro to rise decisively against the dollar, even as these macro assumptions look increasingly plausible, suggests an alternative scenario. If the dollar stays strong, either because markets expect a sharp rebound in US growth, or because the dollar is seen as a safe haven in troubled times, the US current account deficit will stay high. This could imply an even sharper exchange rate adjustment at some point in the future.

How events will unfold with respect to the dollar/yen relationship is even more difficult to predict. Nevertheless, there seems to be a growing willingness in both Japan and the United States to tolerate a depreciation of the yen, provided that it happens gradually and is linked to significant structural reforms in Japan that will improve longer-term growth prospects. The obvious danger, however, is that this process might get out of hand. With booming, low-cost imports already causing Japan's trade surplus to shrink, interest rates effectively at zero, and the health of financial institutions increasingly questioned, this possibility cannot be ruled out. If the weakness of the yen were then to lead to higher interest rates in Japan, with feedback effects on banks that have taken on very large positions in Japanese government bonds, this could even have implications for domestic financial stability. Another unwelcome by-product would be an increase in protectionist pressure in the United States, where the bilateral trade position with Japan

is a political issue of very long standing. And, of course, the danger of competitive devaluations in Asia, potentially including China, cannot be ruled out. The recent Asian crisis was, after all, precipitated in part by the strength of the dollar against the yen in 1996 and 1997.

It is fortunate, for reasons discussed in the Introduction to this Report, that in the meantime most Asian countries have become generally more resilient to shocks arising from changes in the exchange rates of the currencies of the major industrial countries. Nevertheless, some vulnerabilities remain. Growth in many of the smaller Asian economies is highly dependent on exports. This is certainly no bad thing, except that they have been heavily weighted towards electronic products destined for the United States. Any prolonged slowdown in that country, particularly one that is investment-led, will clearly have important knock-on effects. Moreover, with China receiving a larger share of a shrinking pot of foreign direct investment, many Asian countries can no longer count on the cushioning effect of such flows.

In such circumstances, it would be normal to rely more on domestic demand to stimulate growth, and indeed a number of welcome steps have already been taken in this direction. A growing concern, however, is that the fiscal positions of a number of Asian countries have become less healthy. This is true for China, where improvements in tax administration are clearly required, and particularly for India. In many countries, the continuing fiscal costs of restructuring banking systems also need to be taken into account. Moreover, with such restructuring still incomplete in many cases, doubts remain as to the ability of the financial system to create the credit that a domestically led expansion might require. The obvious conclusion is that restructuring should have been done quickly and definitively. However, now that this chance has been missed, it is less clear what to do in the prevailing circumstances. To some, a simple conclusion seems obvious – better late than never. However, as in the case of Japan, it should also be noted that a less propitious moment for undertaking needed structural reforms can scarcely be imagined.

The vulnerabilities of the other main emerging markets are of a rather different nature. Latin American countries are in general less open to trade and therefore less exposed to a downturn in demand elsewhere. While Mexico is in one respect an outlier, because of its extensive and growing trade ties with the United States, there is the hope that in such circumstances it will benefit increasingly from foreign investment looking for a low-cost production source. Nor do most Latin American countries, with the clear exception of Argentina, seem greatly discomfited by the continuing strength of the dollar, even though many have large underlying current account deficits. While those countries that are oil exporters have profited from higher oil prices, virtually all have seen a sharp rise in consumer spending and imports. Their ongoing financing needs have to date been met by strong inflows of foreign direct investment. However, they remain highly exposed to any change in sentiment in international financial markets, in particular the possibility of a generalised increase in risk aversion that might be precipitated by a global slowdown. There have already been several periods when financing on international

bond markets has proved very expensive or even impossible. Many Latin American countries have made remarkable progress in privatising and deregulating their economies, bringing inflation down to low levels and introducing legislation for sustainable monetary and fiscal frameworks. The more credible these longer-term frameworks can be made, the greater will be the reassurance given to foreign investors, and the more accepting they will be of shorter-term policies to sustain demand in the face of global shocks. The troubles currently faced by Argentina, which has consistently failed to follow up on its commitments to fundamental fiscal and labour market reforms, bear eloquent testimony to this.

Elsewhere in the global economy, macroeconomic imbalances are not hard to identify but are generally of lesser significance than underlying structural problems impeding growth. In Turkey, as in much of Africa as well as Russia and the other CIS countries, the basic problem continues to be one of political and corporate governance. Without adequate laws and an independent judiciary, property rights remain doubtful and corruption endemic. In such adverse circumstances, made worse by an almost non-existent financial infrastructure in many countries, it is not surprising that domestic levels of both saving and investment remain very low and foreign direct investment has not markedly increased. While it will take years to address these fundamental issues, the World Bank and the IMF are to be commended for bringing them increasingly to the world's attention.

Finally, structural changes are also required in many countries in the Middle East and central Europe. In the former case, efforts need to be made to diversify the production structure of the local economy and reduce the reliance on skilled immigrant workers. In oil-exporting countries, it is to be hoped that the continuing buoyancy of oil prices will provide the financial impetus for such a transition, rather than offering an easy excuse for postponing it. And in central Europe, greater attention should be focused on the problem of structural unemployment as well as the reliance on heavy capital inflows to finance large trade deficits. The profound structural reforms already undertaken in the region are expected to encourage inflows to continue. Nevertheless, steps must also be taken to ensure the maintenance of financial stability should those inflows ever reverse.

## Policies to promote financial stability

In drafting financial legislation and regulation, there is a well known trade-off between safety and efficiency. Recent events suggest, however, that this trade-off has a dynamic as well as a static component. More market-driven systems seem to have a greater propensity to provide the start-up capital that will allow the implementation of innovations that increase productivity growth over time. At the same time, such systems may provide too much credit, thereby financing dubious projects as well as artificially intensifying competition for good ones. As a result, there can be a tendency for both productive and unproductive loans to go bad at the expense of the lender and the health of the financial system. This suggests that policies to promote

financial stability may have to balance the benefits of faster secular growth against the costs of more violent economic cycles as financial excesses are unwound. Given such a trade-off, it is difficult to identify optimal global policies for promoting financial stability, particularly in a world where national preferences still differ appreciably. Nevertheless, policies which seem likely to improve this trade-off can still be identified and implemented.

In practice, policies to promote financial stability have a number of different dimensions. One important aspect is identifying specific vulnerabilities arising from recent macroeconomic developments. A second is identifying new trends and products with a view to forecasting their possible impact on financial stability. And a third is finding ways to strengthen each of the three basic platforms which support the international financial system: financial institutions, market functioning and the underlying infrastructure. Significant steps forward were taken in all of these areas in the period under review.

Turning first to the issue of current vulnerabilities, it is worth recalling that the world financial system has gone through a long period of deregulation as well as consolidation. In consequence, it has become more market-driven, globalised, interconnected and fast-moving than ever before. These characteristics have made it inherently difficult to spot vulnerabilities and to assess what should be done about them. Even so, the obvious question needs to be asked. Given that the recent long phase of economic expansion was associated with very rapid credit growth and overly buoyant asset prices, could a slowdown in activity expose resulting weaknesses in the financial system that might accentuate these real side developments?

One set of arguments plays down this possibility. Excessively high property prices have tended to be the major source of financial fragility in the past, but property prices were relatively subdued in the most recent upturn. Moreover, policy rates began to be raised as far back as the middle of 1999. Since then, stock price declines have lowered global valuations by \$10 trillion, or one third of global GDP. Credit spreads have also increased significantly, in many cases beyond levels seen in late 1998, as credit standards have tightened globally. Nevertheless, in spite of the duration and magnitude of these shocks, markets have continued to function smoothly and there have been no significant signs of financial distress.

Another set of arguments points to a less reassuring conclusion. The slowdown in economic activity and profits growth is actually of very recent vintage. Much depends on what happens in the months ahead. Furthermore, while the exposure of financial institutions to individual regions and industries – for example Argentina, Turkey and technology companies – seems manageable, joint exposures need more careful examination. It is gratifying that the larger financial institutions have in recent years relied much more on stress tests to evaluate how they would fare in extreme but plausible situations, and to protect themselves accordingly. Nevertheless, it remains to be seen whether they have paid adequate attention to the way that credit risk, market risk and liquidity risk all tend to move together in periods of stress. It is appropriate that supervisors, aware of such interactions,

have become generally much more vigilant and increasingly prepared to ask "what if?".

