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69th Annual Report

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69th Annual Report

submitted to the Annual General Meeting
of the Bank for International Settlements
held in Basle on 7 June 1999

Ladies and Gentlemen,

It is my pleasure to submit to you the 69th Annual Report of the Bank for International Settlements for the financial year which began on 1 April 1998 and ended on 31 March 1999.

The net profit for the year amounted to 303,618,800 gold francs, compared with 259,160,599 gold francs for the preceding year. Details of the results for the financial year 1998/99 may be found on page 165 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 57,366,159 gold francs in payment of a dividend of 320 Swiss francs per share.

The Board further recommends that 49,250,528 gold francs be transferred to the general reserve fund, 3,000,000 gold francs to the special dividend reserve fund and the remainder – amounting to 194,002,113 gold francs – to the free reserve fund.

If these proposals are approved, the Bank's dividend for the financial year 1998/99 will be payable to shareholders on 1 July 1999.

Basle, 19 May 1999

ANDREW CROCKETT
General Manager

I. Introduction: the darker side of market processes

The sense of foreboding that pervaded the economic and financial scene in the period under review proved unwarranted. Without doubt, some bad things happened. The Asian crisis lingered on, reminding both those directly affected and those on the sidelines that the great strengths of a market-based system can be marred by institutional and other weaknesses. The spread of the turmoil to Russia was less of a surprise than the subsequent violent repercussions on financial markets of the Russian devaluation and debt moratorium. Attempts to flee from credit and transfer risks led to sharp drops in the prices of many financial assets, and a drying-up of liquidity in a large number of markets. Banks, hedge funds and other financial institutions in the major financial centres suffered massive losses and one financial institution previously respected for its market acumen was rescued from failure.

Still, events did not unfold as badly as some had feared. The crisis in financial markets in August and September last year was contained through a timely policy response. Moreover, the underlying infrastructure continued to function well even under unusual stress. The Brazilian real was devalued but this did not lead to the collapse of other exchange rate regimes in either Latin America or Asia. On the contrary, the overall impression in spring 1999 was that financial markets in Asia had stabilised and that the deep recession seen in many Asian economies had bottomed out. Even in eastern Europe, which might have been regarded as vulnerable, financial conditions generally remained calm and growth prospects weakened only a little.

A significant factor underpinning the good news which emerged over the last year or so was the continuing strength of the US economy. Past, and perhaps even anticipated, stock market gains amid plentiful job opportunities fuelled consumer spending and contributed materially to the seventh consecutive year of economic expansion. Unexpectedly subdued inflation played a major role by allowing interest rates to remain at low levels. Inflation was generally absent in Europe as well, where aggregate demand also strengthened on the back of consumer spending, a welcome development in the light of weak export growth and still hesitant business confidence and investment. The introduction of a common currency and the lowering of interest rates in most countries may well have contributed to this outcome. Of the major industrial countries, only Japan failed to advance.

The period under review was, however, also characterised by the continuation of some potentially worrisome trends in both the real and the financial sector. Divergences in economic growth both between and within country groups were remarkable. So too were trade imbalances. Real commodity prices hit 40-year lows and the prices of many tradable goods fell

as well. In the financial area, credit growth in most industrial countries was again surprisingly strong, although still very weak in economies hampered by fragile banking systems. Equity prices continued to reach record highs in many industrial countries and property prices also began to move up. The US dollar stayed generally firm in spite of the increasing weight of external indebtedness and the perception that the euro, introduced on 1 January 1999, might become a competing reserve currency. Finally, under the influence of past excesses and recent deregulation, financial restructuring continued on an ever growing scale.

Developments that seem unusual, even unbalanced, need not necessarily be judged unsustainable. For example, the potential gains offered by new technology, particularly in the production of goods and financial services, may provide the sound rationale for a number of trends that currently seem hard to explain. Yet a starting point characterised by significant macroeconomic imbalances and major financial restructuring does not present a comforting environment for policymakers; given very low interest rates and virtual price stability in many countries, the scope for lowering real policy rates is now limited. This environment also implies a continuing need to focus on measures to strengthen the global financial system, which, after the events of last autumn, looks to be the most vulnerable part of our market-based economies.

This Introduction to the 69th BIS Annual Report is essentially retrospective. In contrast, the Conclusion is more forward-looking and focuses on the policy implications arising from the preceding analysis. Finally, the chapter on the Activities of the Bank sets out what the BIS itself has been doing to contribute to both monetary and financial stability at the global level. The Bank's activities, based largely on the work of the many committees of officials meeting in Basle, have recently expanded significantly, commensurate with the identification of a growing number of problems at hand.

Global disinflation and crisis dynamics

The process of global disinflation which has been under way for almost two decades quickened last year, leading to effective price stability in many countries and outright declines in price indices in some others. Within the industrial countries (see Chapter II), headline inflation fell on average to around 1½%, the lowest level since the 1950s. Among the emerging markets (see Chapter III), most countries in South-East Asia demonstrated an unusual degree of price stability given the need to absorb the impact of sharply lower exchange rates. In the People's Republic of China and Hong Kong SAR, exchange rate stability was maintained and domestic prices fell. In Latin America, traditionally a region of very high inflation, prices also fell in some countries while in Brazil the inflationary effect of the depreciation of the real in early 1999 was surprisingly muted.

It would be unwise, however, to simply extrapolate these average tendencies and conclude that global deflation is now the principal policy concern (see Chapter IV). Over the period under review, there was an unusually high degree of divergence in economic performance between the advanced industrial countries and emerging markets. Moreover, there were

significant differences among the major industrial countries as well. Indeed, even within many industrial countries, the gaps between survey results for consumer confidence (high) and business confidence (low) were striking. The evolution of the global economy and global prices will depend importantly on whether the laggers follow the leaders or vice versa in all these different areas.

Relative to the industrial countries taken together, most emerging market economies generally had a difficult year. In much of Asia, with the notable exception of China and India, the best that can be said is that the worst seems to be over, although weak banking systems throughout the region will continue to impede economic expansion. In many of these countries, the sudden reversal of capital inflows forced a wrenching drop in economic activity to reduce imports. To date, the massive improvement in the Asian trade account is due almost entirely to this factor. Whilst Latin America and other emerging markets were initially relatively untouched by the Russian crisis, subsequent outflows of capital meant that Brazil and other countries were pushed towards or even into recession. The Middle East and Africa, for their part, were hard hit by low prices for oil and other commodities respectively.

If the advanced industrial countries as a group did relatively well, this was not true for all of them. At one pole was Japan, where output fell sharply, unambiguous signs of stabilisation failed to emerge, and price declines were widespread. At the other pole was the United States, and to a lesser extent the other English-speaking countries, where growth in 1998 and early 1999 generally exceeded expectations, while at the same time wages and prices remained remarkably stable. Continental Europe found itself in an intermediate position, with growth first firming and then softening, but with marked differences across national economies. The fact that this lacklustre performance was accompanied by concerns about rising wage costs in Germany, even with unemployment still very high, underlines just how divergent economic performance was.

With South-East Asia and Japan so weak, and much of continental Europe not strong, it is not surprising that commodity prices also reached record lows. Nor should it come as a surprise that the price of traded goods more broadly also fell, since there was substantial excess capacity globally in many industries. This was particularly the case in Japan and in Asia more generally, but was also true of the United States. Whereas the unemployment rate in the United States trended ever lower, measured levels of capacity utilisation in manufacturing fell, contrary to what might have been expected. In this environment of heightened global competition, profits also began to weaken, sharply in some countries and sectors. Elsewhere, in continental Europe in particular, profits were sustained through a combination in varying degrees of moderate wage growth, lower input prices, higher productivity and lower interest rates.

It is worth exploring the origins of the increase in global industrial capacity because it could have further implications for prices through a variety of channels. One reason why investment trends have been strong has been technological advances driving down the cost of new investments in information technology. Another has been the growing acceptance of market

processes in many emerging and transition economies, often allied with a development strategy embracing foreign direct investment and export-led growth as well as subsidised domestic capital formation. But yet another reason is that, at any given moment, the cost of capital in at least one important financial centre has been at an artificially low level for well over a decade. The process may have begun in Japan in the late 1980s when a soaring stock market led to a marked increase in domestic capital expansion. In the early 1990s interest rates in the United States were unusually low, leading to a lower dollar and a sharp expansion of production capacity in Asian countries with currencies pegged to the dollar. Moreover, while much of this expansion was in some way linked to Japanese companies, a commensurate reduction in Japanese domestic production capacities was not evident. And in more recent years, Japanese policy rates have also been pushed to very low levels, while stock markets elsewhere have risen to record highs, accompanied by a wave of initial public offerings and mergers and acquisitions.

Associated with this process has been a more rapid rate of credit expansion and a related tendency to lower credit standards and increase risk-taking more generally. This has been most pronounced in Japan and other parts of Asia, where the adverse effects on the banks themselves are already all too obvious. But such behaviour has characterised the activities of financial institutions in other industrial countries as well, spurred by increasing competition and ongoing deregulation. The large inflows into Asia in the early 1990s, mainly loans from European and Japanese banks at generally declining spreads, are a good example of this. Another is the virtual explosion in the issue of sub-investment-grade bonds in the United States and unprecedented levels of both consumer debt and personal bankruptcies.

Periods of permissive or imprudent lending have many downsides. The first is that credit is increasingly used to push up the price of financial assets to unrealistic levels, even as increases in productive capacity push down the rates of return on the underlying real assets. The second is that accommodating attitudes on the part of lenders are also subject to sharp reversals. Mexico and Asia both experienced massive inflows followed by even more massive rates of outflow. With Asia suffering, flows to Latin America and Russia actually accelerated, only to completely change direction after the Russian moratorium. In response to that event, virtually all emerging markets were denied access to most forms of international credit almost overnight while lower-grade corporate borrowers suffered similarly (see Chapter VII).

The events set in train by the Russian moratorium also revealed a third potential downside to rapid credit expansion, namely the effects on highly leveraged financial markets. The Russian default was a catalytic event, changing the rules of the game for all those who had counted on some form of bailout. Credit spreads rose sharply and liquidity dried up in many secondary markets, reinforcing these rate movements. Moreover, the solvency of firms known to have speculated heavily on the narrowing of such spreads came increasingly into question. Margin calls came quickly, forcing the liquidation of whatever seemed salable under the circumstances and transmitting the turmoil into markets for prime quality bonds. Estimates of market risk exposure based on historical

volatility rose above desired levels, leading to generalised attempts to reduce exposure which in turn only made the market turbulence worse (see Chapter V). Such tendencies were further reinforced as many investors recognised that their risk management procedures had in fact broken down and sought out safety and liquidity as an alternative. Before things finally calmed down, prices in many markets had demonstrated intraday variations many times greater than normal. The yen/dollar rate rose almost 7% in one day in October as highly leveraged borrowers in yen were forced to close out their positions (see Chapter VI).

Against this background, Brazil's inability in early 1999 to maintain the dollar peg of the real might have been expected to initiate a new phase of currency and market turbulence. In fact, the reverberations appeared to have been well contained at the time of going to press, perhaps because the devaluation was widely anticipated and much deleveraging had already occurred. Indeed, capital was beginning to flow back into many emerging markets, albeit subject to greater discrimination between different classes of creditors. Stock prices rebounded to near record levels in many industrial countries after the interest rate reductions of last autumn, further stimulating confidence and spending, and began to recover in South-East Asia as well. The continuing strength of the US economy and of the effective value of the dollar also had advantages; both helped strengthen export demand in countries where domestic demand remained relatively weak. In Japan, investors became less sceptical that the government's plans to restructure and recapitalise the banking system would prove effective and share prices rose significantly. Of course, whether this new optimism marks a definitive end to the crisis or only a temporary pause remains to be seen.

Crisis management and prevention

In this environment, it is not surprising that policy rates trended down almost everywhere. In the United States and the United Kingdom, rates were reduced in response to concerns about international financial stability and an anticipated weakening in spending. In continental Europe, as disinflationary pressures became more intense and markets became increasingly confident about the introduction of the euro, short rates converged without incident at low levels; the European Central Bank cut rates in April 1999. In an unprecedented move, overnight rates in Japan were effectively lowered to zero and the Bank of Japan sharply expanded its purchases of private sector paper. Policymakers in different emerging market economies generally responded to their crises similarly, often under the influence of IMF programmes. While rates had first to be raised to restore confidence in financial markets, they were lowered again when this objective had been achieved. Indeed, rates are now below pre-crisis levels in many Asian countries and have also begun to decline in Latin America.

Other policy instruments, some conventional and some not so conventional, were also used to help manage the crisis. Fiscal restraint was a common conventional response, though in Brazil insufficient steps were taken to reduce

the widening budget deficit and the exchange rate regime could not be maintained. Prior to this, Brazil reacted to weakening confidence by issuing increased volumes of shorter-term debt and domestic debt indexed to the dollar (similar to Mexican tesobonos), but this approach eventually proved costly when devaluation occurred nevertheless. Analogous to movements in interest rates, fiscal policy was first tightened but then eased in many Asian countries in spite of concerns about rising debt ratios associated with the need for bank restructuring. In China, government spending on infrastructure rose markedly to maintain domestic demand.

Among the less conventional responses was the Japanese government's issuance of vouchers to stimulate household spending, as well as credit guarantees in favour of small and medium-sized enterprises. Another was the direct purchase of equities by the Hong Kong Monetary Authority, which argued that this was necessary to repulse speculators seeking to destabilise the local financial markets. Still another was the imposition of controls on capital outflows by Malaysia in September last year, while Argentina warned that it would replace the peso with the dollar rather than see the peso devalued. Finally, the IMF package for Brazil was unusual in that it was supplemented by $14.5 billion of bilateral financial support which had been arranged in advance of the crisis. This second line of defence was put up by the central banks of 19 countries and was organised primarily through the BIS.

Given the costs and difficulties of managing crises, it is not surprising that the issue of preventing future crises received much attention last year. One forum for the work was the Willard Group, an informal assembly of senior officials from industrial countries and emerging markets. Its three working groups made a number of concrete recommendations for improving transparency and accountability in both the public and the private sector, finding ways to strengthen domestic financial systems, and finding means of involving the private sector more closely in crisis management and resolution. These efforts complemented work taking place in more established forums such as the G10 Deputies and the various BIS committees of national experts (see the chapter on the Activities of the Bank).

One encouraging aspect of last year's discussions was that input was increasingly sought and received from emerging market participants likely to be directly affected by the outcome. This is the only way to give moral authority to collective decision-making in the absence of effective international law. A second encouraging aspect of recent developments is that the recommendations made are generally practical and realistic, being premised on incremental reforms rather than grand solutions. Given how jealously nations guard their sovereignty, proposals for the establishment of a global central bank, an international lender of last resort, a global super-regulator or an international bankruptcy court are unlikely to be acted on in the foreseeable future. An important implication of this practical approach is that the work required to implement a wide variety of small but sensible reforms will be highly demanding, an issue taken up in the Conclusion of this Annual Report.

If the journey towards a financial world more resilient to crises is likely to be a long one, it has at least begun. Transparency is one area where significant

progress has already been made. While previously available BIS statistics gave a reasonably accurate and timely picture of the debt exposure of Asian countries, improvements could be and already have been made. In a similar vein, the agreement on a set of standards for the disclosure of national foreign exchange reserves, including off-balance sheet claims, was a welcome advance on the partial information available earlier. Finally, it should be noted that a number of official initiatives are under way to find out more about the activities of highly leveraged financial institutions and those who finance their activities. A working group set up by the Basle Committee on Banking Supervision issued in January this year two reports concerning the involvement of banks. The recent events in Asia and those surrounding the Russian crisis provided at times alarming evidence of how complex the interactions between markets and financial institutions can be, and how quickly one form of risk can turn into another given high levels of leverage.

With respect to strengthening domestic financial systems, perhaps the single most important initiative of recent years has been the agreement on a set of Core Principles for Effective Banking Supervision. This approach of agreeing on international standards of good practice has already been widely emulated, by securities regulators and insurance company supervisors in particular. Last year, similar initiatives were undertaken in the area of payments and settlements, transparency in the conduct of monetary and financial policies, and corporate governance. The Basle Committee's proposed update of the 1988 Capital Accord will provide another useful guideline for the international banking community. The planned revisions will mark a further step towards reliance on market discipline to complement traditional supervision and an enhanced use of internal risk models for the calculation of regulatory capital requirements.

Given the scale of private capital flows, the private sector will inevitably have to become more fully and directly involved in crisis management and resolution. Many of the recommendations made by the G10 Deputies after the Mexican crisis in 1995 were reiterated subsequently, although they have not been acted upon to date. Nevertheless, several recent developments have been significant. Efforts to ensure the concerted, but voluntary, renewal of commercial bank credit lines were a central feature of the management of the Korean and Brazilian crises. The insistence of the Paris Club that international bonds be included along with bank loans in Pakistan's debt restructuring also established an important precedent. Finally, having suffered heavier losses in 1998 than at any time since the 1980s debt crisis, creditors became much more aware of their risk exposure. However welcome these developments may be in terms of reducing future excessive capital inflows into emerging markets, they may at the same time have increased the tendency for private sector capital that is already there to be withdrawn pre-emptively. Clearly, it will be important to proceed judiciously in this area given the difficulties still faced by many emerging market borrowers in accessing global capital markets.

II. Developments in the advanced industrial countries

Highlights

Annual growth in most of the advanced industrial countries rose in 1998, despite an increasingly adverse influence from the widening economic and financial crisis in Asian and other emerging market economies. However, there were major differences across countries in the extent to which domestic demand was able to offset the drag from net exports. Contrary to widespread predictions of a slowdown in economic activity, GDP growth in the United States matched its 1997 pace and even increased towards the end of the year. In contrast, growth in the euro zone lost considerable momentum in the course of 1998, and the recession deepened further in Japan despite expansionary fiscal and monetary policies.

Against a background of accommodating policies, low inflation, favourable borrowing conditions, booming equity markets and relatively strong employment growth, household spending was the main source of domestic demand expansion in those countries that coped most successfully with external shocks last year. Indeed, in some cases, household saving rates have fallen to historical lows. Favourable financial market conditions and marked improvements in profit shares and rates of return have also stimulated business fixed investment in these countries. A continued decline in the relative price of capital goods and growing international pressures to reduce costs and improve efficiency have provided an additional boost, notably to equipment investment. By contrast, in countries where output growth lost momentum in the course of 1998, household spending was typically weak and firms tended to invest profits in financial rather than real assets.

With actual output growth above potential in a majority of countries, unemployment rates generally decreased in 1998. Nonetheless, inflation continued to trend lower, reflecting nominal wage restraint, falling commodity prices and excess capacity in global goods markets. The large and widening output gap in Japan has raised concern about the risk of widespread price declines. Thus far, however, there is little evidence of a deflationary spiral, as both the rate of disinflation and expectations of future inflation in Japan have remained stable.

Last year also saw major changes in foreign trade and current account positions. Despite reduced exports to other Asian countries, Japan's current account surplus rose markedly. In contrast, strong domestic demand growth and an appreciating dollar have meant that the United States has absorbed one-half of the rise in current account surpluses in Asia since 1996. Due to falling oil revenues, the oil-exporting countries have also seen a substantial

deterioration in their current account positions, whereas the combined surplus of the euro zone countries has been stable.

Adjustments and policy responses to external shocks

The recession in emerging market economies …

As 1998 unfolded, the recession and financial turbulence in emerging market economies increasingly affected developments in the advanced industrial countries. However, the extent of the impact and the channels through which it was felt differed substantially across both countries and sectors, depending on the nature of the exposure, the stage of the domestic business cycle, exchange rate movements and, not least, the policy response.

… transmitted via several channels

Overall, the advanced industrial countries saw an improvement in their terms of trade last year. But net exports declined, as the growth of real exports fell and lower import prices kept import volumes high. Moreover, even when changes in net exports and the terms of trade were neutral with respect to overall income and economic activity, there were large shifts between sectors that complicated policy decisions. In particular, sectors exposed to global competition were confronted with both downward pressures on prices and weaker demand. Conversely, lower import prices benefited households and enterprises selling in the generally less competitive domestic markets. These divergences were also reflected in confidence indicators. Consumer confidence strengthened in virtually all countries while business confidence declined. This was particularly noticeable during the second half of 1998, when the weakening of export demand and competition from low-cost imports were most pronounced.

Against this background, GDP growth in individual countries depended importantly on the extent to which domestic demand growth was sufficiently strong to compensate for the drag from net exports. Overall, the shift of global financial flows in favour of the advanced industrial countries, accommodating or neutral monetary and fiscal policies and generally favourable financial conditions were conducive to higher demand growth. However, given the aforementioned sectoral shifts, the positive response of households to these developments was a crucial supporting factor. This was evident in the *United States*, where household spending was particularly strong, fuelled by robust gains in employment and wages, low interest rates and the sizable net additions to household wealth associated with the significant run-up in US equity prices. Indeed, including residential investment, household spending rose by more than 5% and, for the second year, GDP grew by almost 4% (Table II.1).

Major role of household spending …

… and policy responses

With raw materials accounting for a large share of their exports, the other English-speaking countries shown in the table were exposed to adverse relative price movements as well as trade shocks. Yet, primarily because of different policy responses, developments in the three countries differed significantly. *Australia* was most prepared to let a depreciating exchange rate cushion the impact of the terms-of-trade loss and also lowered interest rates. As a result, domestic demand growth more than offset the drag from net exports and GDP growth increased to almost 5%. *Canada* also allowed the exchange rate to cushion the impact of terms-of-trade losses. However, when

Contributions to GDP growth in selected countries

	1997	1998	1998 Q4	1997	1998	1998 Q4	1997	1998	1998 Q4
	annual percentage changes								
	United States			Japan			Euro zone		
Domestic demand	4.3	5.3	5.6	0.0	−3.5	−3.1	1.9	3.3	3.0
Consumption	2.3	3.3	3.6	0.6	−0.6	0.0	0.9	1.8	2.1
Net exports	−0.4	−1.4	−1.4	1.4	0.6	0.1	0.7	−0.2	−0.6
GDP	3.9	3.9	4.3	1.4	−2.9	−3.0	2.5	3.0	2.4
	Canada			Australia			New Zealand		
Domestic demand	5.3	2.3	0.9	3.5	6.3	5.2	3.4	−0.1	0.0
Consumption	2.4	1.6	1.2	2.0	2.6	2.4	1.8	1.0	0.6
Net exports	−1.5	0.7	1.8	0.2	−1.3	−0.5	−0.4	−0.6	−0.8
GDP	3.8	3.0	2.8	3.7	4.9	4.7	3.0	−0.8	−0.8

Sources: European Central Bank; national data. Table II.1

the depreciation went beyond the fall in relative export prices and seemed to affect confidence, monetary policy was tightened, slowing both domestic demand and GDP growth. Concerned about the potentially inflationary impact of the terms-of-trade-induced depreciation of its currency, *New Zealand* initially attempted to keep monetary conditions constant by increasing interest rates. Partly as a result, GDP fell and only started to recover when monetary policy was subsequently eased in response to lower inflation and a widening output gap.

Divergences within the euro zone …

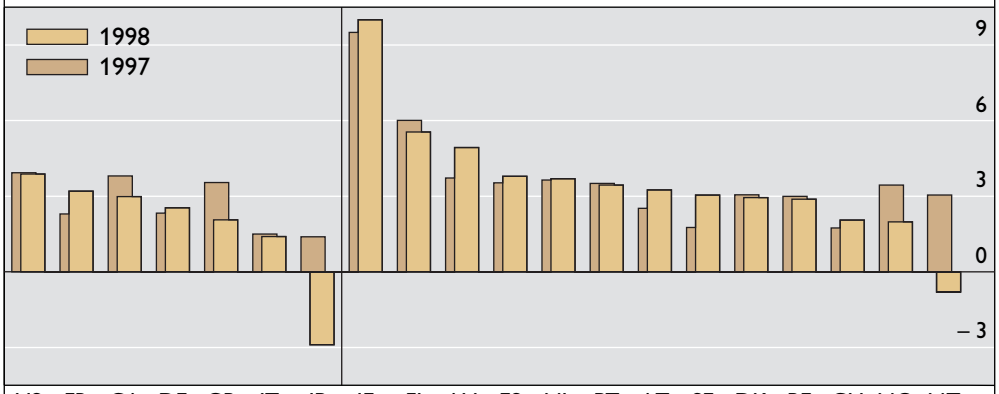
In the *euro zone*, the drag from weaker export growth increased over the year, as slower growth in several eastern European countries aggravated the effects of lower import demand in Asia. Nonetheless, helped by favourable financial conditions and a slight easing of fiscal policy in some countries, household spending picked up and average year-on-year GDP growth rose to 3%. There were, however, marked differences across countries (Graph II.1). *Germany*, faced with lower export demand, an associated weakening of equipment investment and relatively sluggish household spending, experienced negative output growth towards the end of 1998. Output growth also lost momentum in *Italy*, as exports fell and lower interest rates failed to stimulate domestic demand, in part because lower interest rates tend to reduce household income. In contrast, a buoyant household sector and strong employment increases kept output growth close to potential in *France* and *Spain*. Conditions were even more buoyant in other euro zone countries and, in *Ireland* and the *Netherlands*, imbalances and inflationary pressures started to appear.

… and lower growth in other European countries

In other European countries, most of which were ahead of the business cycle in the euro zone, average growth dropped back in 1998. The slowdown was most pronounced in the *United Kingdom* and *Norway*, where high exposure to trade and foreign price shocks, together with tighter monetary policies, progressively affected domestic demand and output growth. *Denmark* also experienced slower growth last year, whereas household spending and capital

Real GDP growth in 1997 and 1998 *

In percentages



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

* Annual averages; national definitions. The standard deviations (across all countries) for GDP growth in 1997 and 1998 are 1.80 and 2.47 respectively.

Source: National data. Graph II.1

formation were sufficiently strong to overcome lower export demand in *Switzerland* and *Sweden*.

Deepening recession in Japan

Developments in *Japan* followed an entirely different pattern. Being more exposed than the United States and Europe, Japan was among the first countries to feel the adverse trade impact from the crisis in emerging Asian economies. Moreover, with private demand responding only little to expansionary fiscal and monetary policies, the recession, which had started in early 1997, deepened. In fact, even though exports to emerging Asian economies declined by almost 20%, the contribution from net exports to GDP was actually positive as the contraction in domestic demand depressed imports by more than the fall in exports.

Foreign trade and current account positions

World trade slows and prices fall

The crisis in Asian and other emerging market economies also left a significant impact on world trade and balance-of-payments positions last year. Reflecting the slowdown in global economic activity, the growth of world trade fell to only 3½%, the lowest rate since 1991 (Table II.2). Moreover, due to the weakening of demand and growing excess capacities, world trade prices decreased by some 3% in SDR terms, with marked declines for commodities. Measured relative to output prices in the industrial countries, commodity prices are well below levels recorded in the early 1960s.

Current account improvements in Asia …

The recession both in some emerging Asian economies and in Japan has also led to major shifts in current account positions. Since 1996, the combined surpluses of emerging Asia and Japan have increased by nearly $200 billion, about twice the rise in the surpluses of oil-exporting countries during the 1978–80 oil price increase (Table II.3). Compared with that earlier episode,

World trade and prices

	1990–95	1996	1997	1998
	annual percentage changes			
World output	2.9	4.3	4.2	2.5
World trade, volume	6.2	6.9	9.9	3.3
Ratio: trade/output	*2.2*	*1.6*	*2.4*	*1.3*
Net exports, goods				
Advanced economies	0.3	–0.2	0.2	– 1.1
Emerging economies	0.7	0.7	3.3	4.6
Trade prices (in SDRs)	–0.4	3.2	–1.3	– 2.9
Manufactures	0.5	1.3	–2.8	– 0.1
Oil	–2.7	23.7	–0.2	–31.2
Non-oil primary commodities	–0.9	3.3	2.0	–13.5
Terms of trade				
Advanced economies	0.5	–0.3	–0.3	1.3
Emerging economies	–1.1	2.2	–0.7	– 6.4

Source: IMF, *World Economic Outlook*. Table II.2

the advanced industrial countries (excluding Japan) absorbed broadly the same share of the rise in global surpluses and Latin America somewhat more. However, because oil revenues have declined over the last two years, higher current account deficits in oil-exporting countries have provided the counterpart to about one-third of the rise in Asian surpluses.

In addition, the distribution of the higher deficit within the group of industrial countries differed substantially from that of the 1978–80 period. Generally, changes in current account positions since 1996 have been driven by

Changes in current account positions[1]

	1978–80		1996–98
Oil exporters	99	Emerging Asia	136
Advanced industrial		Japan	54
countries	–75	Other advanced industrial	
United States	17	countries	–133
Japan	–29	United States	– 99
Euro zone	–66	Euro zone	1
Germany	–22	Germany	2
France	–11	France	19
Italy	–16	Italy	– 15
Spain	– 8	Spain	– 2
United Kingdom	5	United Kingdom	3
Others[2]	4	Others[2]	– 31
Non-oil emerging economies	–33	Oil exporters	– 66
Emerging Asia	–11	Non-oil emerging economies[3]	– 27
Africa	– 1	Africa	– 3
Latin America	–14	Latin America	– 27

[1] In billions of US dollars. [2] Australia, Canada, New Zealand and Norway. [3] Excluding Asia.

Sources: IMF, *International Financial Statistics*, *World Economic Outlook*; national data. Table II.3

… are mostly absorbed by the United States …

differences in domestic demand growth (Graph II.2) and by movements in exchange rates. Reflecting the strong growth of domestic demand and the strengthening of the dollar, the United States absorbed about one-half of the overall rise in the Asian surpluses, in marked contrast to the earlier episode, when a weakening dollar and relatively slow growth of domestic demand led to a strengthening of the US current account. Rapid demand growth, together with adverse relative price changes, has also played a major role in the deteriorations observed for Canada, Australia and Norway, countries in which exports of commodities account for a sizable share of total exports. Conversely, the rise in the current account surplus of Japan can mostly be attributed to the fall in domestic demand and the depreciation of the yen. The aggregate current account surplus of the euro zone countries has changed very little since 1996, as improvements in France and Germany, largely due to stronger competitive positions, more than offset deteriorations elsewhere, notably in Italy.

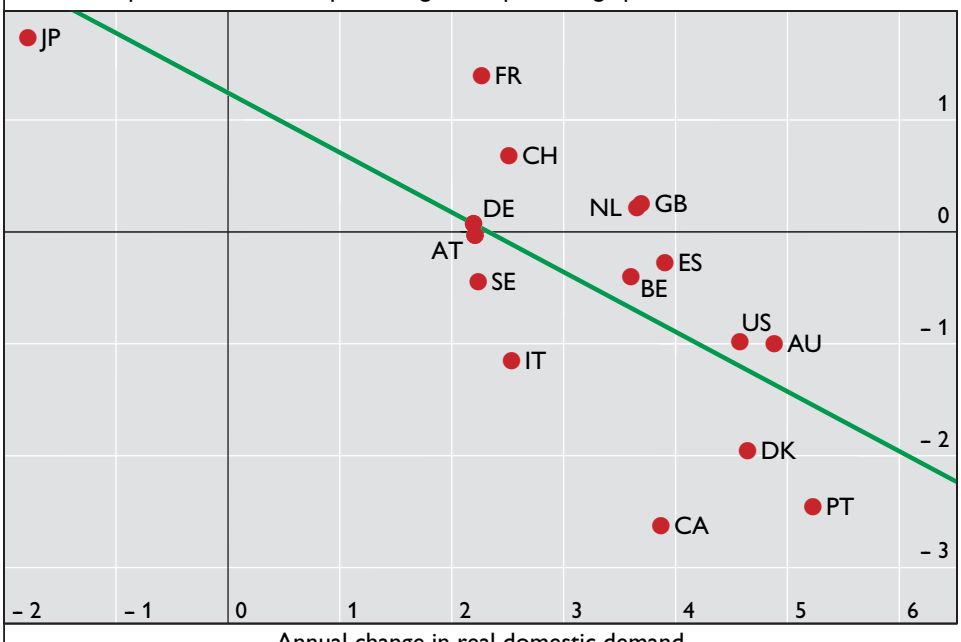
… and commodity exporting countries

Developments in net exports and the terms of trade

Because of the marked changes in relative trade prices and differences in cyclical positions, movements in current account positions give only a partial picture of the ways in which different countries and different sectors within individual countries were affected by the recession in Asia and the slower growth of world trade. In the United States, for instance, the sharp drop in the growth of exports, notably to Asia, combined with continued high growth of imports, led to a decline in net exports equivalent to 1¾% of GDP over the last two years. However, terms-of-trade improvements limited the deterioration in the current account to about 1% of nominal GDP. Similarly, in the United Kingdom, the drag from net exports has far exceeded the

Changes in domestic demand and the current account balance

Over the period 1996–98, in percentages and percentage points



Note: For an explanation of the country codes, see Graph II.1.

Source: National data.

Graph II.2

decline in the current account position, owing to the strengthening of the pound, which helped improve the terms of trade despite the fall in oil prices, and a temporary improvement in the service balance. In contrast, Canada, New Zealand and Norway have all seen a substantial deterioration in their current account positions as worsening terms of trade aggravated the negative effect of net exports. In most of the euro zone, the growth of net exports lost momentum in the course of 1998, but the impact on the current account was mitigated by terms-of-trade improvements despite the depreciation of European currencies against the US dollar. In Japan, on the other hand, the contribution of net export growth exceeded the current account improvement due to a deterioration in the terms of trade.

Fiscal policy

Substantial fiscal stimulus in Japan

The most noteworthy development in fiscal policy last year was the suspension of the Fiscal Structural Reform Law in Japan and the subsequent (in April and November) adoption of tax, expenditure and credit measures to boost domestic demand. In addition, the authorities introduced a comprehensive package aimed at recapitalising banks, easing credit constraints and restoring the health of the financial sector. While the recapitalisation package will only be implemented this year, the effects of the expenditure and credit measures were already being felt towards the end of 1998. Government investment has prevented output from falling even further and public loan guarantees have helped ease credit constraints on small and medium-sized firms and slow the rise in bankruptcies. However, the impact of central government spending has been hampered by the rapidly deteriorating financial position of the local governments and their inability to finance their share of the public investment programme. Moreover, the stimuli do not seem to have revived the private economy, so that the deepening recession combined with the discretionary measures to raise the general government deficit to 6% of GDP in 1998 (Graph II.3).

Budget surpluses in several countries …

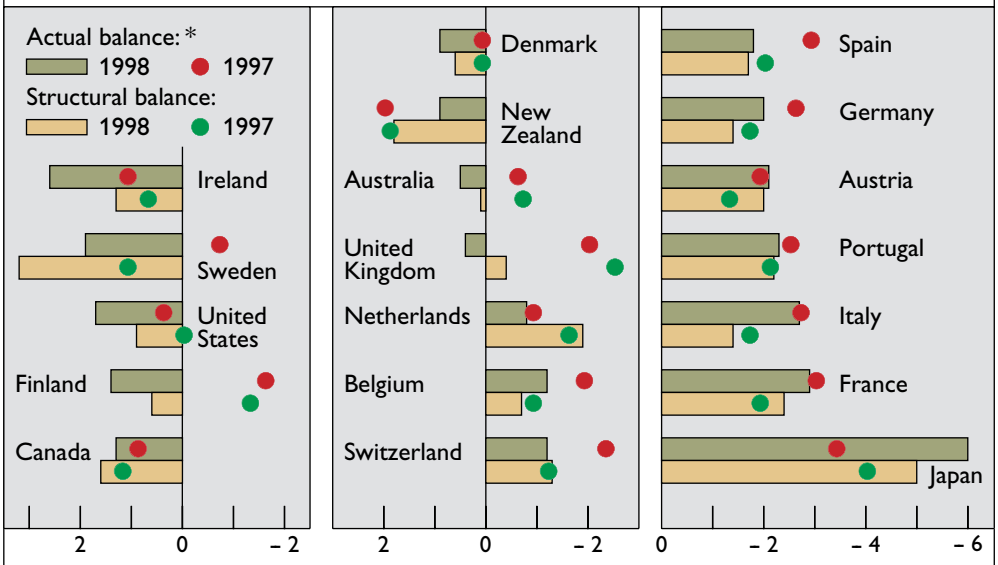
In contrast, both discretionary measures and cyclical effects helped improve fiscal balances in the countries most advanced in the business cycle. The United States recorded a surplus of 1¾% of GDP last year, compared with a deficit of 4½% in 1992. The United Kingdom, Canada, Australia, Finland, Sweden and Ireland have also seen large improvements and, relative to GDP, Canada's structural surplus is now the highest among the G7 countries. Many other countries, having achieved their short-term fiscal consolidation targets, moved towards a more neutral policy stance last year or even eased slightly. In several cases, only part of the additional net revenue generated by the cyclical improvement was used to strengthen structural balances. Other countries eased even more. For instance, New Zealand recorded a smaller surplus than in 1997, as the effect of automatic stabilisers reinforced a small increase in discretionary spending. In France, the Netherlands and Austria, the stimuli were somewhat greater and structural deficits widened despite higher growth.

… and lower debt/GDP ratios …

Many countries have also made progress towards reducing government debt/GDP ratios. Except for Japan, primary balances have been in surplus for

Actual and structural general government balances

As a percentage of GDP



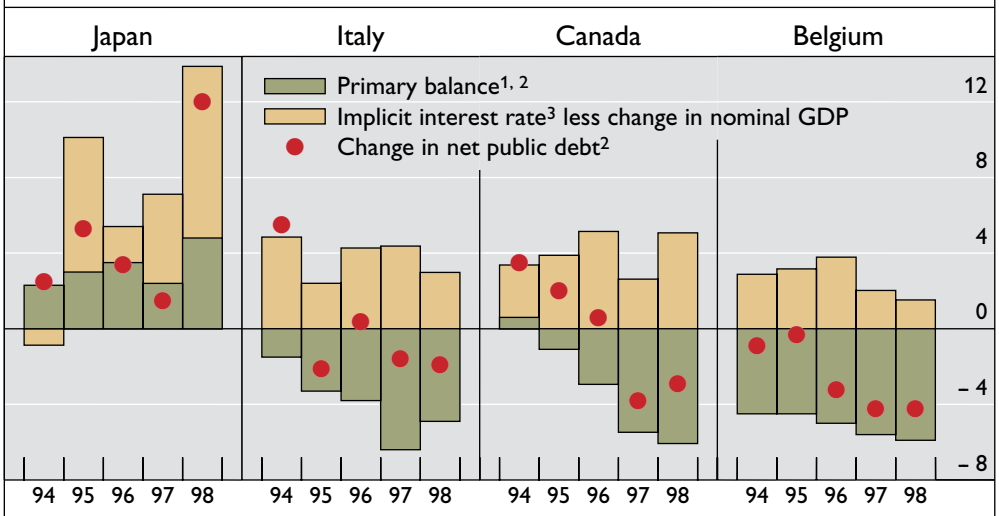
* Net financial balance, including one-time revenue gains from privatisation.

Sources: OECD, *Economic Outlook*; national data; BIS estimates. Graph II.3

the last two years and net debt interest payments have fallen. However, progress has been slowed by the fact that, with lower inflation and public debt interest payments adjusting only slowly to changes in long-term market rates, primary balances need to be larger in order to generate a fall in debt/GDP ratios. This has been evident in countries such as Italy, Canada and Belgium, which started the process of consolidation from relatively high debt levels. In Belgium, for instance, the primary balance has been in surplus since the mid-1980s but the net debt/GDP ratio started to fall only in 1994 (Graph II.4). Italy

Primary balances and changes in the public debt

In percentages and percentage points



[1] Where a deficit is expressed as a positive number. [2] As a percentage of nominal GDP. [3] Defined as the ratio of net interest payments to the net debt at the end of the previous year.

Sources: OECD, *Economic Outlook*; national data. Graph II.4

recorded its first primary surplus in 1992 but an ongoing decline in the debt ratio was only obtained five years later. In Canada, the debt/GDP ratio has also been falling over the last two years, following a marked tightening of fiscal policy in the mid-1990s. Japan, by contrast, seems to have entered a phase of very rapid debt build-up, as the massive rise in the primary deficit brought the net debt/GDP ratio to over 30% and the gross debt ratio to 100% by the end of 1998, compared with ratios of 4% and 60% respectively only six years earlier.

… except in Japan

Other components of demand

In retrospect, 1998 will probably be remembered for the financial and external shocks occurring during the second half. However, it also bears noting that in those countries which weathered the shocks particularly well, private consumption was the most important source of growth. Moreover, in countries where GDP either declined or slowed substantially, the resilience of household spending prevented an even steeper weakening. There were, however, exceptions to this trend. Being concerned about future taxes and employment prospects, Japanese consumers responded to tax cuts by increasing precautionary saving. Similarly, in Germany and Italy, weak employment growth seems to have held back household spending. Indeed, one general feature last year, but particularly evident in France and Spain, was that job creation tended to strengthen household confidence and spending.

Household spending generally strong …

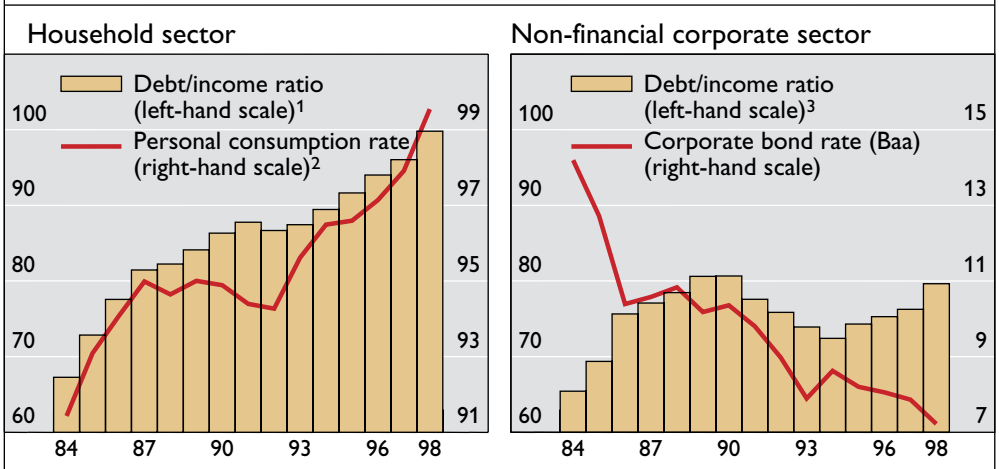
Rising wealth also lifted consumer confidence last year, inducing households to take on more debt and/or realise capital gains and boost spending beyond the rise in disposable income. In the United States, both households and businesses have increasingly relied on credit markets to support the current elevated levels of spending, raising concerns about their sustainability. Household indebtedness increased to an all-time peak and corporate indebtedness to its highest level since 1990 (Graph II.5). Thus far, low interest rates and longer maturities have kept the costs of servicing this debt manageable. Moreover, the rise in household debt should be seen against the background of an even stronger rise in wealth. Nonetheless, personal bankruptcies have reached a new high. With the saving rate around zero and corporate firms having used part of the additional debt to buy back equity, households and businesses may also be more vulnerable to higher interest rates, even if a large share of net borrowing last year was at fixed rates.

… reflecting employment and equity gains …

The realisation of wealth gains also boosted household spending in several other countries last year and, in some cases, inflationary pressures and imbalances are starting to appear. In Ireland, five years of annual growth rates exceeding 7%, allied with lower mortgage rates and high credit growth, have led to excess demand pressure in the housing market. Average house prices in Dublin have risen by some 80% over the last two years and higher house prices appear to have intensified upward pressures on nominal wages. Excess demand pressure may also be building in the Netherlands, where the realisation of wealth gains on houses and equities has fuelled private consumption and output now seems to be above potential. Household spending was also buoyant in Denmark and Finland, partly reflecting wealth gains associated with

… as well as higher housing wealth

Private sector indebtedness in the United States



[1] Gross debt as a percentage of personal disposable income. [2] Personal outlays as a percentage of personal disposable income. [3] Gross debt as a percentage of GDP in the corporate sector.

Sources: Board of Governors of the Federal Reserve System; US Department of Commerce.

Graph II.5

higher house prices. While fears of potential inflationary pressures prompted the Danish authorities to introduce measures to increase household saving and curb the rise in house prices, there were few signs of overheating or imbalances in Finland even though the output gap, which had reached 11% in 1993, has now been closed. One exception to this trend was the United Kingdom, where growing uncertainty about the future course of the economy made households reluctant to spend sizable wealth gains.

Household saving and fiscal consolidation

The strength of household spending and resulting lower saving rates might also be associated with fiscal consolidation and higher government saving. For

Developments in domestic saving in selected countries

	as a percentage of GDP									
	United States		Japan		Germany		France		Italy	
	1992*	1998	1991*	1998	1991*	1998	1993*	1998	1991*	1998
National saving	15.2	16.3	32.7	27.2	22.5	21.7	18.2	20.0	18.5	20.4
Public saving	–1.1	4.4	9.4	1.5	1.3	0.7	–2.5	–0.2	–5.7	0.5
Private saving	16.3	11.9	23.3	25.7	21.2	21.0	20.7	20.2	24.2	19.9
Households	4.2	0.3	8.4	9.5	9.2	7.7	10.0	10.1	12.8	8.0
Business	12.1	11.6	14.9	16.2	12.0	13.3	10.7	10.1	11.4	11.9
	United Kingdom		Canada		Australia		Sweden		Switzerland	
	1993*	1998	1992*	1998	1992*	1998	1993*	1998	1993*	1998
National saving	14.3	18.1	14.3	18.0	17.2	19.8	11.2	16.6	28.8	30.2
Public saving	–4.8	1.4	–4.8	3.7	–3.4	2.7	–7.6	4.4	–0.9	1.9
Private saving	19.1	16.7	19.1	14.3	20.6	17.1	18.8	12.2	29.7	28.3
Households	7.9	5.0	7.6	0.7	3.5	1.5	5.0	0.6	7.2	5.8
Business	11.2	11.7	11.5	13.6	17.1	15.6	13.8	11.6	22.5	22.5

* Year of peak general government deficit after 1990; for Japan, year of peak surplus; for Germany, year following reunification.

Sources: OECD, *Economic Outlook*; national data; BIS estimates.

Table II.4

instance, in the United States, the fall in household saving since 1992 has "offset" three-quarters of the rise in public saving (Table II.4). In Canada, the decline in household saving has been even larger, even though both consumption and residential investment spending decelerated during the second half of 1998. Given an already low saving rate and a high debt/income ratio, Canadian households seem to have become increasingly reluctant to take on more debt. In Italy, a major part of the rise in government saving has also been accompanied by lower household saving, as consumers have financed spending in excess of low income growth by reducing their stock of financial assets. In other countries, the response to fiscal consolidation has been more muted, so that the influence of higher government saving on national saving has been more pronounced.

Growth of business investment …

Another feature of the current cycle has been the strong growth of business fixed investment, notably in those countries most advanced in the business cycle. Although the direct contribution to demand growth is smaller than that of consumption, the fact that strong capital spending reduces the risk of capacity constraints and resulting inflationary pressures has helped prolong the current cycle. Indeed, even though the US cycle is now one of the longest in the postwar period, the rate of capacity utilisation in manufacturing was still

Recent developments in business fixed investment and potential determinants

	Investment[1]	GDP[2]	IOCR[3]	Return[4]	Pk/W[5]
Ireland	43.1	30.7	6.8	15.4	90.4
Norway	40.6	13.4	1.4	7.5	95.5
United States	35.3	10.0	2.3	18.7	85.2
United Kingdom	33.4	9.2	2.1	11.6	83.4
Finland	32.9	15.3	3.8	10.3	82.3
Canada	31.8	7.8	1.9	14.3	80.8
Australia	26.4	11.8	2.5	13.5	81.6
Denmark	25.9	9.7	1.4	11.4	80.0
Netherlands	24.1	9.3	2.2	18.6	89.5
Spain	20.8	8.9	1.7	18.3	84.6
Sweden	15.8	7.1	1.8	12.3	79.0
Belgium	14.2	6.8	1.8	13.8	88.1
Switzerland	12.0	2.3	0.6	12.3	76.7
France	8.7	6.0	1.7	15.7	85.7
Italy	8.4	5.2	1.5	15.4	93.0
Germany	6.9	5.0	1.3	13.6	83.8
Japan	5.6	8.1	0.5	13.6	86.1
Memorandum item[6]		*0.72*	*0.63*	*–0.17*	*0.18*

Note: Data refer to the business sector except for GDP (whole economy).

[1] Cumulative percentage change in real fixed investment between 1995 and 1998. [2] Cumulative percentage change in real GDP between 1994 and 1997. [3] Incremental output/capital ratio, calculated as the rate of change of real value added divided by the ratio of investment to value added (in constant prices); average for the period 1994–98. [4] Pre-tax return to capital in 1996. [5] Ratio of capital goods prices to wages in 1996; index 1990 = 100. [6] Bilateral correlation between investment and, respectively, GDP, IOCR, return and Pk/W.

Sources: OECD, *Economic Outlook*, *Business Sector Data Base*; national data; BIS estimates. Table II.5

well below earlier peaks by the end of last year. In contrast, in many of the euro zone countries, investment spending has been rather sluggish and, despite the slowdown in growth towards the end of 1998, rates of capacity utilisation have remained relatively high.

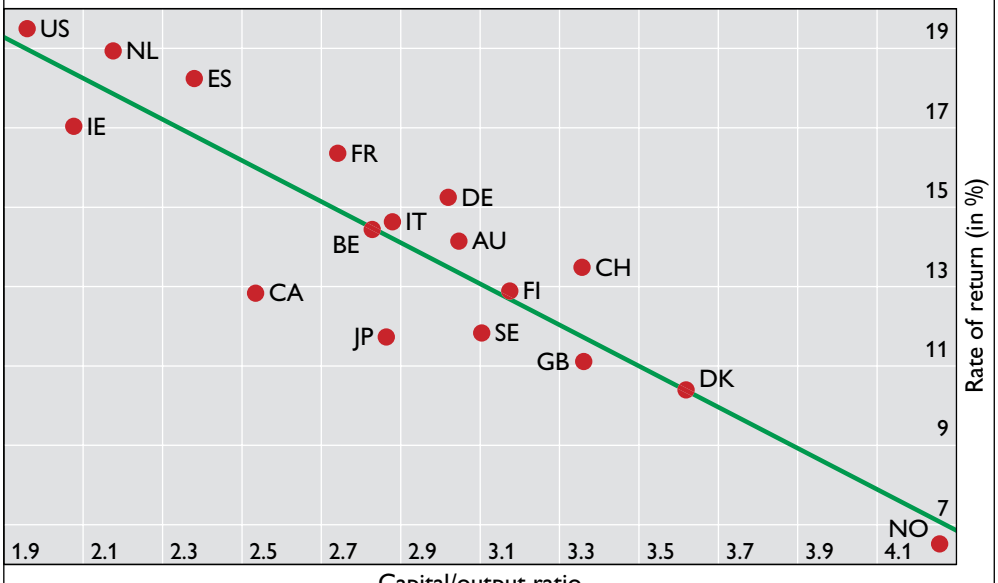
… and its contribution to overall growth …

Favourable borrowing conditions, high and rising equity prices and a marked increase in profit shares have been major factors stimulating investment. As noted, the US investment boom has been accompanied by a sharp rise in corporate debt, but favourable borrowing conditions and high profits also boosted capital spending in several other countries. In Sweden, the pick-up in business investment last year offset a negative swing in net exports equivalent to 2% of GDP. Business investment was also a principal source of growth in Finland and Spain, mostly reflecting higher profits and, in the case of Spain, easier borrowing conditions following its qualification for entry into EMU. In contrast, negative profits as well as credit constraints and uncertainties about future growth prospects led Japanese enterprises to cut back capital spending by more than 11%. Even so, capital stocks continued to grow, reinforcing the demand-induced widening of the output gap.

… reflect divergent expectations …

Probably the most important element influencing specific patterns of investment spending in recent years has been divergences in firms' expectations about future growth, which tend to reflect differences in past growth rates and in recent developments in output per unit of capital invested (Table II.5). In addition, countries with relatively low capital/output ratios, such as the United States, the Netherlands, Ireland and Spain, seem to have achieved higher rates of return and, as a result, have boosted investment spending (Graph II.6). Conversely, in Japan and Norway, high capital/output ratios and associated low

Capital/output ratio and the rate of return in the business sector in 1998



Note: For an explanation of the country codes, see Graph II.1.

Sources: OECD, *Economic Outlook*, *Business Sector Data Base*; BIS estimates. Graph II.6

rates of return may be indicative of past overinvestment and excess capacity, discouraging further capital spending. A fall in the relative price of capital goods, notably equipment, together with growing pressures to cut costs per unit of output, has also played a role by inducing firms to substitute capital for labour to boost labour productivity. Such pressures seem to have been among the driving forces behind recent investment trends in Germany and Switzerland. Moreover, in the light of the modest rise in wages, investment in the United States has been unexpectedly high relative to output growth, suggesting that firms have increased equipment spending in anticipation of potential future labour constraints and wage pressures. This pre-emptive behaviour seems to explain part of the fall in capacity utilisation noted above.

… as well as prospective rates of return

Developments in labour markets

Unemployment

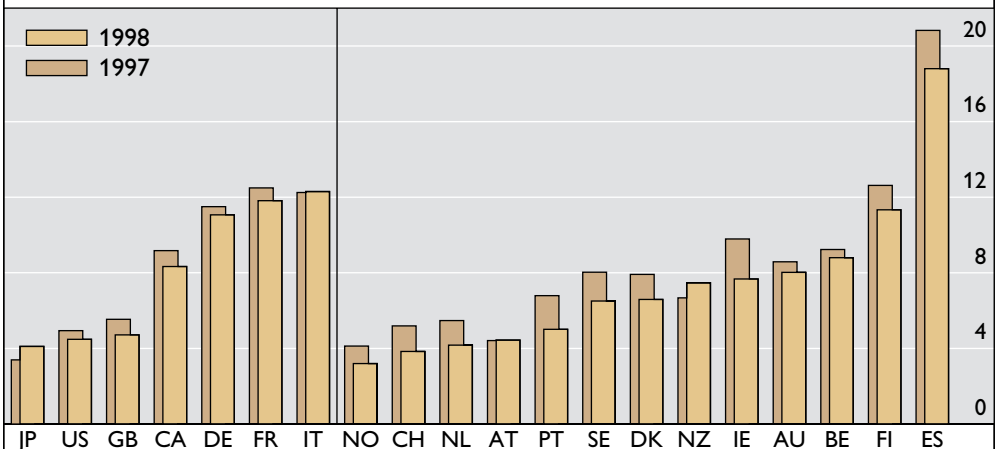
Labour market conditions generally improved last year (Graph II.7). In the United States, the United Kingdom and the Netherlands, unemployment rates fell from already low levels. Despite this, there were only scattered reports of labour shortages and only modest upward pressures on wages. Unemployment rates also moved significantly lower in many of the smaller European countries and in Canada and Australia. In contrast, labour market conditions deteriorated in Japan and New Zealand. Indeed, for the first time in the postwar period, the official unemployment rate in Japan now exceeds that of the United States.

Cyclical declines in unemployment …

These differential developments reflect, to an important degree, variations in cyclical conditions. Nearly every country with economic growth above its trend rate last year also saw a decline in unemployment, and those with faster rates of growth generally experienced larger declines. Similarly, the rise in

Unemployment rates in 1997 and 1998 *

In percentages



Note: For an explanation of the country codes, see Graph II.1.

* Annual averages; national definitions (for Portugal, break in series at end-1997).

Source: National data. Graph II.7

unemployment in Japan and New Zealand mainly reflects the cyclical downturn in production.

… as well as structural improvements in some countries …

Some of the divergences, however, appear to stem from differences in the extent to which countries have made progress in reducing structural unemployment. Such progress has been particularly noteworthy in Ireland, Denmark, the Netherlands and the United Kingdom, countries that have implemented substantial labour market reforms in recent years. Spain has also carried out some important reforms, particularly in the areas of employment protection and unemployment benefits. Nonetheless, estimates of the structural unemployment rate in Spain, while down from several years ago, are still above 15%.

… but not in others

In other countries, structural unemployment has remained stubbornly high, or even risen. In Germany and France, for example, estimates typically exceed 10%, and actual unemployment rates are above their 1995 levels despite a similar-sized – or, in the case of France, a smaller – output gap. Although the robust employment gains last year in France reflect to some degree the impact of structural reforms aimed at increasing job opportunities for women and young people, especially in the service sector, these reforms have also tended to raise labour force participation rates, reducing the effect on measured unemployment. Germany has also taken steps towards improving labour market flexibility. However, to date these seem to have stimulated labour productivity growth rather than encouraged job creation. In this context, the more aggressive bargaining stance of unions in Germany could potentially raise both actual and structural unemployment.

Labour productivity

Divergences in productivity growth …

Labour productivity is another area in which there were considerable differences in performance last year. In Australia and Germany, productivity growth in the business sector exceeded 2½%, and it was only slightly below that in the United States, Finland and France (Table II.6). Productivity rose only slightly in many other countries and fell sharply in Japan.