As for new trends in the financial sector with possible implications for financial stability, perhaps the most important has been the rapid growth of new techniques for transferring credit risk. On the one hand, the benefits are expected to include improved risk management as comparative advantages in bearing such risk are exploited. Moreover, as liquid markets develop, participants will be better able to set an appropriate price for accepting credit risk. This will be of enormous, perhaps revolutionary, benefit. On the other hand, certain aspects of this development raise supervisory concerns. Such transactions could make the distribution of risk within the system less transparent, and could just as easily concentrate risk as disperse it. A further issue is that insurance companies will become increasingly involved, not surprisingly since most of these credit transfer instruments are similar to insurance policies. This implies the need for ever closer collaboration between banking and insurance supervisors to prevent the possible growth of regulatory arbitrage and to ensure that risks are monitored and priced correctly. Finally, as with all new instruments, questions have to be raised about the adequacy of the documentation supporting them and their legal status. Just as in the case of closeout netting, special purpose investment vehicles and a host of other recent innovations, legal uncertainties may only be finally resolved in the courts. In the interim, the one sure thing is that harder economic times will lead to a sharp pickup in litigation. Supervisors would thus be well advised to investigate concentrations of exposures to identified legal risks since, as a recent judgment in the United States has demonstrated, the sums at stake can be huge.

Turning finally to measures designed to strengthen the foundations of the international financial system, great efforts have been made to improve risk management at banks, insurance companies and investment dealers. The greatest attention has been reserved for the revised set of proposals for a New Basel Capital Accord circulated in January this year. The original 1988 Accord helped raise capital levels everywhere. Because it relied on a small number of fixed risk weights, it had the advantage of simplicity and was quickly adopted as a worldwide standard. However, with time, its shortcomings also became more evident. Because credits of different quality were lumped together for regulatory purposes, there was an incentive to remove good quality loans from the balance sheet to increase the overall rate of return. Moreover, as banks' internal risk assessments grew more sophisticated, it became clearer that the regulatory requirements of the original Accord were less and less able to adequately cover the underlying risks actually being taken.

The New Accord addresses these issues head-on. As a result, it is necessarily more complex. In particular, it allows a number of different options for calculating minimum capital requirements, and seeks to provide incentives for banks themselves to continuously improve their internal risk management capabilities. Common to all the options presented is a greater differentiation between loans of different qualities. Accordingly, it is foreseen that the capital charge against any given loan may vary over time as its

assessed riskiness changes with evolving circumstances. For the first time ever, the proposals also address the issue of operational risk, which is clearly becoming increasingly significant. Finally, the proposals also stress the importance of the supervisory review process, in particular the review of banks' internal risk assessment procedures, as well as the need for banks to be more transparent about their risk profiles and operations. The premise in this latter case is that market discipline, based on such disclosure, will encourage greater prudence.

All of these proposals are major steps forward. However, as the supervisors, together with the industry, move towards their implementation by 2004, certain important details still need to be addressed. One open question is whether banks' internal risk assessments might not vary excessively over the course of the business cycle, possibly leading to undesirable decreases in capital cushions during booms and increases during recessions. A tendency to use comparatively short horizons and techniques that effectively extrapolate the recent past could encourage this. Fortunately, the supervisory review process offers a vehicle for addressing these practical issues of risk measurement and capital, provided of course that the supervisory authority has the resources, skills and powers necessary to enforce compliance. Particularly for supervisors in many emerging market countries, this looks likely to be a considerable challenge.

A closely related issue, affecting the functioning of all financial institutions, has to do with recent proposals to extend the use of fair value accounting. From the perspective of financial stability, it is argued that it would improve market discipline by making financial statements more transparent and a better reflection of firms' financial condition. In particular, it would lead to immediate recognition of gains and losses from movements in interest rates and changes in credit quality. In contrast, others worry that net profits and valuations could be made excessively volatile from one period to the next, and might fluctuate too much over the business cycle. This might lead to the financial system becoming even more procyclical than it is thought to be currently.

Given the potential difficulties with fair value accounting, a suggested middle way is the adoption of more forward-looking provisioning for credit losses. Under existing accounting rules, provisions normally fall as the economy expands and only increase in economic downturns. Forward-looking provisioning would allow the earlier recognition of expected credit losses and make it more likely that adequate resources are available to deal with the emergence of loan defaults in a downturn. Unfortunately, this middle way is also not without its difficulties. Foremost amongst these is the potential subjectivity of this type of provisioning, opening up the possibility of banks manipulating their accounts for taxation or other purposes. Moreover, if changes in credit quality over the business cycle were not adequately recognised ex ante, forward-looking provisioning might still have little practical impact. Notwithstanding these difficulties, this approach seems worthy of further exploration, as do proposals for supervisors to require some form of automatic provisioning at the origination of a loan.



Along with sound institutions, efficiently functioning capital markets are a second key requirement for a stable financial system. During the period under review, many worried that several structural and other developments had the potential to reduce market liquidity, in the sense of the ability to carry out large trades without significant effects on prices. Among these developments were an apparent reduction and concentration in the risk capital dedicated to market-making, the withdrawal of hedge funds from arbitrage activities, the standardisation of risk management practices across firms, the growing use of electronic broking (in which there are generally no market-makers) and the shrinking supply of “risk-free” government debt. Recent shocks have not in fact had the pervasive effect on market functioning seen in 1990 and the third quarter of 1998. Yet it must also be borne in mind that the earlier shocks involved a major credit event in the form of the collapse and near collapse of a significant market player, Drexel Burnham Lambert and LTCM respectively. Given that no such event has occurred recently, it could be that the availability of liquidity under stress has not actually been fully tested. Conversely, it could also be argued that these earlier episodes led to a reduction in the use of leverage which in itself has made markets less likely to seize up under stress.

Although the jury is still out, a number of practical suggestions have nevertheless been made to help ensure the continued smooth functioning of financial markets. Further progress in developing and enforcing standards with respect to collateral and documentation is expected to increase the ability of the swaps market to take on many of the functions previously performed by government bonds. In Europe, rapid implementation of the recommendations contained in the Lamfalussy Report would have the welcome effect of helping integrate markets that are currently fragmented. In addition, as experience has shown how quickly concerns about counterparty risk can feed back on market liquidity, further steps to improve disclosure should be encouraged. Finally, major financial institutions, particularly those which might be thought of as providers of liquidity themselves at times of stress, are being urged to carry out stress tests for liquidity risk as onerous as those they are increasingly applying to market risk and credit risk.

The third platform needed to support a stable financial system is an adequate financial infrastructure. In addition to the accounting and legal underpinnings already referred to, payment and settlement systems that continue to function, regardless of the stresses put upon them, are a crucial requirement. Great progress has been made in the area of wholesale payment systems in recent years, in particular the widespread introduction of real-time gross settlement. Moreover, the publication of the Core Principles for Systemically Important Payment Systems has provided a useful set of standards for the IMF and the World Bank to apply in assessing countries worldwide. And, at last, real progress has been made towards establishing the CLS (Continuous Linked Settlement) Bank to ensure that the clearing and settlement of foreign exchange transactions in the major currencies will no longer involve Herstatt risk. After 25 years of temporising with this recognised global exposure, the last few steps towards a robust solution need to be vigorously pursued.

## Cooperation in the pursuit of financial stability

While there are some difficult problems in the area of international cooperation, there is at least one equally difficult question to be addressed domestically. What should be the respective roles of monetary authorities and regulators with regard to financial stability? This is a live issue even where the central bank has responsibility for supervision. However, the question is becoming still more pertinent with the growing trend towards consolidating in independent agencies the responsibility for regulatory oversight of financial institutions and securities markets.

Whatever one's view about this trend, it at least serves to highlight that there may well be two complementary approaches to the financial stability problem, one institution-specific and the other system-wide. Traditional supervisory practices have generally focused on the health of individual institutions as the key to keeping the system as a whole healthy. In contrast, monetary authorities have tended to put more weight on the likelihood of shared shocks and cycles affecting the financial system as a whole. If both of these approaches are judged valid, then, in the interests of crisis prevention, it would seem normal that there be ongoing dialogue and cooperation between all parties concerned. They must exchange views about vulnerabilities if they are to do something about them. Such a process would, in addition, ensure the open lines of communication and the trust across agencies that are essential in managing crises when they do occur. Those involved in managing crises should agree in advance how responsibilities are to be shared to make sure that needed decisions are taken at the appropriate time.

Cooperation at the international level in pursuit of financial stability is taking place in a number of forums, some of quite recent origin. Indeed, it could even be argued that there is actually too much of this kind of dialogue. Senior officials have to attend a bewildering series of meetings, with the attendant danger that repetitive discussions will drive out pertinent analysis and weaken the will to take concrete measures to help prevent financial crises. The establishment of the Financial Stability Forum initially raised concerns that it would only add to this problem. In practice, however, it has proved very successful in bringing together key official players from the major financial markets to identify financial vulnerabilities, overlapping work and remaining gaps in addressing financial stability, and to set priorities. And, while feeling obliged to undertake part of this work itself, the Forum has relied primarily on existing bodies to move the cooperative agenda forward.

In particular, the Financial Stability Forum is increasingly focused on encouraging the domestic use of internationally agreed codes and standards to support financial stability. Achieving this objective needs at least four steps: setting standards; assessing how far countries comply; implementing the standards; and then regularly updating them in the light of practical experience. While much progress has been made in each respect, helped by the willingness of the IMF and the World Bank to work closely with national expert groups of standard setters, a great deal still remains to be done. In particular, some emerging markets continue to question the legitimacy of codes

essentially drawn up by a small number of developed countries. At the least, they contend that standards should recognise the reality of different levels of development. As for implementation, it is clear that rating agencies and lenders must be made more aware of existing codes if they are to actively use them to reward compliance. And it is also clear that many emerging market countries will need technical assistance on a potentially large scale.

Further analysis and agreement is also required on how best to manage and resolve financial crises. There needs to be greater consensus on basic principles about how to restructure weak banks when the whole system is unhealthy. In addition, the ongoing process of financial consolidation and globalisation is creating larger, more complex and more international institutions whose activities often spread over many supervisory jurisdictions. While the quality of management is generally very high, further thought needs to be given to the modalities of dealing with such institutions should they seem to be getting into trouble. Recognising how interconnected many of these institutions have become has lent further urgency to this task. Finally, broader agreement on the appropriate role of the IMF in managing sovereign liquidity crises would be desirable. Some continue to argue that large financing packages are required to complement conditionality. They point to the unacceptable harshness of pure market solutions and the dangers of destabilising political and social tensions. Others emphasise the likelihood of encouraging imprudent behaviour, particularly on the part of creditors, and have suggested that debt standstills and other legal incentives could be used to encourage negotiated settlements with private creditors.

There is no right answer to this last question, which will continue to be debated decades hence. However, there does seem to be a growing consensus on how to move forward on many of the other issues raised above with implications for both crisis prevention and crisis management. Expeditious action in such areas would seem highly desirable lest unfolding events in the financial sphere reveal, once again, that too little had been done, too late.



## Activities of the Bank

This chapter presents an overview of the main activities of the Bank during the past financial year. These activities continued to focus on the promotion of cooperation among the central banking and regulatory community in the area of financial and monetary stability, and on the provision of high-quality financial instruments and services, mainly to central banks. The chapter also documents a number of important changes in the Bank's Statutes and organisation. The reports mentioned in this overview, as well as much of the Bank's research output, are available on the BIS website ([www.bis.org](http://www.bis.org)) or, on request, in hard copy.

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

At the heart of the Bank's contribution to international financial cooperation remained the bimonthly meetings of Governors of BIS member central banks and the work supported by the secretariats of the various committees reporting to the G10 Governors. As BIS membership has expanded markedly over the course of the last six years, the meetings, discussion themes and cooperative efforts have taken on an increasingly global character. This trend towards greater inclusiveness was reinforced by the growing activities of the Bank's Financial Stability Institute, the development of the BIS Representative Office for Asia and the Pacific in Hong Kong SAR and the decision to establish a Representative Office for the Americas in Mexico City. A further building block of cooperation in Asia was the establishment of the Asian Consultative Council in March 2001.

#### *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 discuss the current state of the world economy, developments in financial markets and topical issues of special interest or concern to central banks. One such meeting was held outside Basel, being hosted by the Bank of Mexico in November 2000.

A comprehensive review of developments in the world economy and international financial markets continued to be the focus of the *Global Economy Meetings*, which bring together the central bank Governors of the main industrial and emerging market economies. Governors welcomed the opportunity to exchange views and information on key developments, especially given what appeared to be a significant change of phase in the

business cycle. Moreover, the discussions helped increase their shared awareness of vulnerabilities and emerging imbalances.

A closer evaluation of the specific features of the conjunctural situation, as well as the review of discussions and work in progress in the various committees reporting to them, made up the agenda of the *meetings of the Governors of the G10 countries* during the past year. In addition, the G10 Governors approved for release or for public consultation a number of committee reports (see below). Finally, Governors met with Heads of Supervision of the G10 countries in May 2000 and May 2001 to discuss a variety of topics of common interest, including the proposed New Basel Capital Accord, fair value accounting and dealing with large and complex financial institutions.

At the bimonthly gatherings of central bank Governors, a specific meeting is devoted to an in-depth discussion of a topic of particular relevance to central banks. Governors of all BIS member central banks are invited to this meeting. During the period under review, discussions in these *All Governors' Meetings* focused on a wide range of themes in the areas of monetary policy and financial stability, including liquidity trends in government bond markets, consolidation in the banking industry, procyclicality and prudential regulation, inflation and the monetary policy framework in emerging markets, and the implementation of standards and codes to strengthen financial systems.

The *Gold and Foreign Exchange Committee*, composed of financial market experts from the G10 central banks, also met on a bimonthly basis last year. On a number of occasions, participation in these meetings was enlarged to include representatives of the major emerging markets. Exchange rate relationships between the major currencies dominated the agenda of last year's meetings. In addition, participants discussed specific topics of importance to market operators, such as the merits of official intervention, the implications of a shrinking supply of government securities for the conduct of monetary policy, and liquidity in foreign exchange markets.

The Bank continued to collect, analyse and disseminate information relating to the governance of central banks. Demand for this information was strong during the year, as central banks in a changing environment sought to learn from the experience of their peers. This work continued to be guided by a Steering Group in which central bank Governors of industrial and emerging market economies are represented. To meet demand, extensive use was made of a central bank governance network which the Bank administers and in which roughly 40 central banks participate. This informal grouping allowed the Bank to supply up-to-date comparative information on governance questions of urgent concern to central banks, and at the same time to expand its knowledge base. Finally, last year a meeting of senior central bank representatives from around the globe was held on the governance of central banks in times of change.

A variety of special meetings involving senior central bank officials were arranged over the past year. A special Governors' seminar was held in March 2001 to discuss risk management practices in financial institutions. The Monetary and Economic Department again organised two meetings with senior

central bank economists, one of which was devoted to a discussion of the micro- and macroprudential dimensions of financial stability, while the other addressed conjunctural issues. In addition, several workshops were held on inflation targets and the inflation process in industrial and emerging markets, e-finance and market liquidity. An increasingly common feature of these special meetings has been the active involvement of the private sector in the discussions.

Reflecting the global character of the Bank's cooperative efforts, meetings primarily involving senior central bank officials from the emerging market economies continued to mark last year's activities. In addition to the regular monetary policy working party held in Latin America (hosted by the Bank of Mexico in November 2000), a monetary policy meeting was organised for Deputy Governors of African central banks (hosted by the South African Reserve Bank in October 2000). Similar meetings are scheduled for May 2001 in Asia (hosted by The People's Bank of China) and for July 2001 in eastern Europe. The now well established two-day meeting of Deputy Governors from emerging market economies was held in Basel in December 2000. They discussed competition, consolidation and systemic stability in their financial sectors.

### *Promotion of financial stability through the permanent committees*

The three committees established by the G10 central banks and supported by the BIS once again made a significant contribution to the promotion of financial stability over the period under review. As in the past, this objective was considered from three different, though complementary, angles: institutional soundness (the Basel Committee on Banking Supervision), efficient market functioning (the Committee on the Global Financial System) and a robust payments infrastructure (the Committee on Payment and Settlement Systems). Given this diversity of perspectives, the committees have been closely involved in various joint efforts in the area of financial stability in the past few years, most recently with regard to the Financial Stability Forum, in which each committee participates.

### *Basel Committee on Banking Supervision*

During the past 12 months the Basel Committee on Banking Supervision continued to develop supervisory guidance on a number of key banking issues. The most prominent initiative was the release of a second consultative paper on the New Basel Capital Accord (due to take effect in 2004). The Committee also issued several important policy papers designed to encourage bank supervisors around the world to strengthen their supervisory capabilities in a range of areas. In September 2000, the BIS in association with the Swiss National Bank and the Swiss Federal Banking Commission hosted the 11th biennial International Conference of Banking Supervisors, which was organised by the Basel Committee and was attended by 260 participants from nearly 130 countries.

The proposed New Basel Capital Accord was set out in an extensive package of documents released on 16 January 2001. Its conceptual framework remains similar to the original consultative proposal of June 1999, described

in last year's Annual Report, with a balanced approach based on three equally important pillars (a minimum quantitative ratio, supervisory review and disclosure requirements). However, a great deal of detail has been added as a result of consultation with the industry and with non-G10 supervisors. Most of the comments received focused on the first, quantitative pillar. Although intended primarily for internationally active banks, the proposed New Accord is deliberately designed to be capable of application to banks of varying levels of sophistication. The need to provide a range of options to meet this requirement explains to some extent the complexity of the proposals.

Particular features of the January 2001 paper are refinements in the approaches towards measuring credit risk under the first pillar, as well as the formulation of more risk-sensitive approaches to the treatment of collateral, guarantees, credit derivatives, netting and securitisation. In addition, for the first time, a framework is set for applying a quantitative capital charge for operational risk.