… reflecting cyclical developments …

As with unemployment, labour productivity is influenced by both cyclical and structural factors. In the longer term, productivity growth is mainly determined by supply-side developments, including changes in the amount of physical capital available per worker, the skills embodied in a country's workforce, and the invention of new technologies and their diffusion into the workplace. In the short run, however, productivity moves with the business cycle, reflecting a tendency by employers to adjust employment only sluggishly to changes in production levels. This cyclical influence explains much of the sharp drop in productivity that accompanied the deepening recession in Japan last year. Most other countries were in the midst of relatively mature expansions, when cyclical factors tend to be of little importance.

… and longer-run trends

As a result, longer-term trends were the principal factors behind the variation in productivity performance. In Germany, for example, trend productivity growth is currently estimated at more than 3%, up from around 2% in the 1980s. Much of this rise reflects a significant increase in the capital/labour ratio, induced by firms substituting capital for labour in response to increases

Sources of productivity growth in the business sector

	GDP per employee				Capital stock/ employment ratio	
	Actual in 1998	Attributable to:[1]				
		Cycle	Trend[2]	Residual	1980s	1990s
	annual percentage changes					
Australia	3.3	0.5	1.8 (1.1)	1.0	2.1	1.5
Germany	2.8	0.2	3.1 (1.8)	−0.5	2.2	3.6
United States	2.3	0.3	1.1 (1.3)	0.9	1.2	1.9
Finland	2.1	0.0	3.7 (3.8)	−1.6	3.6	1.8
France	2.0	0.3	1.9 (2.5)	−0.2	2.6	2.5
Ireland	1.8	−0.3	3.2 (4.1)	−1.1	3.4	−0.4
Sweden	1.6	0.1	2.6 (1.7)	−1.1	2.4	3.7
Belgium	1.5	0.1	1.8 (1.6)	−0.4	2.8	2.7
Italy	1.4	−0.2	2.3 (2.4)	−0.7	2.2	3.1
Switzerland	0.9	0.1	0.6 (0.3)	0.2	0.9	2.8
Denmark	0.7	0.4	2.3 (1.7)	−2.0	2.7	2.1
Netherlands	0.7	0.3	1.4 (1.4)	−1.0	1.1	1.2
United Kingdom	0.6	−1.1	1.0 (2.1)	0.7	1.6	1.3
Norway	0.5	−0.1	2.0 (1.4)	−1.4	2.9	0.7
Canada	0.1	−0.5	0.7 (1.6)	−0.1	5.5	3.6
Japan	−2.4	−4.3	2.2 (2.6)	−0.3	4.4	3.7

[1] The decomposition of productivity growth into these three components is derived from a dynamic labour demand model estimated over the period 1980–98. The model relates productivity growth to the growth in GDP and an error correction term defined as the previous year's level of productivity less its long-run trend level. The trend level is estimated as a spline function with a break point in 1990. [2] The estimated trend rate of productivity growth for the 1980s is shown in parentheses.

Sources: OECD, *Economic Outlook*; national data; BIS estimates. Table II.6

in the relative price of labour and more intense competitive pressures. The trend also appears to have risen in Australia, Denmark, Norway and Sweden and has remained strong in Finland and Ireland despite slower rates of capital deepening.

Influence of capital deepening …

In contrast, trend productivity growth seems to have declined in Canada, reflecting a slower, albeit still relatively rapid, pace of capital accumulation. The estimated trend also fell in the United Kingdom and remained quite low in Switzerland. In the United States, the estimated trend over the 1990s as a whole is similar to that in the 1980s. However, there has been a recent pick-up in the pace of US productivity growth that is not clearly attributable to either cyclical influences or longer-run trends. Although some of this strength is an artefact of changes in the way that inflation is measured, the recent increases may also be evidence of more fundamental shifts. For example, the rapid pace of investment in the United States has boosted capital deepening in spite of continued strong employment gains. In addition, it is sometimes argued that the effects of recent high-tech investments may be especially large because they embody significant technological advances. However, while computers have been a major component of recent investment spending, they still account for only 2% of the net non-residential capital stock. Thus, even if the returns on investment in computers are higher than for other types of equipment, their

… and high-tech investments

effect on aggregate productivity growth has been relatively modest until now. Nonetheless, the effect is increasing and computers may become an important source of productivity advances in coming years.

Recent developments in wage and price inflation

Inflation slows further, reflecting moderate wage growth …

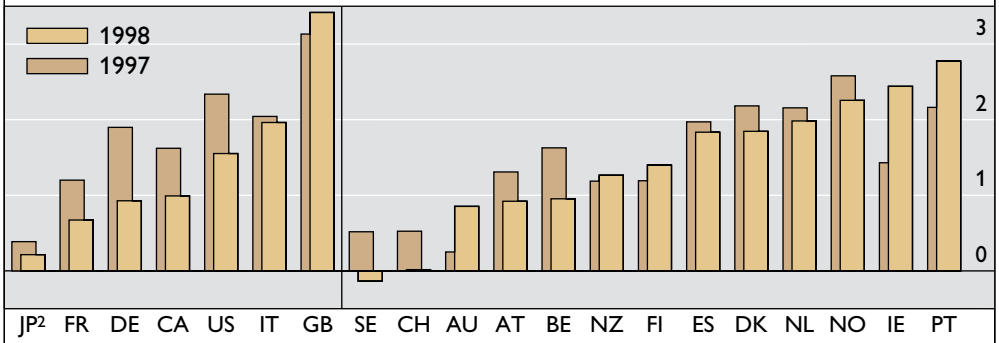
Real-side developments in 1998 were accompanied by a continuation of the disinflation seen in recent years (Graph II.8). In part, this disinflation reflected a further moderation in unit labour costs. Nominal wage increases continued to slow in the euro zone as a whole, while in the United States the modest upward pressures on wages that did emerge were matched by strong productivity gains. In addition, despite shrinking negative or growing positive output gaps in most countries, the mark-up of prices over unit labour costs generally fell, reflecting both declines in costs of internationally traded non-labour inputs and increased competition and rising excess capacity in global goods markets (Graph II.9).

… declining commodity prices …

One major factor depressing non-labour costs was declining commodity prices (Graph II.10). The drop was most pronounced in the price of crude oil, which by the end of 1998 was more than 60% below its 1996 peak in inflation-adjusted terms. The recession in emerging Asian economies, which had accounted for about two-thirds of the rise in oil consumption during the previous four years, explains much of this weakness. However, oil prices were also depressed by the unusually warm weather last year, excess inventories and increases in the global supply of oil. Following an agreement among major oil exporters to cut supply this year, prices have risen nearly 50% since the trough. Given pressures for additional revenues in many oil-exporting countries to counteract growing budget deficits, there may be some doubts as to whether the agreement will hold. However, market observers currently expect the price increase to be more than temporary.

Consumer price inflation in 1997 and 1998[1]

In percentages

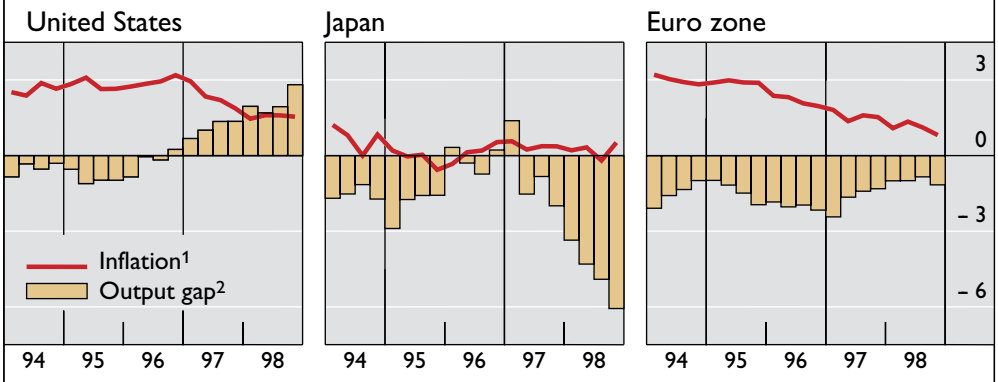


Note: For an explanation of the country codes, see Graph II.1.

[1] Annual averages; national definitions. The standard deviations (across all countries) for inflation in 1997 and 1998 are 0.78 and 0.92 respectively. [2] Excluding the effect of a consumption tax increase in April 1997.

Source: National data. Graph II.8

Inflation and output gaps



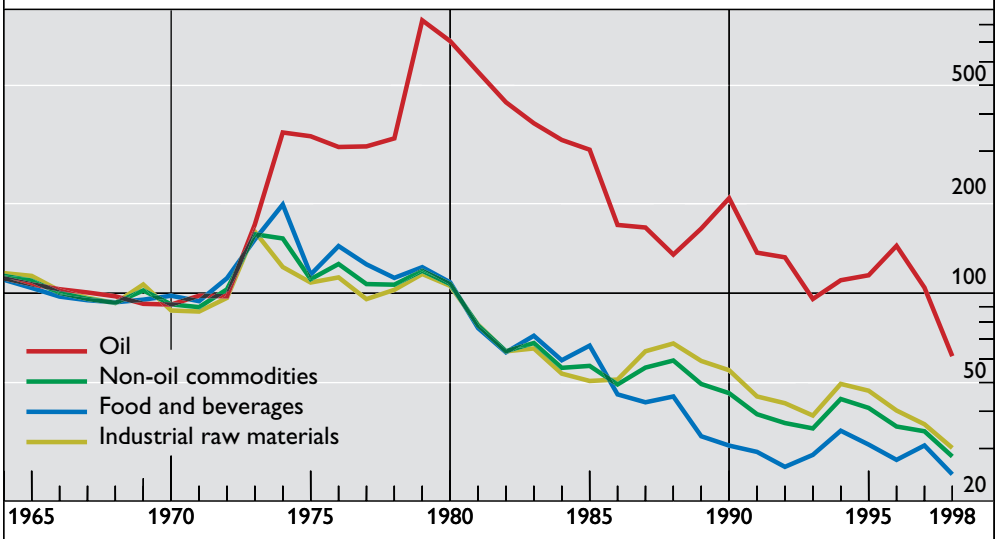
[1] Percentage changes in consumer prices over four quarters; for Japan, excluding the effect of a consumption tax increase in April 1997. [2] As a percentage of potential GDP; positive figures indicate excess demand.

Sources: OECD, *Economic Outlook*; national data; BIS estimates. Graph II.9

Weak global demand and rising supply have also led to substantial price declines for a wide range of other commodities. Food prices have been on a long-term downward path that steepened last year due to weather-induced supply increases. In addition, the retreat of prices for agricultural raw materials from their 1995 highs was further encouraged by the recession in Asia and supply increases induced by technical progress, increased privatisation of production and the higher prices earlier this decade. The same factors have also depressed prices of industrial raw materials, although the steepness of the price decline during 1998, particularly for base metals, was probably exacerbated by attempts on the part of producers to compensate for revenue losses by

Commodity prices in real terms *

1964–72 = 100 (semi-logarithmic scale)



* Using the OECD GDP deflator.

Sources: HWWA-Institut für Wirtschaftsforschung; OECD. Graph II.10

expanding production and cutting margins, in some cases to the point where prices no longer covered costs. More generally, since most commodities are priced in US dollars, the strengthening of the dollar since 1995 has tended to reinforce the downward pressure on prices.

… and excess global capacity

The weakness in global demand also resulted in substantial excess capacity for many intermediate and finished goods. This demand/supply imbalance contributed to the disinflationary trend in the industrial countries, both by reducing the prices of imported goods and by increasing competitive pressures on domestically produced goods. Indeed, industrial output prices in the G10 countries fell about 2% relative to a year earlier, and consumer goods prices were down in many countries as well. In addition, prices for services decelerated over the year, reflecting the above-mentioned moderation in nominal wage growth and, in several countries, deregulation and privatisation of services formerly provided by the public sector.

Disinflationary forces in the United States …

In the United States, where consumer price increases slowed to around 1½% last year despite a further rise in output relative to estimates of potential, the disinflationary effects of lower costs of non-labour inputs and excess global capacity were reinforced by two other factors. First, the foreign exchange value of the dollar remained at a relatively high level for most of 1998, helping to restrain price increases for both imported goods and domestic goods that are close substitutes for imports. Second, the high level of US business investment in recent years is now manifest in below average rates of capacity utilisation, compounding the effects of increased international competition on US domestic prices and leading to a significant squeezing of profit margins.

… and a variety of outcomes in Europe

Although the broad developments mentioned earlier have brought lower inflation in Europe as a whole, there were some important differences across countries. For example, inflation moved up in Ireland and Portugal last year, owing to the rapid pace of output growth and, in Ireland, an acceleration in unit labour costs. And although inflation continued to edge down in the Netherlands, the rate of unemployment has fallen to only 3.8% (among the lowest in the euro zone) and labour cost pressures are intensifying. In contrast, nominal wage restraint and strong productivity gains enabled French and German enterprises to limit the rise in unit labour costs and maintain their international competitiveness despite appreciations in their nominal effective exchange rates. In Spain, Finland and Belgium as well, continued nominal wage restraint helped to dampen price pressures despite relatively strong employment growth. And in Sweden and Switzerland, consumer prices fell or were roughly constant.

Downward price pressures in Japan

In Japan, the deepening recession and growing output gap led some observers to expect the onset of severe downward price pressures. Thus far, however, there seems to be little evidence of the beginnings of a deflationary spiral in which spending falls in response to expectations of falling prices. Viewed in isolation, the marked rise in the saving rate could be interpreted as indicating such a process. However, while nominal wages and wholesale prices for manufactured goods fell last year, unit labour costs increased and consumer prices were about flat. More importantly, there is evidence of a high degree

of inflation inertia in Japan. According to household and business surveys, a majority of respondents are expecting higher future prices even though actual prices are flat or falling. In addition, despite the steep rise in the output gap, the rate of CPI inflation has changed only a little, whereas the historical pattern would have implied a sharp and continued deceleration of inflation.

Evidence of nominal rigidities

Low inflation may increase nominal rigidities …

The economic environment of recent years has prompted questions about whether the nature of the inflation process might now differ from that experienced in previous decades. One concern is that nominal wages might be rigid downwards because employees view nominal wage reductions as unfair even though they might readily accept a similar-sized cut in real wages caused by inflation. If such resistance to nominal wage cuts is prevalent, firms might find it more difficult to adjust real wages downwards at low rates of inflation and thus be forced to make greater use of job cuts in response to weaker demand or adverse productivity shocks. While this might raise the risk that unemployment levels could be somewhat higher when inflation is low, the recent declines in unemployment and a lack of convincing empirical evidence on the importance of such rigidities suggest that this concern should not be overemphasised.

… owing to less frequent price adjustments …

Another, and perhaps more serious, source of concern is that nominal rigidities in labour and product markets might cause the general inertia in wage and price inflation to be more pronounced at low rates of inflation. If this is so, policy-induced and other changes in nominal income would have a greater impact on real output than in periods of higher inflation. Such nominal rigidities are often presumed to arise from a reluctance by firms to make changes to nominal wages or prices because there are costs associated with negotiating new contracts or adjusting price lists. And, with inflation and inflation expectations declining, these costs would increasingly outweigh the benefits of adjusting prices more frequently.

… and longer contracts

Some recent developments in labour and product markets accord well with these hypotheses. In the United States, for example, new collective bargaining agreements have tended to be of longer duration, stretching out to as much as six years in some cases. In addition, the prevalence of automatic cost-of-living adjustments in private sector union contracts has declined markedly, while indexation of wages has virtually disappeared in Europe. In product markets, an increasing number of manufacturers have demanded and received long-lasting price guarantees from their suppliers, which may limit the ability of those suppliers to pass on higher production costs. Conversely, the diffusion of some new technologies, such as price scanners, internet catalogues and more advanced payroll processing software, might work in the other direction, facilitating even small adjustments to wages and prices. Moreover, institutions and expectations, as well as notions of fairness, may adjust in a low-inflation environment, especially given credible commitments on the part of the monetary authorities.

Evidence of increased rigidity …

Nominal rigidities are difficult to measure directly. However, it is possible to assess their importance from the way in which changes in nominal demand

are "split" into output changes and shifts in the rate of inflation. Although, in the long run, real output depends on supply-side factors, changes in nominal demand may influence output over shorter periods because prices adjust only gradually to their appropriate underlying levels. Thus, one implication of increased nominal rigidities is that changes in nominal demand will take longer to influence prices and therefore will have a larger short-run impact on real activity. Empirical estimates based on this insight indicate that the degree of nominal rigidity has increased in many industrial countries, not only in Japan, where inflation has been especially low in recent years, but also in some of the countries that have adopted explicit inflation targets (Table II.7). In contrast, nominal rigidities do not appear to have increased in the United States, Sweden or Switzerland. Rather, such rigidities have always been an important component of the inflation process in these countries.

… is advanced in support of arguments for expansionary macroeconomic policies …

This evidence of increased nominal rigidity at low rates of inflation has recently been linked to the argument that expansionary macroeconomic policies might be used to reduce unemployment. That is, if there is a high degree of inertia in the inflation process, imbalances in labour and product markets would take a while to influence inflation so that policy errors, if they are recognised promptly, could be reversed in sufficient time. Thus, the inflationary risks in attempting to reduce unemployment in this manner would be small, and there might be additional benefits if structural unemployment is also reduced. The recent economic performance of the United States is sometimes cited as an example in this regard, reflecting a presumption that the ability to keep the unemployment rate so low for a significant period of time has increased the human capital of lower-skilled segments of the population and thus contributed to a decline in structural unemployment.

Estimates of nominal rigidity

	Prices*		Average inflation	
	1970–85	1986–98	1970–85	1986–98
United States	0.86	0.86	6.4	2.8
Switzerland	0.74	0.59	4.8	2.4
Sweden	0.74	0.57	9.0	4.1
Germany	0.63	0.78	4.7	2.5
France	0.56	0.93	9.4	2.4
Canada	0.55	0.73	7.6	2.3
Denmark	0.54	0.64	9.0	2.7
Australia	0.48	0.62	9.7	3.6
United Kingdom	0.46	0.83	11.3	4.2
Belgium	0.41	0.80	6.6	2.7
Italy	0.37	0.58	14.2	5.4
Spain	0.36	0.53	13.4	5.5
Japan	0.31	0.85	6.1	0.8

* The degree of nominal rigidity in prices is estimated as 1 less the coefficient on nominal income growth in a regression of inflation (GDP prices) on nominal income growth, the lagged GDP gap, lagged inflation and the lagged change in the relative price of imports. Thus, a coefficient of 1 indicates complete rigidity while a coefficient of 0 indicates complete flexibility.

Sources: OECD, *Economic Outlook*; national data; BIS estimates. Table II.7

However, policies based on these arguments harbour major risks. It should be remembered that the lower unemployment in the United States was accompanied by and benefited from an unusual degree of external downward pressures on prices, not only as a result of falling commodity prices but also due to the high exchange value of the dollar in recent years. The above argument also presumes that the inertia in wages and prices is of a similar magnitude in both directions. But if the rise in nominal rigidities in some countries primarily reflects a bias against nominal reductions in wages and prices rather than a more general stickiness of inflation, attempts to lower the unemployment rate without structural reforms might be quickly reflected in a higher inflation rate. Finally, and most importantly, if attempts to reduce unemployment through macroeconomic policies turn out to have unintended and unexpected inflationary consequences, the rise in nominal rigidities also implies that it will be more costly to reverse the effects of these policy errors.

… but there are dangers in this approach

III. The spreading crisis in emerging markets

Highlights

Most emerging market economies suffered a major slump in commodity prices in 1998 and faced very unsettled conditions in international financial markets. Especially after mid-year, the perceived riskiness of investing in the emerging world increased markedly, causing creditor banks and other investors to scale back drastically their financial exposures. Whereas until mid-1998 the financial crisis had been contained mainly within Asia, it subsequently spread rapidly to Russia and parts of Latin America.

Adjustment to the crisis in Asia was associated with severe output contractions. As the year progressed, however, a degree of financial stability returned and the decline in output in the most affected economies tended to level off. How strong the recovery will be remains to be seen. Excess capacity built up over a number of years is dampening investment. Moreover, external demand growth has remained weak, in part because of the depressed state of many regional export markets, most notably Japan. Some uncertainty also surrounds the prospects for China's economy.

At the root of the Russian crisis of August 1998 were a number of major economic and financial weaknesses. Many of the basic elements of a market economy are not in place; the public finances are in urgent need of reform; and financial institutions have yet to assume their central role in the intermediation process. Elsewhere in eastern Europe transition is at a more advanced stage and contagion from the Russian crisis was limited.

The most notable victim of the flight to quality and liquidity in late 1998 was Brazil. As so often in the past, a tightly managed exchange rate regime, combined with growing domestic and external macroeconomic imbalances, proved unsustainable. Most other Latin American countries also experienced a more hostile climate in international goods and financial markets and were forced to turn to more restrictive policies.

Key influences on developments in emerging market economies

The financial turmoil which erupted with the floating of the Thai baht in mid-1997 has since spread to a large number of emerging market economies. The crisis has gone through a series of stages (Table III.1), linked by several, often complex channels of transmission and contagion. Vulnerable corporate and financial sectors, weak public finances, widening current account deficits and inconsistent policy frameworks have been the basic causes of difficulties in most countries. As many emerging market economies have become more integrated in the global financial system, abrupt reversals in the flow of capital

have almost always served to both trigger and exacerbate domestic problems. In turn, deep recessions were provoked and exchange rates fell sharply in the countries affected, with significant effects on international trade prices and

Principal stages of the emerging market crisis

1997	
July	Floating of the Thai baht (2 July).
August	Floating of the Indonesian rupiah (14 August). Approval of an IMF-led support package of $20.1 billion for Thailand (20 August).
October	Equity markets in Asia, Latin America and Russia fall sharply. Strong exchange rate pressure builds in Brazil, Hong Kong, Korea and Taiwan.
November	Approval of an IMF-led support package of $40 billion for Indonesia (5 November).
December	Approval of an IMF-led support package of $57 billion for Korea (4 December). Floating of the Korean won (6 December). Oil price records 30% fall over the year.
1998	
January	Russian rouble is pegged to the dollar with a ±15% fluctuation band (1 January). Indonesian corporate debt "pause" (27 January). Restructuring agreement covering $24 billion between Korea and its external creditors (29 January).
February	Currency board proposed by Indonesia.
May	Presidential change following riots in Indonesia (21 May). Russian refinancing rate reaches 150% by month-end.
June	Indonesia and a steering committee of creditors agree to restructure $70 billion of foreign private debt (4 June). New agreement signed between the IMF and Indonesia (24 June). South African rand comes under intense pressure and depreciates sharply. Brazilian interest rates return to levels of early October 1997 (26 June).
July	IMF-led support package for Russia of $22.6 billion in 1998–99 ($4.8 billion made available on 20 July).
August	Yen reaches an eight-year low (11 August). Hong Kong authorities intervene in equity market (14 August). Russia changes exchange rate regime, suspends payments on short-term government debt and imposes moratorium on commercial debt payments to non-residents (17 August).
September	Russia stops supporting the rouble (1 September). Malaysia pegs its exchange rate to the dollar and imposes stringent capital controls (1–2 September). In Latin America, equity markets fall sharply and exchange rates come under pressure: Colombia raises its exchange rate band by 9% (2 September); Brazilian interest rates double to nearly 50% (10 September); Mexican short-term interest rate peaks at 48% (11 September); Chile widens its band and increases interest rates (16 September). China tightens foreign exchange regulations (27 September).
Sep/Oct/Nov/Dec	Series of interest rate reductions in the major currency blocs.
October	Following presidential elections, Brazil announces a three-year fiscal adjustment programme (20 October).
December	Approval of an IMF-led support package of $41.5 billion for Brazil, including a $13.3 billion BIS loan backed by 19 industrial country central banks (2 December).
1999	
January	Floating of the Brazilian real (15 January). Dollarisation issue raised by Argentine central bank (21 January). International rating agency upgrades Korean sovereign debt to investment grade (25 January).
March	New IMF programme for Brazil (8 March). First reduction in Brazilian interest rates since floating (25 March).

Table III.1

merchandise flows. This created yet further channels through which the crisis was transmitted throughout the emerging world and even beyond.

Capital flows

Drying-up of private capital in 1997–98

An extended period of easy access by emerging market economies to international financing came to an abrupt end in the second half of 1997. Private sector capital, which flowed into emerging market economies at a rate of $140 billion in 1996, shrank to $40 billion as the first waves of financial turmoil hit the developing world in 1997, and dried up completely last year (Table III.2). In part, the financing gaps left by reduced private sector involvement were filled by rising inflows of official funds. At over $120 billion, foreign direct investment inflows have remained buoyant over the last two years, suggesting that confidence in the longer-term prospects of most emerging market economies has remained intact.

Reversal in bank credit flows to Asia

Annual aggregate data on private financial flows, however, mask trends in cross-border bank credit and international debt issuance which varied greatly over time as well as across regions (see also Chapter VII). Table III.3 reveals the sharp reversal in bank lending and securities flows experienced in Asia in the second half of 1997. By year-end, bank claims on the five Asian economies most directly affected by financial turmoil (Indonesia, Korea, Malaysia, Thailand and, to a lesser extent, the Philippines) had shrunk at nearly twice the rate at which they had risen in 1996 and early 1997 – from close to +5½% of GDP in 1996 to –10% in late 1997. Creditor banks continued to reduce their exposure

Capital flows and reserves in emerging market economies

	1990–95	1996	1997	1998
	in billions of US dollars, at annual rates			
	Net private capital inflows			
Asia[1]	33	81	–45	–69
Latin America[2]	35	70	77	57
Eastern Europe[3]	5	10	11	21
Russia	–9	–25	– 7	–12
	Net official capital inflows			
Asia[1]	14	4	37	29
Latin America[2]	6	–12	– 5	12
Eastern Europe[3]	1	– 1	– 1	– 2
Russia	8	9	5	7
	Net increases in reserves			
Asia[1]	41	58	15	66
Latin America[2]	15	25	13	–10
Eastern Europe[3]	6	1	2	9
Russia	2	– 3	2	– 5

Note: Capital flows are calculated as the difference between the current account and the changes in reserves; private flows are calculated as a residual from an estimate of official flows.

[1] China, India, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan and Thailand. [2] Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. [3] The Czech Republic, Hungary and Poland.

Sources: IMF; Institute of International Finance (IIF). Table III.2

to the region at a rapid pace in the first half of 1998. However, as the year progressed, current accounts swung into surplus and evidence emerged that the crisis might be contained. As a result, the financial climate facing the crisis-hit Asian economies became somewhat less gloomy. Albeit with some delay, possibly reflecting the longer lead times needed for issuing securities than for arranging bank credits, net issuance of international securities presented a picture similar to that of bank lending. New issues weakened significantly in late 1997 and early 1998, and in the second half of 1998 net issuance turned negative, as investors turned away en masse from lower-rated paper. Improving sentiment, however, allowed some countries, most notably the Philippines, to regain access to international capital markets in early 1999.

Pattern of flows to Latin America …

The data in Table III.3 also present a qualified and in many respects surprising picture for Latin America. Flows of bank credit to Latin America remained strong even as the crisis spread rapidly throughout Asia in the second half of 1997. Although bank claims on Brazil fell in late 1997, this interruption proved to be brief. Indeed, in the first half of 1998 the country recorded a period of particularly buoyant inflows of bank credit, equivalent to over 2% of GDP. Only around mid-year, following the Russian crisis, did bank flows change direction, with outstanding bank claims dropping precipitously in the second half. Similarly, a net contraction in the issuance of Latin American

International bank and securities financing of emerging market economies

	Average 1990–95[1]	1996	1997			1998		
			First half	Q3	Q4	First half	Q3	Q4
	in billions of US dollars, at an annual rate							
	International bank lending[2]							
Asia[3]	37	80	74	– 8	–109	–103	–94	–32
of which: China	7	13	13	21	– 1	– 6	–25	4
Crisis countries[4]	28	58	49	–39	– 96	– 96	–59	–43
Latin America	1	29	27	43	40	30	–32	–24
of which: Argentina	0	5	4	10	12	3	5	–11
Brazil	0	17	13	18	– 1	17	–32	–18
Mexico	0	0	3	– 5	8	2	– 4	6
Eastern Europe[5,6]	0	2	4	8	6	7	4	2
Russia[6]	–2	7	8	17	6	12	–43	– 6
	Net issuance of international debt securities							
Asia[3]	15	43	40	44	13	10	–15	– 3
of which: China	2	2	7	2	1	0	– 4	2
Crisis countries[4]	11	38	28	36	10	7	–16	– 5
Latin America	13	41	48	76	– 3	50	– 1	– 8
of which: Argentina	6	11	13	26	2	20	5	2
Brazil	4	12	15	19	– 6	16	– 8	–12
Mexico	2	13	13	11	– 2	3	0	2
Russia	0	0	9	5	6	11	25	– 1

[1] 1993 Q4–1995 for net securities issuance. [2] Exchange-rate-adjusted change in claims of BIS reporting banks. [3] Excluding Hong Kong and Singapore. [4] Indonesia, Korea, Malaysia, the Philippines and Thailand. [5] The Czech Republic, Hungary and Poland. [6] Data are available only from 1994.

Source: BIS. Table III.3

international debt securities affected the region only in the last two quarters of the year.

… and Russia

In spite of widely recognised vulnerabilities, Russia also continued to attract foreign financing for most of the period leading up to its financial crisis in August 1998. Bank lending remained as buoyant in the first half of 1998 as it had been throughout 1997, while debt issues soared. When the crisis broke in August, however, inflows dried up, with bank claims shrinking at an annualised rate of almost $43 billion in the third quarter. By year-end, net issuance of securities had come to a standstill.

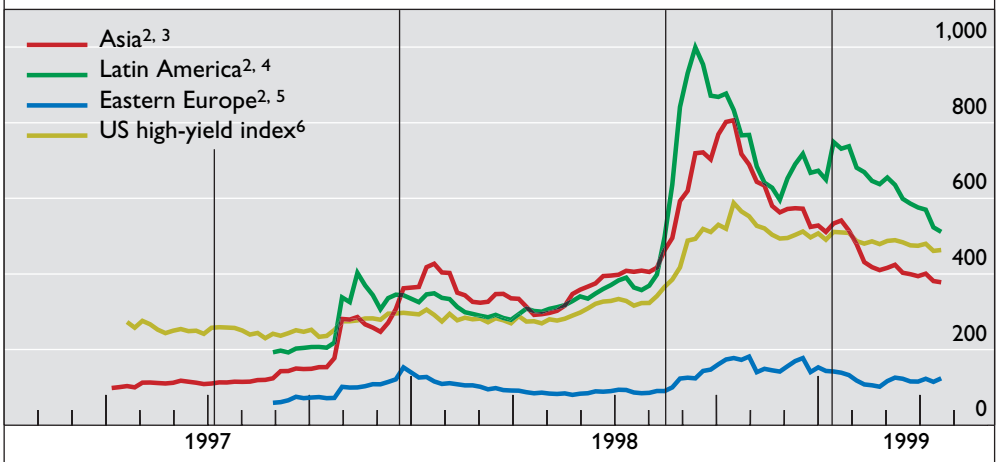
Emerging market bond spreads widen and become more volatile …

Market uncertainty was also mirrored in the pronounced volatility of prices of international securities. A first phase of this process started in mid-1997. As the depth of the South-East Asian crisis and its power of contagion became clearer, engulfing Korea and affecting Hong Kong and Taiwan, all considered more advanced economies, spreads on international securities in secondary markets ratcheted up (Graph III.1) and volatility increased sharply (Table III.4). Although spreads did not stay at the high levels of late 1997 and early 1998, neither did they return to pre-crisis levels in the ensuing months. Moreover, volatility remained high in the face of unexpectedly deep recessions in much of Asia, political and social unrest in Indonesia and growing evidence that countries as dissimilar and distant as Chile and South Africa were also being affected.

… especially after mid-1998

By mid-1998, a new phase of more generalised risk aversion had emerged (discussed in greater detail in Chapter V). A confidence crisis erupted with the announcement of the Russian moratorium on the servicing of domestic debt securities and on the repayment of corporate and bank debt to foreign creditors. Secondary market spreads on Russian international securities soared to levels which implied a de facto loss of market access. By early October, spreads for most Asian and Latin American emerging market economies had

Bond spreads in emerging markets[1]



Note: The vertical lines mark the start of the crises in Thailand, Korea, Russia and Brazil respectively.

[1] Over benchmark US Treasury bonds, in basis points. [2] Unweighted average. [3] China, India, Indonesia, Korea, Malaysia, the Philippines and Thailand. [4] Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. [5] The Czech Republic, Hungary and Poland. [6] Sub-investment-grade corporate bond yield.

Source: Datastream. Graph III.1

Daily mean and volatility of emerging market bond spreads*						
	January 1997–June 1997		July 1997–June 1998		July 1998–March 1999	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
	in basis points					
Asia	104	0.07	268	1.02	542	1.26
Latin America	–	–	289	0.67	664	1.64
Eastern Europe	–	–	90	0.20	131	0.30

* Over benchmark US Treasury bonds. Table III.4

risen to over 800 basis points. Spreads on lower-rated US corporate paper, which until then had been little affected by the emerging market crisis, also moved up. Sentiment improved, however, once the deleveraging process in international markets had largely run its course, an internationally supported adjustment programme for Brazil had been announced, and some of the pressure in international bond markets had been defused by a series of interest rate cuts in the United States. By early 1999, yield spreads on Asian securities had narrowed again to the levels recorded prior to the Russian crisis. Spreads charged on Latin American paper also fell, but remained significantly above their pre-Russian crisis levels.

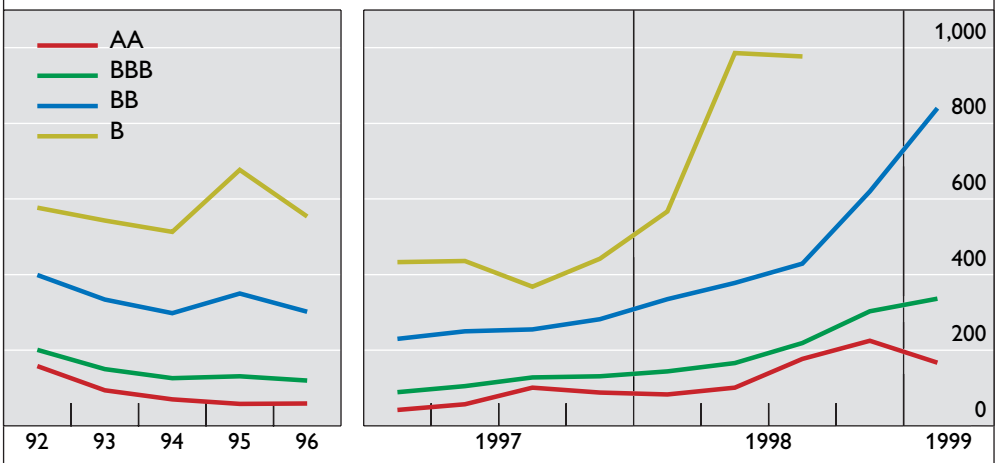
Limited impact of the floating of the Brazilian real

Although the devaluation of the Brazilian real in January 1999 was a milestone in the evolution of the emerging market crisis, it did not trigger a renewed rise in bond spreads. In contrast with the events in August, the abandonment of Brazil's managed exchange rate regime occurred at a time when exposures, especially those of leveraged players, had already been adjusted to reflect greater risk aversion in international markets. Moreover, the devaluation was better anticipated as it followed a protracted period of reserve losses and growing fiscal imbalances. Also contributing to the more limited impact of the Brazilian crisis on investor confidence was the belief that continued IMF support to Brazil was likely even after the devaluation and the recognition that the country did not have the deep-seated political, social and banking sector problems seen in Russia. Reflecting limited contagion, both Argentina and Mexico were able to issue a significant volume of debt securities in international financial markets in the first quarter of 1999.

Risk assessments in primary markets

Behind the general picture of wide swings in investor sentiment, as reflected by the average yield spreads in secondary markets, a significant differentiation in debtor perceptions can be observed in recent years. Graph III.2, which plots the estimated spreads on new bond issues for various classes of emerging market borrowers, suggests a number of distinct patterns. First, following the resolution of the Mexican peso crisis, there was a general realignment of the spreads paid by borrowers with different risk profiles, reflecting mainly a reduction in the premia charged to higher-risk borrowers. The Asian crisis brought this narrowing of relative spreads to a halt, with less creditworthy borrowers being forced to pay sharply higher rates. In contrast, better-rated borrowers experienced little or no widening of spreads in the run-up to the Russian crisis. The Russian crisis triggered a broad-based

Spreads on emerging market bonds, by credit rating *



* Estimated credit spread on a 10-year rated bond issued by emerging market economies over the benchmark industrial country government bond, in basis points.

Source: Kamin and von Kleist, BIS Working Paper (forthcoming). Graph III.2

reassessment of risk: in its wake even the most creditworthy borrowers had to pay a significantly higher premium over the benchmark rate, as liquidity considerations aggravated the impact of credit risk factors. By early 1999, however, a partial reversal of this increase could be observed.

Influence on capital flows of pegged exchange rate regimes …

A striking feature of private sector capital flows in recent years has been the pace at which they surged into countries with significant structural or macroeconomic vulnerabilities – almost up to the eve of a financial crisis – and their subsequent abrupt reversal. In several instances, the choice of the exchange rate regime played an important role. Exchange-rate-based stabilisation programmes may distort both investor and debtor behaviour. The high domestic interest rates that are often required to support pegged exchange rate regimes encourage residents to engage in unhedged foreign currency borrowing and non-residents to acquire domestic currency assets. Quasi-fixed exchange rate regimes as the linchpin of macroeconomic policies, and high domestic interest rates in the face of growing fiscal imbalances, characterised both Brazil and Russia in the first half of 1998. In several Asian economies, a similar pattern had been observed up to 1997, with external imbalances playing the role which fiscal deficits had in Brazil and Russia.

… and official support operations

Another important factor may have been the arrangement of large official support packages, starting with the 1994/95 Mexican crisis. As official financing allowed countries to meet their debt servicing obligations, perceptions of country risk were dulled and a false sense of security crept into the lending decisions of international banks and investors. In particular, international bonds came to be perceived as carrying limited default risk. Sometimes, explicit or implicit loan guarantees extended not only by governments in debtor countries, but also by those in creditor countries, enabled banks to further downplay country and credit risks.

Changed perceptions in the wake of the Russian crisis

The profound impact of the Russian crisis on international financial markets suggests an abrupt reassessment of risks by market participants. In particular, country risk perceptions changed with the realisation that default

remained an option for debtor countries and that official assistance would not always be forthcoming automatically. The sudden reversal in capital flows in the second half of 1998 may have contained one further complex element. Calls for private sector burden-sharing, which became increasingly loud in the wake of the large Mexican and Asian official rescue operations, may have induced creditors to cut back country exposures as soon as the need for official assistance was hinted at. The sharp drop in bank credits to Brazil in the third quarter of 1998 has indeed been interpreted by some as a pre-emptive move by banks fearing they would otherwise be forced into rolling over existing credits, or providing new ones, within the context of the anticipated IMF adjustment programme.

Merchandise trade developments

Key influences on trade include the commodity price slump …

Commodity prices suffered heavy downward pressure in 1997–98 (see Chapter II). Dollar prices for oil fell by 30% in the course of 1998, prompting a renewed attempt by producers in March 1999 to curtail production. Prices of non-fuel commodities exported by developing countries declined by nearly 15% in 1998, the largest drop registered in the last two decades. Although the erosion of commodity prices also implied some relief in the form of falling import prices, most developing countries suffered significant terms-of-trade losses last year. These ranged from 5½% in Latin America to more than 9% in the Middle East and over 10% in Africa.

For many countries, weak commodity prices aggravated an already difficult economic and financial environment. Table III.5 shows how much Indonesia, Mexico, Nigeria, Russia, Saudi Arabia and Venezuela depend on oil for generating fiscal revenues and export earnings. The table also illustrates Chile's reliance on copper, whose price fell by over 30% in dollar terms in

Impact of commodity prices on selected economies

	Commodity exports as % of total exports	Commodity revenue as % of government revenue	Change in commodity exports as % of GDP	Change in fiscal revenues from commodities as % of GDP	*Memorandum items:*	
					Change in reserves[1]	*Change in exchange rate*[2]
	1997		1998			
Oil						
Indonesia	13	19	–3.9	– 1.7	*39.2*	*–71.4*
Mexico	10	36	–1.0	– 1.4	*11.8*	*–13.3*
Nigeria	98	63	–8.0[3]	– 0.9	*–13.9*	*– 1.3*
Russia[4]	17	25	–1.3	– 2.4	*–40.1*	*–41.9*
Saudi Arabia	68	78	–3.7	–10.8	*1.2*	*0.0*
Venezuela	79	56	–6.5	– 6.5	*–17.1*	*–10.8*
Copper						
Chile	42	4	–2.2	– 0.6	*–11.4*	*– 8.9*

[1] Percentage change in foreign exchange reserves. [2] Percentage change in US dollar/local currency. [3] GDP converted into US dollars using the average of the official rate and the autonomous market rate. [4] Crude oil only.

Sources: IMF; IIF; national data; BIS estimates. Table III.5

Destination of exports of emerging market economies in 1998

	European Union	Japan	Other Asia	United States	Latin America
	percentage share of total exports				
Asia	16	10	38	22	3
of which: China and Hong Kong	15	10	40[1]	23	3
Crisis countries[2]	15	11	37[1]	20	3
Latin America	14	3	4	46	22
of which: Argentina	17	3	9	7	50
Brazil	24	4	7	18	29
Chile	24	14	19	15	22
Mexico	4	1	1	82	7
Eastern Europe[3]	64	1	2	4	1
Russia	33	3	8	7	3

[1] Includes trade between the countries themselves. [2] Indonesia, Korea, Malaysia, the Philippines and Thailand. [3] The Czech Republic, Hungary and Poland.

Sources: IMF; national data; BIS estimates. Table III.6

the second half of 1997. Often, earnings from commodity exports dominate the trade account, while the bulk of government revenues is linked to the production and sale of a particular commodity. In several cases, commodity-price-related losses came on top of already wide external and fiscal imbalances which in the prevailing climate of investor uncertainty sometimes proved difficult to finance and put exchange rates under pressure. In Saudi Arabia, for instance, both the current account and the fiscal deficit widened to 9% of GDP last year. Partly as a result of these growing imbalances and the then prevailing negative outlook for oil prices, the Saudi riyal came under heavy pressure in mid-1998 and again in early 1999.

… weak Japanese import demand …

Another key influence on trade developments last year was very weak import demand in Japan. Although they have been able to develop a fairly balanced regional pattern of exports, for most Asian emerging market economies the importance of Japan as a final export destination and as an

Trade determinants

	Cyclical swing[1]	Price swing[2]	Growth in net exports[3]
Asia			
China	– 1.7	3.7	0.8
Crisis countries[4]	–15.5	–36.2	28.0
Latin America			
Argentina	– 0.6	10.8	0.8
Brazil	– 2.9	– 0.5	8.9
Mexico	– 0.3	16.0	7.6

[1] Change in real GDP growth rates between 1996 and 1998. [2] Change in the real effective exchange rate between 1996 and 1998. [3] Export minus import volume growth in 1998. [4] Weighted average of Indonesia, Korea, Malaysia, the Philippines and Thailand using weights based on 1990 GDP and PPP exchange rates. Table III.7

engine of intraregional trade is likely to have been a major obstacle to a speedy recovery of trade and to output growth in general (Table III.6). By contrast, Latin American and eastern European countries saw more buoyant export markets.

… and major changes in cyclical and price conditions

Finally, the financial crises in Asia in the second half of 1997 transformed the underlying determinants of merchandise trade. Unprecedented recession and sizable gains in competitiveness marked many Asian economies last year, in contrast to trends in other emerging market economies, where cyclical conditions changed little and real effective exchange rates rose (Table III.7). Income, price and substitution effects due to these changes caused Asian trade balances to move sharply and are likely to continue, given the shifts in competitiveness and cyclical positions brought about by the more recent crises in Russia and Brazil.

Adjusting to the crisis in Asia

Recent developments

Deep recessions …

The recessions triggered by widespread financial turmoil in Asia were severe (Table III.8). Output declined by 8½% in the five crisis-hit economies last year, a drop without precedent in more than 40 years. Economies less affected by the financial turmoil, such as Singapore and Taiwan, experienced a period of uncharacteristically low growth, while the successful defence of Hong Kong's dollar peg came at the expense of a sharp output contraction.

… and demand contractions

The depth of the crisis in 1998 was visible in many other respects. In most countries, domestic demand collapsed. Fixed investment spending crumbled as enterprises faced conditions of excess capacity and sought to restore balance sheets which had become unsustainable under the weight of excessive leveraging. In Korea, for instance, fixed investment shrank by over one-quarter last year. Consumer spending also weakened sharply, as income prospects deteriorated in an environment of labour shedding, cost cutting and asset price deflation.

Unemployment rises …

Unemployment, which until the crisis had been merely a natural complement to rapidly changing and dynamic economies, rose to levels which were especially painful against the backdrop of undeveloped social safety nets. In Korea the unemployment rate rose to 8½% in early 1999, compared with just 3% in 1997, and in Hong Kong it doubled to 6%.

… and trade accounts swing into surplus

The reversal in the trade accounts presented particularly vivid evidence of the sharp adjustments which were taking place in the domestic economy. Table III.9 documents the compression of import demand in most Asian economies, reaching over 30% in Indonesia, Korea and Thailand. Exports also fell in value terms, albeit much less than imports, mainly as a result of very weak export prices for commodities and for manufactured goods in excess supply. Also contributing to the sluggishness were output disruptions, a scarcity of trade financing and, as noted above, Asia's geographical pattern of trade. Gains in competitiveness, however, boosted export volumes somewhat. These trends in merchandise trade caused sizable trade surpluses to emerge where

Growth, inflation and current account balances

	Real GDP			Consumer prices			Current account balance		
	1991–96	1997	1998	1991–96	1997	1998	Average 1991–96	1997	1998
	annual percentage changes						as a percentage of GDP		
Asia[1]	8.6	6.4	1.8	10.1	4.0	7.7	– 0.4	0.5	3.3
China	11.6	8.8	7.8	13.7	2.8	–0.9	0.7	3.3	3.1
Hong Kong	5.2	5.3	– 5.1	8.7	5.7	2.6	1.7[2]	–3.5[2]	0.3[2]
India	5.5	5.1	5.8	9.7[3]	5.2[3]	7.1[3]	– 1.2	–1.7	– 2.4
Korea	7.4	5.0	– 5.8	6.0	4.4	7.5	– 2.1	–1.8	12.5
Singapore	8.3	8.0	1.5	2.4	2.0	–0.3	13.9	15.4	17.8
Taiwan	6.5	6.8	4.8	3.6	0.9	1.7	3.7	2.7	1.9
Indonesia	7.3	4.9	–13.7	8.8	6.2	58.4	– 2.5	–2.3	4.5
Malaysia	8.6	7.8	– 6.7	3.9	2.7	5.3	– 6.3	–4.9	11.7
Philippines	2.8	5.1	– 0.5	10.1	5.0	9.0	– 3.7	–5.3	2.0
Thailand	7.9	–1.3	– 8.0	5.0	5.6	8.1	– 6.8	–2.0	12.3
Latin America[1]	3.7	5.4	2.0	135.6	13.8	10.8	– 2.2	–2.9	– 4.4
Argentina	5.7	8.6	4.2	26.2	0.5	0.9	– 2.0	–2.9	– 4.5
Brazil	3.8	3.6	0.2	505.5	6.0	3.8	– 1.2	–4.2	– 4.5
Chile	8.5	7.6	3.4	12.7	6.1	5.1	– 3.4	–5.3	– 6.3
Colombia	4.2	3.0	0.6	24.1	18.5	20.0	– 3.0	–5.9	– 6.7
Mexico	2.1	7.0	4.8	20.2	20.6	15.9	– 4.5	–1.9	– 3.8
Venezuela	2.8	5.9	– 0.7	52.4	50.0	35.8	2.5	5.3	– 1.8
Eastern Europe[1]	1.3	5.1	3.1	30.8	14.1	11.9	– 2.4	–4.2	– 3.9
Czech Republic	–0.3	1.0	– 2.7	18.3	8.5	10.7	– 2.8	–6.3	– 1.9
Hungary	–1.8	4.6	5.2	25.1	18.3	14.2	– 4.6	–2.1	– 4.8
Poland	2.8	6.9	4.8	38.0	15.1	11.7	– 2.1	–4.0	– 4.4
Russia	–8.2	0.8	– 4.6	263.4[4]	14.8	27.6	2.9	0.8	0.0
Israel	5.8	2.7	2.0	12.6	9.0	5.4	– 4.8	–5.1	– 2.3
Saudi Arabia	2.1	1.9	– 0.7	2.1	0.1	–0.4	–10.5	0.2	– 8.9
Africa	2.1	2.8	3.3	39.4	13.6	6.7	– 9.8[5]	–4.7[5]	–15.3[5]
South Africa	1.2	1.7	0.1	10.6	8.6	6.9	0.1	–1.5	– 2.0

Note: Data for 1998 are partly estimated.

[1] Weighted average of the countries shown, based on 1990 GDP and PPP exchange rates. [2] Balance of goods and non-factor services. [3] Wholesale prices. [4] 1993–96. [5] As a percentage of exports of goods and services. Table III.8

previously large deficits had existed. This turnaround was equivalent to one-quarter or more of merchandise trade in the crisis-hit countries.

Asset price deflation

Deflation of previous asset price bubbles generally accompanied the crisis in the real economy. Expressed in dollar terms, equity prices in most economies had fallen by early September 1998 to less than half their peak levels in 1997 as investors withdrew from local stock markets and corporate profitability evaporated (Graph III.3). Dramatic corrections in property prices also took place (Table III.10). With large and often still growing supplies of real estate confronting falling demand, property prices and rental values fell almost uninterruptedly last year. Preliminary observations suggest that the weakness continued in early 1999.

Merchandise trade developments in Asia and Latin America

	Export growth[1]			Import growth[1]			1998 trade balance change as % of average trade[2]
	Average 1990–96	1997	1998	Average 1990–96	1997	1998	
	in percentages						
Asia							
China	17.0	21.0	0.4	14.0	2.3	– 1.3	1.6
Hong Kong	13.9	4.1	– 7.5	15.7	5.1	–11.5	5.6
India	11.3	3.6	– 4.1	9.8	9.7	2.9	– 6.8
Korea	11.3	5.0	– 2.2	14.1	– 3.8	–35.5	42.7
Singapore	16.1	0.0	–12.0	15.1	0.8	–21.4	12.3
Taiwan	7.9	5.3	– 9.3	10.2	11.8	– 8.4	– 1.6
Indonesia	12.3	7.3	– 8.8	15.0	– 2.9	–34.4	25.4
Malaysia	17.8	0.7	– 6.8	20.1	0.8	–25.8	22.7
Philippines	15.1	22.9	16.3	17.6	12.0	–16.4	33.7
Thailand	16.0	3.3	– 5.8	16.3	–13.1	–31.6	34.0
Latin America							
Argentina	14.6	10.8	– 1.7	33.2	28.1	3.1	– 4.8
Brazil	5.1	10.9	– 3.5	17.7	16.6	– 7.4	5.0
Chile	10.4	10.8	–12.0	14.3	10.4	– 4.5	– 7.5
Colombia	9.6	8.8	– 7.0	17.0	12.4	– 0.5	– 5.6
Mexico	23.7	15.0	6.4	21.2	22.7	14.1	– 6.9
Peru	8.4	15.5	–15.8	21.5	8.3	– 4.6	– 7.7
Venezuela	9.5	0.4	–25.3	6.1	45.6	17.2	–48.6

[1] Yearly percentage change of export/import values expressed in US dollars. [2] Average of merchandise exports and imports.

Sources: IMF; IIF; national data. Table III.9

Bank credit contraction

Against the backdrop of deep recession, bank credit to the private sector dried up in the course of 1998. By year-end, credit was shrinking rapidly in Indonesia, the Philippines and Thailand, with declines being only slightly less pronounced in Hong Kong and Korea. In Malaysia, credit growth remained positive throughout 1998, although falling well short of the government target. In early 1999, credit started contracting in Malaysia as well.

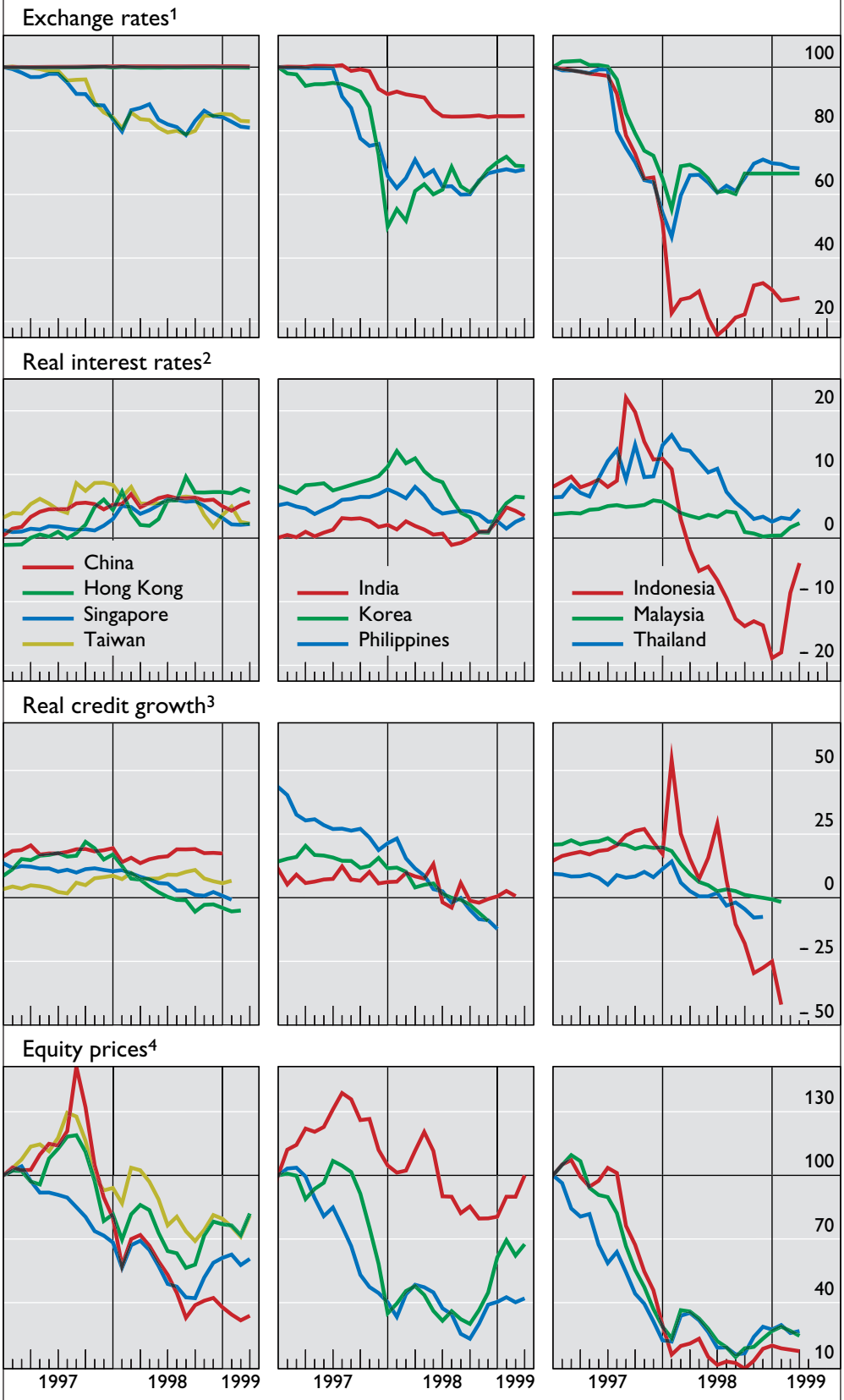
More positive factors include recent trends in industrial production …

Despite the generally depressed picture, there were a number of more positive developments, especially after mid-1998. First, signs that the economic contraction was coming to an end emerged in late 1998 when, with the exception of Indonesia, the earlier sharp declines in industrial output appeared to bottom out (Graph III.4). In Korea, where decisive policy adjustments to the crisis were implemented at an early stage, industrial production even rose strongly in the final quarter of last year. Moreover, forecasts for 1999 growth tended to be revised upwards from end-1998. The impression of crisis containment was reinforced by a small revival of external trade in several economies in late 1998. Equity prices recovered strongly in the final months of the year.

… the limited inflation response to depreciation …

A second positive development was the surprisingly subdued reaction of inflation to exchange rate depreciation in much of the Asian region.

Financial market developments in Asia



[1] US dollars per unit of domestic currency, December 1996 = 100. [2] Three-month interest rates deflated by the annual rate of inflation, in percentages. [3] Annual changes in domestic credit to the private sector deflated by the annual rate of inflation, in percentages. [4] In US dollar terms, December 1996 = 100.

Graph III.3

Property value indicators in selected Asian cities

	Office vacancy rates		Change* in end-1998 office rental values over		Change* in end-1998 rental values for retail stores over	
	December 1997	December 1998	1997	1998 Q3	1997	1998 Q3
	end-of-period figures, in percentages					
Bangkok	23.6	29.7	–20.3	– 5.8	–27.6	–3.8
Hong Kong	6.4	16.6	–37.1	– 9.9	–50.7	–3.8
Jakarta	8.9	22.1	–11.4	– 7.7	–47.6	0.0
Kuala Lumpur	3.7	15.5	–29.1	– 2.5	–31.1	–7.4
Singapore	8.0	12.3	–19.1	–11.9	–25.1	–8.9

* In local currency.