The second principal focus of the work of the Basel Committee over the period under review was the development of prudential standards suitable for global implementation. The Committee's role in this area has been significantly enhanced by the joint IMF-World Bank Financial Sector Assessment Program, which gauges individual countries' compliance with international standards and codes. The Basel Committee's 1997 Core Principles for Effective Banking Supervision and 1999 Core Principles Methodology have been key tools in this exercise. As a result of the assessments conducted up to April 2001, and discussion in the Core Principles Liaison Group of G10 and non-G10 countries, the Committee plans to begin a review of the Core Principles at an early date with a view to issuing a new set of Core Principles in 2002. The Core Principles Liaison Group itself had an active year, and created working groups to discuss capital and guidance to facilitate Core Principles self-assessment.

The Basel Committee maintained an intensive dialogue with supervisors in non-member countries. Its Secretariat was represented at most meetings of regional supervisory groups and responded to frequent queries and requests for assistance. It also engaged, as necessary, in the extensive programme of technical training and assistance now conducted through the Financial Stability Institute (see below). In addition to circulating relevant documents as they were issued, the Committee's Secretariat prepared and distributed an annual Compendium of pertinent policy documents, and regularly circulated a Contact List of supervisory personnel in 170 countries. The most visible aspect of its global outreach was the biennial International Conference.

The Basel Committee continued to regularly publish guidance on specific prudential topics. Over the past year, this included papers addressing credit risk assessment, electronic banking, customer due diligence, foreign exchange settlement risk, credit risk disclosure, internal audit, relations between supervisors and external auditors, and issues relating to highly leveraged institutions. Two working papers on external ratings and early warning systems were released. Moreover, the Committee maintained its dialogue with the international accounting bodies on fair value accounting and other relevant issues.



### *Committee on the Global Financial System*

The Committee on the Global Financial System (CGFS) carried on its regular monitoring of international financial markets and the functioning of the global financial system. Prime areas of interest were the assessment and analysis of factors which could constitute vulnerabilities for financial systems, both domestic and international, and in turn pose a threat to the functioning of major industrial and emerging market economies.

The Committee followed up on work previously carried out in the area of market liquidity and stress testing. A meeting between a number of CGFS members and private sector representatives explored the extent to which changes in institutions' risk management procedures might affect market liquidity. The main findings of this exercise, together with the results of previous Committee work, were reported to the Financial Stability Forum (FSF).

In early 2000, the CGFS started a survey on stress testing practices. Forty-three banks from 10 countries participated in the census, which 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. The report was released for comment in late April 2001.

A working group set up to study the implications of electronic trading in financial markets published its report in January 2001. The report analyses the usage of electronic trading systems in foreign exchange and fixed income markets and its impact on market structure, efficiency and transparency. It focuses in particular on financial stability issues such as liquidity in periods of stress. The CGFS also continued to monitor technological changes and their implications for financial markets and was represented in the Contact Group on E-Finance established by the FSF.

Another CGFS working group published a report on recent trends, risk management and market dynamics in wholesale markets in March 2001. The report assesses changes in the usage and availability of collateral and how these changes might alter market dynamics especially at times of stress. In order to track developments that could have an impact on monetary policy or financial stability, the Committee established a working group to study the financing of the new economy. The terms of reference of the group's work include consideration of innovations in financing practices and related risks, as well as possible changes in the role of different providers of financial services.

In September 2000, the Working Group on the BIS International Banking Statistics published its report containing proposals for redesigning the consolidated banking statistics in order to present data on an ultimate risk basis, and for strengthening the coverage of derivatives exposures and contingent liabilities. These proposals are essentially consistent with the recommendations made by the FSF Working Group on Capital Flows. Finally the CGFS, together with the Basel Committee, the International Association of Insurance Supervisors (IAIS) and the International Organization of Securities Commissions (IOSCO), sponsored the report of the Multidisciplinary Working Group on Enhanced Disclosure, which was forwarded to the FSF in March 2001.

### *Committee on Payment and Settlement Systems*

The Committee on Payment and Settlement Systems (CPSS) pursued its efforts to promote robust payment and settlement systems and thereby strengthen financial market infrastructures and reduce systemic risk. The Committee intensified its cooperation with other international groupings, particularly IOSCO, and also made a considerable effort to associate a widening group of non-G10 central banks with its work.

In January 2001, the CPSS published the Core Principles for Systemically Important Payment Systems, after two rounds of worldwide public consultation. The Core Principles provide guidance for central banks, international organisations and payment system designers and operators in their efforts to improve the design and efficiency of payment systems. As an indication of their importance for financial stability, adherence to the Core Principles has formed one aspect of country assessments under the joint IMF-World Bank Financial Sector Assessment Program, as well as in the Reports on the Observance of Standards and Codes.

Reflecting a heightened awareness of the need for central banks to address issues pertaining to payment systems, the Core Principles report emphasises inter alia the role of central banks in overseeing compliance with the Core Principles and the need for cooperation among central banks. A suggested framework for cooperation has been increasingly used by central banks, with the support of the CPSS, in order to oversee systems with cross-border or multicurrency characteristics.

In the framework of their standard-setting activities, the CPSS and IOSCO published in January 2001 a consultative report setting out recommendations aimed at improving the safety and efficiency of securities settlement systems worldwide, including cross-border arrangements. The recommendations are expected to be finalised by the end of this year.

A key aspect of the Committee's ongoing work was related to the implementation of the strategy, agreed by the G10 Governors in 1996, to reduce foreign exchange settlement risk. As a core element of the G10 strategy, the Committee continued to monitor and encourage private sector initiatives in this area. It also cooperated with the Basel Committee to develop international supervisory guidance for banks on the prudential management and control of foreign exchange settlement risk.

The Committee's Working Group on Retail Payment Systems continued to review and report on retail payment instruments, systems and related policy issues. With respect to electronic money, the Committee, through its Secretariat at the BIS, continued to monitor global developments in card-based and network-based products.

The Committee strengthened its cooperation with non-G10 central banks, particularly those of emerging market economies. Its Secretariat helped various individual central banks and regional central banking groups to prepare publications describing the payment systems in their country or geographical area. The Committee also supported payment system workshops and seminars organised by the BIS in cooperation with regional central banking groups. Following its first meeting in the western hemisphere in May 2000, the

Committee organised a workshop for central banks and monetary authorities from CPSS member countries, Latin America and the Caribbean in Mexico City.

### *Representative Office for Asia and the Pacific*

The Representative Office for Asia and the Pacific (the Asian Office), which was opened in July 1998, continued to foster information exchange and cooperation among central banks in the region, and between them and central banks in the rest of the world. Its activities included: hosting meetings of central bank officials from within and outside the region; contributing to the Bank's financial and economic research and analysis of the Asian and Pacific region; and promoting banking relationships with regional central bank customers. Two major initiatives during the year were the start of dealing room operations at the Asian Office and the creation of the Asian Consultative Council (ACC).

Following a Board decision to expand the BIS's banking activities in the region, a Regional Treasury dealing room commenced operations in October 2000 as an integral part of the BIS Banking Department. The new dealing room provides banking services to central banks during trading hours in the Asian time zone. It also serves to strengthen banking relationships with commercial counterparties in the region.

The purpose of the ACC, which was established in early 2001 and comprises the Governors of the BIS member central banks in the Asian and Pacific region, is to provide a vehicle for communication between the Asian and Pacific members of the BIS and the Board and Management on matters of interest to the central bank community in the region. Ian Macfarlane, Governor of the Reserve Bank of Australia, was appointed as the first Chairman of the ACC, with the Asian Office providing the secretariat services for its meetings, which will be held at least once a year.

During the period under review, the Asian Office supported and often hosted a range of meetings. It organised an ad hoc workshop for central bankers in the region in April 2000 to discuss statistical and economic aspects of foreign borrowing by the private sector. In December 2000, the Banking Department and the Asian Office, with the support of the Monetary and Economic Department, held a seminar for reserve managers on the implications of shrinking government debt markets. The third Special Governors' Meeting was held in February 2001 and brought together Governors from the region as well as from selected non-Asian central banks. In addition, the Asian Office hosted a number of meetings in the region in support of various G10 committees, including, with the Hong Kong Monetary Authority, a discussion among regional regulators and commercial bankers of the proposed New Basel Capital Accord.

The Asian Office worked closely with regional groupings of central banks. In October 2000, at the request of the EMEAP (Executives' Meeting of East Asia-Pacific Central Banks) Working Group on Banking Supervision, it co-hosted with the Hong Kong Monetary Authority a seminar of the Financial Stability Institute on derivatives risk and regulation. In late 2000, the Asian Office hosted and participated in the second EMEAP Forum on foreign

exchange and other financial markets. The Asian Office also took part in meetings organised by regional institutions, as well as various conferences sponsored by central banks, official or private institutions and academic establishments in the region.

### *Financial Stability Institute*

The mandate of the Financial Stability Institute (FSI) is to help improve and strengthen financial systems and institutions globally, primarily by discussing with supervisory authorities how prudential supervision might be strengthened. The FSI also assists them in implementing the necessary supervisory policies and procedures. The objectives of the FSI have been met in various ways, in particular by organising focused seminars and regional workshops for senior financial sector supervisors worldwide. These events have been designed to provide participants with a better understanding of supervisory techniques and an opportunity to learn about the latest supervisory developments. The Institute's work to date has concentrated on banking issues, given that banking is the primary form of financial intermediation in many parts of the world. However, in view of continuing financial integration, seminars on securities and insurance supervision are gradually being added to the FSI programme, which should eventually extend to all aspects of financial stability.

Over the past year, the FSI organised nine focused seminars in Basel and 15 regional workshops held jointly with regional groups of supervisors. These meetings covered a variety of topics chosen after consultation with supervisors around the world. The topics included risk management, corporate governance, consolidated supervision, resolution of problem banks and implementation of the Core Principles for Effective Banking Supervision. Special emphasis was placed on providing non-G10 supervisors with a better understanding of the proposed changes to the Basel Capital Accord. This effort will continue through the implementation phase of the New Accord. The FSI also held several special seminars, including one on credit and market risk for central bank Deputy Governors, one on risk management for insurance supervisors, and several on deposit insurance issues. Over 1,100 representatives of supervisory agencies from around the world participated in FSI events last year.

The FSI also instituted a process of inviting leading experts and academics to write on topics of interest to financial sector supervisors. The first FSI Occasional Paper on the organisational structure of banking supervision was issued in November 2000.

Cooperation with other institutions providing programmes of assistance to supervisors remained an important part of the FSI's work. Over the period under review, the FSI coordinated activities and collaborated with such organisations as the Toronto Centre, the IMF Institute, the World Bank and regional development banks. The FSI also supported the commitment of the BIS to the Joint Vienna Institute by organising two banking seminars for the JVI.

At the end of 2000, Josef Tošovský succeeded John Heimann as Chairman of the FSI.

## 2. BIS contributions to broader international financial cooperation

### *Group of Ten*

As in the past, the BIS contributed last year to work undertaken by the G10 Finance Ministers and central bank Governors, their Deputies and the working parties set up under their auspices. It both participated as an observer institution and provided secretariat support. During the period under review, a G10 working party prepared an in-depth study on consolidation in the financial sector that was endorsed by G10 Finance Ministers and central bank Governors and published in January 2001. Australia and Spain were invited to participate in this work. The study contains a detailed analysis of patterns and causes of financial sector consolidation in 13 countries, and assesses its implications for financial risk, monetary policy, efficiency, competition and credit flows, as well as for payment and settlement systems. It also identifies areas where further policy development is advisable. Such work was subsequently set in train. In addition, the G10 continued to support broadly based dialogue on ways to prevent and resolve financial crises.

### *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 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. The FSF is chaired by Andrew Crockett, General Manager of the BIS, in a personal capacity. Detailed information on the FSF, its membership and activities is available on its website ([www.fsforum.org](http://www.fsforum.org)). This website includes a Compendium of Standards – a common reference for the various economic and financial standards that are internationally accepted as relevant to sound financial systems. The website also contains a directory of training opportunities worldwide in the field of financial supervision; this is a joint product of the BIS, FSI, IMF and World Bank.

A key activity of the FSF is to exchange views and pool information on vulnerabilities in the financial system. At its meeting in March 2001, FSF members concluded that major financial markets and institutions had absorbed current strains well. Nevertheless, the interaction between the cyclical slowdown and pre-existing financial imbalances called for continued vigilance and enhanced cooperation at the supervisory level. A reassessment of vulnerabilities should be undertaken if conditions were to deteriorate. The FSF also identified risk transfer mechanisms as a potential element of vulnerability in financial markets, and considered the role of new instruments and new financial technology in propagating herd behaviour as another potential source of risk in the financial system. The Forum stressed the importance and urgency of further work on these issues.

The FSF also regularly reviews the progress made in implementing its earlier recommendations on highly leveraged institutions, capital flows and offshore financial centres, and on fostering implementation of international standards for sound financial systems. At the March 2001 meeting, it recognised that efforts had been made across a wide range of areas, but emphasised the importance of maintaining momentum in ongoing implementation efforts, and called for concrete actions by national authorities and the private sector.

In the light of concerns about the possible repercussions of the disorderly failure of a very large and complex financial institution (LCFI), including for the stability of the international financial system, the FSF, the G10 Ministers and Governors and the Basel Committee formed a joint task force in 2000 to review the main issues likely to be faced in winding down an LCFI. A number of preparatory measures were identified, which, along with national contingency procedures, are now being reviewed by various national authorities and will also be followed up at the international level.

Also at its March 2001 meeting, the FSF identified gaps in the development of international guidance on dealing with weak banks and systemic banking problems and asked the Basel Committee, through its Core Principles Liaison Group, to examine this issue. It also reviewed progress in developing international guidance on deposit insurance schemes; discussed the implications of e-finance for supervision and market functioning, drawing on the work of a contact group launched earlier by the FSF; and considered other international financial issues, including the New Basel Capital Accord and accounting and provisioning issues for financial institutions.

As part of its outreach to non-members, the FSF recently initiated regional meetings to promote discussion among regional FSF and non-FSF members on financial system vulnerabilities and to enable non-members to bring their own perspectives into the FSF's work. A first such meeting was held in Mexico City in early April this year with senior officials responsible for financial stability in seven Latin American countries and Spain, along with some FSF members. Participants exchanged views on vulnerabilities in the domestic and international financial systems, and discussed domestic and international initiatives to strengthen the soundness of financial systems.

### *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 to contribute 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 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 Financial Stability Forum.

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. Last year, the IAIS published the Insurance Core Principles Methodology, the Principles on the Supervision of Insurance Activities on the Internet, the Supervisory Standard on Group Coordination, and the Guidance Paper for Fit and Proper Principles and their Application. Ongoing work includes formulating standards in the areas of solvency (capital adequacy) requirements, insurance accounting, reinsurance, market risk, electronic commerce, transparency, and the prevention of financial crime and regulatory abuse.

The IAIS arranged several training programmes and provided training materials for insurance supervisors in order to help members comply with IAIS supervisory standards. Over the period under review, it organised regional training seminars for insurance supervisors in Africa, Asia, central and eastern Europe, Latin America and offshore jurisdictions.

### 3. Other areas of central bank cooperation

#### *Cooperation on statistical issues*

The BIS continued its active cooperation with central banks and other international organisations on various statistical issues. At present, central banks from approximately 30 countries collect and share with the BIS comprehensive statistics on the cross-border and foreign currency positions of banks in their country on a locational and consolidated basis. Following up on a report by a working group of the CGFS (see above), the BIS chaired a working group of statistical experts charged with drafting an implementation plan for the report's recommendations. The proposed improvements are expected to be put in place by the end of 2004.

The Bank coordinated a further triennial survey on foreign exchange and derivatives markets in approximately 50 financial centres in April 2001. The results will become available in autumn 2001. The BIS continued to cooperate in the joint BIS-IMF-OECD-World Bank statistics on external debt, an exercise which provides quarterly data on the main components of external debt of emerging market countries. In this context a study was carried out to identify major gaps between the external debt statistics available on a creditor basis and those published by the emerging market economies themselves on the basis of debtor data. Finally, the BIS continued to explore with the IMF and the ECB the possibility of creating a global database on individual securities issues in order to improve securities and balance of payments statistics globally and to enhance the analysis of international financial market developments.

The BIS continued to chair the Group of Experts on Monetary and Economic Data Bank Questions and to provide data bank services to participating central banks (currently 23) for the electronic exchange of a broad set of economic, monetary and financial statistics. A significant number

of central banks from emerging markets were invited and agreed to join the exercise. The BIS Data Bank platform consists of a comprehensive code structure for statistical time series within a commonly agreed framework; a set of technical procedures to transmit this information to and from a central hub at the BIS using web-based technologies; and an international exchange standard (GESMES/CB – Generic Statistical Message for Central Banks) jointly developed by the BIS, central banks and other international institutions. In this last regard, following a request from the Data Bank Experts, the BIS started to explore with other institutions, such as the IMF, OECD, ESCB and Eurostat, how international cooperation on standards for electronic data exchange could be enhanced in order to rationalise statistical reporting.

### *Cooperation with regional central bank groupings*

The BIS continued to support central bank cooperation in various parts of the world, either within existing regional political associations or within specialised central banking organisations. Last year, active cooperation was maintained with CEMLA (Centro de Estudios Monetarios Latinoamericanos), EMEAP (Executives' Meeting of East Asia-Pacific Central Banks), SADC (Southern African Development Community), MEFMI (Macroeconomic and Financial Management Institute of Eastern and Southern Africa) and SEACEN (South-East Asian Central Banks). Cooperation took the form of participation in meetings arranged by these groups and organisation of occasional joint meetings or workshops. For instance, following a conference on central bank websites at the BIS in June last year, a number of central banking groups organised a similar event for their respective areas with BIS support.