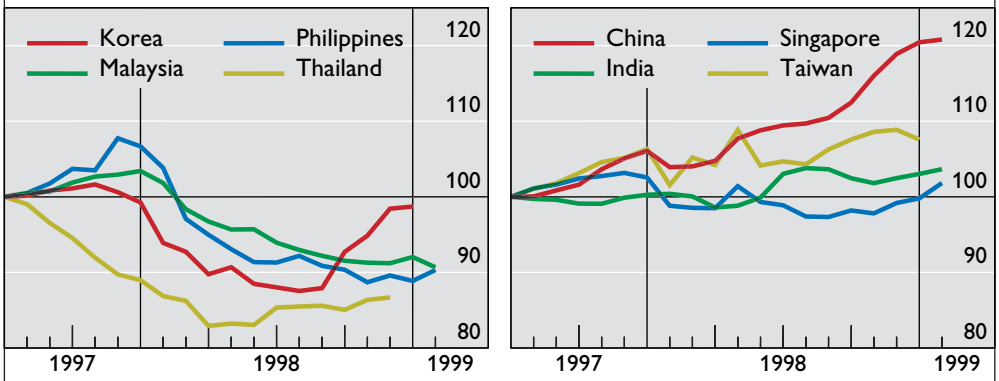
Source: Jones Lang LaSalle. Table III.10

Depreciation in Malaysia, Korea, the Philippines and Thailand amounted to about 60% between mid-1997 and mid-1998, but consumer price inflation edged up only to at most 10% in each of these countries. Even in Indonesia, the upturn in inflation was significantly more modest than the rate of currency depreciation. As already detailed in last year's Annual Report, the limited pass-through of devaluation into prices owed much to depressed demand conditions, labour cost flexibility and the downward pressure on prices stemming from large inventories of unsold goods or real estate.

… and exchange rate stabilisation

One important additional reason for the benign inflation developments may have been a growing perception that the sharp currency depreciations in the second half of 1997 and early 1998 would not be sustained. Dollar exchange rates of most Asian currencies indeed stabilised, with some recovery taking place late in the year. As exchange rates did not return to pre-crisis levels and inflation was contained, about one-half of the competitiveness gains realised in the wake of the mid-1997 crisis was preserved in Malaysia, the Philippines and Thailand. The substantial strengthening of the Korean won in 1998 resulted in a significant real appreciation, albeit not to the levels recorded just prior to the outbreak of the Asian crisis. The strengthened

Industrial production in Asia *



* Three-month moving averages, June 1997 = 100. Graph III.4

competitive position in much of Asia offers hope of a recovery of exports, given sufficiently strong demand in key markets.

Policy stances as the crisis unwound

As stability returned to foreign exchange markets in the course of last year, the case for easier monetary and fiscal policies in Asia strengthened, not only to stimulate domestic demand but also to facilitate bank and corporate restructuring.

Relaxation of monetary policy …

Monetary policy easing resulted in a significant decline in short-term interest rates in almost all countries, often to below pre-crisis levels. There has been some debate about the scope for further monetary easing. By early 1999, real short-term interest rates in many economies were still significantly positive even though activity remained sluggish and bank restructuring might have benefited from an easier stance (see below). One important consideration in many countries was that too rapid a relaxation could erode the new-found sense of stability in the foreign exchange market. Moreover, given that interest earnings are an important part of personal income in many of the high-saving Asian economies, a sharp cut in interest rates might weaken household confidence. Finally, in view of the depth of the crisis and the disruptions it had caused to the structure of the economy and the process of financial intermediation, it was difficult to make an assessment of the likely impact on the real economy of the significant interest rate reductions already observed by the start of 1999.

… and easing of fiscal policy

The adoption of easier fiscal policies was another common feature last year. In several Asian economies, public finances showed significant deficits in 1998 (Table III.11). Fiscal targets for countries following IMF adjustment programmes were also softened considerably: initially, balanced central government positions were targeted for Indonesia, Korea and Thailand in 1998 but by mid-year allowance was made for deficits of 3–8% of GDP. The emergence of fiscal deficits obviously reflected to a large extent the deep recession, while discretionary easing of fiscal policy tended to be relatively small. Indeed, some governments even found it difficult to increase spending to levels envisaged in revised programmes. Given an earlier history of tight fiscal discipline and low public sector indebtedness in most economies, relatively large deficits are probably appropriate for a limited period. Even so, the need to bear the fiscal cost of extensive corporate and financial sector restructuring may mean that deficits should be reduced in the medium term and that direct cyclical support to the economy has to remain modest.

Equity market intervention in Hong Kong

Although they shared the general thrust of fiscal and monetary policies observed virtually throughout the region, Hong Kong and Malaysia also took policy measures last year that were more unconventional. On several occasions in 1997 and 1998, Hong Kong experienced strong and simultaneous pressure in its foreign exchange and equity markets which increasingly came to be seen as a manifestation of market manipulation rather than a reflection of weakening fundamentals. According to the authorities, a speculative "double market play" was attempted in mid-1998, with investors taking substantial short positions in both the equity market and the Hong Kong dollar. Given Hong Kong's

Fiscal balances in emerging market economies[1]

	Surplus (+)/deficit (–)			Interest payments
	Average 1994–96	1997	1998[2]	1998[2]
	as a percentage of GDP			
Asia				
China	–1.0	–0.8	–1.2	1.0
Hong Kong	0.7	5.7	–1.6	–
Indonesia	0.7	–0.9	–3.4	2.3
Korea	0.4	–1.5	–4.2	0.8
Malaysia	3.7	6.3	–1.7	2.5
Singapore[3]	13.2	9.6	16.4	2.4
Thailand	2.3	–0.7	–2.4	0.7
Latin America				
Argentina	–1.4	–1.4	–1.1	1.9
Brazil	–2.4[4]	–4.3[4]	–7.5[4]	8.0
Chile	2.2	1.9	0.4	0.7
Colombia	–2.0	–4.2	–5.5	3.2
Mexico	0.0	–0.5	–0.7	3.6
Peru	–0.2	–0.9	0.9	1.7
Venezuela	–1.3	1.9	–4.0	2.6

[1] Definitions of the public sector differ across countries. For China, data refer to the State Budget; for Hong Kong and Korea, to the consolidated central government; for Brazil, Malaysia and Mexico, to the public sector; for Argentina, to the non-financial public sector; for Chile, Colombia, Peru, Singapore, Thailand and Venezuela, to the central government. [2] Partly estimated. [3] High interest payments in Singapore reflect the issuance of public debt, mainly for the purpose of developing the local bond market and providing benchmark paper. [4] Operational concept, i.e. excluding the inflation component of interest payments on domestic debt.

Sources: IMF; IIF; national data. Table III.11

currency board regime, the resulting exchange rate pressure would force domestic interest rates up, thus providing speculative profits as equity prices fell in consequence. To defeat such a strategy, large official purchases (amounting to about US$ 15 billion, or 6% of market capitalisation at that time) were made in the equity and futures markets in August. The intervention resulted in an easing of interest rates and a levelling-off of the drop in equity prices. To allay fears concerning the maintenance of their traditional free market approach, the authorities then committed themselves to managing the equity holdings at arm's length and to selling them off gradually. Moreover, a number of arrangements were made in September to reduce both the volatility of interest rates and the susceptibility of local financial markets to market manipulation.

Capital controls in Malaysia

With the aim of facilitating an easing of macroeconomic policies, Malaysia pegged the ringgit to the US dollar in September 1998 and introduced stringent controls (subsequently modified in early 1999) to curb capital outflows and limit offshore transactions in the domestic currency. The measure cost Singapore one-quarter of its equity trading and a substantial amount of foreign currency business. In addition, some prudential regulations on loan classifications were relaxed. Equally unconventional was the instruction given to banks to increase their lending by 8% during the course of 1998.

Malaysia's recourse to capital controls has given further impetus to the debate on whether full-scale capital account liberalisation is premature for most emerging market economies. In particular, support has grown in recent years for measures to slow the inflow of short-term capital until markets, institutions and regulatory frameworks have been sufficiently strengthened. Measures to contain capital inflows, especially when implemented through the use of market-based instruments, such as reserve requirements which tax shorter-term inflows more heavily, can be useful. If carefully designed, they may help avoid a domestic lending boom and the asset price bubble which is often associated with it, while allowing a liberal attitude to be maintained towards longer-term inflows such as foreign direct investment.

Dangers of imposing controls on outflows

Much less acceptance has been won for the imposition of controls on capital outflows, in particular where a more liberal regime is already in place. A frequent argument in favour of such controls is that they can give the authorities the necessary room to formulate and implement adjustment programmes that could help restore investor confidence. The counterargument is that controls can also be abused, either to maintain an inappropriate policy stance for too long, or to delay the restructuring of a weak financial sector. Moreover, the effectiveness of capital controls on outflows declines as loopholes are found and exploited. To plug them, a process is often set in motion of ever more complex and broad-ranging controls, to the point where useful economic activity may be severely damaged. Another counterproductive aspect is that the introduction of controls on outflows may send a negative signal discouraging capital inflows at a critical moment. If this loss of confidence affects neighbouring economies that have similar problems (but have abstained from restrictions), capital controls in one country could be particularly harmful to others. Finally, the potential loss of confidence and policy credibility which controls on outflows could entail is likely to raise the cost of international borrowing for much longer than just the duration of the crisis.

China and India

In large part because of a high degree of insulation from global financial markets, the two most populous Asian countries were less affected by the crisis elsewhere in the region. Nevertheless, the crisis exposed areas of vulnerability and economic and financial conditions worsened.

Growth in China close to target despite signs of weakening

Official statistics suggest that output growth in China last year fell just short of the targeted 8%. However, various indicators pointed to a slowing trend in activity not yet revealed by the aggregate output statistics: unemployment rose; growing inventories of unsold goods put downward pressure on prices; energy production fell by nearly 4%, in part because of weak demand from enterprises; import and export growth dwindled; and the profitability of the state-owned enterprise sector worsened. To tackle the slowdown, public sector spending was boosted in the second half of the year. Spending on infrastructure was accelerated, state-owned enterprises were induced to increase investment and state-owned banks were pushed to expand lending for infrastructure and housing. Monetary policy became more

expansionary, with interest rates being cut and measures taken to stimulate bank lending activity.

Stable yuan/dollar rate

The authorities maintained their policy of stabilising the yuan against the US dollar. They saw several compelling reasons for this. The trade and current accounts showed sizable surpluses and international reserves were large and buttressed by an extensive set of restrictions on capital flows. Moreover, the risk of triggering renewed speculation against the Hong Kong dollar was viewed as high and fears were widespread that a devaluation would set off a new round of competitive devaluations in the region and beyond. At the same time, however, capital outflows and unrecorded imports appear to have risen as last year's increase in foreign exchange reserves ($5 billion) fell a good deal further short of the surplus on the current account ($20 billion) and foreign direct investment inflows (about $40 billion) than in the two preceding years.

Financial sector concerns

The financial crisis in the region also brought the fragilities of China's financial system into focus. The presence of a large stock of non-performing loans held by the major state-owned banks and of inadequately regulated and supervised securities markets had become more widely recognised in recent years and had induced foreign lenders to show greater caution in the course of 1998. In late 1998 an investment corporation with substantial foreign liabilities was closed. Contrary to expectations, the central authorities did not accept any obligation to honour the corporation's unregistered external debt. Although this decision drove up the cost of foreign borrowing, it also represented evidence of the authorities' awareness of the moral hazard implications of a policy of indiscriminate external debt guarantees. Moreover, programmes for restructuring state-owned banks and tightening prudential regulations and supervision were formulated. However, the continued reliance on state-owned banks to prime activity inevitably creates some dilemmas for the authorities.

India

Continued strong growth marked India's economy last year. Inflation accelerated and the current account deficit remained significant against a backdrop of a weak export performance. The central government deficit widened to over 6% of GDP. In combination with financing gaps in other parts of the public sector, the heavy claim exerted by this fiscal imbalance on domestic saving continued to hamper activity in the private sector. To restore fiscal health, a medium-term consolidation strategy was announced in March 1999; the central bank responded by easing its monetary policy stance. The regional financial crisis also prompted the central bank to tighten prudential banking regulations. Financial reform, however, has remained incomplete, as has progress in a number of other important areas of structural reform.

Bank and corporate restructuring

As economic and financial difficulties deepened last year, several Asian banking systems came under heavy strain. By end-1998, non-performing loans were reported to have risen to over 10% – and in Indonesia and Thailand to up to 45% – of total loans, while significant losses were incurred by almost all banks in the crisis-hit countries.

Cost of a banking crisis depends on …

The macroeconomic cost of a banking crisis and of its resolution is often very high. Fiscal costs of earlier banking crises in the 1990s ranged between 4% (Norway and Sweden) and 17% (Venezuela) of GDP, even though non-performing loan ratios in most of these banking crises were well below the levels now recorded in Asia. Two aspects are important for assessing the macroeconomic cost of a banking crisis. First is the degree to which the public's confidence in its banking institutions can be preserved. Loss of such confidence may induce depositors to withdraw their assets, reducing the level of financial intermediation and the efficiency with which resources can be allocated. If assets are shifted abroad, a currency crisis may erupt or an existing one may deepen. A temporary loss of confidence in the domestic banking system occurred in Argentina in 1995, necessitating sharp policy adjustments which contributed to a sizable economic contraction. Similarly, a bank run complicated crisis containment in Indonesia in late 1997.

… confidence of bank customers …

… and the degree of credit contraction

The second important aspect is the extent to which credit may contract during the crisis. Given the crucial role of credit in economic activity, particularly in Asia, where it is very large relative to GDP, a sharp drop in lending may have significant macroeconomic effects. Even in a sound banking system, the demand for bank credit would decline as a natural reaction to the lack of investment opportunities after a boom. However, this credit contraction will be more severe when banks are burdened with large portfolios of non-performing loans made to finance heavy investment in real assets, as in Asia. If banks are closed, even solvent borrowers will lose "their" bank and will usually find it difficult to gain access to credit from other banks. If banks are kept afloat, they are likely to apply stiffer loan standards and ration credit. Such a credit crunch will further curtail aggregate demand, causing even greater problems for borrowers and banks. Following earlier banking crises, real bank credit in Mexico fell by one-half in two years, while in Finland and Sweden it shrank by over 20%. As noted above, bank credit in real terms started to contract in all crisis-hit economies last year.

Potential role of monetary policy easing

Rapid credit contraction in the context of a banking crisis raises the question of what monetary policy can do to offset it. Easing the stance of monetary policy would lower short-term interest rates and probably steepen the yield curve. This would help the situation by stimulating demand, as well as by widening banks' net interest margins. Such a policy was successfully adopted in the United States in the early 1990s. It may, however, be problematic in the small, open Asian economies to ease monetary policy even more than has been done so far, given the danger that an overly easy monetary policy stance may trigger renewed disorderly conditions in foreign exchange markets. Moreover, very low interest rates, and in turn much reduced carrying costs of bad loans, may relax pressure for effective financial sector restructuring.

Bank restructuring and recapitalisation in Asia

To deal with the severe banking crises, several restructuring and recapitalisation initiatives have been taken in Asia over the last two years. A number of common features have marked the initial stages of these bank restructuring programmes. First, preventing bank runs has usually compelled the authorities to extend guarantees covering bank deposits and to develop

explicit deposit insurance schemes. Changes in the regulatory framework have been a second feature. Prudential regulations were tightened, although in some instances (Malaysia and, to a lesser extent, Thailand) temporary concessions were made to help banks deal with their acute financial problems.

In addition, asset management corporations were established in most crisis-hit countries to take over part of the non-performing loan portfolio of financial institutions. Often, the motivation was to lessen the aversion towards new lending which banks increasingly demonstrated as their preoccupation with the management of bad debts grew. Strategies varied between trying to dispose of the impaired assets quickly and seeking to avoid fire sales. The former strategy was followed in Thailand, while the latter was adopted in Malaysia.

Finally, fears that the forced closure of one bank would precipitate a more systemic flood of bank insolvencies and aggravate the problem of credit rationing explain why relatively few banks had been allowed to fail by early 1999. Instead, policies focused on bank recapitalisation and bank mergers. A variety of recapitalisation schemes, often contingent on shareholder participation or improvements in operational efficiency and management changes, have been put in place over the last year and a half. Where necessary, a number of troubled banks were temporarily taken into state ownership. Takeovers of weak banks by larger, less weak banks were also encouraged (as in Korea and Thailand), although the systemic proportions of the banking crises often made it very difficult to find suitable buyers. Official attitudes towards takeovers by foreign banks also became much more favourable. In several countries, such as Indonesia and Thailand, barriers to foreign bank ownership were lowered or abolished altogether.

Corporate restructuring initiatives

In most countries, schemes for addressing bank problems were complemented with initiatives to help viable enterprises restructure their operations and deal with debt servicing obligations made much more onerous by reduced cash flows. By early 1999, many of these programmes had not gone far beyond their conceptual stage. In part this was because weaknesses in most countries' corporate legislation, in particular bankruptcy procedures, stood in the way of more rapid and effective debt rescheduling and corporate restructuring. In part it was also because weakened creditors were not willing to make concessions. Progress tended to be greatest in Korea, where an agreement in late 1998 between the government and the five major chaebol (conglomerates) promised rationalisation, greater specialisation of their operations and debt reduction. These promises, however, remain to be implemented.

The Russian financial collapse and its impact on eastern Europe

Stages of the Russian crisis

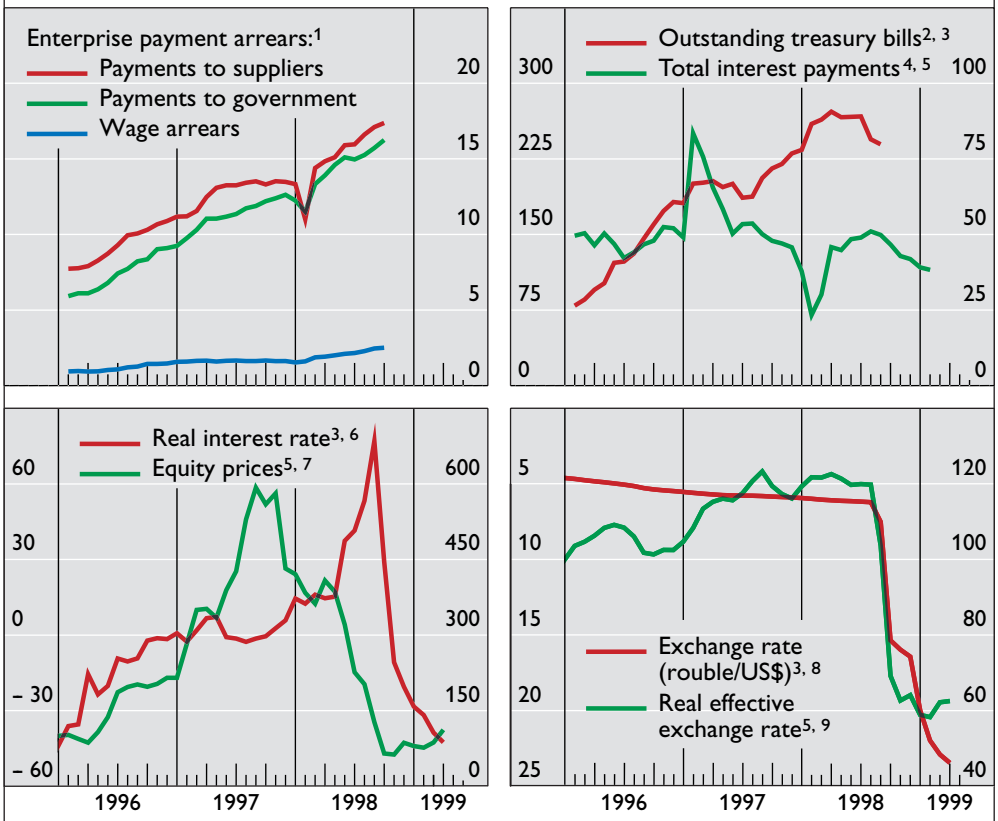
Difficulties in controlling public finances, the rising pace of short-term government debt issuance, falling commodity prices and real exchange rate appreciation cast increasing doubt on Russia's debt servicing capabilities in late 1997 and the first half of 1998. As a result, the exchange rate suffered repeated attacks which were met by successive increases in interest rates to

150% by end-May, even though inflation remained below 10%. To buttress rouble stability, which had been a centrepiece of monetary policy for some years, a two-year international financing package of almost $23 billion was offered to Russia in July with $4.8 billion being made available immediately by the IMF. However, given strong parliamentary opposition to key revenue-raising measures, implementing the adjustment programme proved difficult. With real interest rates very high, government debt servicing costs absorbed about one-half of budget revenue (Graph III.5). Reserve losses continued and an attempt to lengthen the very short-term maturity of marketable government debt effectively failed, leaving almost $20 billion of short-term rouble debt to be financed before the end of the year. In addition, equity prices reached new lows, domestic interest rates stayed high, and spreads on Russian eurobonds reached 2,000 basis points.

Policy responses

Faced with mounting domestic and external financing problems, the Russian authorities announced a radical policy shift in mid-August 1998. The main measures included the widening and subsequent abandonment of the exchange rate band, the suspension of trading in treasury bills combined with a mandated restructuring of government debt, and a 90-day moratorium on the repayment of corporate and bank debt to foreign creditors. The perception

Financial indicators for Russia



[1] Outstanding arrears as a percentage of GDP. [2] Rouble-denominated discount and coupon bonds as a percentage of the monetary base. [3] Left-hand scale. [4] As a percentage of total federal government revenue. [5] Right-hand scale. [6] Overnight rate deflated by the annual rate of inflation, in percentages. [7] In US dollar terms, December 1995 = 100. [8] Inverted scale. [9] In terms of relative consumer prices, December 1995 = 100. Graph III.5

that the rules of the game between debtors and creditors had been fundamentally altered triggered an unexpectedly sharp reaction in international financial markets (discussed in Chapter V).

The government tried to weather the fallout from the August crisis by reverting to administrative measures which had been abolished in the past. Extensive restrictions were imposed on operations in the foreign exchange market, the government deficit was increasingly financed by direct borrowing from the central bank, and exporters were forced to surrender 75% of their export earnings. A highly vulnerable banking sector was kept afloat by direct credits from the central bank but a planned agency for the recapitalisation of banks failed to become operational. Without access to bank loans, enterprises were forced to rely still more heavily on their own financial resources, payment arrears and barter. Bank deposits were also widely blocked.

Fallout on the economy …

The crisis and the incomplete policy response pushed growth and inflation in opposite directions. Measured output plunged by 9% in the final quarter of 1998, bringing its level to about one-half that of 1989, while inflation soared to 100% in early 1999. Import demand bore the brunt of the adjustment, falling by over one-half in dollar terms in the final quarter of 1998. As raw materials continue to dominate Russia's merchandise trade, export volumes reacted little to the rouble devaluation, while export prices reflected the commodity price slump.

… and on external financing

By end-1998, Russia was failing to meet payments on its more than $100 billion foreign currency debt inherited from the Soviet Union (Russian-era debt is estimated at a further $60 billion), while the premium on Russian euro-bonds stayed high, effectively shutting the country out of international capital markets. At end-March 1999, Russia and the IMF relaunched negotiations for a programme to help meet debt servicing obligations for 1999 of an estimated $17½ billion. With official foreign currency reserves having fallen to $6½ billion by end-March, calls for part of the inherited Soviet debt to be written off, not just restructured, became more insistent.

Basic weaknesses include incomplete structural change …

A number of fundamental weaknesses not sufficiently addressed in the transition process that started in 1992 were at the core of the Russian crisis. First, Russia has been unable to create some of the essential pillars of a market economy. The institutional framework for the legal enforcement of private contracts and effective competition is still rudimentary. In the real economy, structural reform has been incomplete. Unlike other transition economies, such as Poland, few dynamic, medium-sized companies have been founded to provide growth momentum, while the creation of large financial/industrial groups has tended to cement old structures. Nor has the progress made in privatisation been accompanied by the establishment of sound systems of corporate governance. Capital flight, partly reflecting asset stripping, has been high since the beginning of transition. Labour mobility has remained low and income differentials have fostered social discontent.

… unsound public finances …

A second major weakness has been public finances. Federal government deficits averaged 7½% of GDP in the period 1992–98. A system of fair and efficient tax collection has yet to be put in place, while the relationship between federal and state taxes and spending has remained obscure. Moreover, by

building up payment arrears, the government has contributed to the growth of an arrears culture across all sectors of the economy (Graph III.5). Problems in the fiscal area have often been major hurdles to formulating and respecting IMF programmes.

… and limited financial intermediation

Finally, the role of financial intermediation in the real economy has been insufficiently fostered. Banks have relied on returns from financial arbitrage created by either the continuous devaluation of the rouble (prior to 1998) or the large acquisitions of high-yielding government paper (since 1993, when the government debt market was established). Often, these securities were financed by borrowing in foreign currency, leaving banks with large open foreign currency positions. By contrast, credit outstanding to the private sector has remained very modest at about 15% of GDP so that a credit culture has not evolved. Moreover, most Russian banks have failed to promote deposit-taking capabilities. Indeed, many were set up by large corporations explicitly in order to obtain relatively easy access to cheap central bank credit. Not surprisingly, domestic use of the rouble has grown little while dollarisation has continued to be a major feature of the economy.

Financial impact on eastern Europe is only temporary …

The Russian crisis had a significant though short-lived impact on the financial markets in eastern Europe. As big foreign investors, particularly mutual funds, liquidated large parts of their portfolios of eastern European shares, regional stock markets fell while pressure was put on most currencies. The country with the most developed and liquid capital market, Hungary, saw a 45% drop in share prices between end-July and end-September, wiping out all the gains of the preceding two years. Equity market declines were less dramatic elsewhere: foreign participation in the Polish and Slovak markets had always been relatively small and foreigners had already reduced their exposure to Czech equities by late 1996. As prices recovered after October 1998, equity markets in eastern Europe showed little loss for the year as a whole. The impact on the cost and volume of private capital flows remained limited as well. In comparison with other emerging market economies, spreads on eastern European bonds rose relatively little – by less than 100 basis points in the case of the Czech Republic, Hungary and Poland (Graph III.1). Nevertheless, higher rates and the reduced availability of credit effectively squeezed some governments and forced a number of large private sector enterprises to temporarily forgo direct borrowing abroad. However, there was no reversal in the flow of international bank credit (Table III.3), and modest issuance of international debt securities continued.

Financial turbulence in the wake of the Russian crisis weakened the Hungarian forint and the Polish zloty, which had previously been subject to upward pressure. Before the crisis, the inflow of short-term funds had pushed the zloty near the top of its trading band and the forint had been exposed to similar forces. With further real appreciation arrested, concerns lessened about a loss of external competitiveness. By October, the zloty had returned to the centre of its trading band and the central bank abandoned the idea of introducing tighter currency controls. Several countries in the region responded to the financial turbulence by raising short-term interest rates but the transmission to longer-term domestic interest rates was limited. The Polish and

Czech central banks therefore carried out previously planned interest rate cuts once stability had returned.

… as fundamental shifts have occurred

Limited contagion from the Russian crisis has been a testimony to the extent to which eastern European countries have reoriented their trade and financial links towards western Europe and the progress they have made in the transition to becoming modern market economies. A major transformation has taken place in eastern Europe's trade: nearly two-thirds of exports now go to the European Union, while only 5% go to Russia. Financial exposure of eastern European banks to Russia is also limited. Indeed, banks did not suffer pressure or see their share prices fall relative to those of other enterprises when financial turbulence hit the region in the middle of last year. Successful transition has led to strong growth rates in both Hungary and Poland in recent years. By contrast, the need for further restructuring in the corporate and financial sector tended to dampen activity in the Czech Republic last year. Although remaining higher than in EU countries, inflation in eastern Europe has come down steadily. Moreover, efforts have been made in Hungary and Poland to strengthen their banking systems, partly by accepting greater foreign competition. Reflecting the progress in transition, EU accession talks have started with several eastern European countries.

Remaining vulnerabilities

Some vulnerabilities nevertheless remain. Significant deficits on the fiscal and current accounts continue to be a major source of concern for many transition economies. In spite of progress in several countries, banking institutions remain fragile, as reflected in their low international ratings. Financial markets are still immature and supervision is in need of further reinforcement. Finally, the social safety net is still underdeveloped.

Developments in Latin America

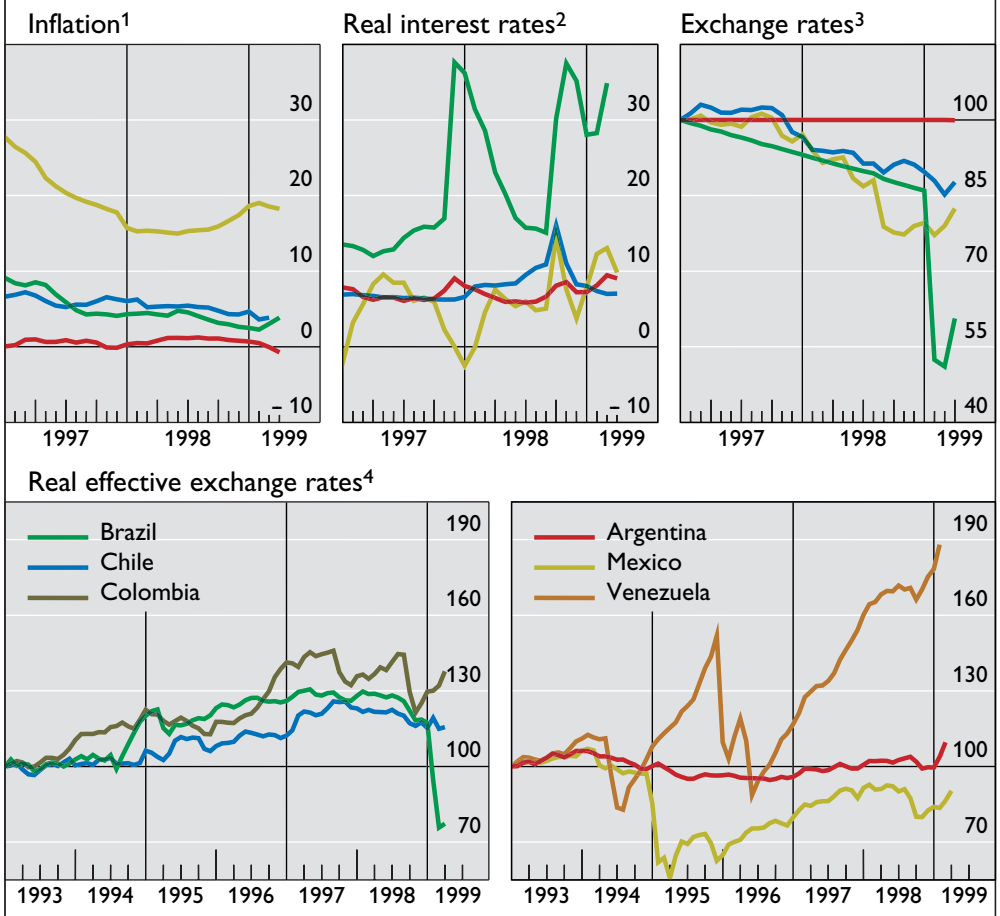
Underlying difficulties in Latin America …

Although Latin America was able to continue attracting sizable flows of capital in the wake of the Asian crisis, its potential susceptibility to financial turmoil was suggested by a number of underlying difficulties. First, external positions have been weak in recent years. Last year, trade and current account deficits again widened sharply in almost all countries. One important reason for the wide discrepancy between export and import growth throughout most of the 1990s has been steady appreciation of the real exchange rate in many countries (Graph III.6). More recently, the region has also been confronted with weak commodity prices, while the economic contraction in Asia has had a further adverse effect on the exports of some countries. A second area of vulnerability has been the region's low saving rate, which has forced it to rely heavily on external financing. Finally, several countries have experienced difficulties in containing public sector deficits. Partly reflecting weak commodity prices, high interest rates and slowing growth, the government finances in many countries deteriorated further last year.

… exposed by financial turmoil

The confidence crisis in international markets in mid-1998 aggravated these difficulties. As external financing slowed to a trickle in its immediate wake, prices of internationally traded Latin American bonds and domestic equities fell substantially, while heavy pressure was put on several currencies.

Inflation, real interest rates and exchange rates in Latin America



[1] Annual percentage change in consumer prices. [2] Short-term rates deflated by the annual rate of inflation, in percentages (for Mexico, by annualised inflation in subsequent months). [3] US dollars per unit of domestic currency, December 1996 = 100. [4] In terms of relative consumer prices, December 1992 = 100. An increase indicates an appreciation. Graph III.6

Countries with large fiscal deficits (such as Brazil and Colombia) or political uncertainties (Venezuela) were most directly affected. In response to the turbulence, sharp policy adjustments took place in the region, with the lead being taken by monetary tightening. Growth prospects quickly deteriorated and in the final quarter of the year annual GDP growth turned negative, compared with nearly 3% in the first half.

Some of the smaller economies in the region were also hit by natural disasters (due to El Niño and hurricane Mitch). In Ecuador, the adverse shocks were compounded by the absence of measures to deal with the fiscal imbalance and banking sector problems. The incomplete policy response in turn precluded access to financial support from the international community.

The Brazilian crisis

Macroeconomic imbalances in Brazil

The Asian crisis brought into focus a number of important macroeconomic imbalances in Brazil's economy. Although successful in achieving single-digit inflation, the Real Plan launched in mid-1994 depended heavily on high real interest rates for containing strong domestic demand growth. These high

interest rates in turn contributed to an increase in the fiscal deficit (excluding the impact of inflation on interest payments) from an average of 2.4% of GDP in 1994–96 to nearly 8% in 1998 (Table III.11). The fiscal deterioration, however, also resulted from a fall in the primary surplus from 2% of GDP in 1994–96 to approximate balance in 1998. Moreover, the initial stages of the Real Plan were associated with significant real appreciation, contributing to a widening current account deficit.

Initial policy response in late 1997

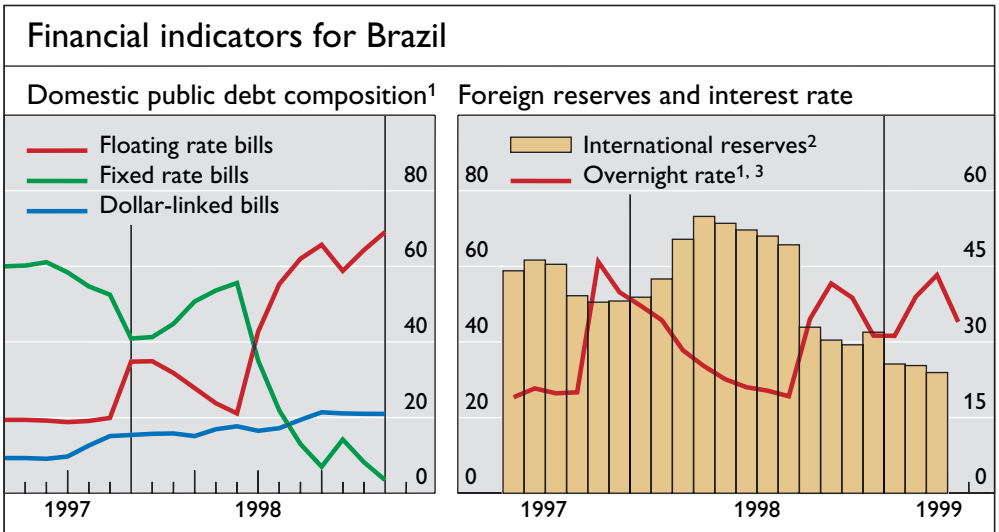
These imbalances led to a first wave of strong exchange rate pressure immediately following the events in Asia in late 1997. The authorities responded with a sharp tightening of monetary policy and the announcement of fiscal measures to reduce the deficit by the equivalent of 2% of GDP during 1998. High interest rates and a relaxation of capital account restrictions led to renewed strong inflows of capital in early 1998 which helped rebuild international reserves (Graph III.7). Moreover, the central bank announced the beginning of a gradual move to a more flexible exchange rate regime over the following years. By contrast, promised fiscal adjustment proved difficult to achieve given that key measures could be implemented only after congressional approval.

The Russian default had a deep impact on Brazil. Although fiscal weaknesses and external vulnerability were at the root of contagion, the heavy selling of Brazilian international bonds (in particular the very liquid Brady bonds), possibly to meet margin calls elsewhere, contributed significantly to the transmission of financial turmoil. As holders of relatively low-yield domestic government securities sold this paper to buy the higher-yielding Brazilian international bonds, capital outflows accelerated.

Crisis containment in late 1998

Pressure was contained through several measures. First, additional incentives in the form of interest rate and exchange rate guarantees were offered to holders of domestic government debt to avoid this debt being sold off on a large scale. The marked change in the composition of public debt, which had been initiated shortly before the developments in Russia, was pushed

Financial indicators for Brazil



[1] In percentages. [2] In billions of US dollars (left-hand scale). [3] Right-hand scale. The latest observation is for 19 April.

Graph III.7

further, with floating rate and dollar-linked treasury bills increasingly replacing traditional fixed rate bills (Graph III.7). Second, the authorities intervened heavily in the foreign exchange market. The extent of this intervention may be understated by the net change in the stock of international reserves, given that the privatisation of the telecommunications system was associated with strong inflows around mid-year and exchange rate support was also conducted through off-balance sheet operations in the futures and forward markets. Finally, the monetary authorities increased interest rates sharply.

Fiscal adjustment and official financial assistance

After the October presidential elections, a support package led by the IMF was announced which was heavily front-loaded and was conditional on extensive fiscal adjustment. Financial support was arranged for about $41½ billion. The IMF contributed $18 billion, while the World Bank and the IADB each committed $4.5 billion. In addition, a credit facility of $13.3 billion, coordinated by the BIS and backed by the central banks of 19 industrial countries, was offered to the central bank together with a parallel facility of $1¼ billion made available by the Japanese authorities. The agreement with the IMF and the first disbursement in early December improved the outlook only marginally. Spreads on Brazil's international debt remained high and capital outflows continued. Domestically, a refusal by Congress to approve a number of crucial fiscal measures and, later on, the lack of commitment of some important states to the fiscal adjustment process also cast doubt on the effectiveness of fiscal restraint.

Floating of the Brazilian real …

In early 1999, possibly triggered by a partial moratorium by a state government, pressure mounted and the authorities abandoned the long-standing exchange rate regime. The government attempted to engineer a limited and controlled devaluation, counting on two positive factors: first, the country had devalued with a large stock of foreign exchange reserves and an international support programme already in place; second, the corporate and banking sectors were not as highly exposed as their counterparts in Asia had been, since they had hedged their positions against sudden changes in interest rates and exchange rates. A major weakness, however, was the vulnerability of the government deficit to devaluation and high interest rates, given the large stock of dollar-linked and floating rate treasury bills, and the central bank's short position in the exchange rate futures and forward markets. In the event, the real depreciated by 40% in the two months following the adoption of the floating regime.

… raises the issue of dealing with the debt servicing burden …

Two issues aroused particular concern in the wake of the devaluation. The first was the potentially explosive dynamics of the internal debt/GDP ratio, should interest rates and debt servicing requirements fail to come down again. To allay fears of an unstable debt dynamic and so prevent a vicious circle of continuing downward pressure on the currency and upward pressure on interest rates, strict corrective action in the fiscal area was announced in March 1999. In addition to the measures already agreed with the IMF in November, further spending restraint and tax increases were proposed to bring the public sector primary surplus to over 3% of GDP in 1999.

… and limiting the inflation response

A second concern was the inflation response to the nominal depreciation. With inflation known to be very sensitive to exchange rate changes in Latin

America, price increases were expected to be large and quick in Brazil. However, a number of related factors acted to limit the immediate upturn in inflation. First, the deepening recession contained price pressures. Second, the economy had become more deregulated since the early 1990s, with significantly less reliance on indexation mechanisms. Finally, despite the clear negative implications for public finances, the authorities opted for a further tightening of monetary policy in order to help restore confidence. Overnight interest rates were allowed to rise from just under 30% in late 1998 to 45% by early March so as to slow or reverse the weakening of the exchange rate and thus limit its impact on inflation and inflation expectations. In the event, the exchange rate strengthened, allowing the central bank to start reducing interest rates from late March. Moreover, monthly inflation appeared to level off at 1.3% in March. As sentiment slowly improved, access to international markets was regained. The issue of a $2 billion sovereign bond was successfully completed in April, albeit at a still sizable yield spread.

Contagion in other Latin American economies

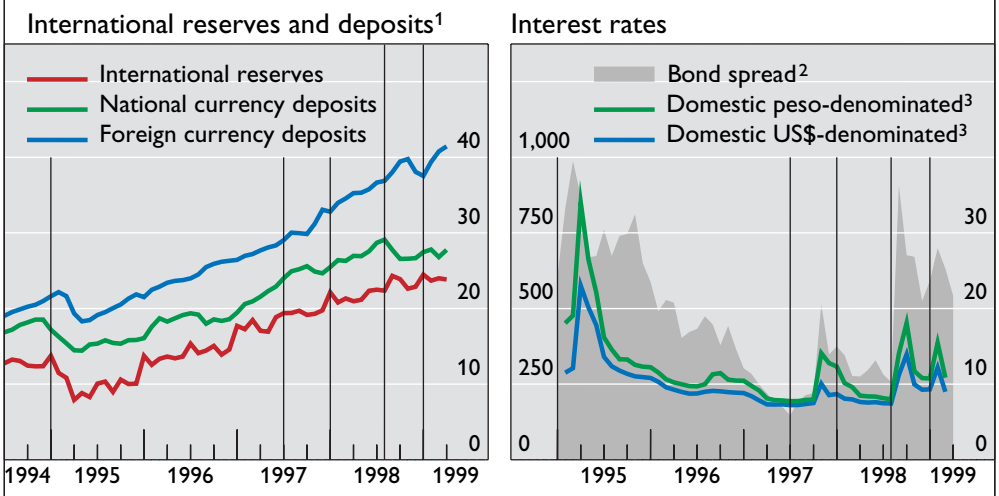
Impact on Argentina via trade …

In 1998 Argentina made further progress in fiscal consolidation and in strengthening its banking sector. The firm commitment to its currency board-type arrangement kept consumer price inflation at less than 1%. Annual GDP growth, however, declined sharply from over 7% in early 1998 to $-\frac{1}{2}$% by year-end and the current account deficit reached 4½% of GDP. Although Argentina is a relatively closed economy, the regional economic slowdown, in particular in Brazil, which absorbs one-third of Argentina's exports, depressed activity in several industries, including the automotive sector. Exchange rate adjustments within Mercosur further increased competitive pressures on Argentina's industry. This makes it even more important to promote greater flexibility in labour and goods markets as an alternative to currency adjustments.

… and financial variables

Some indicators suggest that Argentina has become somewhat more resilient to financial turmoil in other emerging market economies in recent years (Graph III.8). In contrast to the experience following the Mexican peso crisis, international reserves were little affected by the turbulence in Asia, Russia and Brazil. Bank deposits, which fell by 13% in the three months following the Mexican crisis, showed consistent growth up to August of last year. Nevertheless, the Russian crisis did have a significant impact on Argentina. In its wake, peso-denominated deposits fell by 9% while dollar-denominated deposits grew further, suggesting some heightened perceptions of currency risk. Moreover, for a short period spreads on international sovereign bonds increased to levels similar to those observed after the Mexican crisis. Short-term interest rates in both pesos and dollars also rose sharply. The floating of the Brazilian real again exerted temporary pressure on both spreads and interest rates, keeping them above the levels reached prior to the Russian crisis. Even at these high spreads, Argentina was nonetheless able to return to world capital markets in early 1999 faster than had been the case after earlier crises.

Financial indicators for Argentina



Note: The vertical lines mark the start of the crises in Mexico, Thailand, Korea, Russia and Brazil respectively.

[1] In billions of US dollars. [2] Of a long-term sovereign international bond over the benchmark US Treasury bond, in basis points (left-hand scale). [3] One-month prime rate, in percentages (right-hand scale).

Sources: Datastream; IMF; national data. Graph III.8

Dollarisation

The uncertain environment prompted the authorities to announce that they might consider dollarisation of the economy to boost confidence in their commitment to currency stability. Such a move raises several issues. If perceived as irreversible, dollarisation would have the immediate effect of eliminating the premium associated with currency risk (as measured by the interest rate differential between peso and dollar contracts within Argentina). However, it is not clear what would happen to the country risk premium (conventionally measured by the differential between interest rates on US Treasury debt issues and dollar-denominated Argentine debt issues). Interest rates on dollar contracts, both short- and long-term, have remained high in Argentina (Graph III.8), suggesting that Argentine borrowers, including the government, pay significant credit risk premia. An important factor behind these premia may be the country's high external debt. Still other questions raised by dollarisation are the availability of lender of last resort facilities and the sharing of seigniorage associated with currency issuance.

Mexico's policy responses …

Financial turmoil also put pressure on Mexico. Although the economy has become much more diversified in recent years, the fall in oil prices to which the Asian crisis contributed still had a significant impact, especially on government revenues. A determined fiscal policy response followed, including three rounds of spending cuts during 1998. Moreover, capital inflows contracted abruptly following the developments in Russia, causing the exchange rate to fall sharply. The depreciation triggered an almost immediate inflation response which, in conjunction with an increase in some government-controlled prices, reversed the earlier declining trend in inflation and prompted the central bank to tighten monetary conditions (Graph III.6). By the beginning of 1999 inflation and inflation expectations were falling

again. As monetary and fiscal policies were tightened, growth slowed appreciably.

… and bank restructuring

The outlook for the Mexican economy will depend not only on the performance of the US economy, but also on the pace of progress in improving the health of a still weak banking system. The volume of bank credit in real terms remains well below its pre-crisis level of 1994. Additional support for bank debtors was announced in late 1998, possibly to allay concerns that the high interest rates needed to contain exchange rate pressure might reverse the declining trend in non-performing loans. In addition, after a year-long dispute, an agreement was reached in Congress in late 1998, leading to the creation of a deposit insurance agency that will also be responsible for dealing with the non-performing loans taken off banks' books in recent years. If the much needed expansion of credit and equity in the banking industry is to be achieved, the implementation of this agreement is now necessary.

Chile

Chile was severely affected by the emerging market crisis. Copper prices fell sharply, exports to Asia slumped and export market growth in neighbouring countries weakened significantly as turmoil spread in Latin America. The central bank reacted swiftly to the deteriorating environment, increasing policy interest rates in early 1998 to curb the rapid growth of domestic demand, and again in September to contain the spreading of the crisis. Moreover, as the peso suffered downward pressure, the authorities intervened in the foreign exchange market well before the currency approached the lower limit of its target range. The reversal of capital flows also prompted them to reduce the share of capital inflows that has to be deposited in an unremunerated reserve account from 30% to 10% in June and then to zero in September. In late 1998 and early 1999, as inflation fell within its target range, the central bank gradually eased its policy stance to counter the pronounced slowing of the economy, whilst avoiding a further weakening of the exchange rate.

Colombia

In Colombia, political uncertainty in the run-up to the mid-1998 presidential elections and large fiscal and current account deficits put heavy pressure on the exchange rate and required a sharp tightening of monetary policy. After a brief period of calm following the elections, pressure on the exchange rate re-emerged in August, triggered this time by external developments. This prompted the authorities to adjust the exchange rate regime, effectively depreciating the band by 9%, and to increase interest rates to help maintain the new level. As more decisive fiscal action was taken in late 1998 and a series of credits from international financial organisations were approved, interest rates started to decline. In the event, tight monetary policy during most of last year led to a severe slowdown of the economy and record unemployment, although it also contributed to a drop in inflation by early 1999. The banking system also felt the effects of these contractionary trends: non-performing loans grew substantially, while profits declined sharply, particularly among state-owned banks. In response, the government announced measures to shore up the banking sector and recapitalise the deposit insurance agency.

IV. Monetary policy in the advanced industrial countries

Highlights

With inflation approaching zero in some countries and prices even declining in others, issues regarding the appropriate conduct of monetary policy in conditions of near price stability took on new importance in the major industrial countries last year. One relevant question is how central banks can prevent a decline in prices from generating extrapolative expectations of future price declines. The maintenance of average inflation rates close to zero for extended periods of time will also raise issues regarding the relative merits of price level versus inflation targeting. A further concern is whether the efficacy of monetary policy is reduced in periods of stable or declining prices. The turbulence in international financial markets following the Russian crisis last August also raised the question of the extent to which policy should react to developments in asset markets in the absence of data suggesting that they have started to influence prices of goods and services.

Monetary conditions in the United States were eased despite strong real growth and tightening labour market conditions in the light of a benign outlook for inflation and in the expectation that the economy would slow. The difficulties of conducting monetary policy at very low inflation and with volatile financial markets were most evident in Japan, where the authorities faced a sharp worsening of conditions in both the domestic economy and financial markets. While short-term interest rates were reduced effectively to zero, serious weaknesses in the financial system appear to have reduced the responsiveness of banks and households to policy stimuli.

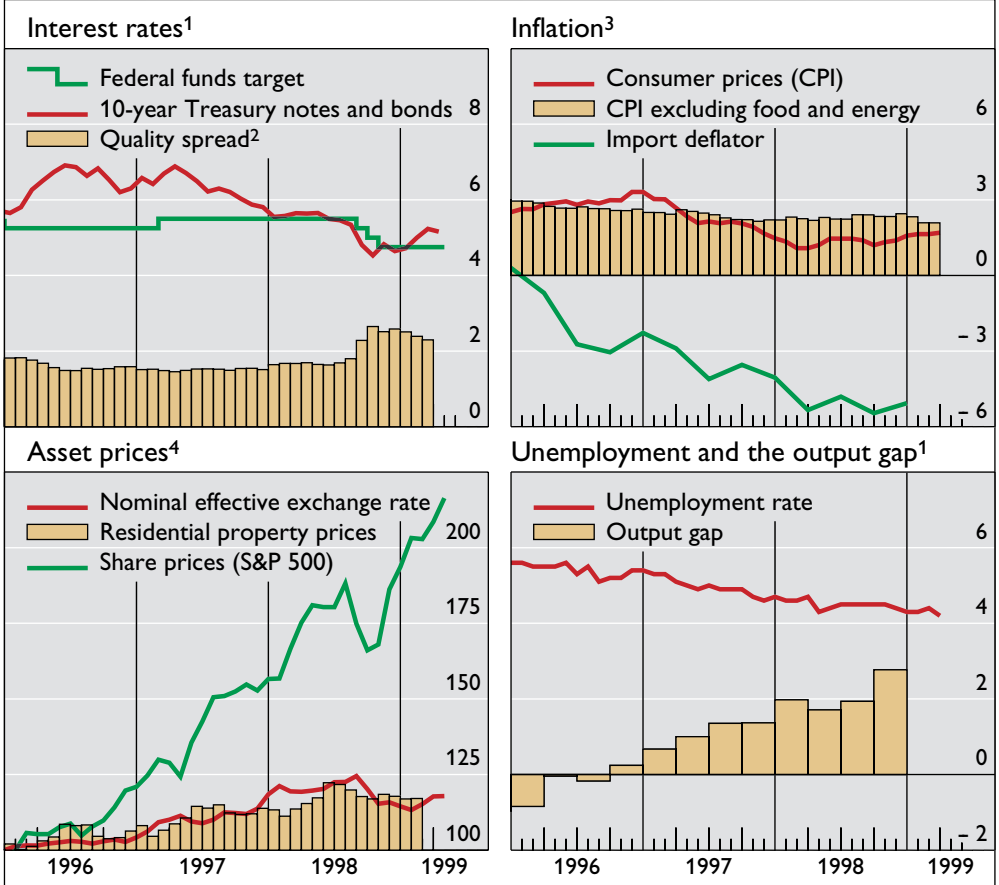
A unique event in the period under review was the introduction of the euro in January 1999. In this context, policy attention last year was focused first on the need to determine at what level interest rates should converge during the transition to EMU. Although economic conditions in several smaller euro area countries were relatively strong, the weakness of activity in Germany and Italy, which together account for about 50% of euro area GDP, allied with uncertainty about the prospects for global economic recovery, led to convergence at 3%. This entailed interest rate cuts even in the countries that previously had the lowest rates. The European Central Bank faced the important question of how to conduct policy in the entirely new environment brought about by the establishment of the single currency. To this end, the ECB adopted a policy framework consisting of a numerical definition of price stability, which is the primary objective of monetary policy, a reference value for M3 growth, which serves as a key policy indicator, and a broad-based assessment of the inflation outlook. This framework thus combines elements of policy strategies based on monetary aggregates and inflation targeting.

Monetary policy in the countries targeting inflation was also eased last year, as the central banks took measures to ensure that inflation remained in, or returned to, the target band despite the slowing of activity and the concomitant reduction in price pressures. This relaxation occurred despite an exchange rate depreciation in most of these countries due to falling commodity prices. The authorities generally interpreted the exchange rate pressure as constituting a real disturbance that monetary policy should not respond to. In Canada the fall in the exchange rate was rapid, raising the risk that extrapolative expectations would take hold, and leading the Bank of Canada to increase interest rates temporarily.

United States

In assessing the outlook for inflation, the Federal Reserve has recently had to focus carefully on conditions in financial markets along with more traditional indicators of economic developments. With real GDP growth at 3.9% in 1998, output rising increasingly above previous estimates of potential and unemployment reaching its lowest rate for almost 30 years, policymakers

Economic indicators for the United States



[1] In percentages. [2] Secondary market corporate bond yield (Baa) less 10-year Treasury bond yield, in percentage points. [3] Measured as annual percentage changes. [4] End-1995 = 100.

Sources: OECD; national data. Graph IV.1

had to take account of the possibility of growing inflationary pressures. Moreover, rising asset prices raised concerns that a financial bubble might be developing, a consideration which also warranted a bias towards tightening. However, with the global slowdown in economic activity leading to sharp falls in energy and primary commodity prices, and with the dollar appreciating until August, inflationary pressures remained subdued and the policy stance was therefore left unchanged until late summer.

Policy unchanged until late summer …

… when the Russian crisis led to volatility in financial markets

The Russian financial crisis in mid-August triggered considerable uncertainty in financial markets in the United States and elsewhere, which had potentially important implications for domestic demand conditions and the outlook for inflation. By reducing household wealth and raising the cost of capital, sharply falling equity prices could have undermined consumer and investment spending. Moreover, large risk spreads, high levels of volatility and declining liquidity in many market segments raised the probability of substantial losses for financial institutions and an associated risk that credit conditions would tighten. To shield the economy from these effects and to provide some insurance against an unexpectedly sharp downturn, the Federal Reserve cut interest rates in September, October and November by a total of 75 basis points to 4.75%. Following the policy easing, financial market conditions improved. Equity prices, which had fallen by 19% between mid-July and end-August, rebounded and gained 34% by end-March 1999. Monetary policy was subsequently left unchanged in the absence of signs that inflationary pressures were rising despite continuing rapid real growth and tight labour markets.

Policy eased in autumn

Episodes of large swings in the prices of financial assets, such as that which took place last autumn, present a challenge for monetary policymakers. The effects of financial disturbances are immediately apparent in sharp increases in trading volume and market volatility and in a flight to safety and liquidity. However, given the time lags between shifts in financial market sentiment, real activity and inflationary pressures, the broader macroeconomic effects may at first not be clearly identifiable. Policy may therefore be inadvertently too tight or too lax. This was illustrated in some countries following the steep fall in equity prices in October 1987. A number of central banks opted at that time to relax monetary conditions in response to concerns that the equity price declines would lead to a slowdown of economic activity. With hindsight, however, the effects of the fall in equity prices on aggregate demand were overestimated, and the easing of policy may have contributed to the subsequent upswing in both activity and inflation. This episode thus suggests that, while taking monetary policy measures in response to market turbulence is desirable, it is important to redirect the focus of policy to domestic price stability once financial conditions have settled sufficiently.