### *Coordination of technical assistance and training*

As in previous years, the BIS assisted the central banks of over 20 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. This coordination takes place through the organisation of regular meetings that bring together officials of the donor and recipient central banks concerned, as well as the IMF and other international organisations. One of the meetings held last year was hosted by the Joint Vienna Institute. In close cooperation with the FSI and the Basel-based committees, the BIS continued to support the Institute by staging a number of seminars.

### *Group of Computer Experts*

In June 2000 the Group of Computer Experts held a special joint workshop in Hong Kong with IT managers from Asian central banks on the topic of strategic IT challenges for G10 and Asian central banks. Themes of presentations and discussions included the use of the internet and internet technologies by central banks, document management, sourcing strategies for skills and services, and IT infrastructure for payment systems.

Developments at central banks with respect to IT strategy, organisation, infrastructure and projects – many with an e-business focus – were discussed



at regular meetings during the year. IT security, in particular internet access security and the implementation of protective measures using public key infrastructure technology, continued to be an important topic for both the Group and its Working Party on Security Issues.

#### 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 2000 the Bundesschuldenverwaltung (BSV – German Federal Debt Administration) had arranged for payment of a total amount of approximately DM 9.1 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. The Bank has also drawn attention to the fact that the introduction of the euro does not entail any change with regard to these reservations.

##### *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 2001 the Balance Sheet stood at 76,054 million gold francs, a record for the end of a financial year and a 1.6% increase over the total of 74,836 million registered 12 months previously. In fact, the size of the Balance Sheet would have been larger still (by some 3.2 billion gold francs) were it not for the negative impact of the overall appreciation of the US dollar between the beginning and the end of the financial year.

As in previous years, the BIS Balance Sheet expanded significantly in the late autumn to peak at the end of December before shrinking again in the first quarter of 2001. This trend, however, was markedly less pronounced than in the two preceding years. A Balance Sheet maximum of 80,673 million gold francs was reached at the end of December, well below the previous financial year's high of 87,049 million registered at the end of December 1999.

As noted above, the BIS opened a new Regional Treasury dealing room in its Asian Office located in Hong Kong SAR last October. This Regional Treasury has no legal personality of its own and all transactions dealt through it are therefore concluded in the name of the BIS in Basel.

### *Liabilities*

On 31 March 2001 borrowed funds in gold and currencies (excluding repurchase agreements) totalled 70,117 million gold francs, compared with 68,724 million at the end of the previous financial year. Gold deposits grew by a modest 22 million gold francs to reach 2,842 million, representing 4.1% of total borrowed funds (unchanged from a year earlier). Currency deposits, on the other hand, increased by 1,371 million gold francs (excluding repurchase agreements) over the financial year. Overall, the daily average volume of borrowed currencies was 2.5% higher than in the previous financial year, reflecting to some extent more competitive pricing and more active marketing of BIS financial products.

The increase in borrowed currencies during the past financial year mainly arose from growth in US dollar placements and to a lesser extent in euro-denominated placements. The US dollar constituted 66.9% of total borrowed funds in currencies on 31 March 2001, compared with 65.3% a year earlier. The share of the euro also increased over the same period from 19.4% to 20.7% of borrowed funds in currencies.

Deposits by central banks and other monetary authorities rose from 60,667 million to 64,687 million gold francs, representing 96.2% of total borrowed funds in currencies (excluding repurchase agreements) at end-March 2001 against 92.1% the previous year. Funds placed by other depositors (mainly international institutions) amounted to 3,578 million gold francs, compared with 5,236 million on 31 March 2000. As BIS customers seek increasingly to enhance the yield on their investments, there has been a clear trend towards a lengthening of the average maturity of customer placements with the BIS.

### *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. Since the Regional Treasury opened in Hong Kong last autumn, there has been a significant increase in BIS business with banks and investment houses in Asia. 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 unforeseen cash requirements of customers.

Investments in currencies stood at 71,636 million gold francs on 31 March 2001, compared with 71,127 million a year earlier. This total included 210 million

gold francs in the form of advances to central banks. The Bank's assets in gold rose slightly from 3,506 million gold francs to 3,521 million over the same period, reflecting an increase 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). In particular, the trend towards longer customer maturities referred to above has prompted the Bank to increase its use of futures and interest rate swaps.

## 6. Net profits and their distribution

The accounts for the 71st financial year which ended on 31 March 2001 show a net profit of 271.7 million gold francs, compared with 307.8 million gold francs for the preceding financial year. Interest income from own funds investments rose, since interest yields were on average higher than in the previous year. Underlying income from borrowed funds operations was similar to last year. However, substantial book losses were realised as central bank customers actively managed their portfolios of BIS instruments when interest rates fell during the last few months of the financial year, and the market values of their claims on the BIS increased. In economic terms, these losses are offset by unrealised gains on the Bank's borrowed funds assets and off-balance sheet operations, which, in conformity with the Bank's accounting policies, are not recognised in the Profit and Loss Account. These losses will be reversed during the original period to maturity of the claims concerned. 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 67.0 million gold francs in respect of costs of administration, including depreciation, compared with the previous year's figure of 68.8 million gold francs, a decrease of 3%. In terms of Swiss francs, the currency in which most of the Bank's expenditure is incurred, costs of administration increased by 6%. Within this category, depreciation rose by 18% in Swiss francs (and by 8% in gold francs) as a result of the Bank's continuing investment in IT and other equipment, which included improved banking IT systems and equipping the new dealing room in Hong Kong.

On the basis of Article 51 of the Statutes, it is proposed that the net profit of 271.7 million gold francs be applied by the General Meeting in the following manner:

- (i) 48.6 million gold francs in payment of a dividend of 360 Swiss francs per share. It should be noted that the dividend will be paid on 452,113 shares. The number of issued and paid-up shares before the repurchase of shares is 529,165. 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 treasury shares;

- (ii) 44.6 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) 175.5 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 1 July 2001 to the shareholders whose names are contained in the Bank's share register on 20 June 2001.

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 2001 and of the results of its operations for the year then ended. Their report is to be found immediately following the accounts.

## 7. Amendment of the Bank's Statutes

### *Withdrawal of privately held shares*

As announced on 11 September 2000, an Extraordinary General Meeting (EGM) of the Bank was held on 8 January 2001 and decided, on the recommendation of the Board of Directors, to restrict for the future the right to hold shares in the BIS exclusively to central banks. Accordingly, the EGM approved an amendment to the Bank's Statutes which effected a mandatory repurchase by the Bank of all BIS shares held by private shareholders, against payment of compensation of 16,000 Swiss francs for each share (equivalent to some \$9,950 at the US dollar/Swiss franc exchange rate on 8 January 2001).

The amount of compensation of 16,000 Swiss francs per share payable to private shareholders represented a premium of 95–155% over the closing prices on the last trading day in September 2000 prior to the announcement of the proposed transaction, when the American, Belgian and French shares subject to the mandatory repurchase traded at 8,195, 7,800 and 6,273 Swiss francs respectively. This amount was determined by the Board and subsequently established by the EGM on the basis of the valuation and recommendations of the international investment bank J P Morgan & Cie, which carried out a multi-criteria valuation analysis. Separately, the accounting firm Barbier Frinault & Associés (Arthur Andersen Group) conducted an independent analysis and delivered an opinion confirming the fairness of the proposed compensation.

The reasons which led the Bank to proceed with the mandatory repurchase were essentially twofold. First, the existence of a small number of private shareholders, whose interest was primarily financial, had become

increasingly inconsistent with the public international role of the BIS and its future development. The fundamental role of the BIS is to promote cooperation among central banks and thus to assist in stabilising the global financial system; it is not a prime objective of the BIS to maximise the return on shareholders' financial investment. Second, the markets for BIS shares were hampered by imperfections which could not be corrected: the shares in private hands represented three non-fungible share issues (the whole of the American issue and portions of the French and Belgian issues) which were thinly traded on two stock exchanges, and the Statutes of the Bank required cumbersome procedures for the transfer of shares.

In order to effect the mandatory repurchase of all privately held shares, Articles 6, 12 and 15 to 18 of the Statutes of the Bank were amended to restrict the right to hold shares in the BIS exclusively to central banks. In addition, a new Article 18(A) was inserted in the Statutes as a transitional rule to provide for the cancellation of the registration of private shareholders in the BIS register and for the payment to them of compensation of 16,000 Swiss francs per share. This new article also refers to the redistribution among shareholding central banks of shares held by the BIS, in a manner to be subsequently determined by the Board. In conjunction with an option given at the same time to central banks owning BIS shares other than those of their national issue to sell such shares to the Bank for the same amount of 16,000 Swiss francs per share, the Bank has repurchased 74,952 of its own shares.

The statutory amendments made to complete the transaction are based on the special international rules applicable to the BIS as an international organisation (including the Bank's Constituent Charter and its Statutes). In particular, pursuant to Article 54 of the Statutes of the Bank, the Arbitral Tribunal provided for by the Hague Agreement has sole jurisdiction to hear disputes arising from the transaction with regard to the interpretation or application of the Statutes. A small number of former private shareholders are contesting the amount of compensation to be paid and the valuation methods chosen and have filed complaints against the Bank either before the Arbitral Tribunal or in national courts. The BIS has requested that all such claims be referred to the Arbitral Tribunal in The Hague.

### *Other matters*

In addition to the statutory amendments relating to the withdrawal of privately held shares of the Bank, the EGM approved changes to Article 40 of the Statutes concerning the English and German language title of the Deputy General Manager and to Article 45 of the Statutes regarding the timing of Annual General Meetings.

## 8. Changes in the Board of Directors

At its meeting in June 2000, the Board re-elected Nout H E M Wellink, President of the Netherlands Bank, as a member of the Board for a further term of three years, ending on 30 June 2003.

In September 2000, Alan Greenspan, Chairman of the Board of Governors of the Federal Reserve System, reappointed William J McDonough as a member of the Board of Directors for another period of three years, expiring on 12 September 2003. At the same meeting, the Board re-elected Masaru Hayami, Governor of the Bank of Japan, as a member of the Board, also for a further period of three years, ending on 12 September 2003.

Jean-Claude Trichet, Governor of the Bank of France, renewed the appointment of Hervé Hannoun as a member of the Board of Directors in November 2000 for a further term of three years, expiring on 27 November 2003.

At the end of December 2000, Hans Meyer retired from his position as President of the Swiss National Bank and vacated his seat on the Board. From 1 January 2001, the Board elected Jean-Pierre Roth, the successor to Mr Meyer at the Swiss National Bank, as a member of the Board for the unexpired period of Mr Meyer's term of office, ie until end-March 2001. In March 2001, Mr Roth was re-elected until 31 March 2004.

In September 2000, Gordon Thiessen, Governor of the Bank of Canada, was re-elected as a member of the Board until 12 September 2003. However, since Mr Thiessen retired and vacated his seat on the Board at the end of January 2001, the Board elected his successor as Governor of the Bank of Canada, David Dodge, as a member of the Board for the unexpired period of Mr Thiessen's term of office until 12 September 2003.

Antonio Fazio, Governor of the Bank of Italy, appointed Bruno Bianchi from July 2000 as his first Alternate to succeed Carlo Santini. From October 2000, Guy Quaden, Governor of the National Bank of Belgium, nominated Peter Praet to replace Jean-Jacques Rey as his first Alternate.

As regards senior officials of the Bank, Guy Noppen and Marten de Boer retired from their position as Manager at the end of September 2000 and the end of March 2001, respectively. Peter Dittus was appointed Deputy Secretary General from 1 October 2000.

# Balance Sheet and Profit and Loss Account

at 31 March 2001

## Balance Sheet at 31 March 2001

(in millions of gold francs – see note 2(a) to the Accounts)

2000	Assets	2001
	<b>Gold</b>	
2 265.4	Held in bars	2 195.3
<u>1 240.4</u>	Time deposits and advances	<u>1 325.8</u>
3 505.8		3 521.1
11.4	Cash on hand and on sight account with banks	20.3
7 853.9	Treasury bills	4 597.8
	<b>Time deposits and advances in currencies</b>	
32 401.0	Not exceeding 3 months	27 894.8
<u>9 452.9</u>	Over 3 months	<u>16 901.6</u>
41 853.9		44 796.4
	<b>Securities purchased under resale agreements</b>	
1 268.1	Not exceeding 3 months	3 882.0
	<b>Government and other securities at term</b>	
4 295.8	Not exceeding 3 months	4 490.3
<u>15 844.1</u>	Over 3 months	<u>13 849.2</u>
20 139.9		18 339.5
120.7	Land, buildings and equipment	113.2
82.0	Miscellaneous	783.7
<u>74 835.7</u>		<u>76 054.0</u>

The classification at 31 March 2000 of some assets and liabilities with an early repayment facility has been amended to reflect their full contractual term to maturity.



After allocation of the year's net profit		Before allocation of the year's net profit	After allocation of the year's net profit
2000	Liabilities	2001	
330.7	Capital	330.7	330.7
2 911.6	Reserves	2 911.6	3 134.7
	Shares held in treasury	(384.0)	(384.0)
191.9	Valuation difference account	56.0	56.0
	Deposits (gold)		
2 240.3	Sight	2 178.1	2 178.1
197.5	Not exceeding 3 months	282.5	282.5
382.4	Over 3 months	381.7	381.7
2 820.2		2 842.3	2 842.3
	Deposits (currencies)		
3 423.2	Sight	2 690.5	2 690.5
39 244.7	Not exceeding 3 months	28 204.1	28 204.1
23 235.8	Over 3 months	36 380.2	36 380.2
65 903.7		67 274.8	67 274.8
	Securities sold under repurchase agreements		
103.0	Not exceeding 3 months	990.6	990.6
2 519.9	Miscellaneous	1 760.3	1 760.3
	Profit and Loss Account	271.7	
54.7	Dividend payable on 1 July		48.6
74 835.7		76 054.0	76 054.0

## Profit and Loss Account

for the financial year ended 31 March 2001  
(in millions of gold francs)

	2000	2001
Interest and discount, and other operating income	4 222.4	5 532.0
Less: interest and discount expense	3 845.8	5 193.3
Net interest and other operating income	376.6	338.7
Less: costs of administration		
Board of Directors	1.2	1.1
Management and staff	40.6	39.3
Office and other expenses	19.4	18.5
Costs of administration before depreciation	61.2	58.9
Depreciation	7.6	8.1
	68.8	67.0
Net profit for the financial year	307.8	271.7
<p>The Board of Directors recommends to the Annual General Meeting that the net profit for the year ended 31 March 2001 be allocated in accordance with Article 51 of the Statutes as follows:</p>		
Dividend: 360 Swiss francs per share on 452 113 shares		48.6
340 Swiss francs per share on 517 165 shares	54.5	
on 12 000 newly issued shares	0.2	
(pro rata as from the value date of share subscription)		
	54.7	48.6
	253.1	223.1
Transfer to general reserve fund	50.6	44.6
	202.5	178.5
Transfer to special dividend reserve fund	3.0	3.0
	199.5	175.5
Transfer to free reserve fund	199.5	175.5
	-	-

## Movements in the Bank's capital and reserves

during the financial year ended 31 March 2001  
(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 2000 as per Balance Sheet	529 165	330.7
Balance at 31 March 2001 as per Balance Sheet	529 165	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 2000 after allocation of net profit for the financial year 1999/2000	33.1	1 259.1	68.5	1 550.9	2 911.6
Add: allocation of net profit for the financial year 2000/01	–	44.6	3.0	175.5	223.1
Balances at 31 March 2001 as per Balance Sheet	33.1	1 303.7	71.5	1 726.4	3 134.7

### III. Capital and reserve funds at 31 March 2001 (after allocation) were represented by:

	Capital	Reserve funds	Total of capital and reserves
Net assets in			
Gold	330.7	331.0	661.7
Currencies	–	2 803.7	2 803.7
Balances at 31 March 2001 as per Balance Sheet	330.7	3 134.7	3 465.4

# Notes to the Accounts

for the financial year ended 31 March 2001  
(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. Forty-nine 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 2000/01 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. The provision is incorporated in miscellaneous liabilities.

### 3. Gold holdings

The following table shows the composition of the Bank's total gold holdings:

Assets	2000	2001
Gold bars held at central banks	2 265.4	2 195.3
Gold time deposits:		
Not exceeding 3 months	261.4	372.0
Over 3 months	979.0	953.8
	3 505.8	3 521.1

The Bank's own gold holdings at 31 March 2001 amounted to GF 661.7 million, equivalent to 192 tonnes of fine gold (2000: GF 661.7 million; 192 tonnes).

### 4. Treasury bills

The Bank's holdings were as follows:

	2000	2001
Book value	7 853.9	4 597.8

The market value of treasury bills at 31 March 2001 was GF 4 601.1 million (2000: GF 7 854.1 million).

## 5. Government and other securities at term

The Bank's holdings were as follows:

	2000	2001
Book value	20 139.9	18 339.5

The market value of government and other securities at term at 31 March 2001 was GF 18 558.4 million (2000: GF 20 120.0 million).