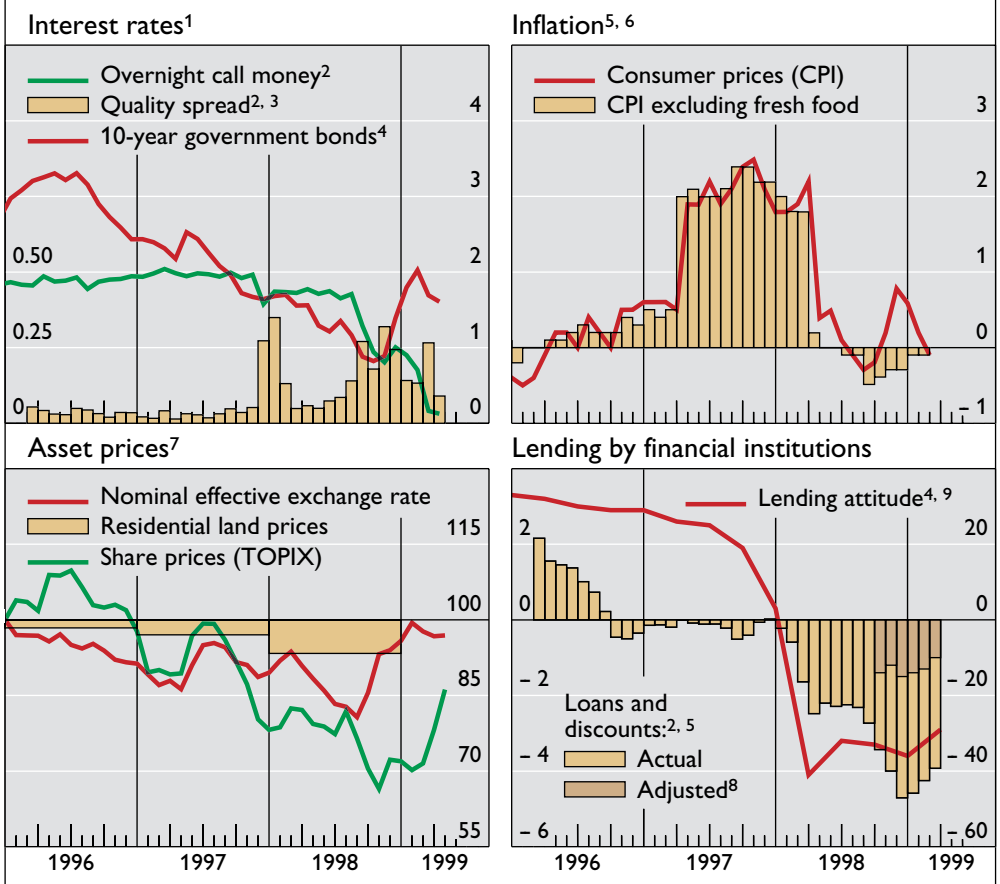
Important to focus on domestic price stability once financial conditions settle

Japan

Conditions deteriorated further …

The Bank of Japan last year had to contend with the possibility that a deflationary cycle might develop given high levels of excess capacity and corporate debt and continuing serious problems in the banking sector. Overall economic conditions deteriorated further, with real GDP contracting by 3% in

Economic indicators for Japan



[1] In percentages. [2] Left-hand scale. [3] Three-month call rate less three-month treasury bill rate, in percentage points. [4] Right-hand scale. [5] Measured as annual percentage changes. [6] Includes the effect of a consumption tax increase in April 1997. [7] End-1995 = 100. [8] For, inter alia, securitisation, loan write-offs and exchange rate changes. [9] Percentage balance of positive and negative answers as perceived by non-financial firms.

Sources: Bank of Japan, *Short-term Economic Survey ("Tankan")*; national data. Graph IV.2

1998 and persistent downward pressures on price indices. With import and oil prices falling in response to global developments and the yen appreciating from October onwards, falls in consumer prices were recorded for the first time since 1995–96. Domestic wholesale prices, which have been declining since 1991, continued their downward trend.

The worsening of the economic outlook came at a time when the traditional interest rate channel of monetary policy seemed likely to be of limited effectiveness. While the discount rate was held at 0.5%, the Bank of Japan decided in September to reduce the overnight call rate, which had previously been kept slightly below the discount rate, to 0.25%. In addition to being designed to prevent deflationary pressures from developing further, this easing of policy was judged appropriate to maintain the stability of financial markets. Additional relaxations of policy took place in February 1999, when the call money rate was reduced to 0.15% or lower, and early March, when massive liquidity injections by the Bank of Japan effectively pushed the overnight rate down to zero.

… and the call money rate was reduced effectively to zero

During the turmoil in financial markets in Japan and elsewhere last autumn, concerns about counterparty risk triggered sharp increases in the spread between three-month interbank and treasury bill rates. In response, the Bank of Japan supplied ample liquidity to financial markets. While this led to a narrowing of the spread between interbank and treasury bill rates, the spread nevertheless remained substantial. Despite the acceleration in the expansion of the monetary base in recent years, the growth rate of M2+CDs, which is the key monetary aggregate in Japan, has remained subdued. Banks have been increasingly unwilling to extend credit in an environment where the solvency of both customers and some of the banks themselves has been questioned.

Policy measures to facilitate firms' financing

To improve the credit allocation mechanism, the Bank of Japan took steps to facilitate firms' financing operations by expanding its repo operations in commercial paper, which in turn enabled banks to increase their activities in the primary commercial paper market. In addition, the Bank established a lending facility for refinancing part of the new loans provided by financial institutions in the fourth quarter.

The adoption of an increasingly stimulatory policy stance has to some extent been offset by the sharp appreciation of the yen in October and the rapid rise in long government bond yields from November onwards. The latter, which has been attributed to the large increase in planned issuance in fiscal 1999 and the announcement that the Trust Fund Bureau would stop outright purchases, also led to higher corporate bond yields and long-term prime lending rates. If sustained, such developments could depress economic conditions further. To limit upward movements in long interest rates, political pressure was exerted on the Bank of Japan to step up its purchases of government bonds. Such pressures can be counterproductive if they generate the perception that monetary policy is part of the broader political process. This could have adverse effects on the credibility of central banks, and potentially lead to higher rather than lower interest rates.

Political pressure can be counterproductive

During the year the government took several measures to restore soundness to the financial system. These included temporarily nationalising Long-Term Credit Bank and Nippon Credit Bank as well as encouraging the merger of several other institutions and persuading surviving banks to restructure in exchange for public funds. While market reaction to these measures has been favourable, as indicated by the disappearance of the "Japan premium" and a rebound in bank share prices, the remaining issue is whether banks will succeed in carrying out the restructuring measures that they have pledged to take. In particular, a conflict might arise between their commitments to increase domestic lending and at the same time reduce costs. A sharp cutback in the international operations of Japanese banks might help resolve this problem, albeit at the risk of creating others.

Euro area

Monetary policy in the countries participating in EMU was dominated during 1998 by the need for interest rates to converge at a common level by the end of the year. A complicating factor was the fact that, despite the considerable

nominal convergence that had been achieved in previous years, marked differences remained between economic conditions in the different countries. In the end, policy rates converged at 3%. This entailed small interest rate reductions in the countries with the lowest interest rates, but quite large cuts elsewhere.

Interest rates converged at 3%

In the months before the introduction of the euro in January 1999, the ECB announced its monetary policy framework incorporating a numerically defined final objective of price stability, a reference value for money growth and a broad-based assessment of the inflation outlook.

Economic and policy developments

Economic conditions in the countries forming the euro area remained unequal during the period under review, with continued strong growth in several smaller countries and weak overall conditions in some of the larger ones. Prior to January 1999 individual central banks had to balance domestic inflation considerations against the need for interest rate convergence.

Ireland

In Ireland extremely strong growth for the fifth year in a row led to a further rise of output above potential and mounting inflationary pressures. During the autumn, however, the real economy started to slow and inflationary pressures abated. With inflation falling from a peak of 3.2% in August to 1.7% in December and a need to reduce interest rates for convergence reasons, monetary policy began to ease in October. Growth was also very strong in Finland and the Netherlands, leading to estimated output gaps becoming positive. Inflationary pressures in Finland, which had built up gradually in 1997 and early 1998, started to decrease during the spring following a slowdown in import prices, and inflation fell below 1% by year-end. Inflation in the Netherlands also moderated and averaged 2% for the year.

Finland and the Netherlands

Portugal

The output gap also closed in Portugal and headline inflation accelerated, rising from 2.3% in late 1997 to 3.2% by end-1998. The continued strong output growth and associated price pressures were due in part to interest rate convergence. With policy-controlled interest rates being cut from 6% to 3% between mid-1997 and end-1998 and with inflation accelerating in the same period, real interest rates fell by over 4 percentage points. A similar process, although less pronounced, took place in Spain. With policy rates reduced from 5.25% to 3% between mid-1997 and end-1998 and headline inflation only marginally lower, real short-term rates fell by some 2.5 percentage points in the same period.

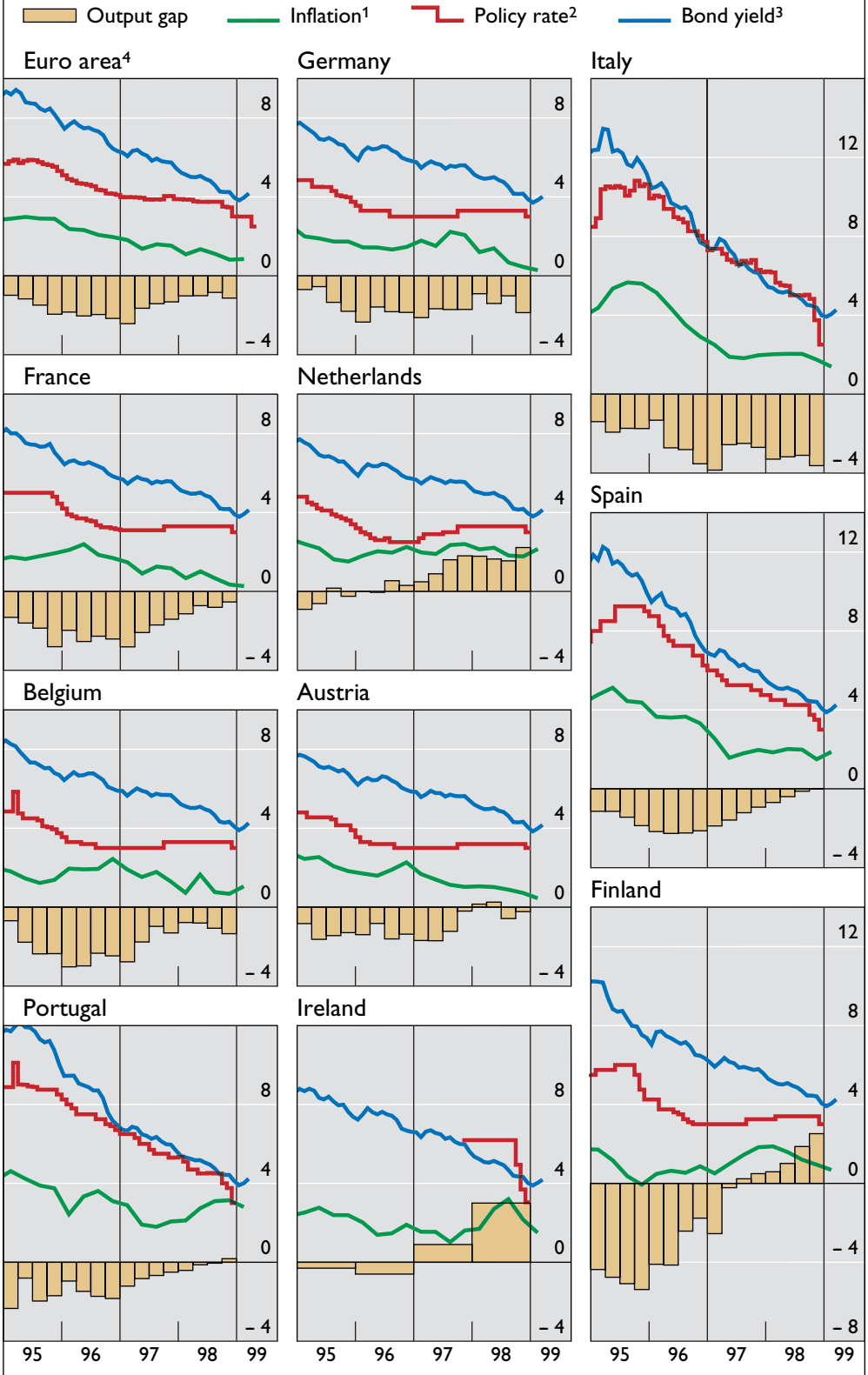
Spain

The three largest economies: France, Germany and Italy

Among the three largest economies, economic conditions were by far the strongest in France. With growth averaging 3.2% in 1998, the output gap narrowed considerably. Nonetheless, inflation declined to 0.3% for the year. By contrast, economic conditions in Germany and Italy remained weak on average and worsened during the year. After strong growth in the first quarter in Germany, Austria and Belgium, GDP growth moderated thereafter, averaging around 3% for the year. In Italy growth was low, at only 1.4%. With sizable output gaps remaining essentially unchanged in these countries, inflation pressures generally abated, with rates ranging between 0.4% in Germany and 0.7% in Austria. In Italy inflation fell to 1.7%.

Output gaps, inflation and interest rates in the euro area

In percentages



[1] Four-quarter change in consumer prices. For the euro area, harmonised definition as from 1996; for the individual countries, national definitions. [2] For Belgium, central rate; for the Netherlands, rate for special loans; for Portugal, intervention rate; for the other countries, tender rate. [3] Representative government bonds (usually 10-year). [4] Excluding Luxembourg.

Sources: ECB; OECD; national data; BIS estimates. Graph IV.3

In the light of these developments and with the ECB's monetary policy strategy regarded as credible in financial markets, interest rates in the euro area were allowed to converge at 3% after a coordinated reduction of rates in December 1998. In April 1999, the ECB lowered its policy rate further to 2.5% in a context of subdued inflation pressures.

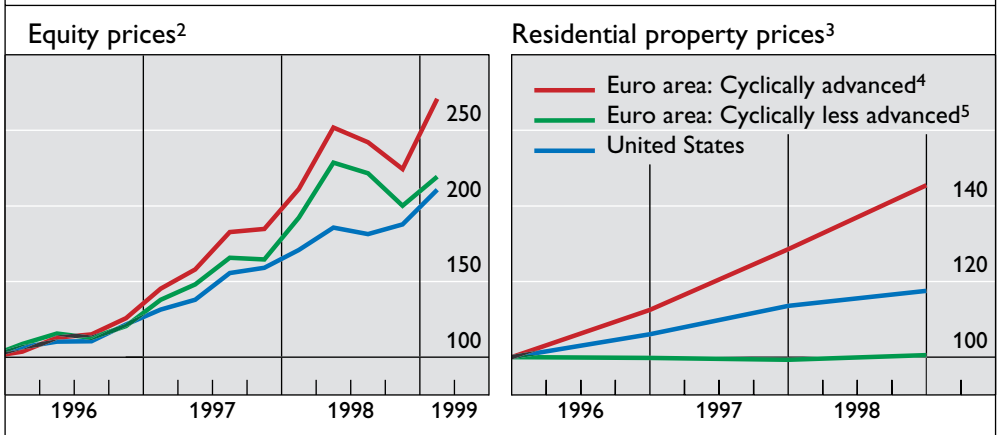
Interest rates fell the most where inflation was relatively high

While policy was set to reflect overall economic developments in the euro area, the process of convergence has led to a situation in which interest rates have fallen the furthest in Ireland, Italy, Spain and Portugal, where inflation rates remain relatively high. The implications of the observed regional differences in inflation rates in the euro area should, however, not be overemphasised. Although differences in inflation rates may threaten the sustainability of the exchange rate commitment in a system of fixed but adjustable rates, they have no comparable implications in a single currency regime. Moreover, the importance of the diversity in regional inflation rates is further limited to the extent that they reflect differences in the demand for, and the rate of increase in prices of, non-traded goods. On the other hand, with nominal exchange rate changes no longer possible, adjustment to any past relative price movements is shifted entirely to labour and goods markets. Promoting domestic wage and price flexibility in response to declines in competitiveness within the euro area has thus become all the more important.

Divergent asset price developments

A further source of potential concern is disparate asset price developments. As Graph IV.4 shows, asset prices have in general risen more in Finland, Ireland and the Netherlands, where economic conditions have been strong, than in the rest of the euro area. While there is a broad consensus in the central bank community that monetary policy should not be directly geared to asset price developments, the possibility of divergent asset price movements suggests that a common monetary policy could also lead to regional property cycles, like those observed within the United States and Canada.

Asset prices in the euro area[1] and in the United States



[1] Excluding Luxembourg and Portugal (unweighted averages). [2] Quarterly averages, fourth quarter 1995 = 100. [3] Year-end data, 1995 = 100. [4] Finland, Ireland and the Netherlands. [5] Austria, Belgium, France, Germany, Italy and Spain.

Sources: National Association of Realtors; Ring Deutscher Makler; Ministère de l'Équipement, des Transports et du Logement; Nomisma; national data. Graph IV.4

Monetary policy strategy of the ECB

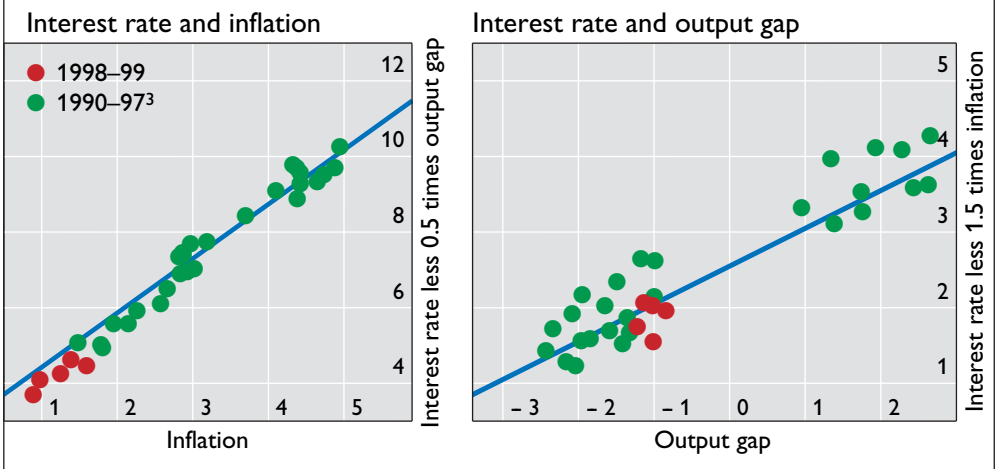
While interest rates moved as suggested by the Taylor rule …

As noted in last year's Annual Report, interest rates in the euro area countries, as measured by a weighted average of three-month interest rates, have in the past displayed a close relationship with similarly weighted averages of output gaps and headline inflation. In particular, short-term interest rates appear to have moved as suggested by the so-called Taylor rule in that they have risen by 1.5 percentage points per 1 point change in headline inflation, and by 0.5 percentage points per 1 point increase in output above potential. Graph IV.5 illustrates that this empirical relationship remained close last year and implies that the relaxation of monetary policy in the period under review was well explained by movements in output gaps and inflation in the overall euro area.

Despite the similar evolution over time of average EMU-wide interest rates and those implied by the Taylor rule, the ECB does not rely on this relationship in conducting policy. Indeed, several considerations suggest that it would be hazardous for it to do so. First, there is considerable uncertainty about the "equilibrium level" of real interest rates, which, moreover, might well shift over time in response to a range of factors, including changes in the monetary policy regime. For instance, if lower inflation is associated with lower risk premia, equilibrium real interest rates may recently have fallen. Setting policy on the basis of past relationships between interest rates, inflation and output gaps therefore risks leading to inappropriate monetary conditions. Second, EMU is likely to induce structural changes which could imply that earlier correlations between output gaps and inflation become unreliable. Given a single currency, wages may become more sensitive to competitive

Interest rates in the euro area: actual rate[1] and rate implied by the Taylor rule[2]

In percentages and percentage points



[1] Weighted average of three-month euro interest rates in the euro area countries; for 1999, three-month Euribor. [2] The interest rate implied by the Taylor rule, shown as the blue lines, is given by $i = \pi + r^* + 0.5 \times (gap + (\pi - \pi^*))$, where i, π, r^*, gap and π^* denote the interest rate, rate of inflation, equilibrium real interest rate (3.55% assumed), output gap (defined as the deviation of actual from potential GDP as a percentage of potential GDP) and inflation objective (2% assumed) respectively. [3] Except for 1992 Q3–1993 Q3 (period of exchange market turbulence).

Sources: OECD; national data; BIS estimates. Graph IV.5

conditions within the euro area and less sensitive to output gaps. With the inflationary pressures arising from a given output gap reduced, it would be appropriate for the ECB to react less to output gaps than would be suggested by past correlations between interest rates and gaps. Third, while current inflation rates and output gaps contain information about near-term inflationary pressures, a range of other factors – including economic conditions abroad, changes in fiscal policy and import prices – play a critical role in the inflation process. Since simple policy rules do not fully capture the complexity of the inflation process, they are no substitute for policy judgement.

… there is no substitute for policy judgement

During autumn 1998 the ECB announced the framework it would use to pursue monetary policy in the new and still changing environment created by the introduction of the euro. At the core of the framework lies a primary objective of price stability. Publicly defining what is understood by price stability is helpful in that it provides a clear criterion by which the public can judge the conduct of monetary policy, thereby increasing policy transparency and making it easier to hold the ECB accountable for any deviations of inflation from this objective.

Policy framework announced with price stability as the primary objective …

The objective has been quantified as a year-on-year change in the harmonised index of consumer prices (HICP) in the euro area of 0–2% in the medium term. Several aspects of this choice of index are notable. It implies that the ECB has adopted the practice of many central banks of focusing on CPI measures of inflation, which are available with short time lags, are well understood by the public and are not revised over time. The use of an EMU-wide measure of inflation also highlights the fact that the ECB's conduct of policy will be focused on euro area rather than national economic developments. By emphasising the medium-term horizon of policy, the ECB recognises that its ability to control movements in inflation due to temporary factors – such as commodity price shocks and tax changes – is at best limited. Finally, this definition implies that periods of prolonged declines in the level of the HICP would not be deemed consistent with price stability.

… a reference value for M3 growth …

In pursuing price stability the ECB intends to follow a two-pronged strategy. One element of this is a reference value for M3 growth, set at 4.5% for 1999. This choice reflects the fact that money growth is a structural determinant of inflation in the long run. The ECB has explained that this reference value should not be interpreted as a target since this would require the growth of the monetary aggregate to be controllable in the short run, which is not likely to be the case. Thus, deviations of money growth from the reference value will not necessarily trigger automatic movements in the ECB's policy instruments. Rather, such developments will prompt deeper analysis of the sources of the deviations and whether they in fact constitute a risk to price stability.

The indicator value of broad money growth presupposes that monetary disequilibria influence future inflation rates. By one estimate, this is the case. The left-hand panel of Graph IV.6 shows dynamic out-of-sample predictions for the euro area price level, based on a simple forecasting model. The model emphasises the monetary origins of inflation, but disregards variables such as energy and import prices which tend to play an important role in determining

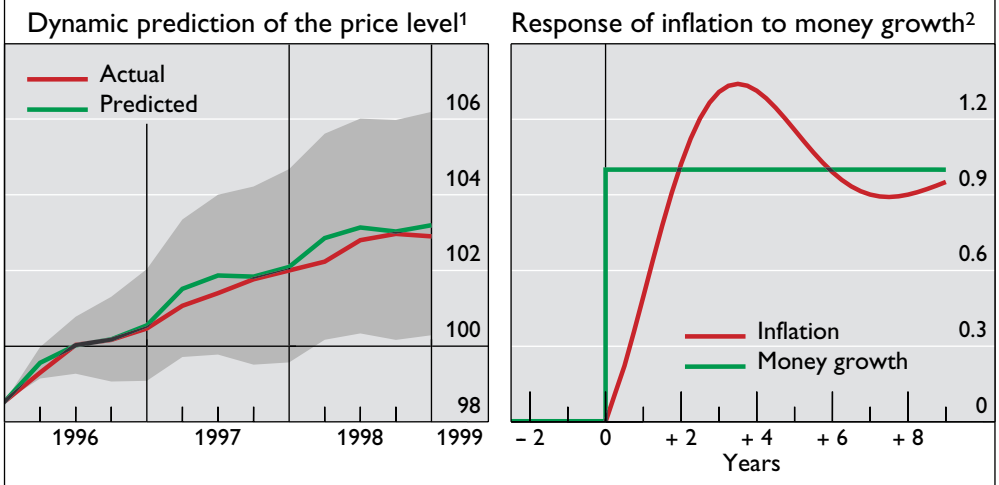
price levels in the near term. Despite its simplicity, however, it predicts the euro area price level out-of-sample reasonably well. The right-hand panel shows the model's predictions of the response of inflation to a permanent 1% increase in the growth rate of euro area M3. The dynamic patterns indicate that while money growth has little impact on near-term inflation, this relationship is important over the medium term. Of course, these results do not suggest that monetary targeting would be desirable or even feasible, in particular since the stability of the estimated relationship is not guaranteed. Nor do they rule out the possibility that other forecasting models which do not incorporate money growth could predict future inflation even better. Yet they do lend some empirical support to the notion of using the growth rate of euro area M3 as an information variable for inflation two to three years ahead.

… and a broad-based inflation outlook

The second element of the policy strategy is a broad-based assessment of the outlook for inflation drawing on a wide range of economic indicators. These include inflation forecasts made by the ECB, international organisations, national authorities and market participants. However, in contrast to some but certainly not all central banks operating with explicit inflation targets, the ECB does not intend to publish its inflation forecasts. Doing so is not seen as usefully enhancing the transparency and clarity of the monetary policy strategy, given the uncertainties inherent in the forecasting process.

The use of the reference value for M3 growth together with an assessment of the inflation outlook suggests that in practice the ECB will conduct monetary policy in much the same pragmatic way as the Deutsche Bundesbank. Historically, the Bundesbank responded strongly to movements in inflation, given its final objective of price stability, and downplayed the importance of deviations of money growth from target when monetary relationships were disturbed by temporary factors that signalled little risk to

Inflation and money growth in the euro area



[1] Out-of-sample. Actual price level, 1996 = 100; the shaded area represents a 95% confidence band. The predictions stem from an error correction model (extended over the period 1980 Q4–1995 Q4) for inflation using M3, prices and real income as regressors. [2] Estimated impact on inflation of a permanent 1% increase in the rate of M3 growth; in percentages, at an annual rate.

Sources: ECB; BIS estimates. Graph IV.6

the inflation outlook. It should also be noted that many central banks that have adopted explicit inflation targets also pay considerable attention to monetary aggregates as indicators of cyclical conditions. The policy framework announced by the ECB is thus in some respects not dissimilar to an inflation targeting regime, albeit one in which inflation forecasts are not announced and M3 growth serves as a key information variable.

Countries with explicit inflation targets

Influence of world slowdown, commodity and energy price falls and financial market volatility

Monetary policy in countries with explicit inflation targets was also influenced by the slowdown in world economic activity, the decline in commodity and energy prices and the increased volatility in global financial markets. Monetary conditions were eased overall during the year under review. With headline and underlying inflation close to the lower edge of the target ranges, the authorities felt it important to demonstrate their commitment to react as firmly to inflation below as above target. Such a symmetrical approach helps build and maintain public support for monetary policy, upon which the independence of central banks ultimately relies.

United Kingdom

In the United Kingdom, where monetary policy had earlier been tightened repeatedly in the light of strong growth and concerns about inflation, a process of policy easing started in October 1998. Interest rates were cut from 7.5% to 7.25% in view of deteriorating prospects for world output and UK exports, a sharp change in the pricing of risk in financial markets and a weakening of business and consumer confidence. As incoming data confirmed that the economic slowdown was more marked than first anticipated, policy was progressively relaxed by a further 2 percentage points to 5.25% by April 1999.

Canada

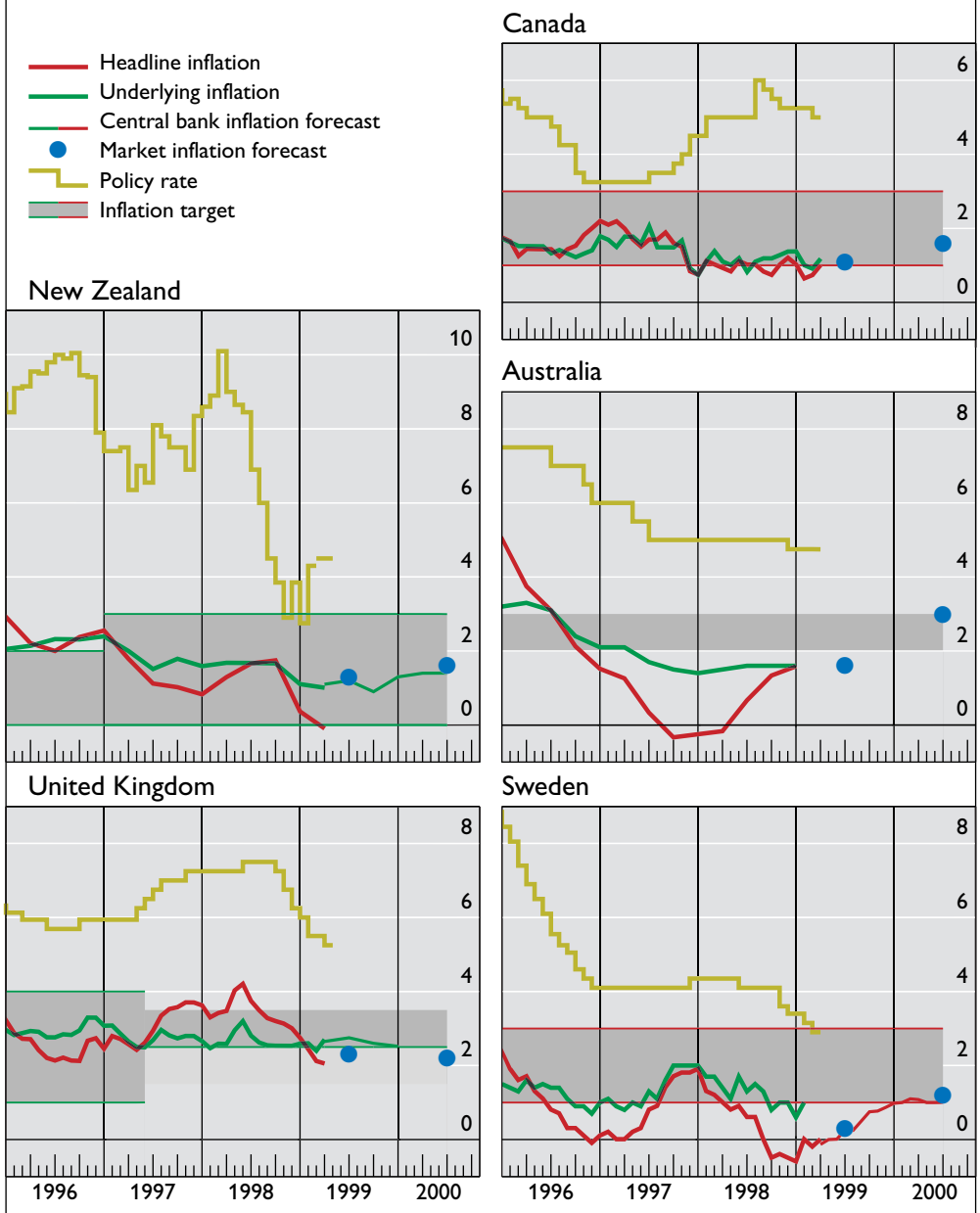
In Canada inflation was close to the lower edge of the inflation control range last year. While the fall in the external value of the Canadian dollar led to marked increases in import prices for many non-energy consumer goods and services, these effects were mitigated by excess supply in the domestic economy and continued declines in energy and commodity prices. Given the resource intensity of the Canadian economy, the fall in commodity prices during the year exerted downward pressure on the currency. This pressure strengthened considerably following the Russian crisis in August, when turmoil in international financial markets also spilled over to the Canadian economy. With risk premia in bond markets rising abruptly and the currency depreciating, the Bank rate was increased by 1 percentage point to 6% in late August despite the tendency of the economy to slow in response to developments in Asia. This measure succeeded in stabilising the markets, and interest rates were subsequently reduced in steps of 0.25 percentage points following each of the interest rate cuts in the United States in September, October and November, and also in March 1999. Although interest rates rose on balance during 1998, the overall stance of monetary policy was relaxed considerably under the influence of the decline in the Canadian dollar.

Australia

Inflation in Australia, where monetary policy aims at achieving an average inflation rate of 2–3% over the cycle, started to rebound but remained below 2%. Although the depreciation of the Australian dollar has led to increases in

Inflation and policy rates in countries with explicit inflation targets

In percentages



Note: Inflation rates are measured as the annual percentage change in CPI. For New Zealand, underlying inflation is based on CPI excluding credit services, and the policy rate is the official cash rate (prior to March 1999, call money); for an explanation of underlying inflation and policy rates in the other countries, see last year's Annual Report, Graph IV.7 and Table IV.1. The market inflation forecast is of annual headline (for New Zealand and the United Kingdom, underlying) inflation; surveys conducted in March 1999.

Sources: © Consensus Economics, London; national data. Graph IV.7

the wholesale prices of imports, the CPI has not risen by as much as historical relationships would have suggested. In the light of the favourable inflation outlook and expectations that the worsening of global economic conditions and the Asian crisis would dampen the robust growth in Australia, interest rates were reduced by 0.25 percentage points to 4.75% in December in an effort to support activity.

New Zealand

In New Zealand the easing of overall monetary conditions, as measured by an average of interest and exchange rates, that had started in late 1996 continued last year in response to the benign outlook for inflation, generated largely by the sizable excess capacity that had developed during the earlier slowdown. Unusually, however, most of the easing occurred through falls in interest rates rather than through depreciation of the exchange rate. Following the recent turbulence in international financial markets and the associated rise in risk aversion, investors have tended to unwind short positions in several currencies. This has supported the New Zealand dollar, as have market perceptions that the cycle of monetary easing may be over.

Sweden

In Sweden, where the economy slowed and headline inflation fell below zero under the influence of falling mortgage interest rates, monetary policy was relaxed during the period under review. With inflation predicted to remain below the 1–3% tolerance band over the time horizon of one to two years used by Sveriges Riksbank, the repo rate was reduced in a series of cuts from 4.35% in June 1998 to 2.9% in March 1999. Since the exchange rate also fell in the second half of 1998, monetary conditions eased still further.

Exchange rates and monetary policy

The exchange rate plays a role in the transmission process …

… and influences inflation through two channels

The recent experiences of countries with explicit inflation targets illustrate that the exchange rate plays a critical role in the monetary policy transmission mechanism. Given the link between the exchange rate and domestic prices, a rise in policy-controlled interest rates affects inflation faster and to a greater extent the more open the economy is. This effect arises through two different channels – a direct channel via the cost of imported goods that appear in the CPI, and an indirect channel via the effect of real exchange rate changes on aggregate demand. This observation raises important policy issues. Since the direct exchange rate channel operates relatively quickly, central banks in more open economies could in principle target inflation more narrowly and with a shorter time horizon. However, trying to offset a domestically generated price level disturbance by influencing the exchange rate might require pronounced movements in nominal and real exchange rates which could have marked effects on economic activity. Moreover, it could also create a danger of instrument instability. To limit these risks, central banks which target inflation have typically adopted a gradualist approach, and thus offset any movement of inflation away from the desired level only over time. In some cases, the time horizon has been lengthened as experience of the effects of exchange rate changes has accumulated. The Reserve Bank of New Zealand now operates policy with a time horizon of 18–24 months, as opposed to 6–18 months when inflation targeting was introduced. Allowing lags to operate is also appropriate if there is uncertainty about the strength of the transmission channels and the state of the economy. Moreover, such an approach helps limit the number of reversals of monetary policy. This may be desirable given that it is generally difficult to explain to the public that a change in the direction of policy should be seen as a reaction to new information rather than an acknowledgement of past policy mistakes.

Problems of offsetting domestic price disturbances via the exchange rate

The existence of an exchange rate channel in the monetary transmission mechanism is also of importance in judging and determining the overall stance of monetary policy since both the exchange rate and interest rates affect aggregate demand, the output gap and inflationary pressures. Some central banks have even made use of a monetary conditions index (MCI), defined as a weighted average of a short-term interest rate and an exchange rate, as both a policy instrument and a measure of changes in the stance of policy. Given such an approach, changes in the exchange rate are more likely to be met by offsetting movements in short-term interest rates to keep the MCI at the desired level.

Use of MCIs

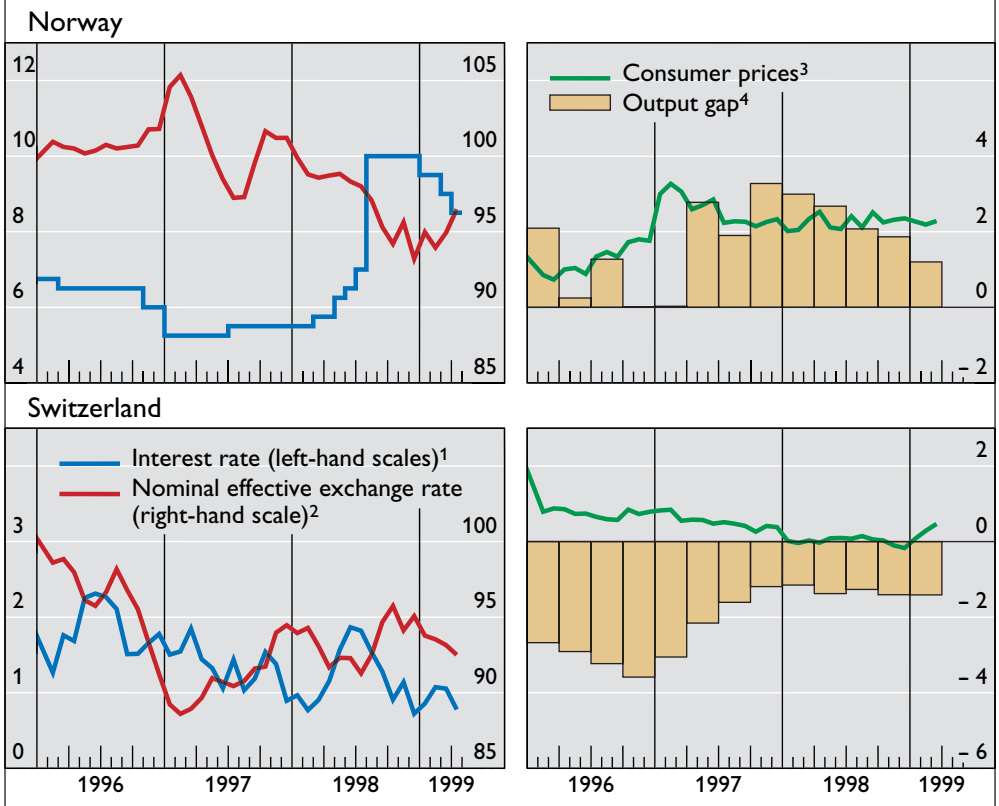
However, it is well recognised by central banks that monetary policy should not respond automatically to an exchange rate movement. Rather, the appropriate response depends on the source of the exchange rate change: whether it is due to real economic changes to which monetary policy should not react, or to inflationary disturbances to which it should react. One problem with the explicit use of an MCI is that it may mislead market participants into believing that monetary policy will automatically react to movements in the exchange rate. The fact that the anticipated policy response does not materialise may then contribute to a sentiment in the market that the central bank has lost control of developments. Large downward movements of exchange rates may therefore give rise to extrapolative expectations. In this situation, the goal of maintaining calm in foreign exchange markets must become the focal point of policy. Such a situation occurred in Canada after the Russian default when the currency came under strong pressure and the Bank of Canada had to raise interest rates abruptly to restore confidence. Because of market participants' tendency to occasionally misinterpret movements in the MCI, recently both the Bank of Canada and the Reserve Bank of New Zealand have announced that they will permit the MCI to fluctuate over a wide range without eliciting a policy response.

Exchange rate considerations also influenced the conduct of monetary policy in Switzerland in the period under review. Since the breakdown of the fixed exchange rate system in the early 1970s, portfolio disturbances of foreign origin have repeatedly led to episodes of appreciation of the Swiss franc which in turn have tended to slow economic activity in Switzerland. The turmoil in international financial markets during autumn 1998 triggered yet another such episode. In the current setting of essentially zero inflation and a sizable output gap, resisting an appreciation of the exchange rate was thought critical to prevent downward pressures on prices in an environment of inadequate growth. The Swiss National Bank responded to these movements by providing ample liquidity and pushing the overnight rate below 1%, thus maintaining the expansionary monetary policy stance adopted in recent years.

Importance of the exchange rate for Switzerland

While the recent introduction of the euro did not have immediate repercussions on the exchange rate, any longer-term movement in the real exchange rate between the Swiss franc and the euro could have an important impact on economic conditions in Switzerland given its close trade links with the euro area. The Swiss National Bank has therefore signalled that such movements, depending on their causes and size, could trigger offsetting policy

Economic indicators for Norway and Switzerland



[1] For Norway, rate on overnight loans to banks; for Switzerland, euro-Swiss franc call rate. [2] End-1995 = 100. [3] Annual percentage change. [4] In percentages.

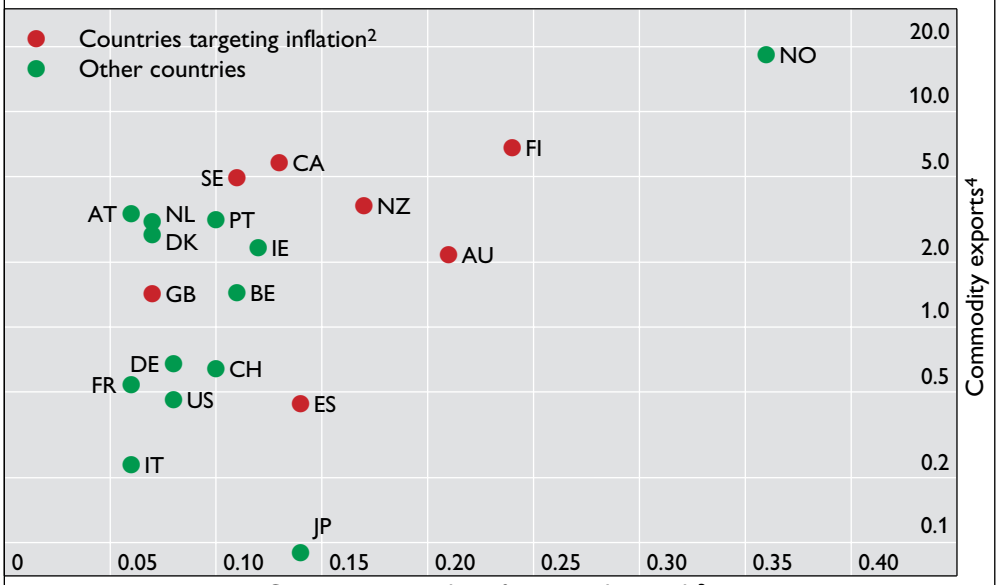
Sources: OECD; national data. Graph IV.8

measures. A permanent fixing of the exchange rate is, however, not seen as an option. Since a secular appreciation of the Swiss franc is apparently expected by financial markets, fixing the exchange rate would lead to an increase in the general level of interest rates in Switzerland, with adverse consequences for those sectors of the economy that are sensitive to interest rates.

The exchange rate and interest rates in Norway

Exchange rate movements also played an important role last year in the setting of interest rates in Norway, where monetary policy has been geared to maintaining the exchange rate against the ECU/euro in an implicit band, although with no presumption that this band should be defended at all times. The instructions issued by the government to the Central Bank of Norway state that if a pronounced exchange rate movement were to occur, monetary policy should be used gradually to return the exchange rate to the band. When the Norwegian krone came under downward pressure in August 1998, as did the currencies of other countries whose exports have a high commodity content, interest rates were raised cumulatively by 3 percentage points. In total, interest rates were raised by 4.5 percentage points in 1998 to limit the depreciation of the krone. Although this specific episode of tightening may have been appropriate to prevent an overheating of the economy, it illustrates the difficulties of exchange rate targeting in countries where terms-of-trade changes can be large. Indeed, as Graph IV.9 suggests, countries whose exports

Characteristics of countries with inflation targets[1]



Note: For an explanation of the country codes, see Graph II.1.

[1] Based on data for 1992. [2] Following entry into EMU, Finland and Spain no longer explicitly target inflation. [3] The index can vary between 0 (lowest concentration) and 1 (highest concentration). [4] As a percentage of GDP (logarithmic scale).

Sources: UN; national data; BIS calculations. Graph IV.9

have a high commodity content and are concentrated on a small range of goods have generally tended to adopt explicit inflation targeting. Such a framework requires the central bank to respond to exchange rate changes only to the extent that they have an impact on future inflationary pressures.

Monetary policy under price stability

The achievement of price stability, and the likelihood of sometimes having to conduct monetary policy when prices are actually falling, poses a number of questions for central banks. Among these is whether an explicit objective for price stability is useful to prevent a decline in prices from generating extrapolative expectations of future price declines. If so, a further question is that of the relative merits of price level and inflation targeting. The issue of whether the effectiveness of monetary policy is impaired when prices are declining is also of importance. (See Chapter II for a discussion of the monetary policy implications of the increase in nominal price rigidity brought about by the decline of inflation in recent years.)

The risk of a deflationary spiral …

A major concern once price stability has been established is that falling prices might feed upon themselves, leading to a deflationary spiral. At the current juncture, the risks of such an outcome would not seem great. First, only in Australia, Japan, Sweden and Switzerland have consumer prices fallen recently, and then typically only for one or two quarters. Moreover, measures of core inflation have typically not been running at negative rates. Second, the reduction of inflation to low levels was largely due to sharp falls in commodity

and oil prices, which have led to declining import prices. Since these price falls partly reflect the impact of the global slowdown on the demand for primary commodities, they may prove temporary. Indeed, the turnaround in commodity prices since early 1999 suggests that the process may be in the course of reversal. Third, central banks have in recent years attached increasing weight to maintaining inflation close to some explicit or implicit objective and have emphasised the importance of responding symmetrically to movements of inflation above and below this objective. In the 20th century, episodes in which prices have fallen sharply have been directly associated with monetary policy initiatives. The restoration of the gold standard at prewar rates in many countries in the 1920s and poor monetary policy during the Great Depression are cases from which central banks have presumably learned important lessons. The greater weight that central banks worldwide attach to maintaining inflation at a low but still positive level should reduce the likelihood that episodes of deflation will occur.

… is reduced by the increased weight on price stability in setting policy

Historical background

One problem in assessing the consequences of declining prices and the policy issues they raise is that there have been virtually no such episodes since the end of the Second World War. It is therefore necessary to consider data from earlier periods. Table IV.1 shows average inflation rates and output growth rates for 10 countries going back to the 1880s, with separate columns for deflation and non-deflation periods. Since transitory disturbances can have a large impact on price levels, deflation is defined as an episode in which the CPI falls for at least two years. Moreover, given that the deflation episodes in the interwar period may have been different from those before the First World War, the table looks at the periods 1882–1913 and 1923–39 separately. Needless to say, it should be borne in mind in interpreting the table that historical data are likely to be of lower quality than modern data and that the structure of the economies has changed fundamentally over the last century, with the production of services, which may be cyclically more stable, having a much greater weight.

Price declines were common before WWI without triggering output falls

The table indicates that periods of declining price levels were quite common before the First World War. More strikingly, output growth remained positive in these periods, although lower than in periods of rising prices. In the interwar years, by contrast, episodes of deflation were associated with falls in real output. However, this finding appears to be entirely due to the occurrence of the Great Depression. Since this was arguably attributable to, or exacerbated by, monetary policy mistakes, it is instructive to note that if the years 1930–33 are disregarded, income growth rates were also positive on average during other episodes of declining prices in the interwar period. This historical evidence thus suggests that the notion that deflation depresses the level of output is largely shaped by the experience of the Great Depression.

The Great Depression an exception

It is interesting to hypothesise why, except for the episode in the early 1930s, periods of declining prices have not been associated with falls in output. Two explanations suggest themselves. Since falls in prices may be due to either contractions of aggregate demand or expansions of aggregate supply, a first

Deflation in perspective

	Deflation periods[1]		Non-deflation periods		*Memo item: Years of deflation*
	Prices	Output	Prices	Output	
	Average annual percentage growth				
	1882–1913				
United States	–3.7	–1.2	1.4	4.4	*5*
Japan[2]	–3.7	1.8	4.4	2.7	*4*
Germany	–2.0	4.0	1.8	2.6	*8*
France	–1.1	2.1	0.2	1.6	*2*
Italy	–1.2	1.3	1.4	2.2	*14*
United Kingdom	–3.0	1.4	1.0	1.9	*8*
Canada	–4.7	1.1	1.1	4.6	*3*
Belgium	–4.2	1.6	1.5	2.1	*8*
Sweden	–2.8	2.0	2.2	3.3	*12*
Denmark	–3.5	2.8	1.8	3.0	*10*
Average	*–3.0*	*1.7*	*1.7*	*2.8*	*7*
	1923–39				
United States	–4.2	–3.8	1.8	7.3	*8*
Japan	–6.7	0.9	5.7	6.6	*8*
Germany[3]	–6.4	–2.2	1.6	7.1	*4*
France	–5.8	–1.9	10.2	3.7	*5*
Italy	–5.4	1.1	6.1	3.4	*8*
United Kingdom	–3.1	0.6	1.9	4.1	*9*
Canada	–6.2	–8.6	0.6	6.6	*4*
Belgium	–5.6	–1.1	8.7	2.6	*5*
Sweden	–3.0	2.7	1.5	4.2	*8*
Denmark	–5.0	2.3	3.0	3.5	*7*
Average	*–5.1*	*–1.0*	*4.1*	*4.9*	*7*
	of which: 1923–39 excluding 1930–33				
United States	–1.6	1.1	1.8	7.3	*4*
Japan	–4.2	0.5	6.3	7.9	*6*
Germany[4]	–	–	1.6	7.1	*0*
France	–6.1	–1.8	11.1	4.4	*2*
Italy	–5.5	3.1	6.1	3.4	*4*
United Kingdom	–2.3	1.8	1.9	4.1	*5*
Canada	–	–	0.6	6.6	*0*
Belgium	–3.8	1.3	9.6	2.7	*2*
Sweden	–3.3	5.9	1.5	4.2	*4*
Denmark	–5.8	3.0	2.9	3.5	*4*
Average	*–4.1*	*1.9*	*4.4*	*5.1*	*4*

[1] Deflation defined as at least two consecutive years of price decreases. [2] 1885–1913. [3] 1926–38. [4] 1926–29 and 1934–38.

Sources: B R Mitchell, *International Historical Statistics: Europe 1750–1993*, Macmillan, 1998; US Department of Commerce, Bureau of the Census, *Historical Statistics of the US*, 1975. Table IV.1

possibility is that periods of declining prices have historically occurred at times of relatively favourable aggregate supply movements. Episodes of diffusion of new technologies such as railways and electrification in the late 19th century and, more recently, computers and telecommunications come to mind. The second explanation is that prices did not fall long or far enough to engender

extrapolative expectations of further price decreases. This conjecture is supported by the fact that long-term interest rates typically did not fall to any great extent during periods of declining prices, except during the Great Depression. This was presumably because financial market participants believed that price declines were temporary phenomena.

Anchoring expectations

The hypothesis that the Great Depression was exacerbated by the tendency of price declines to lead to expectations of future price falls suggests that it is important for central banks to try to anchor inflation expectations at a low level in order to render them less sensitive to current economic developments. Moreover, to the extent that price setting depends on expectations of future price developments, anchoring long-run expectations is helpful in that it may reduce the impact on prices of an economic downturn.

Importance of anchoring expectations

One potential way to prevent a decline in prices from triggering expectations of further price falls is for the central bank to adopt a numerical definition of price stability. Recently, several central banks have set explicit objectives for the rate of inflation as the linchpin of their monetary policy framework. However, in situations in which the concern is to offset falls in the price level, the question arises whether there would be benefits in adopting an explicit target (which potentially could be rising over time) for the price level. One difference between an inflation and a price level target is that the latter requires the central bank to offset past deviations from target whereas the former does not. This distinction could be of importance in a situation in which prices unexpectedly fall. Under an inflation target, the central bank is merely required to restore inflation to the proper range. By contrast, under a price level target the central bank is also required to make up for the undershooting of the target. Consequently, an unexpected fall in the price level could lead to a higher expected near-term rate of inflation under a price level target than under an inflation target. This in turn implies that expected real interest rates could be lower under a price level target than under an inflation target and policy potentially more stimulatory. Such arguments may explain why the single instance of a central bank adopting an explicit price level target – when Sveriges Riksbank briefly abandoned its exchange rate parity in 1931 – occurred in a situation where the main task of monetary policy was to offset deflationary tendencies.

Price level versus inflation targets

Of course, whatever target is adopted, it must be seen as credible to be helpful. This suggests that it would be better for it to be introduced well in advance of an episode of declining prices. Announcing an explicit objective once strong downward pressures on the price level have already developed runs the risk that the authorities will be unable to deliver on their commitment.

Importance of credibility

Policy implications of low inflation

There is broad agreement that maintaining inflation at very low levels is conducive to economic growth and therefore desirable. However, the achievement in a number of countries of inflation rates close to zero suggests

that central banks may experience brief episodes of declining prices more frequently in the future. A potential concern in this context stems from the possibility that nominal wages may be rigid downwards. If so, a fall in the price level could raise real wages, depressing employment and economic activity. A second concern arises because nominal interest rates cannot be made negative. If a contractionary demand shock were to occur and prices started to fall, real interest rates would rise and could reduce aggregate demand further.

Possible downward rigidity of nominal wages …

While the empirical evidence on whether nominal wages are in fact rigid downwards is by no means clear, there are at least two reasons why the importance of any such wage stickiness should not be overemphasised. With episodes of declining prices rare in the recent past, it is not surprising that nominal wage cuts have been unusual. If average inflation rates remained in the vicinity of zero for extended periods of time, downward nominal wage flexibility might well increase. Moreover, the importance of any downward nominal wage stickiness is mitigated by the fact that unit labour costs can fall even if nominal wages are constant provided productivity is rising.

… should not be overemphasised

It is also not clear whether, and if so how severely, the efficacy of monetary policy is impaired in situations of declining prices because of the fact that nominal interest rates cannot fall below zero. Expected long-term real interest rates are likely to be more important in the transmission mechanism than realised short-term real rates. As argued above, episodes of declining prices are therefore likely to be of concern only to the extent that they last long enough to engender expectations of continuing price falls. It also needs to be borne in mind that monetary policy affects aggregate demand not only by influencing real interest rates but also through exchange rate and credit availability effects. Cutting nominal short-term interest rates to zero may well be sufficient to stimulate demand by depreciating the currency, provided of course that this strategy is followed only by one or a few countries. Finally, monetary policy measures that strive to reduce credit constraints are likely to be effective even if nominal interest rates are close to zero.

Zero floor on nominal interest rates

However, episodes of sustained declines in the price level constitute a serious problem to the extent that they affect asset prices. Of particular concern in this context are falls in the value of assets used as collateral for bank lending. With asset prices inversely related to real interest rates, a rise in real interest rates stemming from a deflationary episode could have a large impact on the value of collateral and thereby lead to a tightening of credit conditions, which in turn might worsen contractionary pressures. As suggested by the recent experience in Japan, where the fall in asset prices since the early 1990s has impaired the strength of the banking system, an outright fall in the price level may well have its greatest impact on economic conditions through its effect on the banking system.

Role of asset prices

V. Turmoil in asset markets

Highlights

To an observer armed only with annual observation points the period under review would present itself simply as the continuation of previous years' trends. Compared to the beginning of 1998, buoyant equity markets in most of the industrial world reached new heights, government bond yields declined further and real estate prices consolidated their rebound. There would be little in this picture to betray the fact that the defining events of this period occurred in the two months that followed the announcement of the Russian debt moratorium in mid-August 1998. During this brief spell, financial markets around the globe experienced extraordinary strains, raising apprehensions among market participants and policymakers of an imminent implosion of the financial system. As investors appeared to shy away from practically all types of risk, liquidity dried up in financial markets in both industrial and emerging economies, and many borrowers were unable to raise financing even at punitive rates. Prices for all asset classes except the major industrial country government bonds declined and issuance of new securities ground to a halt. Equally remarkable, however, has been the recovery of equity prices in most countries since November 1998 and the relative calm that has returned to fixed income markets. The first part of this chapter discusses asset price developments in the industrial world and offers some thoughts on the issues related to the current valuation of equity markets.

The events of last year, however extraordinary in scope, could arguably be viewed as a natural by-product of the modern financial landscape as it has been reshaped by the combined influence of innovation and liberalisation. Larger and more complex financial markets are more efficient in allocating capital and risk but are also potentially more exposed to turbulence as strains can spread across more closely integrated market segments faster than ever before. Drawing on this most recent experience of market turmoil, the second part of this chapter considers some salient features of financial market behaviour in periods of stress.

Asset market developments in the industrial world

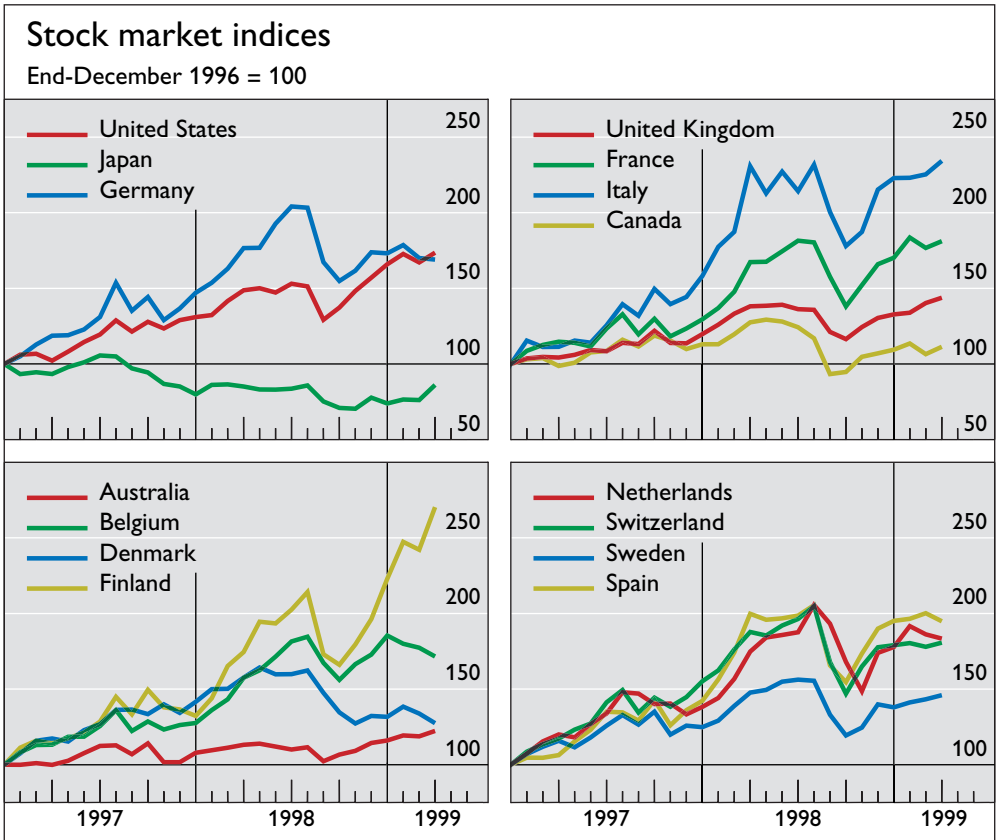
Mature financial markets, outside Japan, had demonstrated considerable resilience to the turmoil that engulfed South-East Asia in 1997. By early 1998 it appeared as if there was little else besides historical valuation relationships that could threaten the upward trend in financial asset prices. The effect of sagging demand from Asia was viewed as a beneficial check on price pressures for North America, against a buoyant outlook for domestic demand. Financial

markets in Europe were already anticipating the potential benefits from the introduction of the single currency as the uncertainty about the initial composition of the euro zone was being resolved. As equity prices regained the lost ground and surpassed previous peaks, the only trace of the October 1997 correction was an aftertaste of uncertainty as volatility remained relatively high. This complacency was abruptly challenged by Russia's announcement of a moratorium on part of its national debt obligations. The announcement acted as a catalyst in prompting a general re-evaluation of market participants' outlook and triggered a chain reaction that quickly affected virtually all market segments, in many instances impairing their ability to function. The gradual easing of these strains after October 1998 was facilitated by the loosening of monetary conditions in most major economies, but not before apprehensions were raised regarding the profitability, and at times the survival, of major financial intermediaries.

Equity markets

Sharp price declines in autumn …

With the notable exception of Japan, equity prices continued their trend to record highs up to mid-1998. In most major markets this trend was interrupted in mid-July amid concerns about the effect of the Asian financial crisis on corporate profits. Market participants' reappraisal of risk following the Russian debt moratorium put additional downward pressure on prices. Consequently, stock markets suffered their largest setbacks since 1987, with major market indices declining by 20–40% between mid-July and the first week



Sources: Standard & Poor's DRI; national data. Graph V.1

of October. The fall in prices was especially severe in continental Europe, perhaps owing to the region's close economic ties with Russia and the simultaneous perception of a weakening of economic activity. Equity markets in all major economies recovered during the fourth quarter of 1998, and in many cases prices climbed back to their early summer highs. While the easing of the monetary policy stance in the United States and Europe contributed to the recovery, if only as a signal of central banks' readiness to confront the dangers posed by financial market turbulence, the pace of recovery surprised many observers. The rebound was particularly strong in the United States, where equity prices closed the year at record highs. In Japan, by contrast, the ongoing recession continued to depress stock prices for most of the period under review. A rise in the price of bank shares, due to increased investor confidence about the planned restructuring of the banking sector, supported a limited rally in Japanese equities in the first quarter of 1999.

… were later reversed

Current levels of equity prices may be a cause for concern, at least when judged by historical valuation criteria. Dividend yields have been trending lower in most G10 economies since the early 1980s, as equity prices have been growing faster than dividend payouts. At present, with the exception of Japan, Italy and Sweden, current dividend yields stand near their troughs, and have actually touched historical lows in the United Kingdom and the United States (Table V.1). On the assumption that dividends will continue to increase at about their past average growth rates, the generally low levels of dividend yields would imply that many stock markets are currently overvalued. In the case of the United States, the bull market that began in the early 1980s bears some resemblance to that of the 1950s and 1960s, which was also characterised by declining dividend yields. That previous protracted stock market rally ended with the sharp fall of equity prices following the first major oil price shock in 1973.

Current valuations difficult to explain by historical norms …

Indicators of valuation of share prices[1]

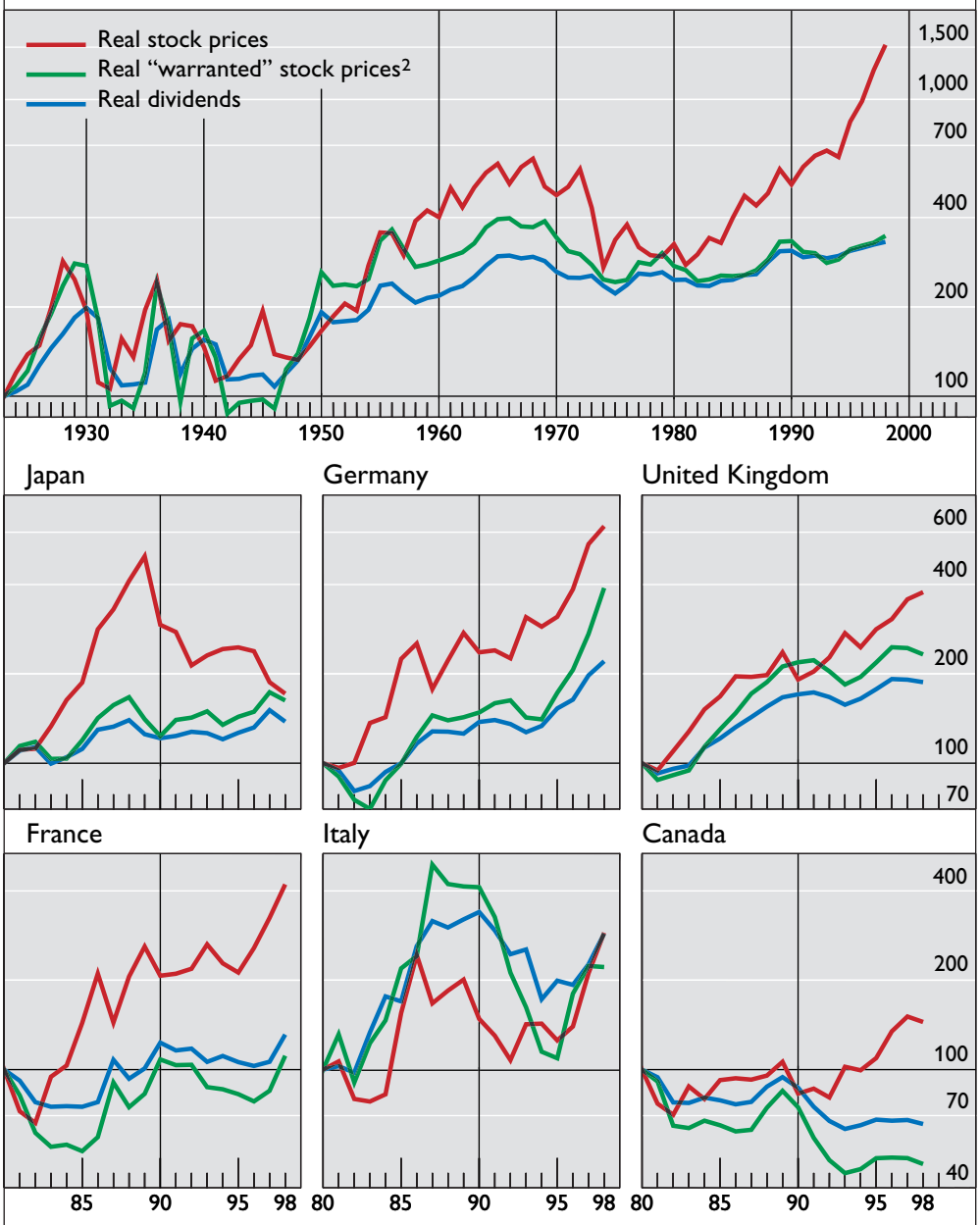
	Dividend yields				Price/earnings ratios[2]			
	Trough		Average	March 1999[3]	Peak		Average	March 1999[3]
	level	date			level	date		
United States	1.3	1999	2.7	1.3	34	1998	11	34
Japan	0.4	1987	0.9	0.8	77	1987	27	60
Germany	1.2	1998	1.9	1.4	26	1998	9	19
France	2.0	1998	2.9	2.2	30	1973	9	22
Italy	1.0	1981	2.1	2.0	34	1998	13	26
United Kingdom	2.6	1999	3.4	2.6	26	1994	9	24
Canada	1.4	1998	2.4	1.6	37	1998	9	26
Netherlands	1.7	1998	3.4	2.2	27	1998	8	27
Belgium	1.4	1998	3.0	1.6	29	1973	9	21
Switzerland	1.0	1998	1.7	1.4	28	1998	9	24
Sweden	1.1	1994	1.7	1.8	30	1994	12	21

[1] Since 1973; based on daily data. [2] For Italy, since June 1986; for the United Kingdom, since 1980; for Canada, excluding 1991–94, when the ratio was exceptionally high owing to very low earnings due to write-offs (peak in 1994: 504). [3] Month-end.

Source: Datastream. Table V.1

Actual and "warranted" stock prices and dividends

Indices, deflated by consumer prices, at year-end (semi-logarithmic scale)[1]



[1] For the United States, 1923 = 100; for the other countries, 1980 = 100. [2] Computed assuming that investors extrapolate an average of past dividend growth into the future (see Barsky and De Long, "Why does the stock market fluctuate?", in *The Quarterly Journal of Economics*, May 1993).

Sources: Standard & Poor's Statistical Service; Datastream; national data; BIS calculations. Graph V.2

A sustained decline in dividend yields would be consistent with expectations of a permanent increase in the future rate of growth of real dividends. If investors extrapolate recent dividend growth rates, the strong growth of dividends in the United Kingdom since the mid-1980s and in Germany since the mid-1990s may indeed be a reason for even stronger equity price growth in these countries. However, a significant part of current valuations remains unexplained since "warranted" share price growth based

on this assumption falls short of observed rates of equity price increases (Graph V.2). Furthermore, this hypothesis cannot account for the global strength of equity markets as recent dividend growth has been relatively modest in countries such as the United States and France, and falling in Canada. Another reason for expecting an imminent rise in dividend payments would be the strong growth of corporate earnings over a sustained period. However, Germany is the only country where earnings growth has outpaced that of dividends since 1980. Real earnings per share have grown at about the same rate as real dividends per share in the United States and France, and have lagged dividend growth in the other G10 economies (Table V.2). Finally, a recent rise in the number of share buybacks, often a surrogate for dividend payouts, could also be a reason why below average dividend yields need not signal stock market overvaluation. However, share buybacks, which have been particularly strong in France, Germany, the United Kingdom and the United States, do not necessarily affect current levels of price/earnings multiples that are well above historical averages in all markets (Table V.1).

… or recent trends …

A plausible explanation for the combination of low dividend yields and high price/earnings multiples in many markets might be found in investors' anticipation of above average growth in corporate earnings. Indeed, it might be argued that the rapid adoption of new technology has enhanced business efficiency. Assuming that investors expect a permanent shift in business profitability, the last column of Table V.2 calculates the levels of future earnings growth that are implicit in price/earnings multiples and long-term interest rates in the G7 countries in March 1999. These implied rates of earnings growth are generally similar to those recorded from the previous trough, but are several times greater than their historical averages. Whether such expectations are reasonable depends in part on the longer-term sustainability of the accelerated pace of productivity growth.

… as they imply accelerating profit growth …

Real dividends and earnings per share[1]

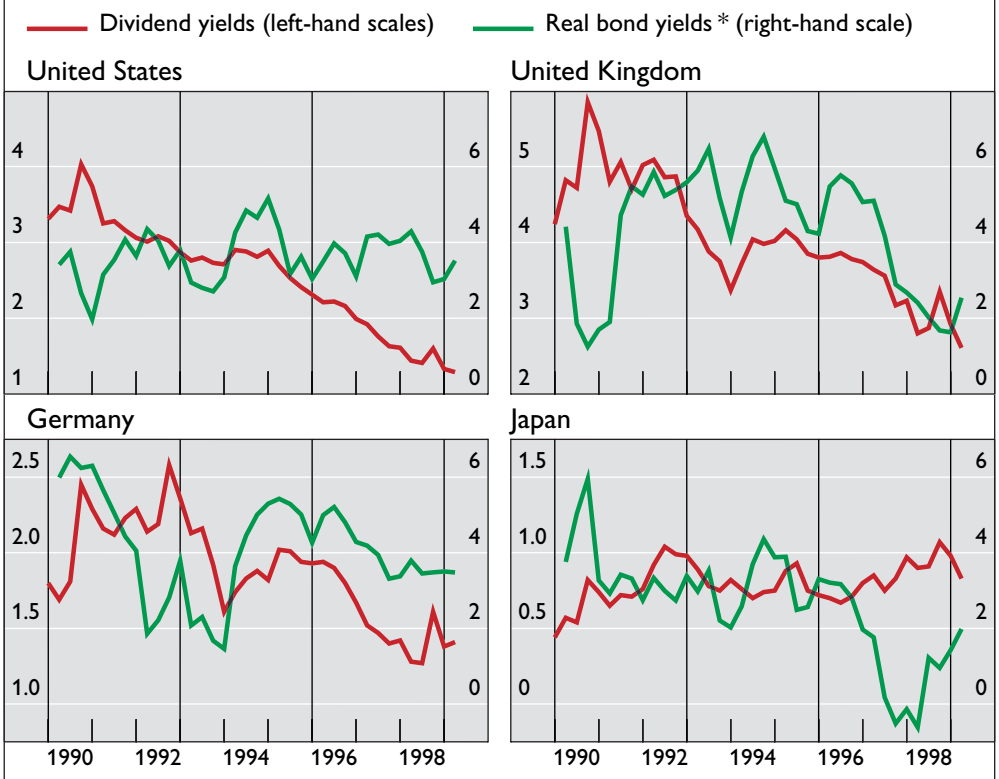
	Real dividends	Real earnings per share		*Implicit future growth of earnings*[3]
	Annualised average growth rate			
	1980–98		from previous trough[2]	
United States	1.6	1.6	8.6	*8.3*
Japan	0.0	–2.1	–	*7.0*
Germany	4.5	5.2	8.8	*8.3*
France	2.7	2.7	7.1	*7.9*
Italy	6.0	–0.2	7.6	*7.5*
United Kingdom	3.3	1.4	5.3	*6.6*
Canada	–2.3	–5.6[4]	2.7[4]	*9.3*

[1] Deflated by the CPI. [2] Not applicable for Japan, as the trough was in 1998. [3] Expected permanent annual rate of growth in earnings implicit in the March 1999 price/earnings ratio and the real long-term interest rate, assuming an equity risk premium of 5%. [4] Excluding 1991–94, when earnings were exceptionally low due to write-offs.

Sources: Datastream; national data; BIS calculations. Table V.2

Dividend yields and real bond yields

End-quarter data, in percentages



* Deflated by consumer prices.

Sources: Datastream; national data.

Graph V.3

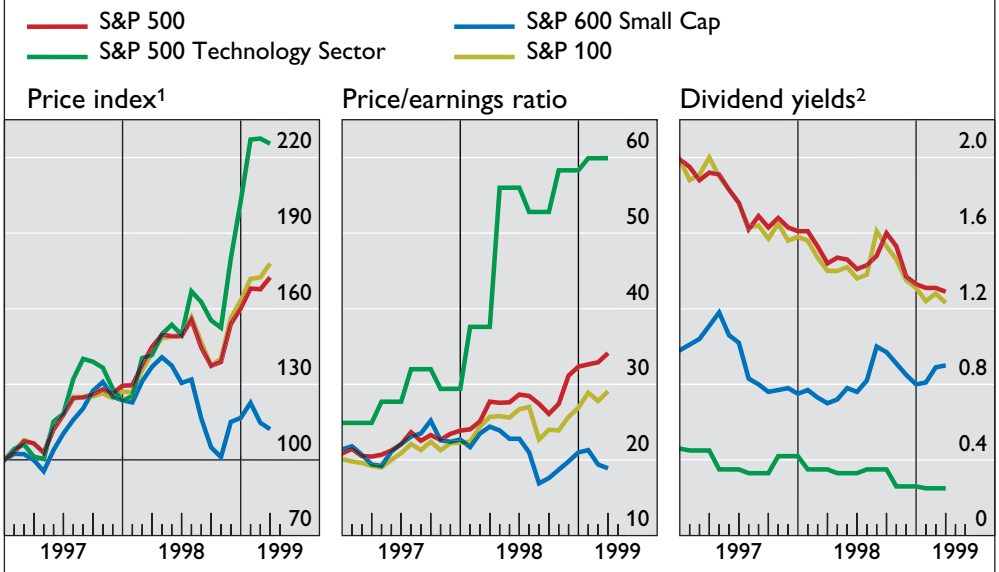
… or permanently lower required returns

The above calculation may overstate the expected earnings growth rate to the extent that investors anticipate a further decline in long-term interest rates. Indeed, the decline in real interest rates in many countries over the past four years has played a significant role in sustaining lower dividend yields (Graph V.3). However, this does not seem to be the case in the United States, where dividend yields have been halved in the same period while real bond yields have hovered around 3.5%, raising the possibility of a decline in the premium required by investors to compensate for the greater risk of holding equities. Such a decline might reflect the view that the probability and severity of future recessions have been reduced because of the better management of fiscal and monetary policies.

Segmentation in the US market

Current aggregate equity market valuations in the United States mask a substantial degree of divergence between different sectors of the market. Shares of firms in the broad area of computing and communications technology have spectacularly outperformed the aggregate price index (Graph V.4). The notable success of many firms in this sector in raising public equity has spurred a flurry of activity in the primary market, with prices often soaring immediately after the introduction of a stock. This could be interpreted as symptomatic of a shift in attitudes towards the composition of external finance, with public equity assuming the role previously played by the private equity market in the financing of highly risky but potentially very profitable ventures.

Segmentation in the US equity market



[1] December 1996 = 100. [2] In percentages.

Sources: Datastream; Standard & Poor's DRI. Graph V.4

Thus, while valuations based on current earnings levels for the technology sector may seem abnormally high compared to historical ratios, they accord better with expectations of enhanced future profitability similar to that typically enjoyed by companies in more mature sectors.

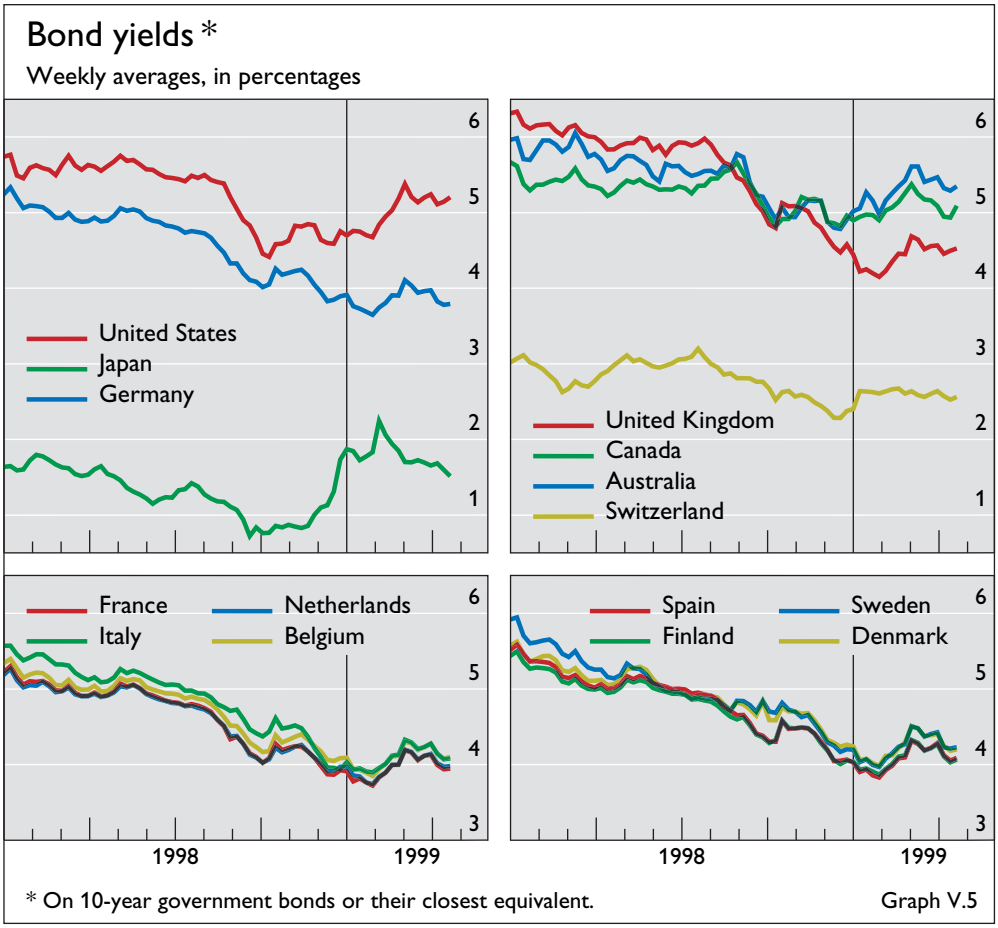
Bond markets

The trend decline in bond yields …

In the first half of 1998, long-term interest rates in the industrial countries continued to decline and, in most cases, dropped below the 5% mark. A favourable inflation environment, accommodative monetary policies and confidence in the prospects for EMU contributed to this trend (Graph V.5). There were few harbingers of the financial turbulence to come. Historical and implied bond yield volatility indicators were actually at or near a trough in July in all countries except Japan. A year after the onset of the Asian crisis, low credit spreads on US and European debt, especially for lower-quality corporate instruments, were suggestive of a certain market complacency towards risk, also evidenced by the continued flow of private sector funds into emerging markets outside Asia (see Chapter III).

… accelerated in August …

The sudden reversal in market sentiment sparked by the Russian moratorium disrupted the convergence trend in long-term interest rates that had characterised mature financial markets since the end of 1994. Investors' attempts to ride out the turmoil by shifting into traditional havens accentuated the downward trend in long-term rates for government bonds, but there were some differences across countries. Bond yield differentials edged up vis-à-vis the United States and Germany as interest rates declined further in those two countries, but the widening of spreads was relatively less pronounced within the future euro area (Graph V.6).



… but was interrupted in October

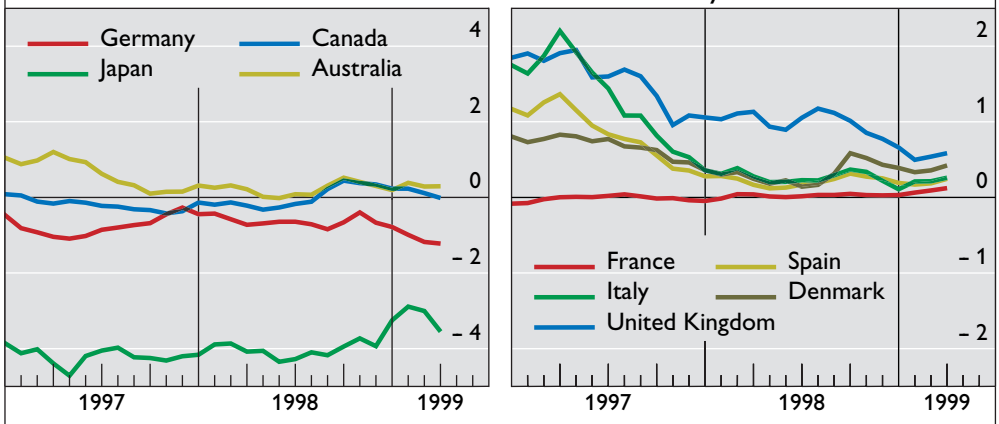
The generalised flight to quality culminated in the last week of September and early October. The rise in bond yield volatility, both historical and implied, was validated in October by a shift in international bond yields, which ratcheted back up in most countries (Graph V.7). These developments reflected in part investors' decisions to reduce their exposures worldwide, as exemplified by the large-scale unwinding of the yen carry trades which contributed to the abrupt appreciation of the yen in early October (see Chapter VI). Market conditions were further disturbed as highly leveraged investors unwound their cash exposures and off-balance sheet position-taking as a result of margin calls when asset prices fell.

Cyclical differences remained …

With marked differences across countries in both their cyclical positions and their sensitivity to losses in emerging markets, movements in long-term interest rates became much less synchronous when benchmark yields rebounded in the aftermath of the crisis. In the United States, the leveraged tendencies of both firms and households tended to exacerbate increases in bond yields after October 1998 in the context of a strong economy. In Europe, by contrast, changes in rates and spreads were much less pronounced, partly due to signs of weaker than expected economic activity but also supported by the cushioning influence of bank intermediated finance, traditionally more prominent on the European continent. In the euro area, the turnaround in bond yields did not manifest itself until the first quarter of 1999. The situation was different again in Japan. Government plans for fiscal expansion and bank

Bond yield differentials *

Monthly averages, in percentage points



* On 10-year government bonds.

Graph V.6

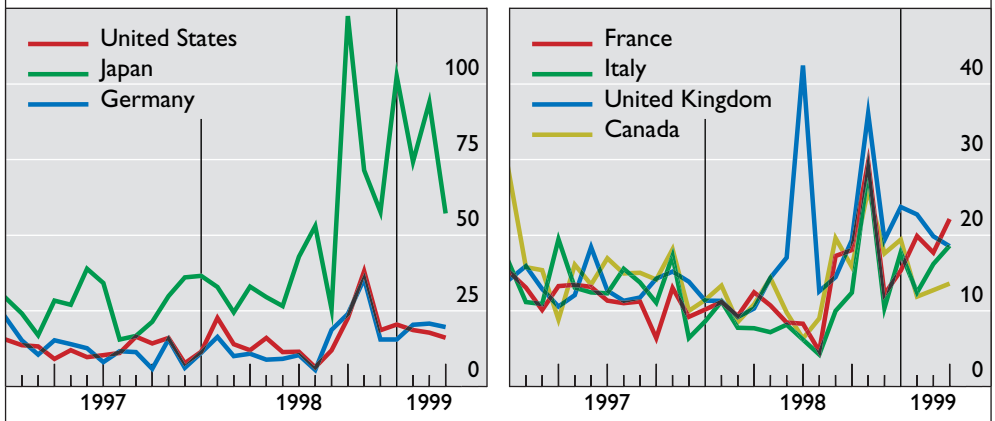
recapitalisation triggered a sharp steepening of the yield curve at the turn of the year, when the Ministry of Finance and the Bank of Japan temporarily changed their policy with a view to restricting the purchase and use of long-term government bonds by the latter.

… as calm returned to the markets

The gradual decline of spreads to pre-crisis levels from mid-October to the end of November revealed an uneven recovery in market confidence. Volatility measures abated significantly, though they remained at high levels in comparison with the first half of the year. In many cases policy actions played a significant role in restoring liquidity and persuading market participants that, on balance, world bond prices were more in line with fundamentals. In Europe and the United States markets reacted positively to the timing of monetary policy actions during the reverberations of the crisis. Similarly, the agreement

Bond yield volatility *

In percentages



* Measured as the annualised standard deviation of daily percentage changes in the yield on 10-year government bonds during calendar months.

Sources: National data; BIS calculations.

Graph V.7

on an economic programme for Brazil signalled the international community's resolve to contain contagious forces, thus helping allay investor fears of an intensification of the emerging market financial crisis.

Nominal and inflation-adjusted real estate prices

	Nominal prices				Inflation-adjusted prices			
	1995	1996	1997	1998	1995	1996	1997	1998
	indices, 1994 = 100							
	Residential property prices							
United States	101	106	113	119	99	100	104	108
Japan[1]	97	96	94	91	97	96	93	89
Germany[2]	99	99	94	89	97	96	89	84
France	100	101	102	105	98	98	97	100
Italy	101	98	93	94	96	90	83	83
United Kingdom	101	104	114	127	97	99	104	112
Canada	95	95	98	97	93	92	93	91
Spain	104	105	107	112	99	97	97	100
Netherlands	104	114	125	133	102	110	118	123
Australia	101	102	106	114	97	95	99	105
Switzerland	95	90	85	85	94	88	83	82
Belgium	105	109	114	116	103	106	108	109
Sweden	100	101	107	118	98	98	104	114
Denmark	108	119	133	143	105	114	124	132
Norway	108	117	127	139	105	112	119	127
Finland	96	102	119	132	96	100	116	126
Ireland	107	120	139	171	105	115	132	158
	Commercial property prices: major cities							
New York	100	109	125	150	97	103	115	136
Tokyo[1]	83	72	66	59	83	72	65	58
Frankfurt	97	97	97	105	95	94	92	98
Paris	89	83	88	102	88	80	83	96
Milan	100	91	88	111	95	84	79	98
London	107	112	128	132	103	106	118	117
Toronto[3]	91	84	87	100	89	81	83	94
Madrid	100	118	128	183	95	109	116	162
Amsterdam	109	118	128	156	107	114	121	144
Sydney	102	106	113	118	97	99	105	109
Zurich	99	90	87	84	97	88	84	81
Brussels	100	106	109	109	99	102	104	103
Stockholm	129	137	163	185	126	133	158	179
Copenhagen	107	107	119	124	105	103	111	115
Oslo	108	115	131	119	105	111	123	110
Helsinki	105	107	111	121	104	105	108	116
Dublin	112	134	169	241	109	128	160	222

Note: 1998 data are preliminary for the Netherlands, Belgium and Denmark.

[1] Land prices. [2] Four major cities. [3] Price index for offices in Ontario.

Sources: National Association of Realtors; Frank Russell Canada Limited; Jones Lang LaSalle; Ministère de l'Équipement, des Transports et du Logement; Nomisma; OPAK; Sadolin & Albæk; Investment Property Databank Ltd; Wüest & Partner; other private real estate associations; national data.

Table V.3

Real estate markets

Property prices consolidated their rebound

In most industrial countries, real estate prices registered gains in 1998. However, in some countries current inflation-adjusted price levels remain below the peaks attained in the first half of the 1990s. Residential price increases have been the most pronounced in the Nordic countries, the United Kingdom and Ireland, while in most continental European markets valuations have simply kept pace with inflation. Land prices in Japan have continued their gradual but steady decline from the peak reached in 1990. Residential property prices currently stand at a 30% discount compared to that peak, while the harder-hit commercial real estate sector has retained little more than one-quarter of its peak value. The acceleration in the pace of price decline in Japanese commercial real estate over the last year, albeit small, has nevertheless renewed concerns that a turnaround in economic activity will be more difficult than anticipated given the sensitivity of the banking sector's balance sheet to real estate prices. Outside Japan, the performance of the commercial real estate segment has been generally more buoyant, with prices registering double-digit gains in many cities, frequently also marking the reversal of a recent declining trend. Strong demand for office space in combination with the relatively restrained pace at which new buildings have been made available in the recent past has supported such price gains.

Despite the impetus from strong fundamentals, real estate operators did not escape unscathed from the stress in financial markets during the second half of 1998. Premia in the US market for mortgage-backed securities doubled as investors demanded higher compensation for risk during August and the supply of new issues suffered a severe setback in the third quarter of the year. Similarly, the tightening of credit standards and terms of new loans by banks had an adverse impact on the ability of real estate investors to raise financing for new deals. Despite the mitigating influence of these factors, the price of commercial real estate rose by 20% in New York in 1998.

Features of financial markets under stress

Most financial contracts represent some form of intertemporal transfer of wealth and as a result financial market transactions are more sensitive to the shifts in participants' expectations about the future and confidence in the market process. This confidence is often reinforced during periods of enhanced profitability, when competitive pressures encourage risk-taking, while it can be shaken by events that call into question the prevailing assessment of risks. Dissipating investor confidence in the wake of such events creates powerful interactions between investors' assessment of the capacity of borrowers to honour their commitments and their expectations regarding the availability of willing trading partners in the secondary securities market. This in turn gives rise to atypical price dynamics which can further exacerbate market strains by invalidating previous projections of required capital based on assumptions that reflect normal market conditions, and by leading to a rush towards safety and liquidity. Such cycles are certainly not a new phenomenon, as financial history

offers many examples of feast–famine cycles. The new element is the increased vulnerability of today's financial structure stemming from the combination of the rapid growth of markets and institutions with the increased complexity and interdependency that characterises their relationships.

Swings in investor sentiment

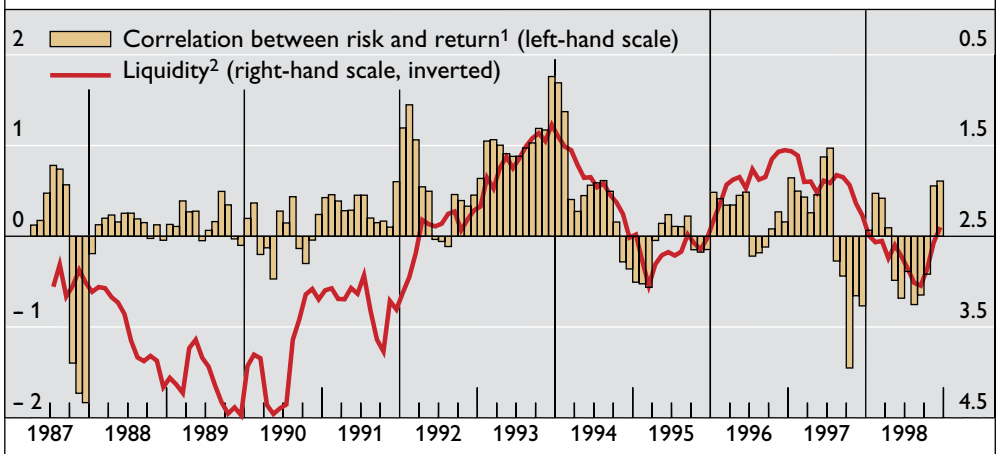
Changing attitudes towards risk …

The combination of sharply increased risk and liquidity premia with declining rates of securities issuance for virtually all asset classes in the wake of the announcement of the Russian moratorium is suggestive of a large-scale retrenchment in the supply of risk capital. It is, however, difficult to reconcile the negligible fraction that rouble-denominated securities represented in global investment portfolios with the magnitude and the extent of strains experienced by mature financial markets. The importance of this event is, therefore, better understood in terms of its catalytic influence in prompting a fundamental re-examination of the appropriateness of risk and return trade-offs prevailing at the time. The announcement was interpreted as marking a shift in regime, given that the implementation of official support programmes had consistently prevented large unilateral sovereign defaults in the recent past.

… have an effect on asset prices …

The average relationship between ex ante perceived risk and ex post realised returns for a cross section of financial asset classes can be used as an indicator of investors' attitude towards risk. This relationship is strongly positive in periods when concerns about risk are overcome by investors' appetite for higher yields. During such periods, improved investor sentiment stimulates interest in riskier asset classes, judged by their past record of higher volatility. By bidding up their prices, increased demand enhances disproportionately, if only temporarily, the realised returns on such assets. Conversely, returns on asset classes that entail greater risk suffer the most when market participants' apprehensions drive them to safety (Graph V.8).

Investors' attitudes towards risk and liquidity



[1] Slope coefficient of a cross-sectional regression of realised returns on historical volatility for a number of asset classes. [2] GDP-weighted average of overnight real rates in the eurocurrency market for the United States, Japan, Germany, France and the United Kingdom.

Sources: Datastream; national data; BIS estimates. Graph V.8

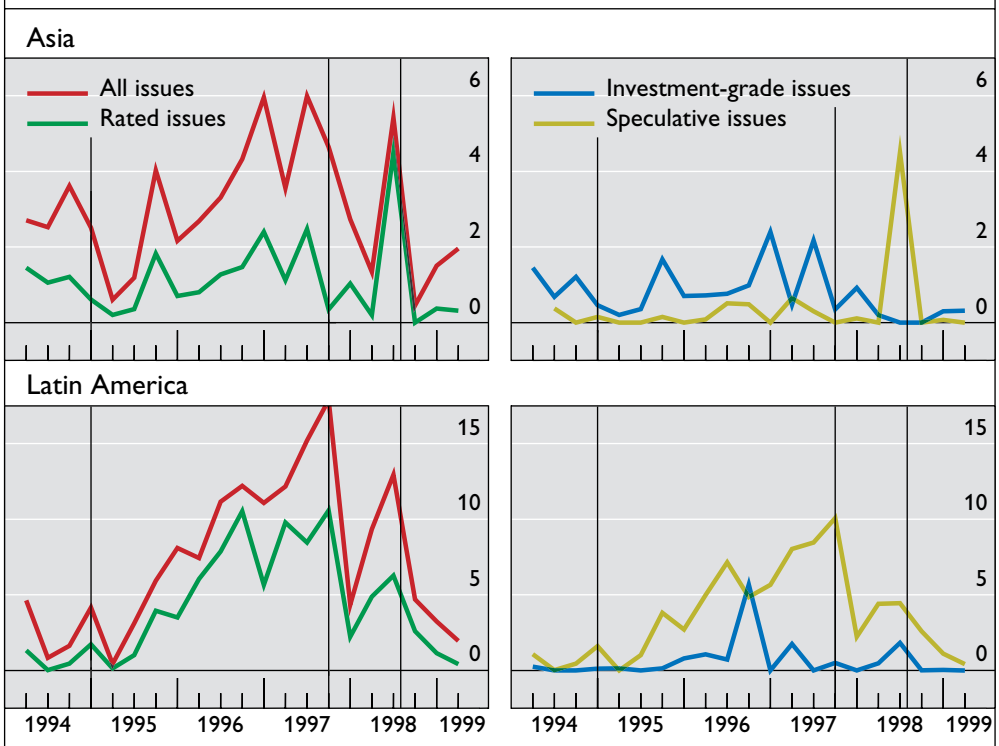
Sharp reversals in the indicator of market sentiment can be identified with a number of episodes of market turmoil in the recent past, such as the stock market crash in 1987, the bond market strains and the crisis in Mexico in 1994–95 and, more recently, the Asian crisis in 1997 and the events of last autumn. The apparent co-movement of market participants' attitude towards risk and money market liquidity in major financial centres suggests that their appetite for higher yields is often whetted by inexpensive leverage opportunities and is frequently reversed when these opportunities disappear. Low levels of interest rates may also encourage investors' apparent discounting of risk through their generally beneficial effect on portfolio valuations.

… and financial flows

The composition of borrowers and the volume of issuance in the primary international bond market can also be used to exemplify the impact of swings in investor attitudes towards risk on the general availability of risk capital. Some tiering in the increase of external finance costs reflecting differences in the perceived creditworthiness of borrowers would be a natural first sign of deteriorating market confidence. Some non-bank borrowers might even be shut out of the credit market altogether, leaving only the most creditworthy to launch new issues. The distribution of credit flows may be further accentuated by changes in the costs of financing for banks, insofar as they themselves rely on securities markets for raising funds.

International bond issues of the non-financial sector in Asia * and Latin America

In billions of US dollars



Note: The vertical lines mark the start of the crises in Mexico, South-East Asia and Russia respectively.

* Excluding Hong Kong, Japan and Singapore.

Sources: Capital DATA; BIS. Graph V.9

Graph V.9 shows the amount of bonds issued by the non-financial sector in Asia and Latin America broken down by credit rankings. In the period leading up to the crises, there was a sharp upsurge in sub-investment-grade issuance, mainly by sovereign borrowers in Latin America in 1997 and in both regions in 1998. To this extent, the crises of the last two years appear as corrections following earlier periods of speculative excesses and overextended portfolios. At the peak of the crises, differentiation between issuers seemed to depend less on the quality of the ratings than on their very existence. In all instances considered, the tightening of credit was primarily obtained through sharp reductions in the share of non-rated issues. Finally, in the period following the Russian debt default, the severity of deteriorating credit conditions was felt equally by investment-grade and speculative bonds, as the markets dried up almost completely. In particular, there were virtually no rated issues in the private non-financial sector. This feast–famine syndrome supports the view that the financial crisis of August 1998 was largely a supply-side phenomenon, driven by a reduction in the availability of risk capital and the threat of potential losses at banks and securities firms.

Flight to quality and liquidity

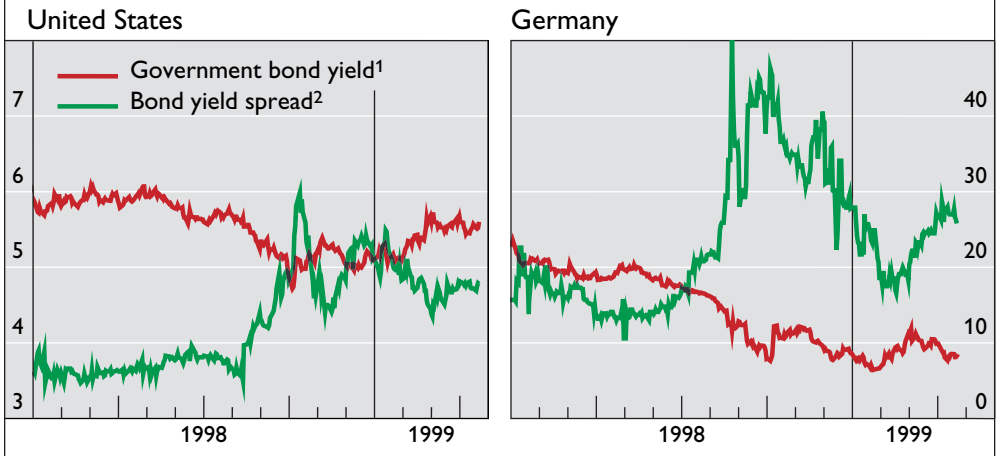
The generalised flight from risk when markets are under stress typically originates in well-identified concerns about credit quality but may later develop into a full-blown liquidity crisis. It is important to disentangle altered views of borrowers' creditworthiness from more generalised disruptions pertaining to the very functioning of credit markets. The interaction between credit risk and liquidity risk seems to have had an important bearing on the interdependencies between markets and the speed of crisis propagation over the last two years.

Departure from normal pricing relationships …

A few pricing anomalies illustrate how the normal pricing relationship between spreads and counterparty risk broke down during the recent crisis, and also help delineate the boundary between a flight to credit quality and one to liquidity. First, in certain instances marked increases in spreads could not have been fully ascribed to credit risk, as they reflected lower yields on safe assets rather than increases in defaultable rates. Second, the yield differentials between the benchmark 30-year US Treasury bond issue and other less recent issues peaked at a level of over 30 basis points in mid-October, signalling an abrupt rise in investors' demand for the liquidity afforded by the "on-the-run" issue (Graph V.10). Similarly, the spread between the 10-year Kreditanstalt für Wiederaufbau bond and the German government benchmark issue of the same maturity more than doubled in a span of only two weeks last August. Since both bonds benefit from the same government guarantee, this rise must have been due to the former's lower liquidity in international bond markets. Finally, secondary market yields on the most highly rated corporate eurobonds converged sharply in September, and their subsequent strong co-movement suggested that their performance was driven by financial institutions' liquidity needs rather than the probability of default by individual corporations.

Marked increases in spreads also serve to highlight the complexities involved in the risk management practices of intermediaries. The surge in swap spreads in the United States and Europe was consistent with a global

Liquidity spreads in the United States and Germany



[1] Left-hand scale, in percentages. For the United States, 30-year; for Germany, 10-year. [2] Right-hand scale, in basis points. For the United States, "off-the-run"/"on-the-run"; for Germany, Kreditanstalt für Wiederaufbau bond/10-year government bond.

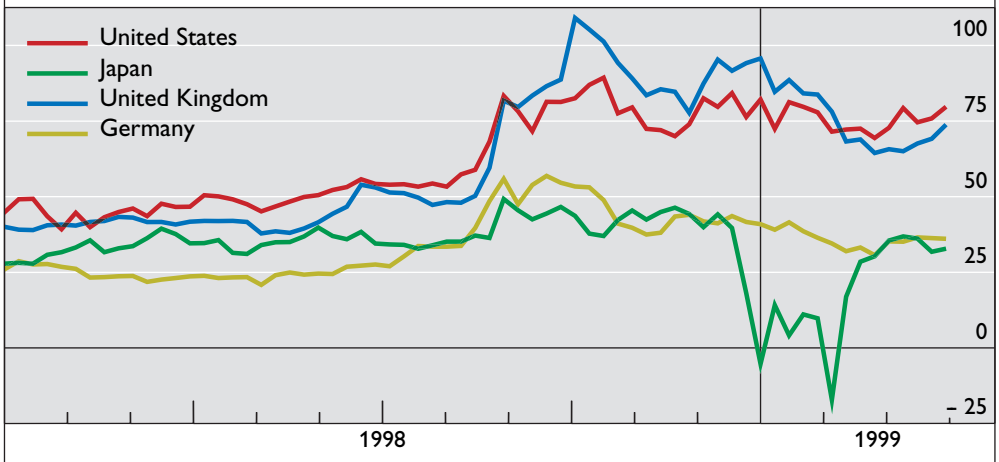
Sources: Federal Reserve Bank of New York; Bloomberg; Datastream. Graph V.10

… interferes with risk management practices

repricing of credit risk, to the extent that wholesale market players were themselves exposed to emerging markets and leveraged entities. However, the marked fluctuations observed in the German swap market cannot be explained by credit factors alone (Graph V.11). Indeed, they partly reflect a substitution of swaps for bund futures contracts as hedging instruments of choice for long positions in derivatives markets. With hedging costs soaring as a result of the widening of spreads and declining bund yields, market-makers had to fall back on swaps as a cheaper alternative to futures. Financial intermediaries, which stood as counterparties to market-makers, in turn held burgeoning long positions in swaps that had to be offset. This eventually resulted in a contagion effect in the swap market, as the concomitant sales of swaps depressed their prices, thus putting sharp pressure on their fixed rates.

Spreads between swap rates and 10-year government bond yields

Weekly averages, in basis points



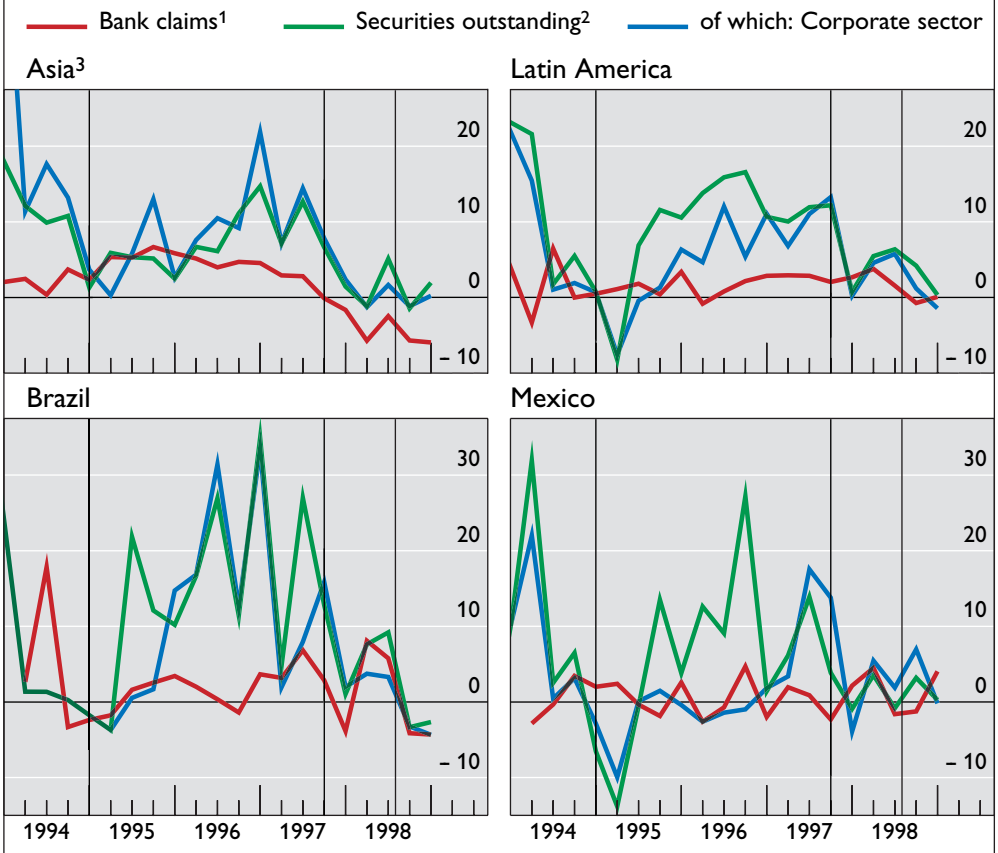
Source: Standard & Poor's DRI. Graph V.11

Relationship lending aspect of bank loans …

The pattern of net international financing in Asia and Latin America offers a few glimpses of the interdependencies at play between financial institutions and markets in different episodes when investors were withdrawing from risk. Financial liberalisation has encouraged borrowers to obtain funds at lower costs by tapping the international bond markets. However, a well-documented stylised fact is that riskier borrowers continue to rely on banks, because the latter are better at helping them in times of financial distress. This reliance may actually grow in periods of increased risk aversion characterised by high expected volatility. In those periods, the costs of loan renegotiations are generally lower than those of bond restructurings, which require a consensus among a variety of creditors. Banks also have long-standing relationships with their customers and often privileged access to information, allowing them to make better continuation/liquidation decisions than more impersonal markets. By contrast, bond investors' "frenzy of activity" as they search for high yields may well turn into a "fright" with a fire sale of assets should a crisis erupt.

Sources of international financing of the non-bank sector in Asia and Latin America

Percentage changes over previous quarter



Note: The vertical lines mark the start of the crises in Mexico, South-East Asia and Russia respectively.

[1] BIS reporting banks' claims vis-à-vis Asian and Latin American countries. [2] International money market instruments, bonds and notes. [3] Excluding Hong Kong, Japan and Singapore.

Sources: Bank of England; Capital DATA; Euroclear; *International Financing Review*; International Securities Market Association; national data; BIS. Graph V.12

Graph V.12 provides some evidence pertaining to these observations using data from Asia and Latin America. Some broad features emerge. First, the stock of international debt securities has been more volatile than outstanding bank credit, in terms of both the amplitude and the dispersion of the swings. Banks have therefore been relatively supportive of borrowers, as suggested above. Second, the observed trend decline in the share of intermediated debt helps explain the increased sensitivity of the financial sectors in these countries to mercurial shifts in market sentiment. Third, unlike the period around the Mexican peso crisis and in the second half of 1997, when they partly compensated for the drying-up in international debt securities, banks did not appear to cushion the outflow of capital in the wake of the Russian moratorium.

… was put to the test during the crisis …

In some measure, this change in behaviour bears witness to the increased dependence of banks on global market conditions. A central feature of last year's episode seems to be that banks were constrained by the same funding problems that their customers were facing. Having made more loans than could be financed through existing deposits, both US and European banks ran into liquidity shortages which could not be dealt with by market-oriented solutions. The securitisation of assets and issuance of new securities were difficult at a time when equity indices in the banking sector were plummeting. Banks' financial slack including repayments on previous loans and all liquid assets in their portfolios was also directly impaired by the overhang of emerging market losses in the third quarter of 1998. Consequently, banks had to rely on a narrower set of financing sources, such as the recycling of funds through the international interbank market and the build-up of new direct deposits from non-bank investors.

… as banks' financial slack eroded

Atypical asset price dynamics

Market participants' reappraisal of risk following the Russian debt moratorium put substantial downward pressure on equity prices in all major markets. Although relatively uncommon, a simultaneous equity market correction across a majority of G7 economies is not an unprecedented phenomenon, as it was also observed in October 1987. A further similarity between the two episodes was the exceptionally high cross-country correlations of stock price changes. Global investors found considerably less benefit from international diversification of their equity holdings during this recent period of stress than they enjoy during more normal times.

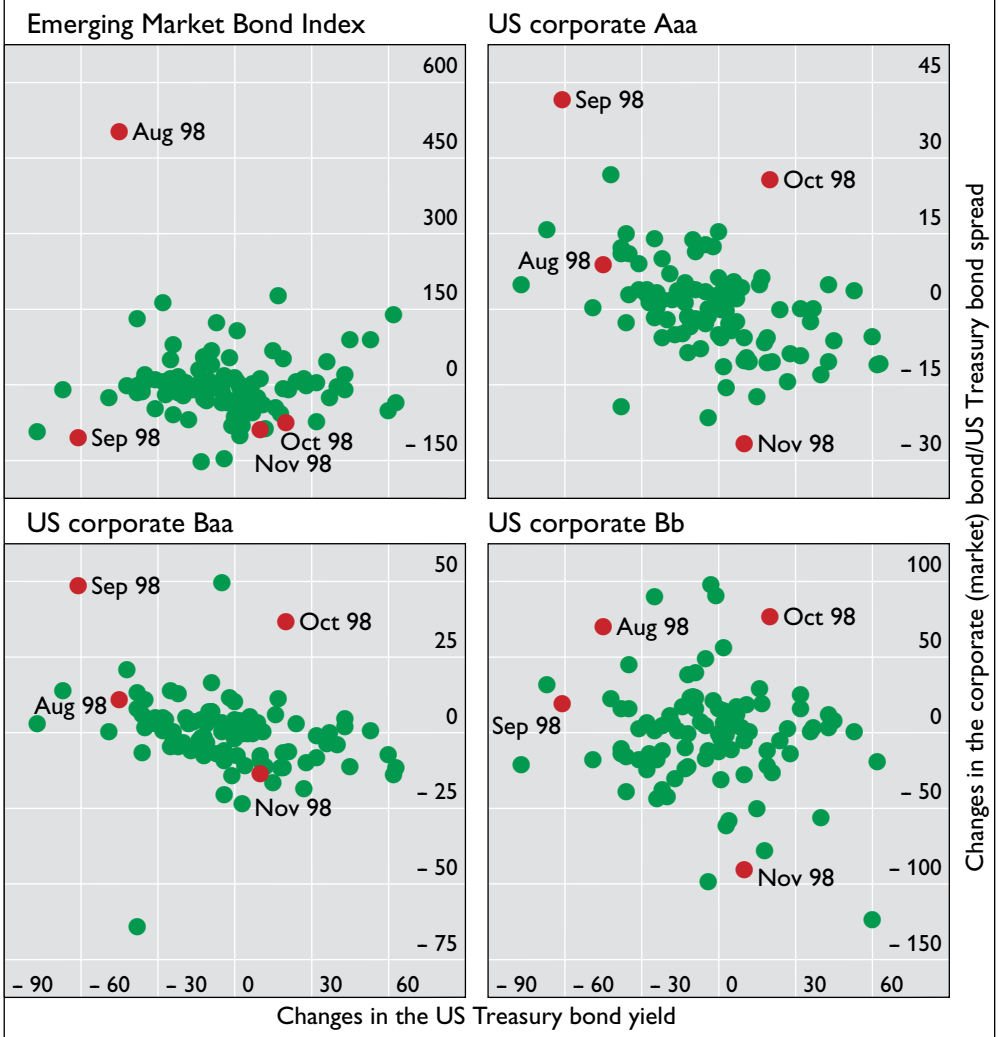
Tighter co-movement of equity prices …

For fixed income markets, one aspect that sets this most recent episode apart from previous cases of market turmoil is the extent to which interest rate spreads widened as a result of investors' flight from risk. In the span of only a few days, required premia for credit and liquidity exposure reached levels close to historical peaks and in some cases even surpassed these peaks. In contrast with the bond market turbulence of 1994, when increasing interest rates in the United States and Germany exposed leveraged duration bets, last year's events took place against a background of declining nominal interest rates. An unusual constellation of market price dynamics for a range of asset classes played havoc with investment strategies and risk management systems based on historical statistical relationships (Graph V.13). As certain

… and unusual combinations of price dynamics in bond markets

Unusual correlations in bond markets

January 1991–March 1999; monthly changes, in basis points



Sources: JP Morgan; national data. Graph V.13

correlations across asset returns tightened and various spreads moved abruptly in the opposite direction to benchmark rates, projections of required capital cushions often proved inadequate, triggering a hastened search for liquidity by investors. At the same time, generalised uncertainty and heavily skewed demand for only the safest of assets quickly overwhelmed the capacity of a shrinking capital base of market-makers and intermediaries to accommodate these needs. The resulting credit crunch in the form of higher margin calls and curtailment of credit lines forced investors to raise required funds by selling securities in markets that initially appeared to be relatively liquid, thereby transferring the strains to the government bond markets of advanced industrial countries.

The LTCM episode: a sign of the times?

The near-failure of the Long-Term Capital Management hedge fund prompted intervention by the Federal Reserve Bank of New York to facilitate a private sector solution as an alternative to a disorderly bankruptcy. The event provides

a vivid example of the nature of problems that can arise given the complexity of today's financial markets. Although they are not new institutions by any means, recent attention to hedge funds is a result of the growth in their size and in their capacity to affect the functioning of markets. By some estimates there were at least 1,200 hedge funds with own assets of over $150 billion by mid-1998. These institutions are speculative funds that sidestep certain disclosure and leverage regulations by limiting their clientele to a small number of wealthy investors and frequently by operating offshore. They seek high rates of return by investing in a variety of financial instruments using considerable amounts of borrowed funds.