## 6. Land, buildings and equipment

	Land & buildings	IT & other equipment	Total
<b>Cost:</b>			
Opening balance at 1 April 2000	129.6	48.2	177.8
Capital expenditure	0.9	4.1	5.0
Disposals and retirements		(18.6)	(18.6)
Exchange adjustments	(4.7)	(1.8)	(6.5)
Cost at 31 March 2001	125.8	31.9	157.7
<b>Depreciation:</b>			
Accumulated depreciation at 1 April 2000	28.3	28.8	57.1
Depreciation charge for the current year	2.2	5.9	8.1
Disposals and retirements		(18.6)	(18.6)
Exchange adjustments	(1.0)	(1.1)	(2.1)
Accumulated depreciation at 31 March 2001	29.5	15.0	44.5
Net book value at 31 March 2001	96.3	16.9	113.2

The cost of the Bank's land at 31 March 2001 was GF 22.9 million (2000: GF 23.8 million).

## 7. Capital

The Bank's share capital consists of:

	2000	2001
<b>Authorised capital:</b>		
600 000 shares, each of 2 500 gold francs	1 500.0	1 500.0
Issued capital: 529 165 shares	1 322.9	1 322.9
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) The number of outstanding shares on which the dividend for the financial year 2000/01 is payable is as follows:

Issued capital	529 165
Less: shares held in treasury	
From private shareholders and central banks	74 952
Others	2 100
Total outstanding shares eligible for dividend	452 113

## 8. Reserves

The Bank's reserves consist of:

	2000	2001
Legal reserve fund	33.1	33.1
General reserve fund	1 259.1	1 303.7
Special dividend reserve fund	68.5	71.5
Free reserve fund	1 550.9	1 726.4
	2 911.6	3 134.7

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 the table entitled "Development of the reserve funds".



## 9. Deposits

Gold deposits placed with the Bank originate entirely from central banks. The composition of currency deposits placed with the Bank was as follows:

	2000	2001
Central banks		
Sight	3 351.8	2 293.7
Not exceeding 3 months	50 119.9	27 176.4
Over 3 months	7 195.8	35 216.9
Other depositors		
Sight	71.4	396.8
Not exceeding 3 months	5 164.8	1 027.7
Over 3 months	0.0	1 163.3
	65 903.7	67 274.8

## 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 hedge the Bank's interest rate and currency exposure on assets and liabilities, and to manage the duration of its liquid assets. The Bank applies the same credit criteria in considering off-balance sheet commitments as it does for all other investments.

#### Notional principal amounts

	2000	2001
Exchange rate contracts:		
Foreign exchange swaps and forwards	9 291.3	11 542.4
Currency swaps	2 259.3	1 776.1
Interest rate contracts:		
Interest rate swaps	9 842.5	41 012.6
Forward rate agreements and futures	15 629.6	21 864.3

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 2001 was GF 1 476.1 million (2000: GF 354.4 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.

	2000	2001
Nominal value of securities held in safe custody	7 093.0	8 400.5
Gold held under earmark	666.1	700.3

*(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 2001 the market value of the net assets of the Pension Fund was GF 256.3 million (2000: GF 266.7 million), representing a coverage ratio of 117% (2000: 125%) based on the latest annual actuarial value of the fund's obligations as at 30 September 2000. The market value of the net assets of the Savings Fund was GF 23.8 million at 31 March 2001 (2000: GF 23.8 million), representing a coverage ratio of 102% (2000: 105%) with reference to the liabilities of the scheme at that date. Should the ratio remain unchanged at 30 September 2001, the next financial year-end of the Savings Fund, the Bank would be required to pay an additional contribution of GF 0.7 million into the Savings Fund. The most recent annual accounts of the Pension and Savings Funds relate to the year ended 30 September 2000.

## 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. Separate actions have been initiated in the US Federal Courts and a proceeding has been initiated before the Arbitral Tribunal in The Hague. 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 2001 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, 2 May 2001

# Five-year summary of the Balance Sheet

(in millions of gold francs)

Financial year ended 31 March	1997	1998	1999	2000	2001
<b>Gold</b>					
<i>Held in bars</i>	3 547.3	3 037.1	2 801.5	2 265.4	2 195.3
<i>Time deposits and advances</i>	956.7	1 122.4	1 077.2	1 240.4	1 325.8
	4 504.0	4 159.5	3 878.7	3 505.8	3 521.1
Cash on hand and on sight account with banks	384.4	7.8	8.3	11.4	20.3
Treasury bills	2 813.4	1 863.9	7 314.0	7 853.9	4 597.8
Time deposits and advances in currencies	42 355.1	34 862.2	32 423.0	41 853.9	44 796.4
Securities purchased under resale agreements	884.2	2 781.0	276.0	1 268.1	3 882.0
Government and other securities at term	15 651.1	18 517.1	22 167.9	20 139.9	18 339.5
Land, buildings and equipment	–	–	124.7	120.7	113.2
Miscellaneous assets	200.8	258.7	44.5	82.0	783.7
<b>Total assets</b>	<b>66 793.0</b>	<b>62 450.2</b>	<b>66 237.1</b>	<b>74 835.7</b>	<b>76 054.0</b>
<b>Paid-up capital</b>	<b>323.2</b>	<b>323.2</b>	<b>323.2</b>	<b>330.7</b>	<b>330.7</b>
<b>Reserves (after allocation of the net profit for the year)</b>					
<i>Legal reserve fund</i>	32.3	32.3	32.3	33.1	33.1
<i>General reserve fund</i>	974.9	1 016.3	1 156.4	1 259.1	1 303.7
<i>Special dividend reserve fund</i>	59.5	62.5	65.5	68.5	71.5
<i>Free reserve fund</i>	995.1	1 157.4	1 351.4	1 550.9	1 726.4
	2 061.8	2 268.5	2 605.6	2 911.6	3 134.7
Shares held in treasury					(384.0)
Valuation difference account	351.1	247.2	265.4	191.9	56.0
<b>Deposits</b>					
<i>Gold</i>	3 836.4	3 473.7	3 192.6	2 820.2	2 842.3
<i>Currencies</i>	57 585.6	54 023.6	57 705.8	65 903.7	67 274.8
	61 422.0	57 497.3	60 898.4	68 723.9	70 117.1
Securities sold under repurchase agreements	674.8	30.7	121.5	103.0	990.6
Staff pension scheme	252.6	257.0	–	–	–
Miscellaneous liabilities	1 658.7	1 773.7	1 965.6	2 519.9	1 760.3
Dividend	48.8	52.6	57.4	54.7	48.6
<b>Total liabilities</b>	<b>66 793.0</b>	<b>62 450.2</b>	<b>66 237.1</b>	<b>74 835.7</b>	<b>76 054.0</b>

## Five-year summary of the Profit and Loss Account

(in millions of gold francs)

Financial year ended 31 March	1997	1998	1999	2000	2001
Net interest and other operating income	263.8	314.9	370.4	376.6	338.7
Less: costs of administration					
<i>Board of Directors</i>	1.3	1.3	1.3	1.2	1.1
<i>Management and staff</i>	42.9	39.4	40.9	40.6	39.3
<i>Office and other expenses</i>	16.3	15.0	18.6	19.4	18.5
Costs of administration before depreciation	60.5	55.7	60.8	61.2	58.9
<i>Depreciation</i>	–	–	6.0	7.6	8.1
	60.5	55.7	66.8	68.8	67.0
Net operating surplus	203.3	259.2	303.6	307.8	271.7
Less: amounts transferred to					
<i>Provision for exceptional costs of administration</i>	3.0	–	–	–	–
<i>Provision for modernisation of premises and renewal of equipment</i>	6.0	–	–	–	–
	9.0	–	–	–	–
Net profit for the financial year	194.3	259.2	303.6	307.8	271.7
Dividend	48.8	52.6	57.4	54.7	48.6
	145.5	206.6	246.2	253.1	223.1
Transfer to general reserve fund	41.0	41.3	49.2	50.6	44.6
	104.5	165.3	197.0	202.5	178.5
Transfer to special dividend reserve fund	3.0	3.0	3.0	3.0	3.0
	101.5	162.3	194.0	199.5	175.5
Transfer to free reserve fund	101.5	162.3	194.0	199.5	175.5
	–	–	–	–	–

## Board of Directors

Urban Bäckström, Stockholm  
Chairman of the Board of Directors,  
President of the Bank

Lord Kingsdown, London  
Vice-Chairman

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 Verplaetse, Brussels  
Nout H E M Wellink, Amsterdam  
Ernst Welteke, Frankfurt am Main

### *Alternates*

Bruno Bianchi or Stefano Lo Faso, Rome  
Roger W Ferguson or Karen H Johnson, Washington  
Jean-Pierre Patat or Marc-Olivier Strauss-Kahn, Paris  
Ian Plenderleith or Clifford Smout, London  
Peter Praet or Jan Smets, Brussels  
Jürgen Stark or Stefan Schönberg, Frankfurt am Main

### *Sub-Committees of the Board of Directors*

Consultative Committee  
Audit Committee

both chaired by Lord Kingsdown, London

## 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