An example of the opportunities …

LTCM, in particular, appears to have pursued high returns by making directional judgements on interest rate spreads and the volatility of market prices. Since its founding in 1994, it had been able to generate consistently above normal returns of the order of 40% in 1995 and 1996 and 20% in 1997. The fund relied on very high levels of leverage to achieve these returns. Its balance sheet on 31 August 1998 included over $125 billion in assets. This implies a leverage ratio of more than 25:1 based on its $4.8 billion capital at the beginning of the year, disregarding the losses it incurred prior to August and excluding its off-balance sheet exposures. The performance record of LTCM, together with its reputed use of highly technical pricing models and trading strategies, made it a symbol of how profitable financial sophistication could be.

… and pitfalls in today's market-place, where …

Equally symbolic, in this case of the dangers of the new financial landscape, has been the near-failure of the fund. The unusual price correlations that followed the Russian debt moratorium caused problems for many financial institutions, particularly those employing a high degree of leverage. In the case of LTCM, they nearly led to the failure of the fund. Although it had invested in a wide range of securities, the fund based its strategy on an expectation of declining credit spreads and asset market volatility. This expectation was abruptly proved wrong by market developments in August. The rapid sequence of events that surrounded the fund's near-collapse illustrates well the greater speed of financial crisis propagation and the consequent narrowing of the time frame for corrective action. The first public signs of the fund's difficulties emerged after 2 September with the surfacing of the contents of a letter sent by the LTCM partners to their investors. That letter acknowledged that the fund had experienced 52% losses from the beginning of the year to 31 August and that it was seeking an injection of capital. Between 2 and 23 September, when 14 banks and securities firms agreed to inject $3.6 billion in order to recapitalise the fund, there was a growing sense of urgency in finding an orderly resolution. News of the fund's increasing difficulties was spreading, as were concerns about the instability that could arise if it were put into default and its counterparties were forced to close out their positions in an abrupt and disorderly manner. Moreover, it was felt that the liquidation of any collateral held by these counterparties, as well as the unwinding of positions similar to those of LTCM held by other institutions, would have put undue pressure on already strained financial markets and compounded participants' nervousness.

… strains propagate faster …

… and spread wider than before

The uncertainty about the potential ramifications of a disorderly bankruptcy of LTCM, in particular the concern that its impact would have extended to market participants not directly involved with the hedge fund and beyond the borders of the United States, is illustrative of how inextricably interdependent institutions and markets have become. Uncertainty was driven mainly by the scale and scope of LTCM's operations, which encompassed many financial instruments and spanned a variety of markets, as well as by the nature of its operations, which included many complex contracts. But uncertainty was also compounded by the condition of the financial markets, which were still suffering from the instability resulting from the events of the previous month. The risk of widespread financial troubles that could have arisen if the hedge fund had suddenly defaulted helps explain the willingness of a number of private sector firms to contribute to an orderly resolution through a process facilitated by the central bank.

Lessons from the crisis in September and October 1998

What took both market participants and policymakers most by surprise during last year's episode of market turbulence was the extent to which conditions deteriorated and the speed with which liquidity evaporated in several market segments. The events of last year highlighted the key role of heightened credit risk and extensive leverage in determining financial market dynamics in periods of abrupt shifts in investor sentiment. Moreover, they underscored the systemic importance of market-making institutions. Looking at the crisis and the subsequent recovery together also raises critical questions about the appropriate policy response to financial market fragility and current valuations.

In spite of the attention devoted to equity market valuations before last summer, the actual trigger for the crisis was the announcement of a borrower's default. The events that followed were principally driven by investors' reassessment of credit risk. The essential difference between market risk and credit risk is that, while the former is concerned mainly with the structure and dynamics of asset price volatility, the latter relates to market participants' uncertainty regarding borrowers' and counterparties' capacity to deliver value. It is no coincidence that fixed income and derivatives markets, where sensitivity to credit risk is more apparent, were the ones most affected by the turbulence and are also the ones that are suffering any lasting consequences in its aftermath. These events also illustrated how market dynamics triggered by generalised concerns about credit risk can give rise to unusual constellations of price movements. Risk management systems that have been primarily designed to measure and control market risk are not always appropriate to characterise price behaviour under these market conditions. Such systems may actually contribute to the strain as they imply that investors should scale down portfolio risk by liquidating their positions in a declining market.

Credit risk and market risk

The unfolding of the crisis exposed the extent to which market participants had taken advantage of a wide variety of leverage methods, seeking to enhance the return on capital, as well as the problems that arise when a reversal in market conditions prompts an unwinding of their positions.

Leverage

Permissive attitudes towards risk by lenders had generally reduced the cost and increased the availability of finance. In many cases, intensified competitive pressures tempted lenders to blunt the sharpness of their instruments designed to mitigate and control credit exposures. High levels of gearing, implicit in strategies that made extensive use of derivatives and financing of positions through short sales of securities, compounded losses as prices of riskier asset classes declined while government bonds issued by the major industrial countries became more expensive. Increased margin calls and in some cases the deteriorating value of posted collateral sent investors scrambling for liquidity, spreading the impact of this deleveraging to other market segments.

Another important characteristic of this most recent episode of turbulence was the fact that the functioning of some specific market segments was severely impaired, sometimes to the point of complete seizure. Institutions that typically specialise in facilitating the exchange between buyers and sellers saw their ability to perform a market-making function curtailed by the limitations of their capital base in the face of one-sided demand. Furthermore, in several over-the-counter and derivatives markets, the situation was further complicated by the fact that market-making had to some extent been performed de facto by leveraged participants such as LTCM, by virtue of the size of their positions (see Chapter VII). The urgent quest for liquidity by such participants further intensified market strains.

Market-makers

Finally, it is important to recognise that the recovery of many markets has been nearly as spectacular as their fall. Equity prices in almost all advanced economies have regained lost ground and in many cases have reached new highs. The spreads of corporate and emerging market bonds have fallen back from their peaks and, while they have not returned to pre-crisis levels, borrowers have met with an increasingly warm reception from investors. This recovery in itself raises a few questions regarding the correct interpretation of the crisis episode. One interpretation would view the subsequent recovery as an indication that the turmoil was the result of inherent dynamics in the behaviour of financial market participants. In this case the relevant policy issues are how to prevent, if possible, the recurrence of these phenomena and how best to promote the resilience of the financial system to such crises. If, on the other hand, the crisis was a warranted reaction to changing economic fundamentals, then current valuations may prove to be as fragile as those prevailing in early summer last year.

VI. Developments in foreign exchange markets

Highlights

The movements in the main exchange rates in the first half of 1998 were in large part determined by current and prospective business cycle developments. The crisis that hit Russia in mid-August raised concerns about the vulnerability of the US economy and reversed the upward trend of the dollar against the mark and the yen. Technical factors not directly related to fundamentals magnified the dollar's downturn, particularly against the yen. The size of these swings once again raised the question of the sustainability of the US current account deficit in the long run.

The crises that hit Russia in August 1998 and Brazil in early 1999 highlight the persistent vulnerability of emerging market economies. While exchange rates stabilised in many countries – notably in Asia – during 1998, the volume of activity in these markets has remained subdued and far below the peaks reached in 1996.

The introduction of the euro followed a year of convergence and stability in European foreign exchange markets. In its first months, the new currency depreciated as a result of cyclical factors. The euro is likely to lead to significant structural changes in foreign exchange markets, but it is too early to determine the extent to which it will be used as a transaction, reserve, investment and anchor currency.

The dollar, yen, mark and euro

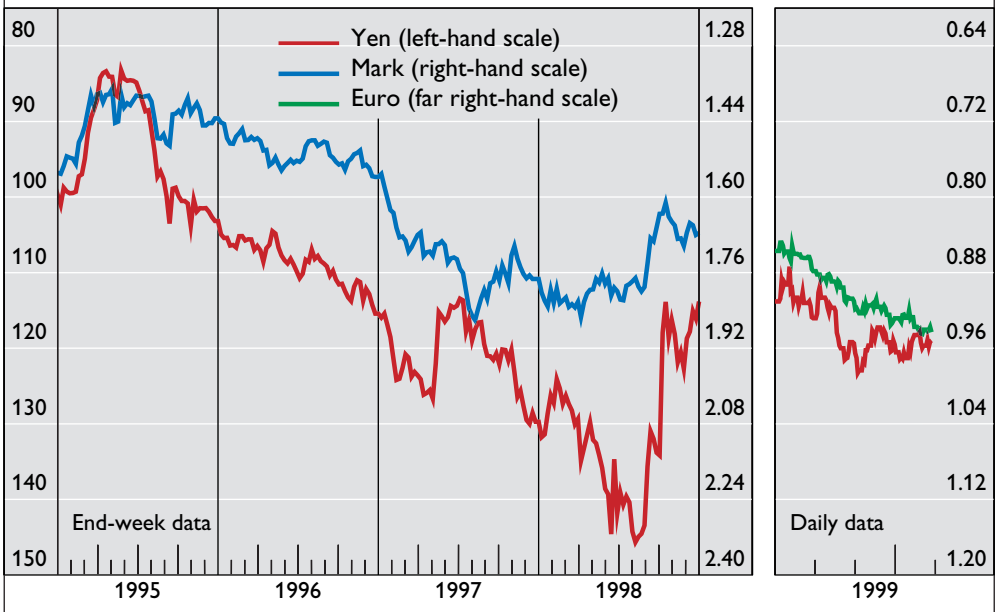
Cyclical and technical determinants of the dollar exchange rate

The broad movements of the main currencies in the first half of 1998 were driven mainly by the relative strength of the real economy and inflation prospects in the United States, Japan and Germany. However, from the summer onwards they began to reflect the interaction of these cyclical factors and other, "technical" factors.

G3 currencies respond to cyclical developments

The period of dollar strength against the yen and the mark that had started in spring 1995 continued until summer 1998 (Graph VI.1). Over three years, the dollar thus appreciated by 36% against the mark and by 81% against the yen, taking exchange rates back to levels not seen since the early 1990s. As in previous years, the strength of the dollar against the yen up to August was underpinned by continuing signs of robust economic growth in the United States and persistent indications of weak growth in Japan. These cyclical developments led to expectations of a tightening of monetary policy in the United States and a loosening in Japan, reflected in widening forward rate

Selected exchange rates against the dollar



Note: Inverted scales; a decline indicates a dollar appreciation. Graph VI.1

differentials (Graph VI.2). Concerns about the fragility of the Japanese banking sector may have compounded the weakness of the yen.

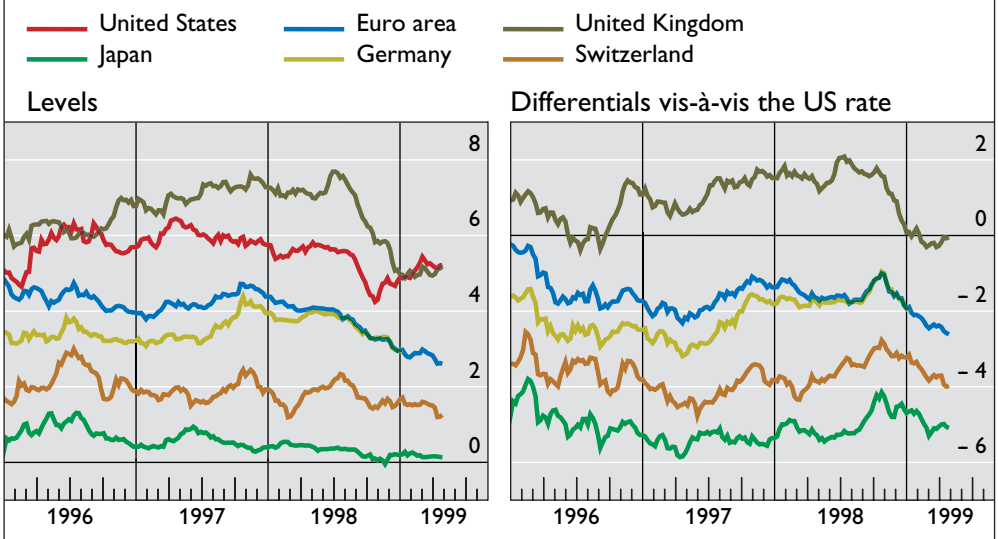
Trends in the behaviour of the mark/dollar exchange rate during this period were much less clear-cut. The gains posted by the dollar between January and early April, when it peaked at DM 1.85, were reversed the following month, as new data releases indicated that economic recovery was firming in Germany and market participants began to expect a monetary tightening by the Deutsche Bundesbank. The mark also profited from further convergence of official interest rates in Europe, which suggested greater confidence in a smooth launch of the euro. The ending of uncertainty with the official announcement on 3 May of the currencies participating in EMU, the procedure to determine their bilateral exchange rates and the composition of the Executive Board of the European Central Bank helped the mark bounce back to a level of DM 1.76 to the dollar. In June and early July, the German currency surrendered part of these gains and fell back to DM 1.82. This drop can be explained by the repeated attacks on the rouble from end-May and the perception then prevalent in financial markets that Germany's financial and trade links with Russia made it relatively more vulnerable.

Following the Russian crisis, the dollar falls steeply

The official announcement of the floating of the rouble and the unilateral moratorium on Russian debt in mid-August raised concerns that the crisis could spread to Latin America (see Chapter III). Stock markets fell in the United States and particularly in Europe. Moreover, market participants came to expect a monetary easing by the Federal Reserve. The change in expectations was in the event proved correct by the US monetary authorities' decision to lower interest rates in three steps between September and November (see Chapter IV). Against this background, the dollar plunged heavily in two stages. Between 27 August and 7 September it lost about 5% against

Six-month forward interest rates *

Weekly averages, in percentages and percentage points



* Derived from six- and 12-month Libid. Graph VI.2

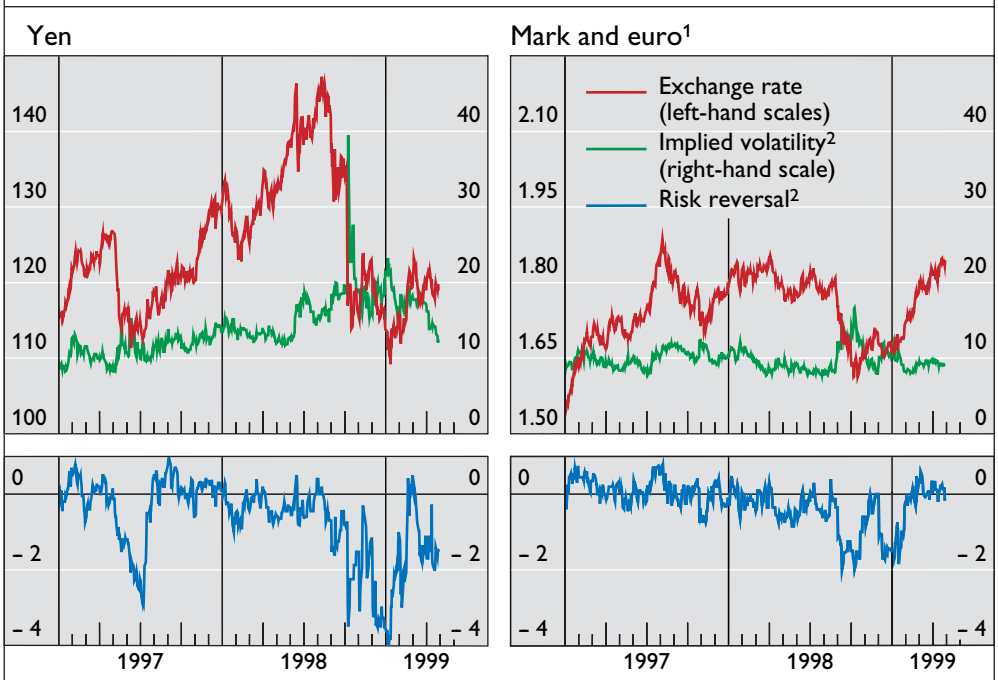
the mark, dropping from DM 1.81 to DM 1.72, and depreciated especially sharply against the yen, falling by about 8% from ¥143 to ¥131. During the following weeks, the dollar weakened another 5% against the mark, bottoming at DM 1.61 in early October. Against the yen, after hovering around ¥132–136, the US currency took a historically unprecedented fall on 7 and 8 October and lost more than 13% to reach ¥117.

Option prices demonstrate the change in market sentiment towards the dollar during this period. At end-August, traders moved towards giving more weight to prospects of a much weaker rather than a much stronger dollar vis-à-vis the yen, as suggested by the premium of one-month yen calls over equally out-of-the-money dollar calls (the risk reversal shown in Graph VI.3 turned negative). At the same time, the strong rise in volatility implied in yen/dollar options suggests that uncertainty about future movements in the yen/dollar rate rose substantially. There was also a shift, albeit not as conspicuous, in the mark/dollar market, where traders switched to putting more weight on a much weaker rather than a much stronger dollar and implied volatility rose. A particularly sharp change in market sentiment occurred in the yen/dollar market in early October, when the balance between expectations of a much stronger dollar and a much stronger yen tilted clearly in favour of the latter and the volatility implied in yen/dollar options more than doubled to reach record levels within a few days. The volatility of the mark/dollar rate also rose sharply, but reached less than half the level of yen/dollar volatility.

Cyclical factors weigh on the dollar

In explaining the events of September and October, two types of determinants must be distinguished: factors related to cyclical developments and other economic fundamentals, and technical factors driven by specific market conditions. Changes in the prospects for the G3 economies may have favoured the mark and the yen against the dollar. This seems to offer at least a

Dollar exchange rate, implied volatility and risk reversal of the yen, mark and euro



Note: On 31 December 1998, the conversion rate for the euro was fixed at DM 1.95583.

[1] For 1999, the implied volatility and risk reversal are for the euro. [2] One-month, in percentages.

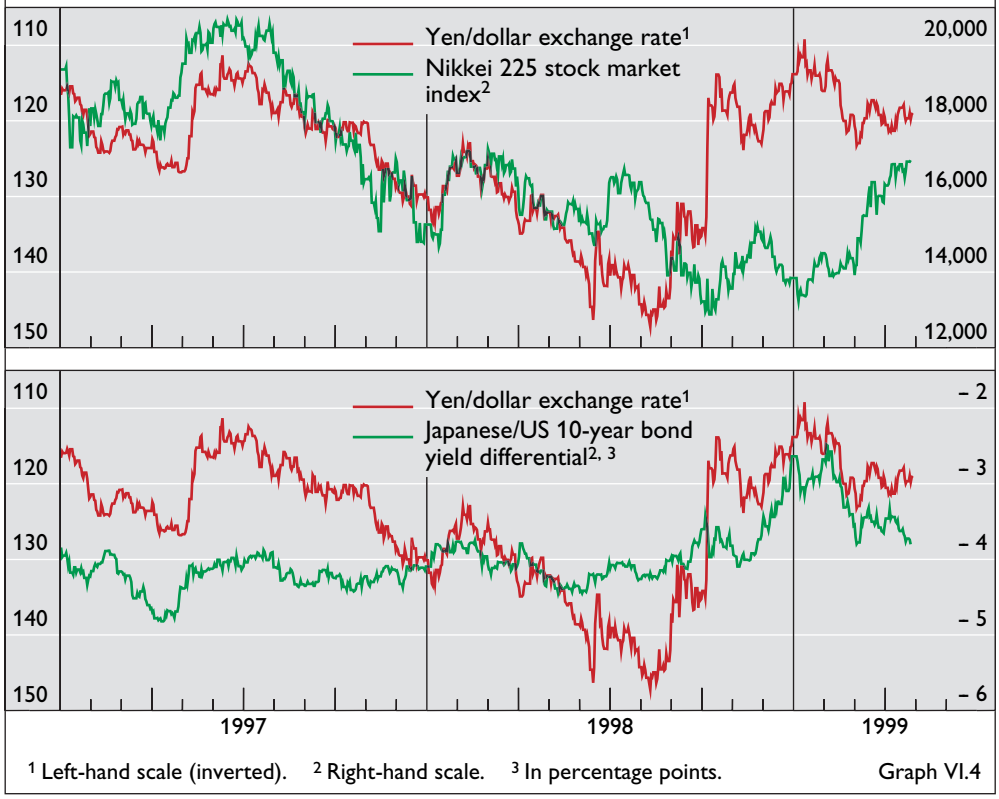
Sources: ECB; Reuters. Graph VI.3

partial explanation of the depreciation of the US currency against the mark and the yen in early September. It is consistent with the spreading of concerns about the vulnerability of the US economy to fallout from financial turmoil in Latin America and the decline in US equity markets in late August and early September. It is also consistent with the shift in market expectations towards an easing of US monetary policy and the decline in US bond yields during this period.

However, such factors do not appear to explain the dollar's plunge in early October. First, the decline in asset prices in the United States seemed to have bottomed out. Moreover, Japanese equity markets, which had tracked the declining yen quite closely since 1997, did not rally as the Japanese currency strengthened in September and October. This experience contrasts sharply with the positive correlation between the Japanese stock market and the yen/dollar exchange rate between January 1997 and July 1998, which was due to the fact that concerns about weak economic growth and the fragility of the banking sector in Japan weighed on both (Graph VI.4). This evidence suggests that in early October market participants did not reconsider their outlook for the Japanese economy. There were also no signs that the economic recovery under way in Germany would accelerate.

Nor can cyclical factors explain the unusual steepness of the dollar's fall, particularly against the yen. This may have been caused instead by technical factors unrelated to developments in the real economy in the G3 countries. One possible explanation is that in September and October highly leveraged

Equity prices, bond yield differential and the yen/dollar exchange rate



[1] Left-hand scale (inverted). [2] Right-hand scale. [3] In percentage points. Graph VI.4

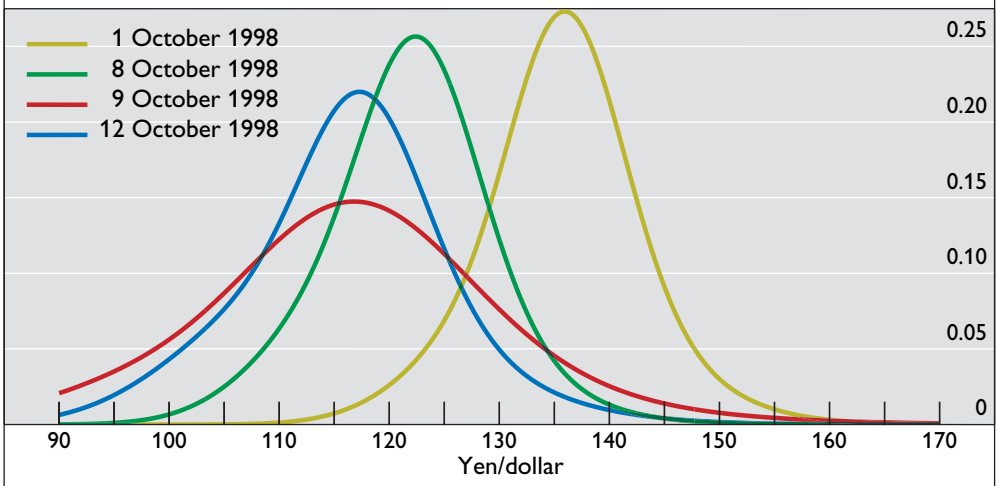
Leveraged hedge funds precipitate the dollar's fall through two channels

hedge funds and investment houses may have closed large short yen positions built up previously in an effort to take advantage of the low financing cost in that currency. The unwinding of these yen carry trades could have precipitated the dollar's decline through two channels. First, the capital base of these investors may have been severely hit by declining asset prices in the wake of the Russian crisis. As big losses on their portfolios triggered margin calls, these leveraged players were forced to close their yen carry trade positions, thereby creating a sudden large demand for yen. This mechanism may help explain the magnitude of the dollar's fall in early September.

A second channel through which yen carry trades may have played a role is by magnifying shocks that originated in the yen/dollar market. In early October market participants seem to have reconsidered their expectations regarding yen/dollar movements in the short term. The sudden change of views on the yen/dollar rate may have induced investors to close their yen carry trade positions, thereby pushing the dollar down further. A massive unwinding of these positions may have contributed to the intensity of the yen/dollar movements on 7 and 8 October 1998.

Probability density functions estimated from option prices present evidence of a marked break in market sentiment around these days (Graph VI.5). In the first week of October, they point to a gradual shift in market participants' balance of risk towards assigning more weight to a much stronger rather than a much weaker yen in the short term (the density functions in the graph overleaf became more skewed to the left).

Probability distributions of the yen against the dollar



Note: The calculation assumes risk neutrality and is based on data posted at the beginning of the days shown.

Source: W Melick (Kenyon College, Ohio) using Deutsche Morgan Grenfell data. Graph VI.5

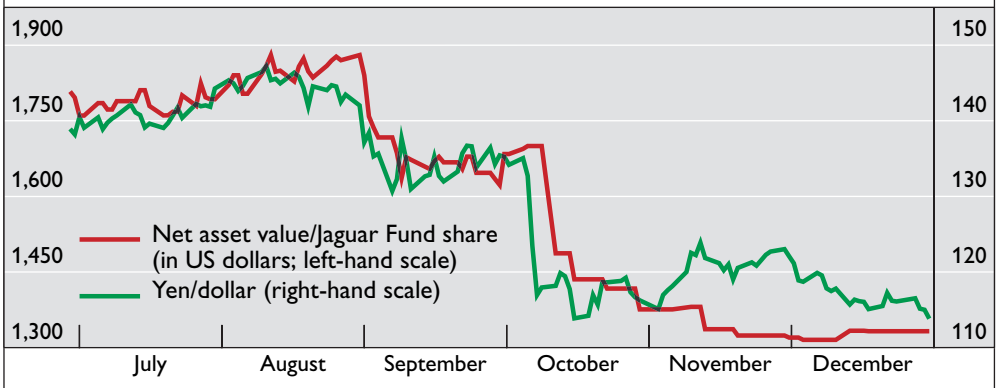
On 7 and 8 October, however, a pronounced shift in sentiment occurred, as the balance of risks swung sharply in the direction of a huge bias towards a much stronger yen and uncertainty increased markedly (the variance of the density functions rose steeply). Market conditions normalised somewhat by 12 October, as the uncertainty about future yen/dollar changes abated.

The 1998 Central Bank Survey of Foreign Exchange and Derivatives Market Activity provides two pieces of indirect evidence that investment overseas was being financed by low-cost borrowing in yen. First, yen/dollar option contracts traded over the counter recorded a sharp increase between 1995 and 1998. Second, when measured at constant exchange rates, the turnover of the yen in spot and forward markets increased at an unusually fast rate between 1995 and 1998. Moreover, the extent to which leveraged investors relied on yen carry trades may be illustrated by the large drop in the net asset value of a major hedge fund around the two days of steep yen appreciation (Graph VI.6).

Policy implications

The role played by hedge funds in September and October 1998 has some potential policy implications. In recent years, attention has often focused on the foreign debt that the United States has accumulated since the 1980s. The steep fall of the dollar shows that not only the level of this debt but also the way it is financed can have important consequences for short-term movements in the exchange rate. The accumulated debt may be absorbed on an unhedged basis by investors with a long-term perspective that can easily withstand temporary shocks to their portfolio, such as insurance companies and pension funds. These investors tend not to react to short-term developments and will therefore generally play a stabilising role for the dollar. In contrast, leveraged investors exposed to shocks that affect their capital base may also carry the open foreign exchange position associated with the debt. However, since they tend to react very quickly and strongly to losses on their portfolio, they can contribute to making the value of the dollar more volatile through periodic

Yen carry trade and the yen/dollar exchange rate in 1998



Sources: ECB; *International Herald Tribune*. Graph VI.6

attempts to hedge their exposure. These investors seem to have been particularly active in 1998. The future path of the dollar may therefore depend to some degree on which of these two types of investors will dominate. This conclusion presumes of course that heightened exchange rate volatility will not induce traditionally longer-term investors, especially in Japan, to hedge their exposure more actively. This could be another source of short-term exchange rate volatility and general downward pressure on the dollar during the period of adjustment.

Starting from lows of DM 1.61 and ¥114 in mid-October, the dollar climbed back against both the mark and the yen to reach DM 1.69 and ¥124 by mid-November. However, in the following two months the yen recovered the ground it had lost against the dollar. This appreciation was accompanied by a sharp rise in Japanese government bond yields from about 1% to almost 2.5% and hence a narrowing yield differential between US and Japanese government bonds. The upsurge in Japanese long-term rates, which is generally attributed to a temporary modification of the balance between the supply of and demand for government bonds in Japan at that time, appears to have been the main factor bolstering the yen. Concerns about the widening US current account deficit, which reached record levels in the third quarter of 1998, may also have contributed to the depreciation of the dollar vis-à-vis the yen. The latter's rise halted only when the Bank of Japan intervened on 12 January 1999 as the exchange rate approached ¥108 to the dollar. Between mid-January and mid-February, as the Bank of Japan eased monetary policy, and particularly after the decision to scale back the Trust Fund Bureau's purchases of Japanese government bonds was reversed, the dollar bounced back to ¥120.

The euro's movements reflect views on economic growth

The euro's introduction on 1 January 1999 prompted strong demand for the new currency, which brought about an appreciation against the dollar from $1.1668 (the closing rate of the ECU on 31 December 1998) to $1.18 on that day. Very shortly after, however, market participants refocused on the uncertainty about economic growth and persistently high unemployment rates affecting a significant part of the euro area. The steady depreciation of the euro between January and April 1999 can be explained by the divergent trends in economic activity in the United States and large parts of the euro

area. Official data releases in early 1999 provided evidence of surprisingly strong US economic activity, with GDP growth in the last quarter of 1998 reaching an annual rate of 6.1%. In contrast, economic growth was somewhat weaker than expected in some euro area countries, especially Germany. As a result, market expectations regarding short-term interest rates moved in favour of the dollar, as the widening differential between US and euro area implied forward interest rates illustrates. Although the amount by which the ECB decided to ease monetary policy on 8 April took market participants by surprise, the euro hardly moved against the dollar in the following days.

In the first few months of 1999, the balance of demand and supply in European bond markets may also have contributed to the depreciation of the euro. Compared with strong interest by issuers in international bonds denominated in euros, demand by asset managers for such securities seems to have been subdued. By mid-April the euro had depreciated to around $1.06 against the background of the continuation of hostilities in the Balkan region. In the following weeks, the euro traded around levels of $1.06–1.07, not far from those implied by euro area currencies in April 1998. The depreciation of the euro since January has been orderly, as indicated by fairly low levels of volatility, both actual and implied. More generally, any extra uncertainty about the performance of a new currency remained very limited, as euro volatility against the dollar was similar to that of the mark, French franc and other European currencies in 1998.

Long-run perspectives on the dollar

The dollar's movements may be stabilising in the medium term …

The broad strengthening of the dollar between spring 1995 and summer 1998 and its subsequent fall and recovery raises once again the issue of different medium- and long-term perspectives on the value of the currency. Seen from a medium-term perspective in terms of flows, the broad exchange rate movements between spring 1995 and summer 1998 seem consistent with relative cyclical positions. The strengthening dollar helped shift world aggregate demand from strongly growing economies to economies with weak demand. The same is true also for the appreciation of the dollar against the euro in early 1999.

… but raise the question of long-term sustainability

Put in a longer-term perspective, however, the strengthening of the dollar seems more difficult to explain. There are two main approaches to estimating the long-term equilibrium values for exchange rates, both of which can yield only imprecise estimates. According to the first approach, which looks at the comparative purchasing power of currencies, the dollar currently appears to be somewhat above its long-term equilibrium value against the yen and the euro (Table VI.1). A similar conclusion is reached if the dollar is measured against necessarily approximate estimates of its fundamental equilibrium value, which is the level that is consistent with a stable ratio of external debt to output in the long run.

The combination of a rising trade deficit and an increasing debt service burden pushed the US current account deficit to the record level of $233 billion in 1998. As a result, US net foreign debt increased from 16% to about 19% of GDP. The implications of this net external debt for future

Estimates of the dollar's long-term equilibrium value				
	Market rate[1]	PPP[2]	Trend PPP[3]	Fundamental equilibrium exchange rate[4]
Yen/dollar	119	163	102	100
Dollar/euro	1.06	1.05	1.15	1.25–1.30

[1] On 29 April 1999. [2] OECD, 1998 for yen/dollar; 1996 for dollar/"synthetic" euro. [3] Warburg Dillon Read, early 1999. [4] Institute for International Economics, early 1999. Table VI.1

debt servicing requirements are, however, reduced by the fact that rates of return on US external assets have traditionally been higher than on US liabilities. US net income turned negative only in 1997, and in 1998 was still less than 1% of GDP. By contrast, Japan's net external assets, which now exceed 25% of GDP, are yielding a net income of only about 1.5% of GDP.

Developments in emerging foreign exchange markets

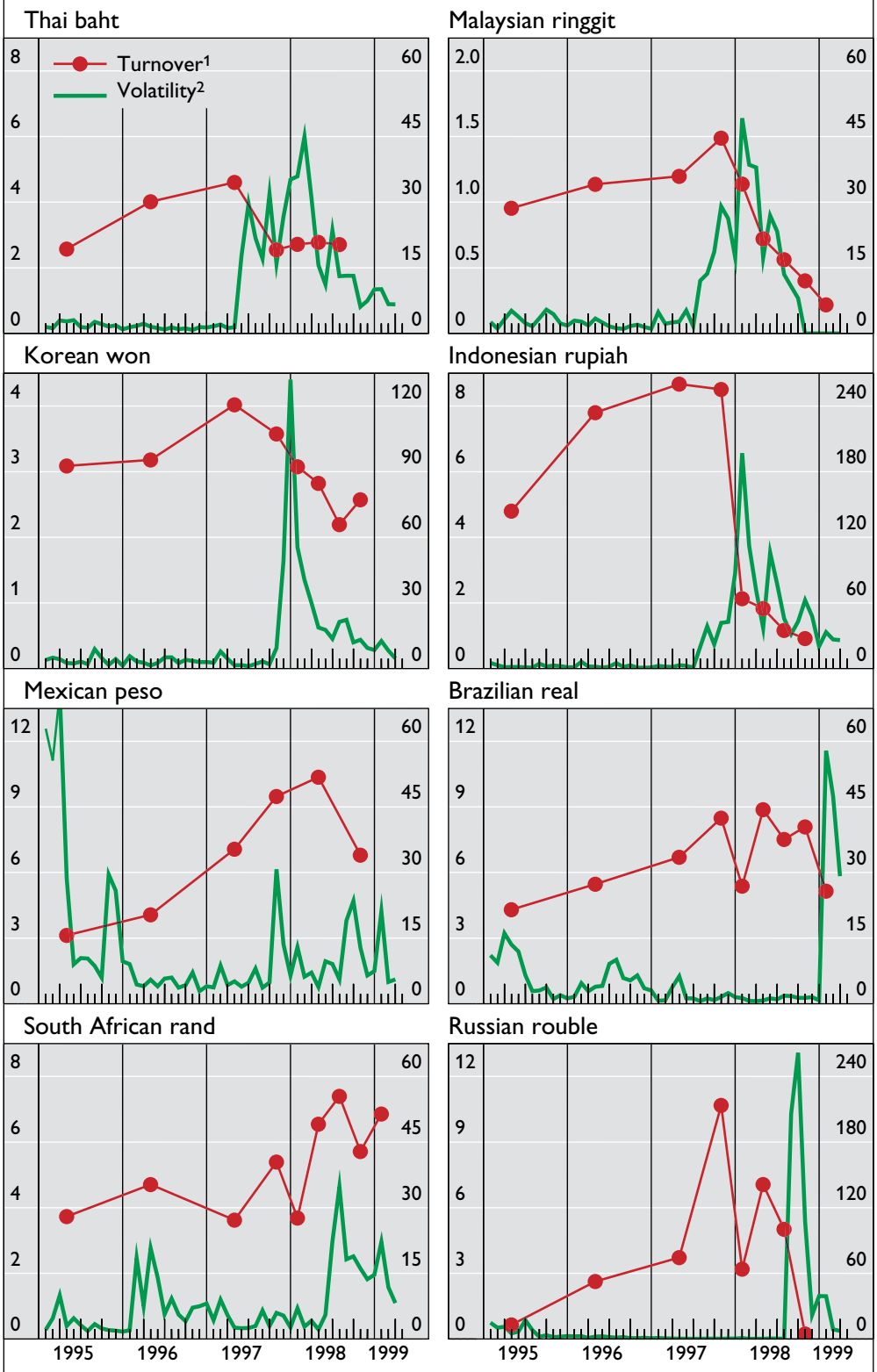
Crisis hits Russia and Brazil

Two important developments occurred in foreign exchange markets in emerging economies during 1998 and early 1999 (see also Chapter III). First, turmoil hit the rouble in August 1998 and then spread to Mexico, where capital inflows fell sharply and the currency depreciated markedly. In January 1999 Brazil was forced to devalue the real after intense speculative pressures. Second, foreign exchange markets in Asia showed signs of stabilising after the waves of turmoil that had hit them in 1997 and early 1998, allowing monetary authorities to gradually ease short-term interest rates. As the example of the won shows (see Graph VI.7), the volatility of the dollar exchange rate, which had risen sharply in 1997 and early 1998, returned towards pre-crisis levels. This development paralleled the return to stability of financial markets in the region and the improved economic performance. Other currencies which had weathered the turmoil better in 1997, such as the yuan and the Hong Kong dollar, remained stable throughout 1998 and the early part of 1999.

Asian foreign exchange markets are stabilising

The greater exchange rate stability to a large extent reflected domestic factors. In addition, stability was helped by the movements of the yen/dollar exchange rate and the changing relationship of Asian currencies to it. Before the crisis erupted in 1997, most emerging market currencies in Asia had been firmly pegged to the dollar. As a consequence of the large gains posted by the US currency against the mark and especially against the yen between 1995 and 1997, effective exchange rates in Asia appreciated substantially, causing considerable losses in competitiveness. This had led to exchange rate pressures on many Asian currencies and eventually to the severing of their link to the dollar. In the second half of 1997 and the first half of 1998, the rupiah, the won, the ringgit and the baht maintained their distance from the US currency and co-moved more closely with the yen in its downward movements against the dollar (Graph VI.8). Until August 1998, the closer co-movement with the weakening yen and looser tie with the strengthening dollar allowed these

Turnover and volatility in selected emerging markets



Note: Various structural changes in the Russian foreign exchange market contributed to the sharp decline in turnover after July 1998.

[1] Local turnover in the domestic currency, per trading day in the month shown (in billions of US dollars; left-hand scales), except for Brazil and Mexico, where turnover includes other currencies (for detailed information, see last year's Annual Report, Table VI.5). [2] One-month annualised standard deviation of daily percentage changes in the exchange rate against the US dollar (right-hand scales).

Sources: Central banks; Datastream; BIS calculations. Graph VI.7

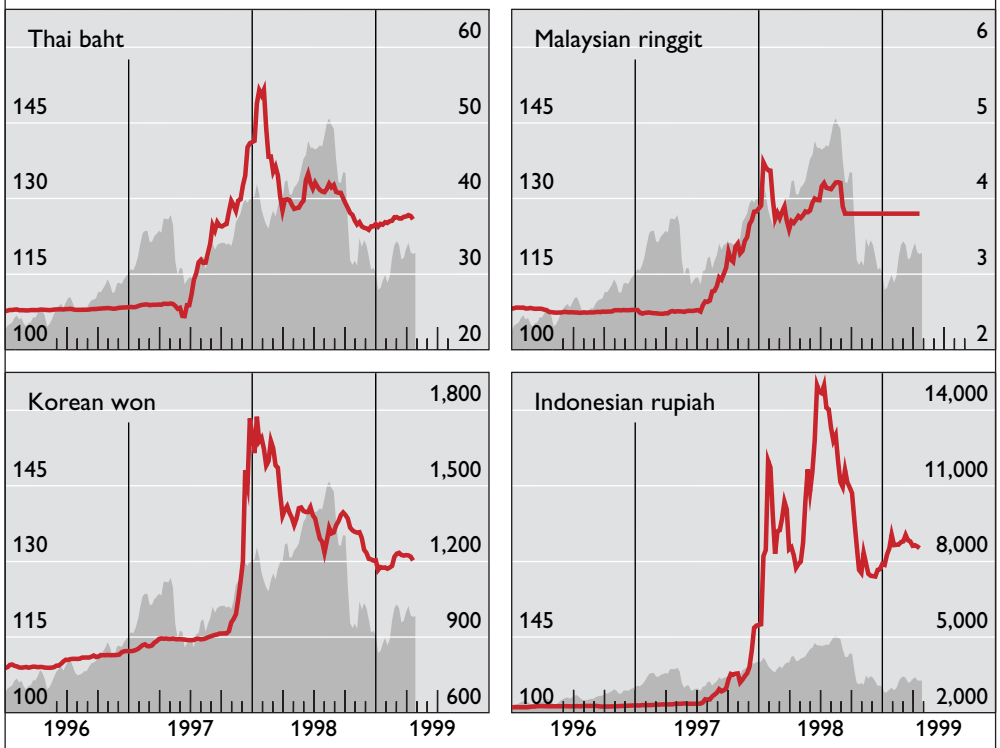
currencies to regain competitiveness. The same is true for most other Asian currencies with the notable exceptions of the yuan and the Hong Kong dollar, which remained firmly linked to the US currency.

Given that China's exports to the United States, the European Union and Japan have a sectoral profile very similar to those of Korea, Thailand and the Philippines (Table VI.2), whose currencies had depreciated substantially, the yuan's peg to the dollar looked particularly vulnerable when the latter approached ¥150 in mid-August 1998. However, when the dollar lost about one-quarter of its value against the yen in the following six weeks, market participants' concern that China would abandon its currency peg abated. At the same time, other currencies in Asia stopped tracking the yen and returned to moving in line with the depreciating dollar.

After January 1999, movements in Asian currencies tended once again to be more correlated with the yen. The fact that since mid-1997 most Asian currencies have tended to co-move most closely with whichever currency was depreciating – the dollar or the yen – suggests the emergence of a more eclectic approach to exchange rate management in the region. An exception is Malaysia, which pegged its currency to the dollar in September 1998 and introduced strict controls on capital movements. These were partly relaxed in early 1999.

While exchange rates stabilised in Asia during 1998, the collapse of the rouble in August, the pressures on the Mexican peso in the following months

Exchange rates against the dollar in selected Asian markets



Note: An increase indicates a dollar appreciation. The shaded areas indicate the yen/dollar exchange rate (left-hand scale).

Sources: ECB; Datastream. Graph VI.8

Sources of competitive pressure on Asian currencies

	Korea	India	Thai-land	Malay-sia	Singa-pore	Indo-nesia	Philip-pines	China	Taiwan
India	38								
Thailand	63	44							
Malaysia	66	23	58						
Singapore	53	17	46	56					
Indonesia	37	42	45	41	21				
Philippines	69	38	67	71	51	42			
China	55	53	62	43	33	47	55		
Taiwan	69	30	68	58	60	32	60	54	
Hong Kong	52	41	55	45	40	30	56	63	53

Note: The similarity of the commodity composition of exports from Asian countries to the United States, Japan and the European Union is measured by the Finger index using a two-digit SITC breakdown of total exports ($X_\bullet$).

For two countries i and j, the Finger index is given by the formula:

$$100 \sum_{k=1}^{64} Min\left[(X_k^i / X_\bullet^i), (X_k^j / X_\bullet^j) \right]$$ where 64 is the number of sectors.

The index varies from 0 (complete dissimilarity) to 100 (identical composition of exports).

Sources: F M Finger and M E Kreinin, "A measure of export similarity and its possible uses", in *The Economic Journal*, Vol. 89, pp. 905–12; OECD; BIS calculations. Table VI.2

and the speculative attack on the Brazilian real which culminated in its floating in January 1999 show that emerging market currencies remain vulnerable. Moreover, figures on volumes traded in foreign exchange markets over the past few years show that activity in these markets is still subdued (Graph VI.7). Indeed, in some cases, such as Indonesia and Malaysia, turnover is lower than in 1995. This fact is consistent with the reversal of capital flows to emerging markets described in Chapter VII. Since August 1998, it has also reflected the global flight to quality and liquidity (see Chapter V) that followed the Russian crisis.

Activity remains subdued

Two different types of relationship between market activity and volatility are shown in Graph VI.7. Following a pattern that is typical of stock markets, higher volatility in the South African foreign exchange market in 1998 was associated with higher trading volumes. Conversely, markets that experienced dramatic turbulence, such as Indonesia in 1997 and early 1998 and Russia in summer 1998, show an inverse correlation between volatility and activity. In the case of Russia, for example, foreign exchange market turnover rose at an extremely fast rate between 1995 and 1997. Following the collapse of the rouble, market activity dried up almost completely, a development possibly aggravated by structural market changes.

Intra-European exchange rates

European foreign exchange markets were characterised in 1998 by a smooth approach to monetary union and remarkable stability in the face of the turbulence that affected global financial markets. In the first half of the year, converging policy rates and bond yields in Europe were accompanied by

stable intra-European exchange rates and declining foreign exchange trading. According to the 1998 central bank survey, the share of trading in marks against French francs in the spot, forward and currency option markets shrank substantially between 1995 and 1998. This trend accelerated after the announcement on 3 May of the currencies participating in EMU and the levels at which bilateral exchange rates would be fixed.

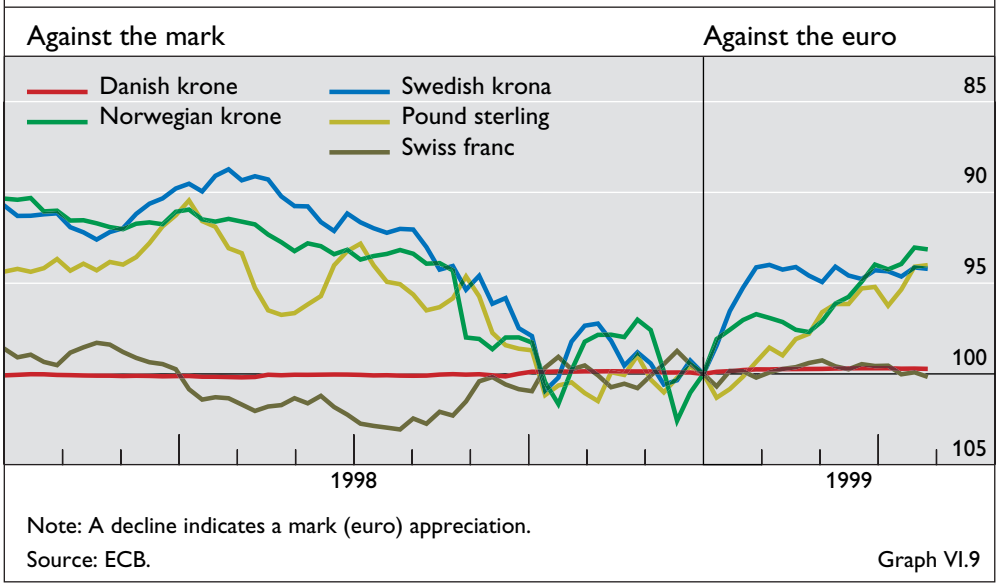
The prospect of EMU plays a stabilising role

When the Russian crisis sparked a global flight to quality and liquidity in August 1998, foreign exchange markets in the prospective euro area remained notably calm. In the following months, the volatility of other legacy currencies against the mark remained subdued and short-term interest rates converged towards year-end (see Chapter IV), revealing the stabilising effects of the approach of monetary union. By contrast, some non-euro area European currencies were subject to exchange rate pressure between end-August and October 1998. The difference between the response of the Finnish markka and that of the Norwegian krone and Swedish krona illustrates the stabilising role played by the prospect of entering monetary union. While the markka remained stable against the mark, the volatility of the krona trebled between August and October as it weakened against the mark (Graph VI.9). In the case of the krone, this effect was compounded by the continuing fall in oil prices, and the monetary authorities were forced to increase policy rates markedly in August and ultimately to retreat from their exchange rate objective.

The weakness of the krona against the mark over most of 1998 also reflected the economic slowdown in Sweden, which led authorities to make repeated cuts in official rates. During the fourth quarter, the krona stabilised against the mark. Moreover, the differential between Swedish and German bond yields narrowed as market participants came to expect an earlier entry of Sweden into EMU.

Selected exchange rates against the mark and the euro

Weekly averages, end-1998 = 100 (inverted scale)



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

Source: ECB. Graph VI.9

Sterling and the Swiss franc co-move with the euro …

The behaviour of two major European currencies outside the euro area – the pound sterling and the Swiss franc – also reflected underlying cyclical factors and associated monetary policy responses. The weakening of the pound against the mark in the first three quarters of 1998 can be attributed to changes in market expectations for interest rates in the United Kingdom in response to incoming data indicating slowing UK growth. The downward shift in expectations, evident from implied forward interest rates (Graph VI.2), was in the event borne out by the gradual decline of UK short-term rates between October 1998 and April 1999. Against the euro, the pound traded in a narrow range and appreciated gradually from £0.71 to £0.66 between January and April 1999. Sterling's appreciation against the euro at a time when the euro was weakening against the dollar echoes its behaviour relative to the mark and the dollar since the early 1990s.

… as they did before with the mark

The Swiss franc, following a pattern similar to that observed in the past, depreciated against the mark as the latter weakened in the first half of 1998, and strengthened as the mark recouped its losses against the dollar in the second half. Against the euro, the Swiss franc depreciated slightly between January and April 1999 as the euro fell against the dollar. Its movements against the new currency thus replicated the pattern that held in the past with respect to the mark. The desire of the Swiss authorities to maintain this relationship was illustrated by their synchronised monetary policy move on 8 April 1999 when the ECB lowered rates.

Foreign exchange markets after the introduction of the euro

In the first few months after the introduction of the euro, attention focused on the short-term changes in the value of the new currency, and in particular its depreciation against the dollar. However, the advent of the euro is likely to cause structural changes in foreign exchange markets. These changes, the timing of which is difficult to predict, are related to the role that the euro plays in the future as a transaction, reserve, investment and anchor currency. The euro represents an economic area that accounts for 16% of world GDP and 30% of world trade, shares that are comparable to those of the United States, but it is an open question whether the euro will eventually match the dollar in importance.

The importance of the euro depends on its role as a transaction …

The euro may play a major role as a vehicle currency in transactions. The use of a currency in foreign exchange markets provides one common measure of its importance as a transaction currency. Judged by the data reported in the 1998 triennial survey, the dollar is still by far the dominant vehicle currency (Table VI.3). Taking account of the part of total trading that disappeared at the start of EMU, the dollar is estimated to appear in 94% of all transactions in spot and forward contracts. Estimates based on trading in euro area currencies in 1998 suggest that, at the start of EMU, the euro was being used in about 50% of all foreign exchange transactions. In the long run, the share of the euro will probably rise, but the extent will depend on the role it plays as a reserve, investment and anchor currency.

Foreign exchange markets and EMU

	Turnover[1] in 1995			Turnover[1] in 1998		
	Total	vs. US dollar	vs. EMU currencies[2]	Total	vs. US dollar	vs. EMU currencies[2]
	in billions of US dollars					
US dollar	1,313.4	–		1,741.0	–	
EMU currencies[2]	*869.8*	*551.4*	*201.1*[3]	*968.4*	*709.1*	*125.1*[3]
Deutsche mark	583.8	364.9	*106.1*	602.7	413.1	*62.4*
French franc	127.2	72.5	*51.7*	102.6	82.6	*17.1*
ECU	36.2	25.2	*10.9*	28.2	22.7	*5.6*
Japanese yen	371.4	329.9		407.2	363.3	
Pound sterling	139.7	102.8		211.9	159.4	
Swiss franc	116.3	85.7		138.8	108.7	
Total	1,571.8	1,313.4		1,981.6	1,741.0	

Note: Estimates shown in italics.

[1] Average daily turnover, net of local inter-dealer double-counting. The table reports the turnover in which a given currency appears on one side of a transaction; consequently, each transaction is counted twice. To take this into account, the total (which also includes other and unallocated currencies) is divided by two. [2] In the survey, decompositions are available only for the Deutsche mark, French franc, pound sterling, ECU and the sum of all other EMS currencies. In order to estimate turnover for EMU currencies, the sum of other EMS currencies is broken down using figures on local currency trading based on the methodology used in Table V.5 of the 67th Annual Report. [3] Before the start of EMU, foreign exchange transactions between prospective members' currencies were sometimes carried out using the US dollar as a vehicle. As a result, an estimation of the current importance of the euro, the dollar and the yen based on the subtraction of intra-EMU turnover in 1998 leads to an overestimation of importance for the euro, an underestimation for the yen and a correct estimation for the dollar.

Sources: *Central Bank Survey of Foreign Exchange and Derivatives Market Activity* (1995, 1998); BIS calculations. Table VI.3

In the meantime, what is certain is that the introduction of the euro has caused a shrinkage of foreign exchange markets. According to the 1998 survey, trading between prospective EMU currencies that in 1995 accounted for 13% of total turnover contracted to less than 6% in 1998. It is noteworthy that the disappearance of one important segment of foreign exchange markets has not been offset by increased activity in emerging market currencies, as was earlier expected. Trading in such currencies actually declined between 1997 and 1998.

… reserve …

In evaluating the role of the euro as a reserve currency, it is necessary to distinguish between short-term developments and long-term prospects. In recent years, the share of worldwide official reserves invested in dollar-denominated instruments has remained fairly stable at around 70% (Table VI.4). The shares of the mark and the yen are much smaller and amounted to about 11% and 5% respectively at end-1998. The decline in the share of European currencies other than the mark, including the ECU, explains to a large extent the decline in non-dollar reserves in 1998. Taken together, the EMU currencies accounted for about 15% of world reserves in 1998. As the holdings of EMU currencies by countries in the euro area have disappeared, the dollar's share in total reserves will have increased somewhat. Over the longer run, how much the euro's weight in world reserves will exceed the sum of its constituent currencies will depend on central banks' future reserve management strategies. The role that it plays as an anchor currency may also be relevant, if countries

Official foreign exchange reserves

	1995	1996	1997	1998	Amounts outstanding at end-1998
	in billions of US dollars				
	Changes, at current exchange rates				
Total	198.5	172.3	52.7	63.8	1,636.1
Industrial countries	79.3	69.6	–12.0	– 0.5	690.4
Asia[1]	49.4	64.2	8.8	61.9	562.9
Latin America[2]	21.4	24.0	10.8	– 8.4	132.7
Eastern Europe[3]	34.6	–2.6	5.1	4.8	73.3
Other countries	13.8	17.1	40.0	6.0	176.8
	Changes, at constant exchange rates[4]				
Total	180.8	200.3	111.4	28.8	1,636.1
Dollar reserves held:	142.5	162.1	78.3	25.7	1,144.6
In the United States[5]	106.0	128.0	22.1	– 7.2	727.3
With banks outside the US[6]	–15.4	19.2	– 4.4	– 4.8	117.0
Unallocated	51.9	14.9	60.5	38.3	300.9
Non-dollar reserves	38.3	38.2	33.1	3.1	491.5
of which held with banks[6]	*7.6*	*8.0*	*17.2*	*–22.9*	*111.7*

[1] China, Hong Kong, India, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan and Thailand. [2] Argentina, Brazil, Chile, Colombia, Mexico and Venezuela. [3] Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Slovakia and Slovenia. [4] Partly estimated; valued at end-of-year exchange rates. The residual has been allocated on the basis of known reserves. [5] Excludes foreign military sales prepayments and the current value of zero coupon bonds issued to the governments of Argentina, Mexico and Venezuela as collateral for their Brady bonds. [6] Deposits by official monetary institutions with BIS reporting banks.

Sources: IMF; national data; BIS. Table VI.4

pegging their currencies to the euro prefer to hold their reserves in that currency. Given the high levels of reserves held in emerging market countries, their exchange rate policies may become particularly important in this respect.

… investment …

Against the background of strongly rising international bond and equity flows (Table VI.5), the euro may play a significant role as an investment currency. In the first quarter of 1999, there was substantial bond issuance in euros.

Cross-border transactions in bonds and equities*

	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
	as a percentage of GDP											
United States	4	9	35	89	96	107	129	131	135	159	213	230
Japan	2	8	62	119	92	72	78	60	65	79	96	91
Germany	5	7	33	57	55	85	170	158	172	200	257	334
France	n.a.	5	21	54	79	122	187	197	187	258	314	415
Italy	1	1	4	27	60	92	192	207	253	470	677	640
Canada	3	9	27	65	83	114	153	206	187	251	355	331

* Gross purchases and sales of securities between residents and non-residents.

Source: National balance-of-payments data. Table VI.5

The role of the dollar, mark and yen as anchor currencies

	Share of local currency turnover (in %) against[1]			Exchange rate elasticity[2]		Share of local currency turnover (in %) against[1]			Exchange rate elasticity[2]
	US$	DM	Yen			US$	DM	Yen	
Asia					Eastern Europe				
Indian rupee	90.0	2.9	1.0	0.09	Czech koruna[4]	42.8	53.5	3.6[5]	0.75
Korean won	97.3	0.5	1.5	0.29	Hungarian forint	71.5	25.4	0.0	0.45
Taiwan dollar[3]	90.5	1.3	4.4	0.24	Polish zloty	78.9	19.8	n.a.	0.33
Thai baht	96.7	0.3	1.9	0.33	Slovak koruna	85.0	11.9	3.2[5]	0.63
Latin America					Other currencies				
Brazilian real	85–90[6]	n.a.	n.a.	0.55	New Israeli shekel	89.2	n.a.	n.a.	0.28
Colombian peso	100.0	0	0	–0.08	Saudi riyal	98.1	0.2	0.1	0
Mexican peso	n.a.	n.a.	n.a.	–0.96	South African rand	95.0	1.8	3.2	0.11
New Peruvian sol	100.0	0	0	0.03	Turkish lira	100.0	0	0	0.68

[1] Shares in foreign exchange turnover are computed as the ratio of local trading of the domestic currency against the dollar, mark and yen to total local trading of the domestic currency (July 1998). [2] Exchange rate elasticities are estimated as coefficients in the regression $X_t = \alpha + \beta\,(\text{DM/\$})_t + \gamma\,(\text{yen/\$})_t + u_t$, where X_t is the dollar exchange rate of a currency. All variables are percentage changes. The regression is estimated with monthly data over the sample period 1993:1–1998:12. The values reported are elasticities with respect to yen/dollar changes for Asian currencies and with respect to mark/dollar changes for all other currencies. An elasticity close to 0 indicates a high co-movement with the dollar. [3] April 1998. [4] October 1997. [5] Includes other currencies. [6] Estimate.

Sources: Central banks; Datastream; IMF; BIS calculations. Table VI.6

As suggested in the 67th Annual Report, the response of liability managers as well as asset managers to the introduction of the euro will be crucial in determining the development of the new currency. The euro will certainly benefit from the growing integration of European government bond and private bond markets. The segmentation that remains in some of these markets, which is due inter alia to differences in national regulations, tax regimes and market practices, indicates that it may also take some time for the euro to have an impact on private portfolio behaviour.

… and anchor currency

The euro's role as monetary anchor for other currencies is likely to evolve from that which the mark played up to end-1998. The co-movement of exchange rates with the dollar, mark and yen suggests that the dollar plays a dominant role in Asia, Latin America and other regions (Table VI.6). Evidence from the currency composition of foreign exchange market turnover points in the same direction. In 1998 the anchoring role of the mark was limited to Europe, suggesting that the role of the euro as an anchor may be confined to that region (and the previous sphere of influence of the French franc) in the near future. In early 1999 sterling, the Swiss franc, the krona and most eastern European currencies reacted to changes in the euro/dollar rate in broadly the same way as they had reacted to mark/dollar movements in the past. On average, for every 1% depreciation of the euro against the dollar, the Swiss franc depreciated by about 1.1%. The krona tracked the euro less closely, as it tended to depreciate by about 0.7% for every 1% decline of the euro, while the pound tended to share about half of the euro's movements against the dollar. The Czech koruna behaved similarly to the krona, while the zloty on average shared less than one-third of the euro's changes against the dollar. In contrast, the forint co-moved more with the euro than with the mark.

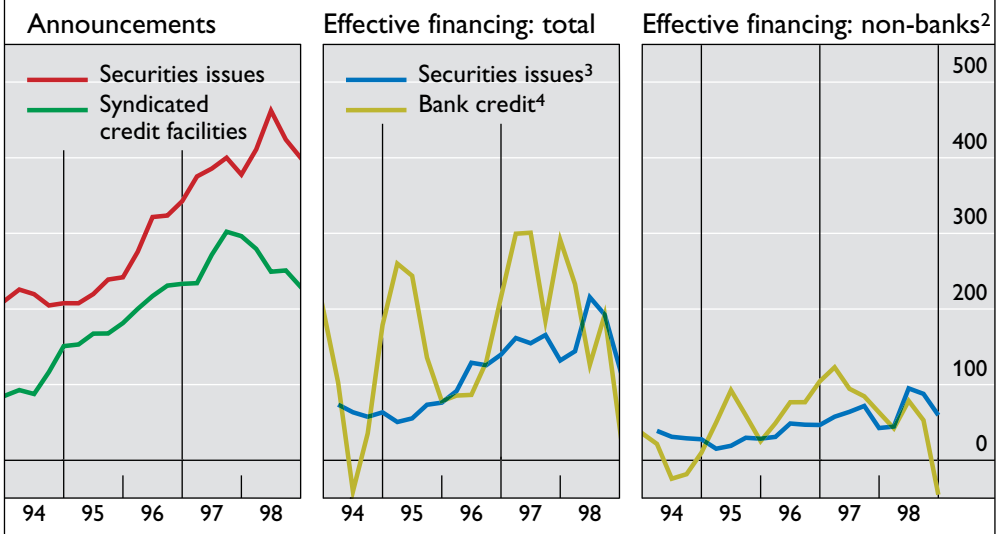
VII. International financial markets

Highlights

The Russian debt moratorium announced in August 1998 was a watershed event for international financial markets. Admittedly, recurrent strains since the onset of the Asian crisis in July 1997 had already had a considerable impact on overall market conditions. But, until last summer, expansionary factors generally remained sufficiently strong to offset growing concerns about exposures to credit risk. Prime among these supportive elements were the search for higher returns in a favourable monetary environment, the partly related international diversification of portfolios, the wave of mergers and acquisitions in the industrial world and the gradual emergence of a pan-European financial market. The unexpected Russian decision led to a dramatic loss of market confidence, which was compounded in September by revelations concerning the size of exposures faced by Long-Term Capital Management (LTCM). Issuing conditions tightened abruptly for all but the most creditworthy borrowers, new financing through international banking and securities markets was severely curtailed and secondary market trading plunged for all risky instruments. Although the easing of official rates brought a measure of calm and breathed new life into primary and secondary markets, concerns remained about the soundness of the global financial system.

Activity in international financial markets[1]

In billions of US dollars



[1] Two-quarter moving averages. [2] Excluding non-bank financial institutions for securities issues. [3] Gross issues minus repayments. [4] Exchange-rate-adjusted changes in gross international bank claims.

Sources: Bank of England; Capital DATA; Euroclear; *International Financing Review* (IFR); International Securities Market Association (ISMA); national data; BIS. Graph VII.1

Estimated net financing in international markets[1]

	1993	1994	1995	1996	1997	1998	Stocks at end-1998
	in billions of US dollars						
Total cross-border bank claims[2]	316.4	274.9	680.1	532.7	1,142.6	331.0	9,665.4
Local bank claims in foreign currency	–0.9	0.2	–36.0	71.4	42.1	12.1	1,382.8
minus: Interbank redepositing	*115.5*	*85.1*	*314.1*	*184.1*	*719.8*	*228.1*	*5,563.2*
A = Net international bank claims[3]	200.0	190.0	330.0	420.0	465.0	115.0	5,485.0
B = Net money market instruments	–6.2	3.3	17.4	41.1	19.8	7.4	194.5
Total completed bond and note issues	..	504.1	536.8	859.6	1,014.0	1,167.8	
minus: Redemptions and repurchases	..	*253.8*	*291.0*	*363.4*	*460.5*	*497.5*	
C = Net bond and note financing	194.9	250.3	245.8	496.2	553.5	670.3	4,121.6
D = A + B + C = Total international financing	388.7	443.6	593.1	957.3	1,038.3	792.7	9,801.1
minus: Double-counting[4]	*113.7*	*38.6*	*48.1*	*197.3*	*163.3*	*227.7*	*1,456.1*
E = Total net international financing	275.0	405.0	545.0	760.0	875.0	565.0	8,345.0

[1] Changes in amounts outstanding excluding exchange rate valuation effects for banking data and euronote placements; flow data for bond financing. [2] Banks in the G10 countries plus Austria, Denmark, Finland, Ireland, Luxembourg, Norway, Spain, the Bahamas, Bahrain, the Cayman Islands, Hong Kong, the Netherlands Antilles and Singapore, and the branches of US banks in Panama. [3] Excluding, on an estimated basis, redepositing between reporting banks. [4] International debt securities purchased or issued by the reporting banks, to the extent that they are included in the banking statistics as claims on non-residents.

Sources: Bank of England; Capital DATA; Euroclear; IFR; ISMA; BIS. Table VII.1

On the face of it, and despite the significant losses experienced by some key players, the international interbank market seems to have withstood fairly well the massive unwinding of leveraged positions and the abrupt shift in investor preference towards safe and liquid assets. Meanwhile, financing through the international securities market continued to be supported by longer-term influences, with highly rated borrowers even stepping up their issuance in a context of fierce competition between underwriters. Finally, derivatives markets once again accommodated the reconsideration of existing positions and strategies. Nevertheless, the resilience of markets should not obscure the fact that both market participants and the authorities were caught by surprise by the extent of the turnaround, which revealed serious deficiencies in existing risk management systems and regulatory oversight, as well as in market transparency.

The international banking market

In the area of syndicated loan facilities, mergers and acquisitions in North America and Europe maintained activity at a fairly high level in 1998, but total announcements nevertheless declined by 16% (to $957 billion). Facilities arranged for emerging market names nearly halved (to $68 billion) and decreased further in the first quarter of 1999. The Asian crisis that erupted in mid-1997 had already rendered the environment much less favourable to borrowers. The retreat of Japanese and other Asian banking groups led to a further tightening of lending conditions. In that sense, the Russian moratorium merely reinforced banks' reconsideration of exposures and risk management

The Russian moratorium …

methods. The growing presence of institutional investors and investment banks, and more active secondary market trading, brought pricing more into line with that prevailing in the international securities market. At the same time, the increasing use of credit derivatives provided some scope for a more rapid adjustment of exposures, although the global financial crisis highlighted a number of deficiencies in that market segment (see the section on derivatives markets).

The deterioration in the financial environment in the course of 1998 was more clearly apparent in the detailed BIS international banking statistics, which refer to actual lending rather than announced facilities. Thus, while banks cut their exposure to Asian emerging market economies by a record amount in the first quarter of the year, their retrenchment subsequently spread to other regions of the developing world. Then, in the third quarter, at the height of the Russian crisis, the retreat by banks reached the industrial world. There was, in particular, a sharp cutback in new loans to non-bank customers located in financial centres which are host to hedge funds. Parallel sales of securities by reporting banks also provided evidence of the unwinding of collateralised borrowing. Although the retrenchment from emerging economies moderated in the final quarter, deleveraging and investors' flight to safety reached a climax, leading to an absolute contraction in international bank credit aggregates. Meanwhile, non-bank depositors displayed a strong preference for placing funds with banks perceived to be less exposed to the financial upheaval.

… accentuates banks' retreat from the developing world …

… and causes an absolute contraction of credit …

Main features of international banking activity[1]

	1993	1994	1995	1996	1997	1998	Stocks at end-1998
	in billions of US dollars						
A = Claims on outside area countries	11.6	36.6	120.8	141.4	98.6	–29.6	1,200.7
B = Claims on inside area countries	251.4	228.3	506.5	446.2	1,095.0	394.4	9,630.5
(1) Claims on non-banks	*122.7*	*–49.3*	*189.5*	*302.2*	*242.4*	*69.9*	*2,935.1*
(2) International financing of domestic lending	*13.3*	*192.5*	*2.9*	*–40.1*	*132.8*	*96.4*	*1,132.3*
(3) Interbank redepositing	*115.5*	*85.1*	*314.1*	*184.1*	*719.8*	*228.1*	*5,563.2*
C = Unallocated	52.5	10.1	16.8	16.4	–8.8	–21.7	216.9
D = A + B + C = Gross international bank claims	315.5	275.1	644.1	604.1	1,184.8	343.1	11,048.2
E = D – B*(3)* = Net international bank claims	200.0	190.0	330.0	420.0	465.0	115.0	5,485.0
A = Liabilities to outside area countries	–14.8	74.6	96.4	101.8	77.2	–13.2	1,047.9
B = Liabilities to inside area countries	112.5	539.2	338.5	325.0	950.1	337.6	8,728.1
(1) Liabilities to non-banks	*86.2*	*132.8*	*116.7*	*225.7*	*202.8*	*44.0*	*2,053.7*
(2) Domestic funding of international lending	*85.6*	*–64.4*	*18.9*	*–31.7*	*–3.1*	*24.4*	*1,318.2*
(3) Interbank redepositing	*–59.3*	*470.9*	*202.9*	*131.0*	*750.4*	*269.2*	*5,356.2*
C = Unallocated	43.0	47.1	98.0	124.1	188.1	59.8	1,065.1
D = A + B + C = Gross international bank liabilities	140.7	660.9	532.9	551.0	1,215.4	384.2	10,841.2
Memorandum item: Syndicated credits[2]	*279.4*	*477.1*	*697.7*	*900.9*	*1,136.3*	*957.3*	

[1] Changes in amounts outstanding excluding exchange rate valuation effects. [2] Announced new facilities.

Sources: Capital DATA; BIS. Table VII.2

… as the impact of growth factors subsides

Growth factors masked for some time the negative impact of these developments on international banking flows. One was the phasing-in of EMU, which acted as a catalyst for the expansion of cross-border business in Europe. Another was the active role played by banks in securities markets. Indeed, the sharp movement recorded in banks' holdings of certain types of securities in the course of the year illustrated the importance of their proprietary trading transactions in overall activity. An additional supportive influence was the active reshuffling of world liquidity through the international interbank market. These elements, together with the international expansion of some European banking groups, also compensated for the pullback of Japanese banks and the indirect impact of the turmoil on banks with actual or perceived links to major debtors or leveraged investors.

Business with countries inside the reporting area

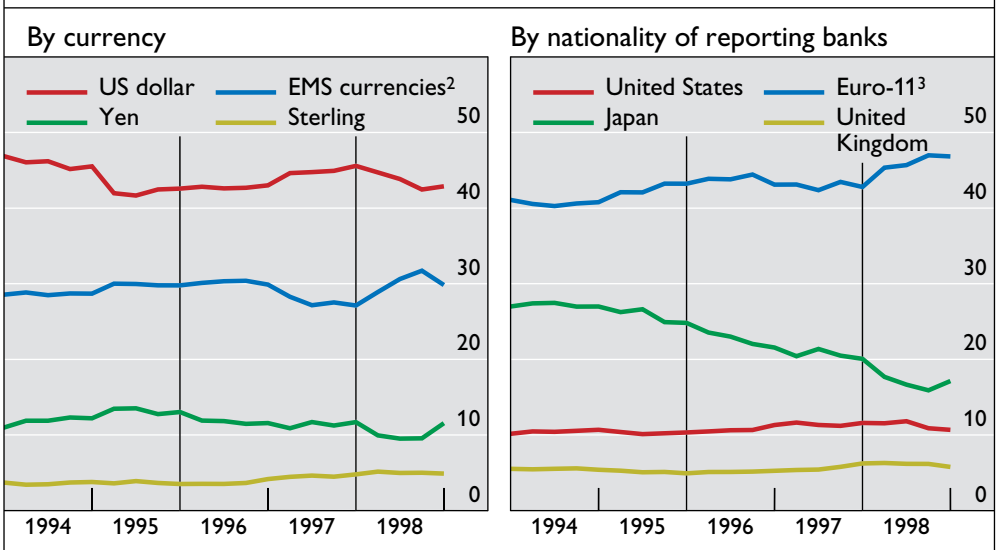
Active inside area lending in the first half of the year …

In the first half of 1998, international banking activity was already heavily focused on borrowing entities located in Europe, North America and Caribbean centres, at the expense of Japan and most emerging market economies. This pattern of lending helped delay the widening of risk premia within the group of inside area borrowers other than Japan (see footnote 2 to Table VII.1 for a definition of the BIS reporting area). It may also have indirectly facilitated the financing of leveraged strategies. Of note was the strong build-up in banks' holdings of securities issued by developed country names during this period, although the extent of trading plays associated with it was only revealed in the subsequent unwinding. The abrupt swings in credit availability which took place in the course of the summer were most evident in transactions with the non-bank sector located inside the reporting area.

… facilitates leveraged transactions …

Currency and nationality structure of international bank lending[1]

Percentage shares, at quarter-end



[1] Cross-border claims and local claims in foreign currency of banks located in industrial reporting countries. [2] Belgian franc, Deutsche mark, French franc, guilder, lira and the ECU. [3] Excluding Portugal.

Source: BIS. Graph VII.2

Banks' external claims on countries outside the reporting area*								
	1996	1997	1998					Stocks at end-1998
	Year	Year	Year	Q1	Q2	Q3	Q4	
	in billions of US dollars							
Total outside area	141.4	98.6	–29.6	– 5.0	– 4.5	–25.7	5.6	1,200.7
Developed countries	22.8	25.2	30.8	9.5	2.3	8.8	10.2	248.2
Eastern Europe	10.8	18.5	– 0.5	6.3	4.6	–10.4	– 1.0	108.8
Russia	*6.8*	*9.8*	*– 6.3*	*3.3*	*2.7*	*–10.7*	*– 1.6*	*54.7*
Developing countries	107.9	54.9	–59.9	–20.8	–11.4	–24.1	– 3.6	843.7
Latin America	28.5	34.1	0.7	12.7	2.0	– 8.0	– 6.1	309.0
Argentina	*5.4*	*7.3*	*– 0.3*	*1.5*	*– 0.2*	*1.2*	*– 2.8*	*46.5*
Brazil	*16.7*	*10.7*	*– 3.9*	*8.1*	*0.6*	*– 8.0*	*– 4.5*	*98.2*
Mexico	*0.1*	*2.3*	*1.5*	*1.3*	*– 0.3*	*– 0.9*	*1.4*	*76.3*
Middle East	–0.1	10.5	23.3	– 0.8	6.2	7.5	10.5	106.6
Africa	–0.4	2.6	– 1.1	0.8	– 1.7	– 0.2	0.0	58.7
Asia	79.8	7.6	–82.8	–33.5	–18.0	–23.4	– 7.9	369.3
China	*13.5*	*11.4*	*– 8.3*	*0.3*	*– 3.3*	*– 6.3*	*1.0*	*82.7*
Indonesia	*9.4*	*5.7*	*–12.7*	*– 5.0*	*– 4.0*	*– 2.1*	*– 1.6*	*50.5*
Korea	*26.6*	*– 4.3*	*–30.1*	*–16.4*	*– 4.2*	*– 4.7*	*– 4.9*	*74.6*
Thailand	*9.5*	*–17.5*	*–24.0*	*– 8.5*	*– 5.3*	*– 4.8*	*– 5.4*	*56.6*

* Changes in amounts outstanding excluding exchange rate valuation effects.

Source: BIS. Table VII.3

While the cutback in the third quarter was limited to entities located in the United States and some of the Caribbean centres (where a number of hedge funds are registered), the retreat turned into a stampede in the fourth. This was reflected in a 9% annualised contraction in the volume of international bank credit extended to inside area non-bank customers.

… which amplify the subsequent turnaround …

On the liabilities side of reporting banks' international balance sheet, new deposits by non-bank investors located in the reporting area appeared sufficient until the summer to offset the loss of deposits from emerging market countries. Signs of strains became apparent in the third quarter, when such depositors showed a preference for holding assets with a select number of banking groups. The imbalance became particularly acute in the fourth quarter, when inside area non-banks withdrew massively and across the board from the international banking market (–22% on an annual basis). This sheds light on the much publicised international credit crunch of last October. With hindsight, it appears that the disruption in international banking intermediation that took place during this period was due as much to banks' reduced ability to attract funds as to their own reluctance to extend credit. This explains the injection of liquidity by the monetary authorities of the major countries, which prevented further systemic repercussions.

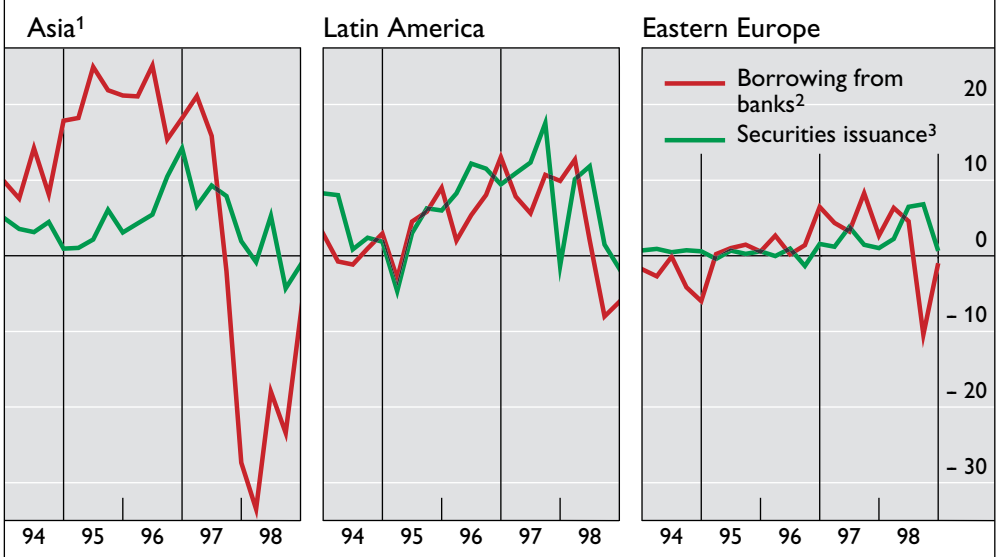
… as does the massive withdrawal of deposits

Business with countries outside the reporting area

There was a sharp turnaround in banks' credit flows to emerging and transition economies in 1998 (to −$60 billion from +$73 billion in 1997), although it varied considerably across regions, in terms of both timing and magnitude. In

International bank and securities financing by region

In billions of US dollars



[1] Excluding Hong Kong, Japan and Singapore. [2] Exchange-rate-adjusted changes in BIS reporting banks' claims vis-à-vis the respective regions. [3] Net issues of international money market instruments, bonds and notes.

Sources: Bank of England; Capital DATA; Euroclear; IFR; ISMA; national data; BIS. Graph VII.3

Banks' pullback from Asia …

… widens in the summer …

… to include China …

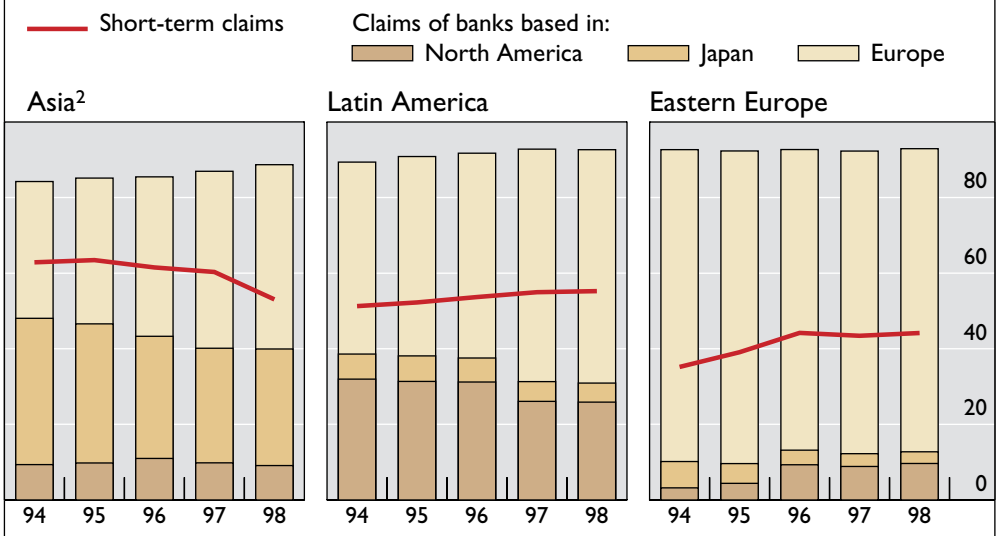
… and Brazil

the case of Asia, the crisis that emerged in summer 1997 reached a climax in the first quarter of 1998 as reporting banks sharply reduced their exposures to Indonesia, Korea, Malaysia and Thailand. An improvement in market conditions, especially with respect to Korea, was short-lived as emerging market borrowers bore the brunt of investors' flight to safety after the announcement of the Russian moratorium in August. Reporting banks subsequently continued to reduce their exposure to this group of countries, but they also withdrew from China amidst growing uncertainty concerning the financial situation of local holding companies and the sustainability of the exchange rate (see Chapter III). The widespread retreat among the various nationality groups of lending banks and the high proportion of short-term debt in the total banking exposure to Asia (60% at end-1997 on average) aggravated the disruption to local economies.

Contagion beyond Asia was contained for some time, but as the year progressed there was evidence of a credit squeeze for other emerging market countries as well. In Latin America, one striking development was the turnaround that took place in banks' credit relations with Brazil between the first and second halves of the year. Record high domestic interest rates and new regulations induced strong inflows of bank funds in the early part of the year. However, the movement was more than fully reversed thereafter as developments in Russia led to a particularly severe reassessment of exposure to Brazil. The impact of the Russian crisis, the unwinding of leveraged positions following the near-collapse of LTCM and the suggestion of enhanced private sector burden-sharing in the context of a precautionary IMF support package for the country probably encouraged creditors to reduce their exposure prior to the devaluation of the real in early 1999. Interestingly, banks' pullback from

Main features of international banking claims by region

As a percentage of total claims, at year-end[1]



[1] For 1998, end-June. [2] Excluding Hong Kong, Japan and Singapore.

Source: BIS. Graph VII.4

other countries in the continent was more muted, with Argentina retaining some access to the international banking market well into the third quarter and Mexico raising fresh credit in the fourth quarter, albeit at wider spreads.

Contagion elsewhere is muted …

The insulation of Latin America in the first half of 1998 from the crisis originating in Asia has already been noted in Chapter III. The continuing, albeit reduced, ability of Argentina and Mexico to tap the international markets thereafter suggests a greater differentiation of country risk among investors. However, other fundamental factors may have accentuated this tendency. First, the implicit assumption that countries in the region were covered by an international safety net encouraged banks to exploit existing interest rate differentials, thus enabling credit spreads to stabilise (see the last section of this chapter). Second, European and North American banks were keen to further strengthen their presence in Latin America and build up links with local banking systems perceived to have reached a fairly advanced stage of restructuring. Third, with the exception of Brazil, the weight of banking debt falling due in 1998 was considerably lower than in Asia. This alleviated external financing pressures, at least in the short term, the more so as in some instances the needs could be met in the international securities market.

… suggesting greater differentiation of country risk …

In eastern Europe, the BIS international banking data provide evidence of the persistence of bank financing to Russia right up to the decision by the authorities to declare a moratorium on part of the country's debt. This has been attributed to the confidence of creditors in the country's ability to service its obligations or to secure an international support package in the event of servicing difficulties. That event was followed by a massive drop in the dollar value of banks' exposure to Russia, largely through a sharp markdown in the portfolio value of defaulted securities. Indeed, that country accounted for the whole of the decline seen in reporting banks' claims on the region in the

… and notwithstanding the Russian shock

second half of the year. Other eastern European countries do not appear to have been subject to a significant drying-up of bank credit during that period, perhaps owing to a more favourable economic climate and growing links with EU countries.

At the same time, notwithstanding the combined impact of contagion and falling oil prices, international banking funds continued to flow to the Middle East. In particular, Saudi Arabia and the United Arab Emirates continued to capitalise on their high credit standing to tap the banking market on a large scale.

The international securities market

A record volume of securities issuance …

Despite the trend rise in repayment flows and the drying-up of business in money market instruments, net new financing through international debt securities reached a new record in 1998 ($678 billion). Issuing conditions varied markedly in the course of the year. Brisk activity in the first quarter reflected both issuance that had been delayed by the deepening of the Asian financial crisis in late 1997 and the more accommodative monetary stance that followed.

Main features of international debt securities issues[1]

	1993	1994	1995	1996	1997	1998	Stocks at end-1998
	in billions of US dollars						
Total net issues	188.7	253.6	263.1	537.3	573.3	677.7	4,316.1
Money market instruments[2]	– 6.2	3.3	17.4	41.1	19.8	7.4	194.5
Bonds and notes[2]	194.9	250.3	245.8	496.2	553.5	670.3	4,121.6
Developed countries	114.8	205.5	228.4	411.0	449.0	570.2	3,506.2
Europe[3]	147.7	167.1	159.8	243.2	257.9	279.6	2,029.2
Japan	–52.1	–5.9	–2.9	16.3	–0.4	–19.8	318.1
United States	– 4.0	22.9	56.3	131.8	176.9	282.6	845.0
Canada	19.2	16.6	8.7	8.8	10.1	21.5	207.4
Offshore centres	10.2	7.2	1.7	16.3	14.5	11.6	61.0
Other countries	27.6	32.5	22.1	88.2	89.2	40.9	377.5
International institutions	36.2	8.5	11.0	21.8	20.6	55.1	371.3
US dollar	28.6	66.5	69.0	261.7	332.0	411.1	1,971.9
Yen	29.3	86.0	81.3	85.3	34.6	–29.3	487.5
Euro area currencies	82.6	80.2	84.3	135.8	139.0	220.3	1,173.8
Other currencies	48.3	20.9	28.5	54.4	67.8	75.5	682.9
Financial institutions[4]	51.4	136.1	167.9	346.9	360.0	368.3	2,022.6
Public sector[5]	130.7	103.1	73.3	118.5	89.0	182.1	1,273.2
Corporate issuers	6.6	14.4	22.0	71.9	124.3	127.2	1,020.0
Memorandum item:							
Announced bonds and notes	*534.6*	*492.5*	*534.5*	*861.1*	*1,010.9*	*1,172.7*	

[1] Flow data for international bonds; for money market instruments and notes, changes in amounts outstanding excluding exchange rate valuation effects. [2] Excluding notes issued by non-residents in the domestic market. [3] Excluding eastern Europe. [4] Commercial banks and other financial institutions. [5] Governments, state agencies and international institutions.

Sources: Bank of England; Capital DATA; Euroclear; IFR; ISMA; BIS. Table VII.4

The climate soured in August, when the Russian moratorium closed market access to all but the best names. A round of official interest rate reductions brought a measure of calm and allowed a resumption of activity, although anxiety concerning credit and liquidity risk strongly affected the composition of issuance, at the expense of emerging market names. Data available for the first quarter of 1999 show that such borrowers were able to return to the international securities market soon after the Brazilian devaluation in January (which had been widely anticipated). However, market indicators suggest that last autumn's global reassessment of risk had a more lasting influence on credit and liquidity risk premia, which remained above their long-term average.

… shows market resilience …

Nevertheless, the market proved resilient to recurring turbulence. While the expansion of the investor and issuer bases and the widening range of structures on offer were important supportive factors, other long-term influences were present, of which three stand out. First, restructuring within the industrial and financial sectors resulted in a wave of acquisition-related issuance. Second, the improved fiscal stance in the industrial world (except for Japan) created a window of opportunity for a broad range of highly rated borrowers. Third, the impending introduction of the single European currency added momentum to cross-border flows, with issuers' desire to establish ECU/euro-denominated benchmarks leading to a shift away from certain domestic markets.

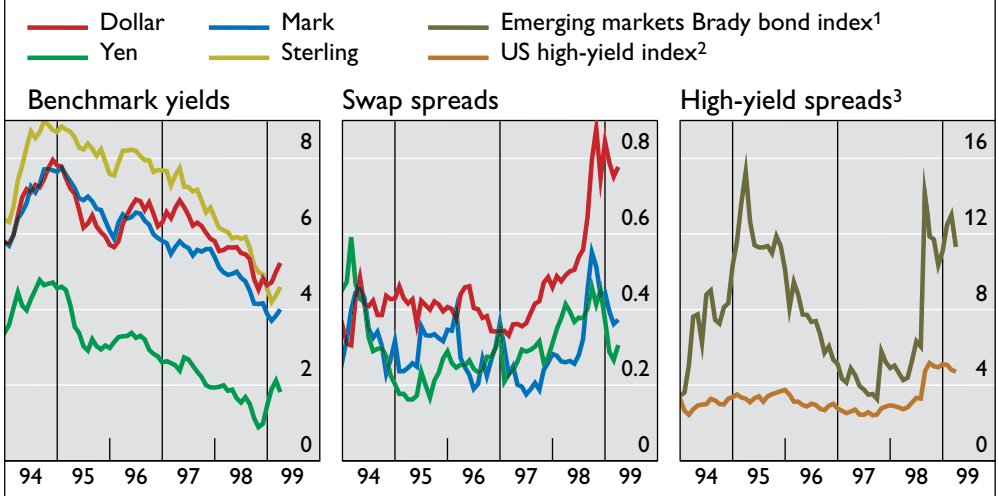
… in a context of restructuring …

… adjustment to the euro …

Higher market volatility accentuated the concentration among intermediaries. US underwriters maintained their lead, using the strength of their balance sheets to win mandates for large dollar-denominated supranational and public sector issues. European-based dealers capitalised on their distribution power in European currencies and on the imminence of the euro to make new gains in market share. In contrast, the low volume of Japanese-originated and yen-denominated business led to a further decline in the market

Long-term interest rates

In percentages and percentage points



1 Yield stripped of collateral backing. 2 Sub-investment-grade corporate bond yield. 3 High-yield bond rate less the 30-year US Treasury bond yield.

Sources: Bloomberg; Datastream; JP Morgan; national data; BIS. Graph VII.5

… and fierce competition among underwriters

standing of Japanese intermediaries. Meanwhile, growing competition squeezed underwriting margins, prompting some banking groups to scale back their ambition of becoming global players.

Type and nationality of issuers

Investors shift to liquid paper …

The turbulence in financial markets had an impact on the mix of borrowers accessing the international securities market. The strength of investor demand for highly rated and liquid securities encouraged public sector entities in the industrial world and supranational agencies to step up issuance (by 59% and 44% year on year respectively). This was reflected in a sharp increase in the average size of transactions, with deals in excess of $1 billion accounting for 27% of issues compared with 10% in the previous year. Financial institutions continued to account for the largest single share of issues (54%), despite concerns created by their exposures to emerging market countries and leveraged investors. The focus of investors on large benchmark issues and doubts about the strength of the non-financial private sector hampered issuance by this group.

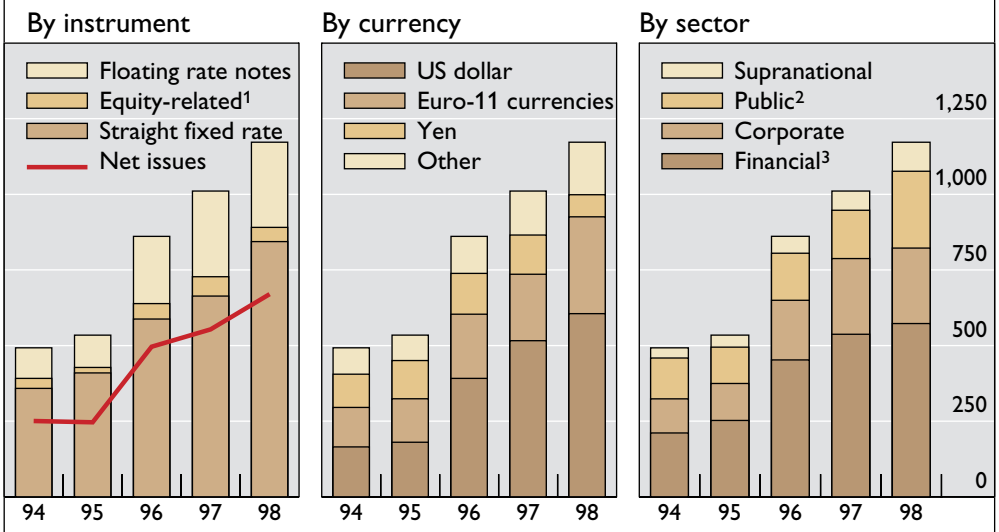
… of prime US and German issuers …

US and German borrowers were particularly active, accounting for 26% and 13% respectively of total gross issuance of debt securities. While US semi-public financing agencies capitalised on the reduced supply of US Treasury paper to create large international benchmarks, highly rated German banking institutions pursued an active diversification of funding through exceptionally large Deutsche mark issues. In contrast, gross financing for Japanese borrowers dropped sharply as banks faced widening risk premia and corporate entities turned to the domestic bond market. At the same time, emerging market borrowers bore the brunt of investors' flight to safety. Thus, gross issuance by such names declined by 36% from the record volume of 1997 (to $95 billion).

… at the expense of emerging market names

Main features of the international bond and note markets

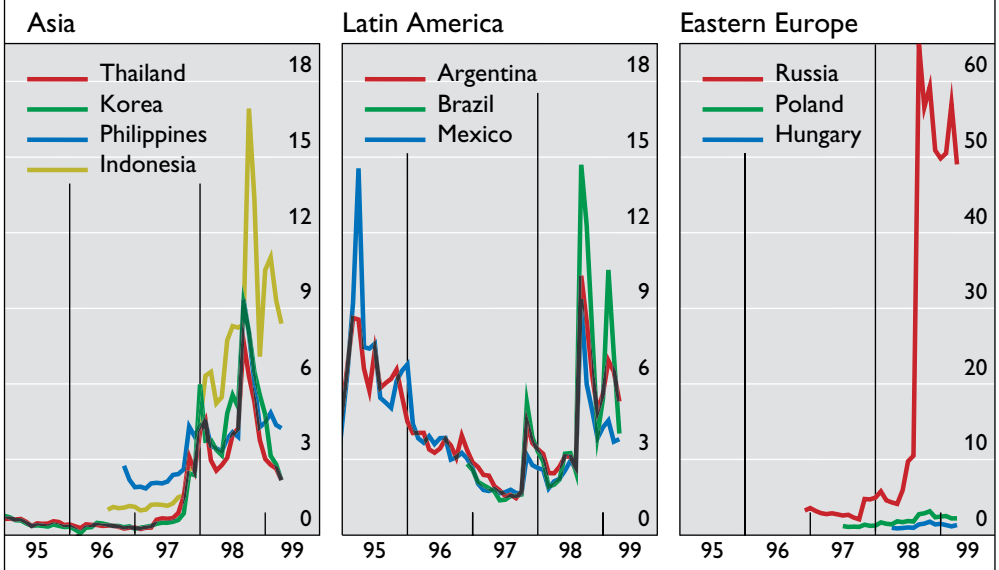
Announced issues, in billions of US dollars



1 Convertible bonds and bonds with equity warrants. 2 Governments and state agencies. 3 Commercial banks and other financial institutions.

Sources: Bank of England; Capital DATA; Euroclear; IFR; ISMA; BIS. Graph VII.6

Average spread of US dollar sovereign international bonds *



* Over 10-year US Treasury bonds, in percentage points.

Source: Bloomberg. Graph VII.7

Although investors demonstrated a preference for Latin American and eastern European issuers in the first half of the year, activity in this market segment dried up following the Russian moratorium. A few sovereign borrowers nevertheless managed to launch sizable issues, but margins were much higher and maturities shorter. Furthermore, a number of issues included "sweeteners" to enhance their marketability.

Type and currency of issues

Issuance of short-term paper drops …

Financing through *money market instruments*, comprising eurocommercial paper (ECP) and other short-term euronotes, decelerated further in 1998. The crisis in emerging markets accounted for some of the reduction, but much of the decline resulted from the repayment of debt by a narrow group of European sovereign borrowers and Japanese financial institutions. This subdued pattern of activity contrasted sharply with the robust expansion of the US commercial paper market. Although the dollar remained by far the most actively used currency in the ECP market, a number of European governments have positioned themselves in anticipation of the emergence of a large and liquid European short-term debt market by announcing the introduction of new facilities denominated in euros.

… but demand for liquidity boosts fixed rate issuance

In the *longer-term segments* of the market, the increase in the gross issuance of *straight fixed rate paper* more than offset the drop in floating rate notes and equity-linked securities. While the volatility of bond yields and swap rates in the second half of the year often made it difficult to launch fixed rate paper, investors' demand for liquidity and the rush by borrowers to introduce large benchmarks ahead of EMU provided overall support in that segment. The persistence of wide swap spreads in some of the key currencies (the dollar and sterling in particular) also enabled highly rated borrowers to offset the

negative impact of less attractive margins on new issues. However, faced with weak demand for complex structures, supranational agencies and the largest public sector issuers used a variety of liquidity-enhancing features, including fungibility of tranches and repurchase facilities.

Credit risk hinders FRN issuance

Although the evolution of global interest rates and the volatility of asset prices whetted investors' appetite for defensive instruments, wide swap spreads reduced the attractiveness of issuing *floating rate notes*. The global financial crisis also raised doubts about the creditworthiness of financial institutions, the main users of this market segment. There was a sharp reduction in the volume of *equity-linked issues* in 1998, following an exceptionally strong year in 1997. The poor performance of Japanese equity markets meant that Japanese companies were nearly absent from a segment in which they were once the dominant force. The situation was different for borrowers based in Europe, where industrial restructuring and the growing emphasis on shareholder value continued to induce firms to unwind cross-shareholdings through tax-efficient exchangeable issues (allowing the debt of one company to be exchanged for the equity of another). It should be noted that the dearth of standard equity-linked transactions belies the extent of activity in that market segment since a growing number of issues have been synthetically structured on the basis of equity derivatives. The primary market for *international equities* was somewhat livelier, with a new record volume of issues ($125 billion) launched mainly by recently privatised European and Japanese telecommunications companies.

Equity-linked issues are subject to conflicting influences …

A number of developments illustrated the variety of influences bearing on the international securities market. For example, there were signs in the first half of the year that investors were becoming more favourably disposed towards corporate debt, as illustrated by the expansion of European high-yield ("junk") issuance. But such activity dried up almost entirely thereafter, reflecting the flight to quality. At the same time, *asset-backed securities* benefited from investment demand for highly rated paper, notwithstanding some credit tiering as well as concerns about the liquidity and financial solidity of such structures. These factors did not prevent the development of securitisation in a number of European countries, as illustrated by the origination of the first mortgage-backed issues in Italy and Switzerland. The pressures faced by European banks in boosting capital efficiency and returns on equity have also encouraged the transfer of the credit risk of corporate loan portfolios through collateralised loan obligations (often in combination with credit derivatives). However, the European market for asset-backed securities remains hampered by the wide variety of regulations and conventions and the existence of competing financing channels (such as publicly guaranteed mortgage instruments).

… as are high-yield instruments

US dollar issues predominate …

The US dollar continued to account for about one-half of gross issues of international securities. The flight to quality and liquidity favoured bonds issued by US agencies and securitisation vehicles (including global bonds, which tend to be marketed to US residents). However, the impending introduction of the euro led to an increase in the share of euro area currencies (from 19% to 24%) and the ECU/euro (from 1% to 6%). There was also a sharp increase in activity in sterling, owing in part to favourable swap opportunities. In

… despite the surge in euro-related business …

contrast, technical and liquidity factors hampered business in smaller European currencies to the benefit of the Deutsche mark. Offshore yen business was hindered by the high cost of issuance faced by Japanese entities, the lack of attractive cross-currency swap opportunities and the rapid development of domestic corporate issuance. Lastly, the impact of the turmoil seen in emerging markets on issuance in high-yielding currencies was partly offset by the recovery in some Asian countries and the introduction of new currencies.

… as the role of the yen declines

Global derivatives markets

Changing interest rate and exchange rate expectations, new highs reached by equity markets and the sharp reversal of leveraged positions in the latter part of the year stimulated activity in derivatives markets in 1998. Exchange-traded business soared in the third quarter as investors withdrew from risky assets and shifted their exposure towards highly rated and liquid government securities. Competition between exchanges remained intense, particularly in Europe, where the imminence of the euro and the inexorable advance of automated exchanges challenged the dominance of established marketplaces. Moreover, exchanges continued to face competition from the rapidly growing over-the-counter (OTC) markets, forcing them to offer a wider range of services to make up for the loss of their franchises. The sharp increase in OTC outstanding positions in the second half of the year showed that the need for a massive reversal of exposures following the Russian moratorium more than offset the dampening impact of increased concerns about liquidity and counterparty risks. Nevertheless, the turbulence and related losses revealed the weaknesses of existing risk management systems in periods of extreme volatility and vanishing liquidity, prompting market participants to reconsider their risk models and internal control procedures.

Activity in derivatives soars …

… especially in the third quarter …

… as investors reverse their exposures

Markets for selected financial derivative instruments

	Notional amounts outstanding at year-end					
	1993	1994	1995	1996	1997	1998
	in billions of US dollars					
Exchange-traded instruments	7,771.2	8,862.9	9,188.6	9,879.6	12,202.2	13,549.2
Interest rate futures	4,958.8	5,777.6	5,863.4	5,931.2	7,489.2	7,702.2
Interest rate options	2,362.4	2,623.6	2,741.8	3,277.8	3,639.9	4,602.8
Currency futures	34.7	40.1	38.3	50.3	51.9	38.1
Currency options	75.6	55.6	43.5	46.5	33.2	18.7
Stock market index futures	110.0	127.7	172.4	195.9	211.5	321.0
Stock market index options	229.7	238.4	329.3	378.0	776.5	866.5
OTC instruments[1]	8,474.6	11,303.2	17,712.6	25,453.1	29,035.0	50,997.0
Interest rate swaps	6,177.3	8,815.6	12,810.7	19,170.9	22,291.3	..
Currency swaps[2]	899.6	914.8	1,197.4	1,559.6	1,823.6	..
Interest rate options[3]	1,397.6	1,572.8	3,704.5	4,722.6	4,920.1	..

[1] Data collected by ISDA. [2] Adjusted for reporting of both currencies; including cross-currency interest rate swaps. [3] Caps, collars, floors and swaptions.

Sources: Futures Industry Association; ISDA; various futures and options exchanges; BIS calculations.

Table VII.5

Exchange-traded instruments

Interest rate business dominates on exchanges …

The aggregate turnover of financial contracts monitored by the BIS expanded further in 1998 (by 9%, to $388 trillion). Interest rate products, which remained by far the most actively traded, experienced a sustained increase in activity (by 8%, to $350 trillion). Uncertainty over the course of monetary policy in Europe and North America supported trading in short-term interest rate contracts for much of the year, while the flight towards highly rated and liquid government paper boosted activity along most of the yield curve in the second half. There was, however, a decline in turnover towards year-end owing to the calming effect of lower official rates, the withdrawal of leveraged investors and the paring-down of positions ahead of EMU. Contracts on equity indices continued to record much faster growth than interest rate products (+16%, to $34 trillion) as new indices were introduced and bouts of downward market pressure and volatility prompted investors to seek protection. In contrast, the wide fluctuations seen in the major currency pairs were not

… but equity indices attract growing interest …

Financial derivative instruments traded on organised exchanges

	Turnover in notional amounts						Notional amounts at end-1998
	1993	1994	1995	1996	1997	1998	
	in trillions of US dollars						
Interest rate futures	177.3	271.7	266.3	253.5	274.6	294.8	7.7
On short-term instruments	138.9	222.1	218.2	204.8	223.2	239.9	7.3
of which:							
Three-month eurodollar rates	*70.2*	*113.6*	*104.1*	*97.1*	*107.2*	*119.3*	*2.9*
Three-month euroyen rates	*24.6*	*44.2*	*46.8*	*34.7*	*29.9*	*23.5*	*1.2*
Three-month euro-DM rates	*12.9*	*18.5*	*18.4*	*23.9*	*25.3*	*31.4*	*1.2*
Three-month Pibor	*10.4*	*12.0*	*15.9*	*13.7*	*12.3*	*4.4*	*0.1*
On long-term instruments	38.5	49.6	48.2	48.7	51.4	54.9	0.4
of which:							
US Treasury bonds	*8.0*	*10.1*	*8.7*	*8.5*	*10.1*	*11.3*	*0.1*
Japanese government bonds	*14.2*	*13.8*	*16.2*	*12.3*	*10.6*	*9.0*	*0.1*
German government bonds	*5.1*	*8.9*	*9.3*	*12.3*	*14.5*	*19.5*	*0.1*
French government bonds	*3.2*	*4.6*	*3.4*	*3.4*	*3.1*	*2.2*	*0.0*
Interest rate options[1]	32.8	46.7	43.3	41.0	48.6	55.5	4.6
Currency futures	2.8	3.3	3.3	3.0	3.5	3.1	0.0
Currency options[1]	1.4	1.4	1.0	0.9	0.7	0.4	0.0
Stock market index futures	7.1	9.4	10.6	12.9	16.4	20.8	0.3
Stock market index options[1]	6.3	8.0	9.2	10.1	13.0	13.2	0.9
Total	227.8	340.5	333.9	321.5	356.7	387.7	13.5
In North America	*113.1*	*175.9*	*161.1*	*154.2*	*182.7*	*199.5*	*7.3*
In Europe	*61.4*	*83.9*	*87.5*	*100.1*	*114.9*	*134.6*	*4.4*
In Asia[2]	*53.0*	*77.8*	*81.1*	*63.8*	*56.3*	*51.3*	*1.8*
Other	*0.4*	*2.9*	*4.2*	*3.4*	*2.9*	*2.3*	*0.0*

[1] Calls and puts. [2] Including Australia and New Zealand.

Sources: Futures Industry Association; various futures and options exchanges; BIS calculations.

Table VII.6

accompanied by an overall upturn of activity in currency-related contracts (–17%, to $3.5 trillion). Aside from the continuing dominance of OTC business in the management of currency risk, observers attributed this subdued activity on exchanges to the stability of European cross rates and investors' reluctance to take positions in emerging market currencies.

… while currency-related activity continues to lag

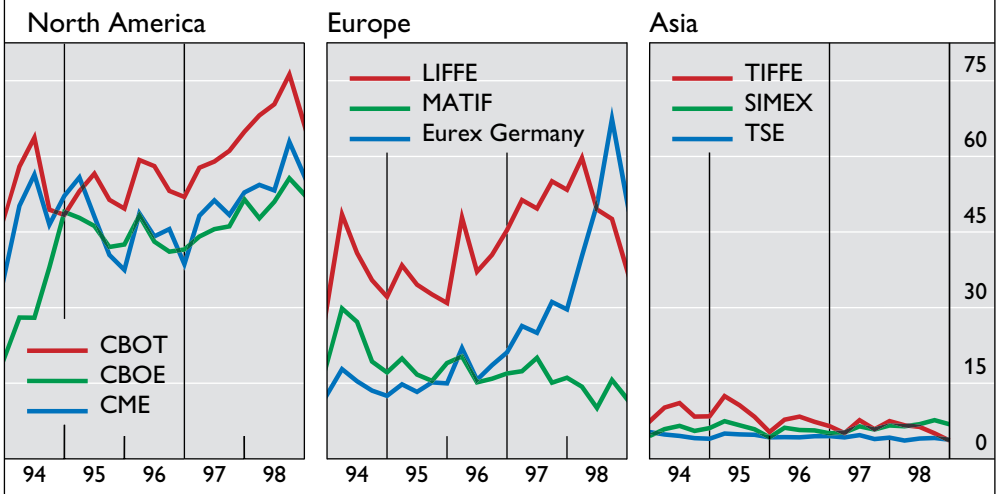
The CBOT remained the largest exchange in the world (with a 16% increase in the number of contracts traded, to 281 million), owing to the sharp rise in the turnover of US Treasury contracts and the growth of new equity index products. The CME and the CBOE, the next largest US exchanges, also reported an increase in activity (by 13% and 11% respectively, to 227 million and 207 million contracts). In Europe, Eurex Germany (formerly the DTB) posted a new record (+87%, to 210 million) and overtook LIFFE as the third busiest marketplace in the world. The flight to quality in the second half of the year propelled its bund futures contract into third position in the interest rate category after US Treasury bond and eurodollar contracts. However, the squeeze which occurred in German government bonds at the time of the turmoil created concerns that the underlying market might not be sufficiently large to support futures trading in periods of stress. Meanwhile, overall activity on LIFFE declined (by 7%, to 194 million), as increases in the area of short-term interest rate products and in some equity-related products were more than offset by a contraction in government bond instruments. In particular, the exchange's bund contract dried up as trading migrated to Eurex's cheaper electronic system. Despite strong advances in technology, trading on MATIF fell sharply (–31%, to 52 million contracts), in a context of reduced relative movements between continental European interest rates.

Eurex overtakes LIFFE …

… as bund trading migrates to Frankfurt

Derivatives turnover on major exchanges *

In millions of contracts per quarter



CBOT = Chicago Board of Trade; CBOE = Chicago Board Options Exchange; CME = Chicago Mercantile Exchange; LIFFE = London International Financial Futures and Options Exchange; MATIF = Marché à Terme International de France; TIFFE = Tokyo International Financial Futures Exchange; SIMEX = Singapore International Monetary Exchange; TSE = Tokyo Stock Exchange.

* Includes all types of derivative instruments traded on exchanges (i.e. including commodity products and options on single equities).

Sources: Futures Industry Association; major exchanges; BIS. Graph VII.8

Euro-compatible contracts are introduced …

The anticipated consolidation in European interest rate instruments spurred the introduction of a plethora of euro-compatible contracts, creating concerns that, in the drive to innovate, liquidity might suffer. Another notable development in Europe was the significant increase in the trading of equity-related products, which benefited from attempts to introduce a variety of new pan-European equity indices and contracts, as well as the reduction in the unit value of certain options. Activity in the Pacific rim was generally subdued, particularly in Japan, where, despite some trading opportunities provided by the "Japan premium", the record low level of interest rates (except for a short period at year-end) reduced the demand for interest rate hedging. There was a tentative recovery in other Asian markets due to more active trading of equity-related contracts. Nevertheless, activity in Asian and other emerging markets remains a fraction of that in industrial countries in value terms.

… as are pan-European equity products …

… driven by competition …

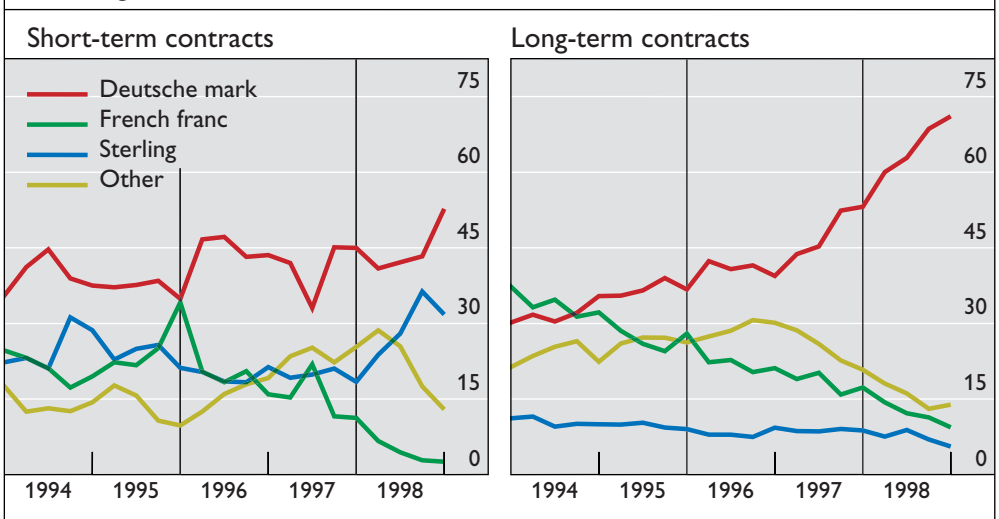
The battle for European market share took a dramatic new turn as exchanges that had been based primarily on open outcry, such as LIFFE and MATIF, surrendered to the relentless expansion of screen-based trading. The agreement between the Deutsche Börse (DB) and the London Stock Exchange in early July, while focusing on the cash trading of securities, also accentuated pressures for consolidation and for new regional links. US exchanges, for their part, entered into a number of joint ventures with wholesale market brokers and specialised IT firms to introduce electronic facilities for the joint trading of government securities and related derivatives. With the rapid development of trading technology, the battle for supremacy is gradually shifting from the listing of new contracts to the technological arena, to the benefit of a small number of cost-efficient hubs. In this respect, it is worth noting that the proprietary systems of core electronic exchanges are already being challenged by "new generation" trading systems that permit the interconnection of different exchange-traded and OTC facilities (in particular, via the internet). The growing

… consolidation …

… and new technologies

Turnover in European interest rate derivative contracts by currency denomination and maturity

Percentage shares



Sources: Futures Industry Association; BIS. Graph VII.9

importance of screen-based facilities cutting across product and market segments is creating new challenges for regulators wishing to ensure the soundness and transparency of such systems.

Over-the-counter instruments

Preliminary data released by the International Swaps and Derivatives Association (ISDA) on activity in swaps and swap-related interest rate options show that, following a pause in 1997, expansion resumed in 1998. Although the reported rise in notional amounts of positions outstanding (76%) was inflated by the increase in the number of reporting dealers, the adjusted rate of growth remained significantly higher than the rise in open interest on exchanges (35% and 9% respectively). In particular, the unwinding of leveraged positions which took place in the second half of the year led to an upsurge in the volume outstanding (since, in contrast to futures markets, existing positions are not extinguished by the writing of opposite contracts). However, concerns about credit risk led to a sharp cutback in credit lines to weaker counterparties towards year-end, thus acting as a damper on overall market expansion.

OTC business is spurred by the unwinding of positions …

ISDA did not release further disaggregated data, but other sources suggest that activity in *interest rate products* was the main driving force. Faced with heavy losses, proprietary traders and leveraged funds unwound their positions, inter alia through asset swaps and structured securities. In addition, the unusual evolution of Japanese interbank rates and bond yields towards year-end generated some trading. As Japanese banks faced new upward pressures on their interbank liabilities, western-based banks began to offer negative rates on yen-denominated deposits, prompting a reversal of outstanding yen swaps and some activity in interest rate floors.

… led by interest rate swaps …

In the area of *cross-currency derivatives*, the fairly steady appreciation of the dollar against the yen until August fuelled activity in related options, offsetting somewhat the decline in intra-European business and emerging market currencies (see Chapter VI). Thereafter, the massive deleveraging of positions in dollar-denominated securities was associated with a parallel unwinding of short yen positions, leading to record volatility in the major exchange rates and a drying-up of activity. There was, however, some improvement in non-Japanese Asian business, as the appreciation of local currencies and the recovery of stock markets allowed a gradual relaxation of monetary policy and a partial resumption of trading in forward contracts.

… and currency options

In the market for *credit derivatives*, the crisis in Asia had already focused the attention of market participants on the issue of credit risk, but its global extension in the second half of last year subjected the market to conflicting influences. On the one hand, concerns about banks' exposure to highly leveraged institutions and emerging market countries created broad interest in instruments offering protection against counterparty risk. On the other hand, the pronounced widening of credit spreads for emerging market names led intermediaries to exhibit caution in providing hedges to lower-rated entities. Moreover, market sources reported that liquidity suffered from doubts about the adequacy of loan documentation, as highlighted by legal disputes between counterparties over hedges arranged on credit exposure to Russia. Buyers of

The focus on credit risk management …

… highlights problems with credit derivatives

protection faced difficulties in enforcing payment owing to disagreements over the definition of a credit event, the pricing of reference credits and the settlement of contracts.

Intermarket linkages and transparency

The global OTC derivatives survey shows …

The triennial central bank survey of OTC derivatives markets at end-June 1998 provides a snapshot of the situation prevailing just before the Russian debt moratorium. Four features are of particular significance in the context of subsequent events. First, notional amounts showed that exposure to changes in interest rates in OTC derivatives markets, which was four times that in exchange-traded markets, was the main source of market risk in the derivatives industry. Such interest-rate-related exposure accounted for two-thirds of the $72 trillion of OTC aggregate notional amounts outstanding reported at end-June 1998 (and for 90% of the $14 trillion reported on exchanges). It should be noted, however, that the development of sophisticated trading strategies, the related expansion of cross-market linkages and regulatory arbitrage may have reduced the meaningfulness of aggregate data on individual market risk categories. For instance, the high capital costs of cross-currency swaps have resulted in their replication through a combination of interest rate and short-term foreign exchange swaps. This means that the build-up of currency exposure is not accurately reflected in data on cross-currency swaps.

… the predominance of interest rate contracts …

Second, the notional amounts of interest rate and currency-related positions in OTC derivatives markets are now comparable to total cash positions in global banking and securities markets. Notional amounts are generally used as a reference to calculate cash flows under individual contracts. As such, they enable a rough comparison of the potential transfer of market risk in cash and derivatives markets, but they do not provide an accurate measure of the gains and losses incurred in such a transfer. A better indicator is the gross market value of OTC contracts, which measures the replacement cost of all outstanding contracts had they been closed on the reporting date. Such replacement costs stood at $2.6 trillion at end-June 1998 (or 3.6% of the reported notional amounts). However, one weakness of existing data collection systems is the lack of similar information for cash instruments, which means that such values cannot be meaningfully used to assess the long and short positions on an overall portfolio basis (taking into account possible offsets between the various types of positions).

… in the transfer of market risk …

Third, financial institutions other than reporting dealers have become an important class of counterparties (accounting for 41% of the total notional amounts), reflecting the rise to prominence of institutional and leveraged investors. Anecdotal evidence abounded, even before the LTCM debacle, that such intermediaries had built up large positions aimed at profiting from the divergence/convergence of yields and volatility in a variety of fixed income instruments. Indeed, as arbitrage opportunities narrowed, the growing pursuit of such strategies led to an ever increasing degree of leverage in order to achieve acceptable returns. One widely favoured strategy was the yen carry trade, which involved taking short positions in the yen money market and long positions in higher-yielding assets in other currencies. The unwinding of

… but the variety of instruments and strategies …

Global positions in OTC derivatives markets by type of risk instrument[1]

	Positions at end-March 1995			Positions at end-June 1998		
	Notional amounts	Gross market values		Notional amounts	Gross markets values	
	US$ billions	US$ billions	as a % of notional amounts	US$ billions	US$ billions	as a % of notional amounts
Foreign exchange contracts	13,095	1,048	8.0	22,055	982	4.5
Outright forwards and forex swaps	8,699	622	7.2	14,658	584	4.0
Currency swaps	1,957	346	17.7	2,324	255	11.0
Options	2,379	71	3.0	5,040	141	2.8
Other	61	10	16.4	33	2	6.4
Interest rate contracts[2]	26,645	647	2.4	48,124	1,354	2.8
FRAs	4,597	18	0.4	6,602	39	0.6
Swaps	18,283	562	3.1	32,942	1,186	3.6
Options	3,548	60	1.7	8,528	126	1.5
Other	216	7	3.2	52	2	4.5
Equity-linked contracts	579	50	8.6	1,341	201	15.0
Forwards and swaps	52	7	13.5	180	22	12.0
Options	527	43	8.2	1,161	180	15.5
Commodity contracts	318	28	8.8	506	39	8.0
Gold	147	10	6.8	228	9	4.4
Other	171	18	10.5	278	30	10.9
Forwards and swaps	120	13	10.8	165	..	..
Options	51	5	9.8	113	..	..
Credit derivatives and other OTC contracts	..	..	..	118	4	3.1
Estimated gaps in reporting	6,893	432	6.3	..	..	..
Grand total	47,530	2,205	4.6	72,143	2,580	3.6

[1] Adjusted for inter-dealer double-counting. In addition to changes in reporting months, differences in the reporting basis (locational reporting in 1995; worldwide consolidated reporting in 1998) and in the number of participating countries (26 in 1995; 43 in 1998) mean that the two series are not fully comparable. [2] Single-currency contracts only.

Source: BIS. Table VII.7

such positions in the wake of the Russian moratorium in August led to large repayments of yen liabilities, and apparently precipitated the very sharp appreciation of the yen in September and early October (see Chapter VI). Although these strategies were widespread, they could not be directly captured by existing statistics owing to the variety of channels used to achieve the required exposure to market and/or credit risk. Nevertheless, the strong growth of forex swaps, yen currency options and interest rate swaps since the 1995 survey suggests that the yen carry trade evolved from an initial focus on the cash market to include a wide range of derivative instruments.

… belies the actual credit risk involved …

Finally, after allowing for the effect of netting arrangements on gross positive market values of contracts, the credit exposure of reporting institutions arising from their undertaking of OTC derivatives positions stood at

$1.2 trillion at end-June 1998. While this was considerably smaller than on-balance sheet exposure, with hindsight it appears that this figure seriously underestimated potential credit risk. The LTCM episode may help illustrate this point. LTCM, whose strategy consisted in exploiting price differentials between a wide variety of financial market assets (see Chapter V), was perhaps the world's single most active user of interest rate swaps. By August 1998, $750 billion of its total notional derivatives exposure of more than $1 trillion was in such swaps with about 50 counterparties around the world, with none being aware of LTCM's overall exposure. This swap exposure represented more than 5% of the total reported to central banks by dealers vis-à-vis "other" financial institutions in the survey. While the current credit exposure of its counterparties was fully collateralised, these had taken no protection against the potential increases in exposures resulting from changes in market values. Only when LTCM's dire situation became known in September did counterparties start to seek additional collateral. The fund's efforts to raise cash by selling its most liquid securities were felt in markets around the world, transmitting the shock wave from low-rated and illiquid securities to benchmark instruments.

… as the LTCM episode illustrates

Thus, even if the Russian default was the trigger, the turmoil of last autumn stemmed primarily from the build-up of excessively large and concentrated exposures to customers who proved to be more vulnerable to market, credit and liquidity risks than had been supposed. The crisis also revealed the inadequacy of information supplied by leveraged investors on the extent of their market risk exposures, the nature of their trading strategies and the validity of their risk management methodologies. While collateral may have provided participants with a sense of protection against the associated credit risk, the unexpectedly high degree of interlinkage between positions and intermediaries destabilised even the most highly rated and liquid securities. This showed that core financial markets are insulated less than ever from crises that appear at the periphery of the system. Since then, lending institutions have begun to review their models' assumptions and to put greater emphasis on stress testing and fundamental analysis.

The lack of transparency at the micro …

… and macro levels …

The events also demonstrated that existing statistical frameworks could not be readily used to arrive at a comprehensive and consistent value of global positions. This difficulty stems partly from differences in measuring market and credit risks across segments; but it also reflects the complex interdependencies between seemingly unrelated markets, created either through the taking of offsetting positions or through the use of instruments as collateral. Efforts are now being made to improve transparency, both at the level of individual institutions and at the macro level (see Activities of the Bank). These include exploring ways to strengthen disclosure standards and develop reporting systems capable of yielding useful measures of market vulnerability. The conceptual and practical challenges involved should not be underestimated. Pending a resolution of these issues, there will have to be continuing reliance on current data sources, with their weaknesses factored into market participants' decision-making processes.

… points to the need for improved ways of identifying risk

VIII. Conclusion: finding light among the shadows

There is no single or simple answer to current economic problems. While it might be thought easy to distinguish policies directed to macroeconomic stability from those related to financial stability, in practice it is not so straightforward. A lack of stability in one area commonly contributes to instability in the other. It may be recalled that in many industrial countries relatively high inflation in the 1970s and 1980s led investors to seek protection in property, which in turn contributed to excessive credit creation, bad loans and overexposed banks. More recently, in Japan, Mexico and South-East Asia, the other side of this process can be seen as weak banks and an associated credit crunch retarded recovery from macroeconomic disturbances. The challenging implication of this insight is that policy initiatives must be undertaken on a wide front if they are to produce a sustained improvement in living standards.

What is also being increasingly recognised is that the different policies required to support macroeconomic and financial stability share a number of underlying characteristics. Transparency in the conduct of monetary and fiscal policies is needed to provide an anchor for expectations. But transparency is also needed on the part of participants in financial markets if market discipline is to contribute to prudent behaviour. Another shared feature is that policies in both areas must avoid solving today's problems at the cost of making tomorrow's problems worse; moral hazard is a real issue. Finally, there seems to be a shared recognition in both areas that underlying processes are imperfectly understood and outcomes inevitably subject to uncertainty. Since even well-conceived plans do not always produce the results intended, perhaps the objective of avoiding truly bad outcomes needs to be given higher priority in designing policies.

What happened in financial markets between August and October last year reminded policymakers that the probability distributions which characterise asset price movements may have fat tails, at least on the downside. Interactions between various forms of risk, previously assumed to be separable, led to massive price movements which threatened the health of financial institutions and even the functioning of markets themselves. Recent dramatic events in many parts of the emerging world have made it clear that macroeconomic variables can be subject to extreme outcomes as well. Nor should one suppose that the advanced industrial countries are immune to such problems. While most forecasters expect continued and indeed accelerating growth, there are many specific uncertainties which imply that current forecasts must have a wide margin of error. What will be the effects on consumer confidence in Japan when corporate restructuring really gathers pace? What will be the effects

of the introduction of the euro on competition and prices in Europe, and on the financial structure through which monetary policy works? Will the spread of new technology lower unemployment by opening up new production possibilities or will it raise unemployment by displacing labour? Will Asian bank restructuring proceed rapidly or hardly at all? To these questions many more might be added, and the answers and policy implications are not obvious.

Nor is it obvious that the balance of current risks is symmetrical. In fact, a generalised resurgence of inflation seems less likely than further disinflation or even deflation. Uncertainty in itself erodes confidence and leads to lower spending. Imbalances work in the same direction. When they are eventually resolved, those who gain may not adjust spending upwards while those who lose commonly have little alternative but to retrench. Moreover, the specific imbalances referred to in the Introduction to this Annual Report also seem to imply some downside risk to the forecast. The overhang of productive capacity in traded goods worldwide could have a number of implications. It is already putting downward pressure on prices in the advanced industrial countries, even though export volumes from Asia have not yet fully responded to earlier depreciations. In the United States, protectionist pressures are on the rise even as the unemployment rate keeps falling from one low to another. And the intensification of price competition makes firms vulnerable to any significant acceleration of costs. Should profits come under further pressure in the United States, the effect on equity prices could be significant and this would in turn be expected to have an impact on consumption. Finally, record trade imbalances must at some point imply a lower dollar and an appreciation of the yen and the euro. Should this happen before the economies of Japan and continental Europe are growing healthily again, the downside potential for the global economy is obvious.

That policymakers have been conscious of these concerns seems to have been borne out by the actions they have taken to date. Interest rates have been lowered sharply throughout the industrial world and in many emerging economies as well. The easing which took place in the advanced industrial countries late last year was also consistent with the desire to help calm market turbulence through a further injection of liquidity. Moreover, it may be the case that monetary policy would work less effectively should prices actually fall in a generalised way, largely but not solely because of the constraint that nominal interest rates cannot fall below zero. If this were thought to be a potential problem, then the recent reductions in interest rates in some countries might also have been intended as a form of insurance against entering a deflationary trap from which it might conceivably be difficult to exit.

It would be a mistake, however, to conclude that the answer to current global economic problems is simply to ease monetary policy further. In a fundamental way, it was an excessively accommodating monetary policy over many years that created many of today's problems in the first place. In addition to considering some of the dilemmas faced in the conduct of monetary policy, greater attention has now to be paid to equally difficult issues concerning the choice of exchange rate regimes, fiscal policy and labour market reform. More directly in the area of financial stability, urgent action is required in

many countries to restructure banking systems and often the corporate sector as well. And a whole host of recent recommendations must now be implemented to ensure that, once financial systems are made healthy, they stay that way for the foreseeable future.

Policies to promote macroeconomic stability

Unique circumstances are conditioning the conduct of monetary policy in virtually every major region of the world. In the United States, the uncertainties and trade-offs faced by the Federal Reserve are in some respects normal, but in other important respects not. In conducting monetary policy to pursue domestic price stability, it is common practice to base inflation forecasts on some notion of the amount of excess capacity in the economy. What is unusual, however, is the degree of uncertainty currently surrounding such forecasts in the United States. Estimates of capacity levels based on labour market data are completely different from estimates based on capital stock data. Moreover, there exists to date no conclusive evidence either for or against the US economy having entered a "new era" of enhanced productivity growth.

Asset price movements have also imposed increasingly severe side conditions on the normal conduct of US monetary policy. While the global financial turbulence of last autumn contributed in some measure to the decision to lower interest rates, the previous run-up in equity prices, in association with the robust growth of credit, might have suggested that higher rates were called for. A similar conclusion is suggested by the recent rebound of stock prices to record levels and the associated impact on consumer spending. One great danger to continued global expansion at present is that the US economy will overheat and that fears of subsequent recession will undermine stock markets, reduce wealth and cut spending. Were the dollar to fall simultaneously, under the weight of capital outflows and a large trade deficit, a period of stagflation would not be an impossibility. With global financial markets now calmer, the need to avoid such a combination of events should be an important consideration in formulating monetary policy in the period ahead.

Last year's unique challenge in Europe was the introduction of the euro. This was masterfully executed, as attested to by the stability of intra-European exchange rates through all of last year. The challenge for the coming year will be how to conduct monetary policy given not just a new economic environment, but one that by design is supposed to be rapidly changing under the impact of the introduction of the euro itself. The fact that the cyclical positions, and asset price experiences, of many of the member states were widely different at the beginning of this year poses problems for the conduct of policy. And further complications arise from fluctuations in the value of the euro: both how to interpret them and how to respond to them. What is clear, however, is that the European Central Bank's objective is price stability and that the dangers of undershooting now seem at least as great as those of overshooting. The ECB has made it clear more recently that its response to

deviations from the inflation target will be symmetrical, implying that policy rates could indeed decline further depending on the circumstances.

Monetary policy in Japan is also being conducted in a highly unusual environment, namely one of falling prices. While the outcome is by no means certain, most of the ingredients seem to be in place for a continuation of such deflationary pressures. The burden of real debt borne by corporations continues to rise, impeding investment. Unit labour costs are increasing and restructuring will add to unemployment, further depressing confidence and consumer spending. While purchases do not yet appear to have been deferred in expectation of further price declines, as seems to be happening in China, the potential for this cannot be ruled out.

The Bank of Japan responded by lowering interest rates virtually to zero, increasing liquidity in the banking system and purchasing large quantities of private sector paper. To date, the effect has been essentially that of "pushing on a string", raising the issue of what more, if anything, might be done. The Japanese experience illustrates the limitations of monetary policy when nominal rates are already very low and excess capacity is already very high. It may also provide some indication of both the benefits and the limitations of making clear statements about the objectives of public policy.

One important development affecting Japan was the sharp rise in the value of the yen during the second half of last year. While this might well be helpful to Japan's competitors in Asia, there is no question that it will hurt the export sector, which is one of the few sources of support for the Japanese economy. In more normal circumstances, this might have been resisted through lower interest rates or intervention designed to signal that rates would be reduced if need be. However, without a credible capacity to deliver on such a promise, this unwelcome appreciation of the yen was more difficult to resist. The fact that market expectations were not anchored in a clear understanding of the role of the exchange rate in the conduct of Japanese policy was also not helpful. At the least, it should be clearly stated that the goal of ending the Japanese recession and avoiding the development of a deflationary psychology must, for the time being, take priority over concerns about the trade account.

Doubts about whether it would be possible to deliver on policy promises also militated against the adoption of explicit targets either for inflation or for the price level. In principle, either approach could play a useful role in helping prevent a downward spiral of price expectations and could thus lead to a welcome reduction in expectations about long-term real interest rates. In practice, however, economic agents must believe that the authorities have the policy instruments to achieve their targets. Currently this seems doubtful. While neither approach would thus seem very helpful on its own in the present circumstances, such a regime shift might still serve a useful ancillary function if only some other means could be found to effectively reduce the current output gap.

A combination of the very sharp fluctuations in the value of the yen and the introduction of the euro led, in the period under review, to renewed suggestions for better ways to manage cooperatively a tripolar global exchange rate system. Floating exchange rate regimes do indeed have their own

problems, not least the possibility of asset price bubbles if interest rates stay low as a rising exchange rate bears much of the burden of fighting inflation. However, no political agreement seems likely to alter significantly the current regime in which domestic monetary policy is directed primarily to domestic needs. An underlying problem of both academic and practical importance is the continuing propensity of investors to borrow in low and lend in high interest rate centres without considering the full potential for having to pay back in appreciated currency. The destabilising aspects of market failures of this sort need further investigation.

New questions concerning exchange rates also arose in many emerging market economies, with the principal lesson being that countries should eschew variable peg regimes in favour of either something much harder or the voluntary adoption of managed floating. In support of the former alternative, Hong Kong and Argentina successfully defended their currency board systems last year, by managing the system more flexibly (Hong Kong) or by threatening to dollarise and retreat from managing it altogether (Argentina). In both cases uncomfortably high interest rates simply had to be accepted. Other countries, such as Brazil, did not choose to float their currencies but were forced to do so in an environment of crisis. The outcomes were generally unsatisfactory. As in Asia last year, the trend was for currencies to overshoot and then rebound under stabilising macroeconomic policies. The Brazilian authorities also chose to let high interest rates make a contribution to this process, even though the effects on domestic debt service and the fiscal deficit were thought likely over time to put offsetting downward pressure on the real. To date, aided by a sharp improvement in the primary surplus and an unexpectedly good inflation performance, the bet seems to have paid off.

The next challenge for Brazil and other countries with newly floating currencies is to find some other nominal anchor to guide their domestic monetary policy over the longer term. This will not be easy given the lack of an anti-inflationary history, poor data on credit and monetary aggregates and the absence of reliable procedures for forecasting inflation. And without a transparent framework for conducting monetary policy, the management of episodic exchange rate pressures will also be difficult, even if less so than under a regime based on an adjustable peg.

There has been little debate recently about fiscal policy. It is commonly asserted that in Japan fiscal stimulus has (or at least had) a useful role to play in stimulating aggregate demand; in continental Europe continued fiscal consolidation is thought desirable; in the United States the fiscal position has greatly improved and no tightening seems required at this time; and in emerging markets fiscal restraint appears to be the appropriate short-run response when the exchange rate is under pressure. While these assertions have a large measure of validity, they all need to be qualified in the light of circumstances.

In Japan, where the limitations of monetary stimulus seem most in evidence, the impact of a large number of stimulative fiscal packages has been diminished by rising consumer saving. This surely reflects growing uncertainty about job security, but also inadequate pension provisions and the fear that

taxes will have to rise in the future to service accumulating debt. These latter concerns have been aggravated by the grudging nature of the fiscal response, which has failed to re-establish private sector confidence, and by the rhetoric justifying the pronounced fiscal tightening in fiscal 1997. Concerns about future tax increases have also risen with the growing recognition that current investment expenditures are being guided more by political considerations than the bringing forward of infrastructure investment that would be needed anyway. In Europe, the need for medium-term consolidation cannot be questioned. Still, it should be remembered that one of the benefits of a strong fiscal position is the scope it affords for allowing automatic stabilisers to operate. One cannot rule out the possibility of a situation arising in Europe in which fiscal stimulus may once again be an appropriate policy response. Finally, textbook economics would say that a tightening of fiscal policy in the United States would help reduce overheating domestically and the risk of a disorderly rise and subsequent sharp fall in the value of the dollar. In such circumstances, as politically unlikely as they might be, it would be all the more important for an expansion of aggregate demand to be encouraged elsewhere. In recent episodes of turmoil, the world has benefited materially from the continued strength of the US economy. However, exit strategies should now be the preoccupation for all prudent policymakers, including those in the United States.

Nor is it clear that fiscal restraint is always useful when exchange rates in emerging market countries come under pressure. In industrial countries with floating exchange rates and highly mobile capital flows, exchange rates are commonly presumed to weaken under fiscal restraint as domestic interest rates fall and capital flows out. By contrast, in emerging markets fiscal restraint may both strengthen the exchange rate and bring down initially higher interest rates by reducing the credit risk premium on foreign borrowing. This argument seems logical in the case of Brazil and Russia and other countries where the fiscal record is poor. Whether it applies to countries in Asia and elsewhere whose fiscal history is sound seems less obvious. However, recognising how fickle markets can be in a crisis environment, it might still make sense in such cases to cut the deficit initially but to reverse this stance as soon as confidence has been restored. While the question of timing remains controversial, this is essentially what happened recently in the crisis-affected countries of Asia.

Given global conditions of excess capacity and high or rising unemployment in Europe, Japan and much of the emerging world, supply-side reforms are also urgently required. This might seem paradoxical, since such reforms will eventually further increase productive potential. Yet we should not forget the principal insight of classical economics, namely that changes in relative prices can also contribute materially to the resolution of economic disequilibria. Even with adequate restructuring of the corporate and banking sectors (see below), current excess capacity in many industrial sectors means that investment in those areas will be weak for years to come, with associated multiplier effects on jobs and income. In these circumstances, it is essential that government restrictions and other profit-destroying impediments to investment in other

sectors, particularly services, be removed. While this applies most clearly in emerging markets, many industrial countries also recognise that they must move in the direction of deregulation. Steps taken in labour markets to increase the likelihood of the jobless being hired act in the same direction, particularly since workers spend and confident workers spend even more. This is perhaps one of the clearest lessons to be learned from the experience of the United States over the last few years.

Policies to promote financial stability

Before turning to how future financial problems might be avoided, the problems of today must be dealt with. The overhang of excess industrial capacity in many countries and sectors continues to be a serious threat to financial stability. Without an orderly reduction or take-up of this excess capacity, rates of return on capital will continue to disappoint, with potentially debilitating and long-lasting effects on confidence and investment spending. Moreover, the solvency of the institutions that financed this capital expansion will become increasingly questionable, potentially leading to credit rationing and strong headwinds affecting the economy as a whole. Processes of this sort are furthest advanced in South-East Asia, China and Japan. Unfortunately, in many respects, these economies also seem the least well placed to deal with them.

Closing down individual production plants in Asia is impeded by concerns about what traditional rivals might do. In any event, given heavy sunk costs, it often makes sense to continue producing at a loss as long as variable costs are being covered. In this particular respect, low interest rates and the continuing availability of finance through the banking system (or indeed from abroad) can be important disincentives to restructuring. Declarations of bankruptcy and asset sales at prices low enough to generate profits for new owners is another option, but one that has been hampered in Asia by the absence of adequate bankruptcy laws. Although progress has been made in a number of countries, it is not yet clear how new laws will be applied in practice. Finally, concerns about the social and political costs of laying off workers, and the effects on confidence in the absence of an effective social safety net, are a further major obstacle to industrial rationalisation throughout Asia. While the policy solutions needed to deal with these problems might seem obvious, implementation will be difficult and costly to shareholders and potentially to governments. It is telling that corporate restructuring is only just starting in Japan, almost a decade after the need for it became apparent. While restructuring seems to be beginning in China and Korea, as well as some other countries, it remains to be seen whether promises made will in fact be kept.

Another factor holding back corporate restructuring, not just in Asia but in many other parts of the world, is the already suspect soundness of the banking system. Aggravating this problem by recognising still more bad corporate loans may be necessary, but is hardly attractive politically. One reason for forbearance is that, with shareholder capital eroded in both the corporate and the financial sectors, the burden then tends to fall on the taxpayer. While depositors could in principle contribute, in many emerging

market countries governments have provided implicit insurance for all deposits in order to avoid bank runs like those seen in Argentina in 1995 and Indonesia more recently. With loan losses likely to amount to significant proportions of GDP, emerging market countries without well-established government bond markets could find that meeting their fiscal requirements will be challenging, even if it also provides an opportunity for the development of capital markets. As for countries with mature financial systems, the threat of major increases in government debt could still complicate macroeconomic policies by pushing up longer-term interest rates, as happened recently in Japan.

The manner in which the restructuring of the banking system is carried out will determine both how effective it is and how long it will last. The main objectives must be to re-establish solvency and profitability. As for guiding principles, effective restructuring should begin as soon as the problem is recognised and should be as comprehensive as is needed to alleviate unwarranted credit rationing. Avoiding political interference and being transparent about procedures and cost allocation is also essential. Finally, shareholders and managements of insolvent banks must suffer if moral hazard is to be avoided, although there may also have to be some limits to this in a systemic crisis. It is unfortunate that, in a number of countries, these principles have not always been applied as wholeheartedly as they might have been. Deficiencies in this regard will have short-term costs if recovery is delayed and longer-term costs if corporate restructuring is held back and past mistakes are eventually repeated.

While current problems in the financial systems of emerging market countries were primarily domestically generated, international capital flows clearly exacerbated them. The underlying reality is that even flows that are modest from the perspective of international capital markets can have highly disruptive effects on small economies. This suggests that such countries should dismantle controls on short-term inflows only very cautiously, particularly if there are doubts (and there normally will be) about the inherent stability of the domestic financial system. There should also be much less hesitation in using market-based prudential instruments, such as reserve requirements, to prevent banks from relying excessively on short-term borrowing in foreign currency. In association with a less tightly managed exchange rate regime, this could make a real difference.

Recent experience also suggests that countries wishing to accommodate such capital inflows, for whatever reasons, should make greater efforts to prepare themselves for the possibility of sudden outflows. One way of doing this is by building up foreign exchange reserves by running trade surpluses. The problem with this approach is that it would exemplify the fallacy of composition: what kinds of global imbalances would emerge if all emerging market countries endeavoured to do this? A less disruptive solution might be the one recently adopted by Argentina, namely to borrow reserves and arrange binding contingent lending facilities with the private sector. Given the swings of mood in these markets, the authorities might at certain times find it relatively easy and inexpensive to lock in longer-term foreign currency loans for later use. Finally, countries might then make use of the recently announced

Contingent Credit Lines offered by the IMF. In conjunction with similar private sector arrangements, this would be a joint testimonial to the soundness of the country in question and could contribute materially to the avoidance of contagion problems.

To say that emerging market countries should address their own problems is not to deny that part of the solution may be found in aspects of the functioning of international capital markets themselves. Imprudent lending has been motivated by both shrinking returns on traditional business at home and the belief that various forms of safety net would protect creditors should risks actually materialise. The former problem is likely to worsen as global competition in the provision of financial services increases and managements pay more attention to shareholder value. While it is possible that banks will respond by pricing risk more carefully, it is also possible that they will continue to be drawn into still riskier ventures.

The problem of imprudent lending due to safety net considerations has recently been subject to a number of offsetting influences. On the one hand, the losses suffered in Russia and China have made clear the potential for losses in emerging markets. Such experiences seemed by April 1999 to be having an effect on the behaviour of banks, even if the purchasers of emerging market bonds had lost little of their enthusiasm. This latter tendency will probably change, however, if recent suggestions that bondholders should normally share in any restructuring of a country's external debt are adopted. On the other hand, the inference to be drawn from the Long-Term Capital Management affair is that the regulatory authorities as well as the principal creditors considered that a non-bank financial institution was too complex to fail. This might be thought worrisome for the message sent out to much bigger banks and dealing firms with their own large proprietary trading operations.

Advances in technology and deregulation have not only altered traditional banking behaviour, but have also encouraged lending through securities markets and the use of such markets by the banks themselves. This too has implications for both financial and economic stability. In cyclical downturns, banks in many countries have traditionally lent to customers with whom they have relationships, which helps support spending and cushion the cycle itself. In contrast, markets tend to change course instantly, switching off credit to all but the most creditworthy. Indeed, as the banks themselves have become more dependent on such markets, either to securitise assets or to issue debt, they may also have become less capable of performing this smoothing function. Given also the observation from last year that credit spreads in financial markets tend to be highly correlated with the level of interest rates, the potential for greater cyclical swings in credit growth and associated spending would seem clear. The fact that liquidity may dry up as credit spreads widen has the further implication that, in a market-driven system, the downswings may be inherently more violent than the upswings. Finally, with more credit being provided by a multitude of investors in impersonal markets from which exit is easy, it is becoming increasingly difficult to organise concerted lending to sovereign borrowers in need of liquidity. Akin to the attitude of governments, banks ask why they should be bailing out others.

The implications of these recent developments for internal risk management procedures and public policy are important. Through various channels, financial institutions including banks are becoming exposed to higher levels of market risk. Moreover, market risk is more highly correlated with credit risk than previously thought, since market exposures are often built on leverage, and credit risk is also more highly correlated with liquidity risk than earlier realised. Furthermore, it is now evident that risk models can also offer a false sense of security because they may lose their predictive powers in extreme market conditions. Indeed, their mechanical use may actually contribute to market turbulence. While stress testing must then be relied on more heavily, greater attention must be paid to non-linear payoffs and to scenarios previously thought so unlikely as to be insignificant.

There are also implications for public policy which go beyond simply ensuring adequate internal risk management. If markets are becoming relatively more important in the financial system, and sentiment can change very quickly, it becomes equally important to monitor markets closely and identify concentrations of risk. In some countries where central banks have lost their responsibility for banking supervision, they have been given responsibility for overall financial stability. What this means needs to be better defined, as far as the support of markets is concerned. Whether central banks stripped of supervisory responsibilities will be able to obtain the information they require, when they need it, to use their emergency liquidity support powers wisely and effectively in a market-driven world remains a very open question. In continental Europe, the additional complications posed by having a supranational central bank interacting with diverse national supervisors also need careful attention.

As noted in the Introduction to this Annual Report, a large number of specific and practical recommendations have been put forward over the last year on how the stability of national financial systems and that of the international financial system might be improved. These suggestions build constructively on earlier initiatives of the G10 Deputies and the work of the various Basle-based committees, and there is no need to repeat them all here. A whole host of recent meetings have served two important functions: widening the range of participants and identifying areas of agreement and disagreement. While disagreements still remain, there are now enough areas of agreement that the time for implementation has surely arrived. This must be the principal task of the international community over the next few years, and it will not be an easy one.

International codes of practice are being recommended in many areas and should be high on the implementation list. Fortunately, experience with the implementation of the first of these, the Core Principles for Effective Banking Supervision, provides some indication of ways to move forward. The Basle Committee on Banking Supervision, through its Liaison Group and contact with regional groupings of supervisors, is itself playing an advocacy role and has been considering more active use of peer pressure. The IMF will monitor compliance in the context of Article IV consultations and has proposed a code of transparency for all those active in financial regulation. The presumption

is that greater clarity about the mandate, powers and accountability of supervisors will help them do a better job. The private sector can also help by imposing market discipline on countries whose supervisory regimes are lax. The proposal by the G7 countries that the IMF should publish its assessment of countries' adherence to international standards should help markets make better judgements. Finally, consideration might be given to denying rights of establishment in major financial centres to banks from countries whose supervisory regime is deemed inadequate. Clearly, recourse to so many different incentive systems indicates a belief that implementation of principles of best practice will be difficult at best. Moreover, there are formidable personnel and domestic incentive problems that could take years to resolve. Such considerations make it all the more imperative that efforts at self-help receive the full support of the international community.

Against the background of such challenges, the recent establishment of the Financial Stability Forum under the aegis of the Group of Seven represents an important step forward. The Forum brings together, for the first time, senior treasury and central bank officials, national regulators and the representatives of international financial institutions and international committees concerned with financial stability. Through its efforts, costly and often irritating overlaps in activity should be avoided and priorities set for implementation in a world where the needs are great but expertise is scarce. There is also a need to identify new areas of financial vulnerability and to ensure that action is taken to address them. Finally, political pressure should be exerted at the highest international level to ensure that unacceptable standards of behaviour do not remain hidden behind accounting, regulatory or other devices. To carry out its work effectively, however, the Forum will need to deal with the same membership issues that have bedevilled more traditional groupings. How can participation be kept small enough to be efficient, but at the same time made large enough to be adequately inclusive of both industrial and emerging market economies?

There can be a darker side to the operation of a market economy, particularly when financial markets are highly liberalised and expectations are prone to recurrent cycles of optimism and pessimism. Yet this should not blind us to the overwhelming merits of the system and the absence of any plausible alternative. The real task now is to improve the system we have, before suggested alternatives begin to look more attractive than they really are. Timely and effective actions that reduce the likelihood of a retreat into much tighter regulation and direct government control must surely be steps in the right direction.

Activities of the Bank

During the year the Bank continued to play its traditional role in fostering international monetary cooperation. It organised and provided analysis for a wide range of meetings among central banks and within the international financial community on key issues affecting monetary policy and financial stability. While most of these meetings took place in Basle, a growing number were held elsewhere, including at the recently established BIS Representative Office for Asia and the Pacific.

The Bank also continued to serve as a counterparty to central banks in their financial operations, and to provide agency and trustee functions for a variety of financial transactions. In the course of the year, the Bank began marketing asset management services as well as a Medium-Term Instrument to provide central banks with a longer-dated and liquid investment outlet. Within the framework of an international support programme for Brazil, the Bank also coordinated a Credit Facility in favour of the Banco Central do Brasil.

This chapter reviews the principal activities of the Bank in these and other areas during the past financial year. The reports referred to below, as well as the Bank's working papers and economic policy papers, are available on the BIS website (www.bis.org) or, on request, in hard copy.

1. International monetary and financial cooperation

The provision of analysis for and organisation of regular meetings of senior central bank and other officials on key issues of financial policy is the Bank's main contribution to fostering international monetary and financial cooperation. These meetings, all of which are supported by BIS secretariats, fall into four categories: regular consultations among central bank governors and senior officials on conjunctural and monetary issues and on matters affecting financial stability; meetings of standing expert committees that formulate standards or recommend best practices to promote financial stability; meetings involving broader sets of national authorities and international institutions, principally on financial stability issues; and meetings centred on technical areas of central bank activities.

Regular consultations on monetary and financial issues

Consultations among Governors at the BIS take place in three main forums: the traditional meetings of the central bank Governors of the Group of Ten countries; wider meetings involving the Governors of all BIS shareholding central banks (sometimes including guests from major non-shareholding central banks); and a new gathering that brings together a limited number of Governors from the principal industrial and emerging market countries. The

regular meetings of G10 Governors provide a focal point for consultations on the economic and financial conjuncture. Three key policy issues dominated meetings in the year under review: containment of the risks posed to the global economy by the crises in Asia and elsewhere; the introduction of the euro; and the challenge of conducting policy in unsettled financial markets amidst evidence of inflated asset prices.

Monetary and financial policy issues likely to remain of interest and relevance over a medium-term horizon are the principal topics of discussion at the regular meetings of the Governors of all the Bank's shareholding central banks. In the year under review, the Governors discussed, among other subjects, the monetary, financial and exchange rate implications of EMU, central banks' involvement in the surveillance and supervision of financial institutions, the role of rating agencies in the operation of financial markets, and the design and operation of financial safety nets. The Governors also discussed the conduct of monetary policy under different exchange rate regimes, and the policy challenges facing the central banks in Asian and Latin American countries in the wake of the recent crises. Finally, the Governors provided high-level input to the Code of Good Practices on Transparency in Monetary and Financial Policies under development by the IMF in consultation with the BIS, its member central banks and representatives of the standing committees on financial stability issues.

Since the beginning of 1999, the Bank has also hosted regular meetings of central bank Governors of the principal industrial and emerging market economies. The global reach of the financial crisis that began in the emerging market economies some two years ago has illustrated the need for expanded consultation on the risks to continued stability. Among other issues, these meetings have discussed current account and exchange rate adjustment in the wake of the Asian financial crises, the pace of bank restructuring in emerging markets, and the risks and challenges posed by asset price inflation amidst deflationary pressures in goods markets. Reflecting its global orientation, the Bank also organised several regional meetings of senior central bank officials. The 1998 Working Party on Monetary Policy in Latin America was hosted by the Banco Central do Brasil in November, and the Working Party on Monetary Policy in Asia was held at the BIS Representative Office in Hong Kong SAR in March 1999. The annual policy meeting of Deputy Governors of central banks of the major emerging market economies was held in Basle in December 1998 and dealt with techniques of bank restructuring.

In addition to the above meetings, the Bank continued to host regular consultations of senior central bank officials on a variety of subjects. The Gold and Foreign Exchange Committee monitors foreign exchange market developments, with particular focus in the year under review on the introduction of the euro and on the orderly functioning of markets under the strains experienced during the period.

Meetings of standing committees on financial stability issues

The Bank continued to provide the secretariats for a number of standing committees working to promote financial stability. Two of these committees,

the Basle Committee on Banking Supervision and the Committee on the Global Financial System (formerly the Euro-currency Standing Committee), are concerned with the safe functioning of the banking sector and the markets involved in the international financial system respectively. The third, the Committee on Payment and Settlement Systems (CPSS), focuses on the infrastructure which links institutions and supports the orderly functioning of markets. By covering important elements of three main pillars of the international financial system – institutional participants, markets and infrastructure – these committees provide a comprehensive and coherent oversight of ongoing developments. All three committees, along with the BIS, are represented in the Financial Stability Forum recently established on the initiative of the G7 Ministers and Governors.

Basle Committee on Banking Supervision

The Basle Committee on Banking Supervision has made significant progress in a number of areas that are key to improving financial stability. Its principal focus of attention over the past year has been the Basle Capital Accord. The Committee has conducted a thorough review of the Accord and is now in the process of finalising a consultative paper, setting out its views on how the Accord should be amended to take account of developments in the financial markets in the 11 years since it was issued. The objectives in the revision are: (i) continued promotion of safety and soundness in the financial system; (ii) enhancement of competitive equity; (iii) a more comprehensive approach to addressing risks; and (iv) continued focus on internationally active banks – although the underlying principles of a revised Accord should be suitable for banks of varying levels of complexity and sophistication. The revised Accord will place strong emphasis on market discipline and the supervisory review process as essential complements to minimum capital requirements.

Recognising that a substantial overhaul of the Capital Accord will probably take several years, the Committee intends to develop two parallel approaches to quantitative capital requirements: a revised standardised approach that seeks to redress critical shortcomings in the present Accord, and an alternative approach based on banks' internal rating systems that would be available to banks with sophisticated systems for rating credit risk. The Committee will also continue to explore the possibility of using credit risk models for regulatory purposes at a future date.

The last two BIS Annual Reports have described the widening role of the Basle Committee beyond its own G10 membership. The Committee has continued to work closely with non-G10 supervisors, the IMF and the World Bank to strengthen the financial systems in emerging market economies, principally by promoting the implementation of the Core Principles for Effective Banking Supervision that were finalised in September 1997. A survey on the state of implementation of the Core Principles, conducted as part of the preparatory work for the 1998 International Conference of Banking Supervisors (see below), identified a number of areas where the Principles need elaboration. These are being addressed by the Basle Committee's Core Principles Liaison Group, which contains a mix of about 20 G10 and emerging

market countries, as well as representatives of the IMF and the World Bank. To assist efforts to foster and monitor implementation of the Principles, the Liaison Group is currently developing additional methodology designed to establish detailed criteria for assessing implementation in individual countries.

The Committee has released a large number of policy papers since the last Annual Report. These have covered a wide range of topics, including bank transparency (September 1998), banks' internal control systems (September 1998), loan accounting (October 1998), operational risk management (October 1998), disclosures of trading and derivatives activities (November 1998), Year 2000 contingency planning (January 1999), banks' interactions with highly leveraged institutions (January 1999), the supervision of financial conglomerates (February 1999), and credit risk modelling (April 1999). Most of these papers include guidance for banks and bank supervisors on sound practices. An updated version of the comprehensive Compendium of Basle Committee documents on supervisory practices and methods was issued in January 1999.

The Basle Committee has continued to develop relationships with and among supervisors from all parts of the world. It sponsored the 10th International Conference of Banking Supervisors that took place last October in Sydney at the invitation of the Reserve Bank of Australia and the Australian Prudential Regulation Authority. The two main themes were the implementation of the Core Principles for Effective Banking Supervision and operational risk. A panel discussion was also held on Year 2000 issues. About 250 delegates from 120 countries attended the conference. The Committee also continues to work closely with the regional groups of banking supervisors around the world.

Committee on the Global Financial System

Since the spring of last year the work of the Committee on the Global Financial System has proceeded along two parallel lines: the monitoring and analysis of developments in international financial markets, and the examination of structural issues with a bearing on financial stability and possible policy responses.

In the aftermath of the Asian crisis, the Committee monitored the evolving situation closely and analysed the lessons to be drawn regarding: (i) potential improvements in transparency; (ii) the behaviour of international capital flows; (iii) the effectiveness of international support operations; and (iv) management of country risk exposures by internationally active banks. This work formed the basis for a report to G10 Governors in May 1998 and a report completed in October 1998 which examined the use of information in the decisions of banks that lend to emerging market economies. In addition, the Committee strengthened its regular monitoring of developments in the global financial system and individual countries with a view to identifying potential vulnerabilities.

As part of its longer-term work designed to promote financial stability, the Committee, together with the other Basle-based groupings, reported to G10 Governors in July 1998 on the desirability and feasibility of developing international norms or standards in a number of areas. Many of the efforts of the Committee in the period under review have a bearing on two such areas: promoting deep and liquid markets and transparency.

With regard to the promotion of deep and liquid markets the Committee completed three reports. One report, prepared by a joint study group with the CPSS, reviewed settlement procedures and risk management practices in OTC derivatives markets and identified further steps that could be taken to mitigate risk (September 1998). A second report examined the structure and functioning of repo markets in several industrial countries and in the euro area, considered their potential systemic implications, and outlined the preconditions for a proper development of these markets (March 1999). The third study addressed the determinants of market liquidity from a theoretical and empirical perspective, reviewed the characteristics of established government securities markets, and drew a preliminary set of conclusions regarding the requirements for securing liquid markets (April 1999).

The work completed or under way in the area of transparency falls under three headings: overseeing improvements to the BIS international banking and derivatives statistics; promoting greater dissemination of information about official reserve positions; and increasing the transparency of the financial activities of market participants more generally.

Since the Asian crisis, working in close consultation with statistical experts at the BIS and at member central banks, the Committee has taken several steps to improve the timeliness, quality and coverage of the BIS international consolidated banking statistics. In March 1999 the BIS, the IMF, the World Bank and the OECD jointly published for the first time a set of creditor-based measures of countries' external debt. In December 1998, the BIS published the first instalment of a new semiannual set of regular derivatives market statistics which had been proposed in a Committee report released in 1996.

To remedy shortcomings in existing information concerning the on- and off-balance sheet activities of central banks and other public sector entities, in October 1998 the Committee published a template for the comprehensive disclosure of official foreign exchange reserves and potential drains on them. After some refinements and coordination with the IMF, the template became part of the IMF's Special Data Dissemination Standard in March 1999.

Three working groups, two of which include representatives of emerging market countries, are investigating other ways of enhancing the transparency of the activities of financial market participants. One group is concerned with disclosure practices by individual financial institutions, building on a previous report issued by the Committee in 1994. The second group is examining what kind of aggregated information would help improve the functioning of markets. These efforts are a natural complement to initiatives undertaken by the Basle Committee on Banking Supervision in related areas, including its recent report on banks' interactions with highly leveraged institutions. A third working group is studying the stress test methodologies used by large internationally active banks.

In February 1999 the G10 Governors changed the name of the Committee and updated its mandate to reflect the changes that had taken place in its focus over recent years. The new mandate stresses the role of the Committee in monitoring developments in global financial markets and national economies,

highlights the promotion of financial market stability and calls for a close examination of the link between monetary and financial stability.

Committee on Payment and Settlement Systems

The Committee on Payment and Settlement Systems continued 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 and is associating an increasingly wide group of non-G10 central banks with its work.

Following the publication of its report on foreign exchange settlement risk in July 1998, the Committee continued to monitor and encourage private sector efforts to this end. The CPSS has been engaged in an ongoing dialogue with various private sector groups involved in the design and enhancement of schemes to reduce foreign exchange settlement risk. It is also working closely with the Basle Committee on Banking Supervision in developing guidance for supervisors in this area.

The CPSS, in cooperation with the International Organization of Securities Commissions (IOSCO), is continuing to promote greater transparency in securities settlement arrangements through the implementation of the Disclosure Framework for Securities Settlement Systems, published in February 1997. A large number of such systems around the world have now made information publicly available on their ownership structure, their custody, clearing and settlement operations and their risk management procedures.

A joint IOSCO/CPSS working group on securities lending is in the process of finalising a report that analyses the implications for securities regulators and central banks of securities lending and similar transactions, and in particular the impact of these transactions on securities clearance and settlement systems. The working group consists of representatives of central banks and securities regulators from both G10 and emerging market countries. Its report is likely to consider the procedures used by market participants in securities lending transactions; the effect of the economic, legal and regulatory environment on securities lending activity; and the risks that may arise in the course of settling these transactions.

The Committee's working group on retail payments is analysing trends in the use of retail payment instruments and in the related clearing and settlement arrangements. An improved understanding of the retail payments industry will allow central banks to adequately assess the challenges posed by innovations in this area. With respect to electronic money, the Committee, through its Secretariat at the BIS, has continued to monitor global developments in card-based and network-based products.

The CPSS has continued to strengthen its cooperation with non-G10 central banks. Various individual central banks or regional central banking groups are preparing, with the support of the CPSS Secretariat, publications that describe the payment systems in their country or geographical area. The Committee has also supported an increasing number of payment system workshops and seminars organised by the BIS jointly with regional central banking groups.

Cooperation with other organisations has taken a number of forms. The CPSS is one of the four ex officio members of the Joint Year 2000 Council, whose objective is to reduce the risks associated with the Year 2000 problem (see below). Cooperation with non-G10 central banks and other international organisations is most evident in the ongoing efforts to define "Core Principles" for the design and operation of payment systems. The Principles are being developed by a Task Force comprising G10 central banks and an equal number of non-G10 central banks as well as the European Central Bank (ECB), the IMF and the World Bank. These Principles will assist central banks, system operators and international organisations in improving the safety and efficiency of payment systems and thereby strengthen the infrastructure of financial markets globally.

Broader international cooperation

BIS contributions to the work of the Group of Ten

As in the past, the BIS contributed to the work undertaken by the G10 Finance Ministers and central bank Governors, their Deputies and the working parties set up under their auspices. During the period under review, the focus of the G10 was on improvements in crisis prevention and management. The Ministers and Governors stressed the importance of the timely and substantive involvement of the private sector in the resolution of international financial crises. The growth of private capital flows to emerging markets over the past decade, the shift in the composition of portfolio flows towards securitised debt, and the moral hazard associated with official financing make it neither desirable nor feasible for international financial crises to be resolved without the involvement of the private sector. A number of ways of achieving such involvement are under consideration, including improvements in relations between creditors and debtors, greater use of contingent lines of credit and incorporation of collective action clauses into bond contracts.

BIS contributions to the work on reforming the international financial architecture

The BIS, together with other international financial institutions and organisations, has actively contributed to the ongoing work on reforming the international financial architecture. During the period under review, an important part of this work was the completion of three reports on the international financial architecture by working groups comprising representatives from central banks and finance ministries of industrial countries and emerging market economies.

The Working Group on Transparency and Accountability considered the contributions that transparency and accountability can make to improvements in economic performance, as well as the nature of the information needed to give effect to these improvements. The Working Group on Strengthening Financial Systems sought a consensus on principles and policies that foster the development of a stable, efficient financial system and set out options for

enhancing cooperation and coordination among national and international bodies concerned with financial stability. The Working Group on International Financial Crises drew up principles and examined policies that could help prevent international financial crises and facilitate the orderly and cooperative resolution of crises that may occur in the future. The recommendations of the working groups were endorsed by the Finance Ministers and central bank Governors of 26 countries during the 1998 annual meetings of the IMF and the World Bank.

Since the release of the working groups' reports, dialogue on strengthening the international financial architecture has continued. On the initiative of the G7, senior officials from 33 countries met in Bonn and Washington to discuss topics ranging from the maintenance of sustainable exchange rate regimes to proposals for strengthening the IMF and the World Bank and policies to minimise the social impact of crises. In addition, a Financial Stability Forum has been established to improve international cooperation with respect to actions to strengthen financial systems. The Forum will assess issues and vulnerabilities affecting the global financial system and identify and oversee the actions needed to address them. The BIS and other international financial institutions and organisations participate in the meetings of the Forum and also jointly provide secretariat support.

International Association of Insurance Supervisors

The BIS has hosted the Secretariat of the International Association of Insurance Supervisors (IAIS) since the Secretariat's establishment in January 1998. Similar to the Basle 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.

Supplementing the existing papers – the IAIS Core Principles, the Insurance Concordat, the Guidance on Insurance Regulation and Supervision for Emerging Market Economies and the model Memorandum of Understanding – the IAIS issued in 1998 international standards on the licensing of insurance companies, on-site inspections and the use of derivatives. In February 1999 the IAIS released policy papers on Year 2000 contingency planning and the supervision of financial conglomerates in collaboration with other international regulatory bodies. The IAIS is currently formulating principles and standards in the areas of solvency regulation, investment regulation, insurance accounting, electronic commerce, market conduct of insurance business and reinsurance. It is also expanding the Insurance Concordat to cover not only cross-border establishments but also cross-border services of internationally active insurance companies.

The IAIS arranged several training programmes and provided training materials for insurance supervisors in order to help members comply with IAIS supervisory principles and standards. In the past year, it organised regional training seminars for insurance supervisors in Poland (March 1998), South Africa (July 1998) and Singapore (February 1999).

The IAIS actively participates in the newly established Financial Stability Forum in order to promote coordination with other international financial bodies and national financial regulatory institutions.

Joint Year 2000 Council

The potential risks to IT systems associated with the Year 2000 date change have been a major preoccupation of senior policymakers around the world. Since its establishment in April 1998, the Joint Year 2000 Council, in cooperation with its sponsoring committees (Basle Committee on Banking Supervision, CPSS, IAIS and IOSCO), has taken a range of initiatives to prompt action by financial market authorities to address the problem. An important objective is to advance coordination within the global regulatory community as well as between the public and private sectors on important Year 2000 policy issues. These activities have been supported by the Council's Secretariat, which is provided by the BIS.

The Council has met regularly to discuss and develop policy guidance in a number of areas. It has also met on a regular basis with its External Consultative Committee, which groups a large number of representative international organisations from the private and public sectors, in order to learn about ongoing developments and emerging concerns. With the cooperation and support of its member institutions, the Council organised a series of regional meetings. Approximately 400 regulators from 100 countries attended these meetings, which were held in Asia, Europe, the Americas, the Middle East and Africa in late 1998 and early 1999. In cooperation with the private sector, the Council also organised a high-level meeting between key regulators and senior executives of international financial market firms at which progress with remediation programmes was assessed and potential risk mitigation strategies were discussed.

The policy papers produced by the Council have covered a number of issues, including the scope and impact of the Year 2000 problem, the importance of internal and external testing programmes, the benefits of improved disclosure and information sharing, and contingency planning. The Council Secretariat also produces a regular bulletin that reviews particular issues and describes policy initiatives in different regions. In total, the Council's publications reach more than 1,000 regulators in 170 countries.

The Council plans to continue to provide a platform for information sharing amongst financial market authorities worldwide and to assist in the formulation of relevant policy recommendations. There is a growing concern that, in the months leading up to 2000, the risk of potential Year 2000 disturbances could contribute to financial market uncertainty and related volatility. The Council, in cooperation with its sponsoring committees and other relevant Basle-based committees, intends to monitor Year 2000 developments closely and to examine, where appropriate with representatives of the private sector, possible risk mitigation measures, event management procedures and public communication strategies.

Other forms of central bank cooperation

Coordinating Services for Central Banks and International Organisations

The cooperation between the BIS, the committees hosted by it and various regional central bank groupings intensified during the reporting period. The regional groups, in particular CEMLA (Centro de Estudios Monetarios Latinoamericanos), EMEAP (Executive Meeting of East Asian and Pacific Central Banks), SEACEN (South-East Asian Central Banks), SAARC (South Asian Association for Regional Cooperation), the GCC (Gulf Cooperation Council) and SADC (Southern African Development Community), assisted the BIS and the Basle-based committees in disseminating standards and best practices to the central banks in their regions. The BIS and the Basle-based committees conducted an increasing number of joint seminars with regional groupings in the areas of banking supervision, payment and settlement systems, and monetary and financial stability.

The training needs of countries in transition continued to be addressed within the framework of the Joint Vienna Institute. More than 10,000 officials, mainly from the public sector, have attended courses and seminars at the JVI since its establishment in late 1992. The mandate of the Institute was renewed by the five sponsoring international financial organisations (BIS, EBRD, IBRD, IMF and OECD) – joined in January 1999 by the World Trade Organization – for another five years until mid-2004. The seminars organised by the BIS, but drawing also on input from central banks and other institutions, covered banking supervision, payment and settlement systems, monetary and financial stability, legal issues and reserve management.

Group of Experts on Monetary and Economic Data Bank Questions

The Group of Experts on Monetary and Economic Data Bank Questions continued to focus on challenges presented by the Year 2000, EMU and steps towards broadening the scope of secure electronic information exchange among central banks to include data, documents and support for conferencing and workgroup capabilities. A pilot project was successfully carried out with a small number of central banks, providing an opportunity to explore essential business and technology issues that could lead to the provision of new central bank information services by the BIS. A special Technical Coordination Workshop was convened to review details and share views on a variety of topics: the Year 2000 and associated changes in data exchange systems and formats for BIS Data Bank participants; statistical data coverage issues associated with the creation of the euro; and alternatives that followed from the pilot project. Central banks encouraged the BIS to move forward with the launch of broadened electronic information services and to deliver a secure and reliable production platform to achieve this objective on a timely basis.

Group of Computer Experts

Discussions in the Group of Computer Experts during the period under review focused on the efforts of central banks' IT departments to prepare for the introduction of the euro and the Year 2000. With the euro successfully

implemented, extensive programmes are in place to ensure that the IT systems used for payments, settlements and other functions can undergo timely, comprehensive internal and external testing for Year 2000 compliance.

Central banks are increasingly using internet technologies for communicating substantial amounts of information to a variety of audiences: sharing information in-house, exchanging economic and statistical data with universities and research institutes, and sharing information among themselves and with the general public through websites. The Group discussed ways of facilitating the use of internet technologies by central banks and the measures that need to be taken to address the risks posed by linking internal IT systems to the internet, particularly with regard to data confidentiality and system availability. In this context the Group also examined recent technological developments such as virtual private networks, digital signatures and public key infrastructures.

Representative Office for Asia and the Pacific

In July last year, the Bank established its first presence outside Switzerland in the form of the Representative Office for Asia and the Pacific in Hong Kong SAR. The Office aims to further enhance information exchange and cooperation among central banks and monetary authorities in the region, and between them and central banks in the rest of the world. It is also involving the region's central banks more closely in the activities of the Bank. On the banking side, the Office has served to promote the Bank's business relationships with regional central bank customers; in addition, the Office contributes to the Bank's research and analysis of financial and economic developments in the Asia-Pacific region.

Since its opening, meetings at the new Office have brought together central bank officials from within and outside the region. A meeting of reserve managers, also attended by the ECB, discussed preparations and prospects for the euro. In January, a special Governors' meeting exchanged views on bank restructuring, drawing on experiences from Europe and the Americas. And a meeting of foreign exchange market managers in the region, with their counterparts from western and central Europe, Africa and North America, discussed the foreign exchange strategies of highly leveraged financial institutions.

Financial Stability Institute

Last year's Annual Report noted the establishment of the Financial Stability Institute as a joint initiative of the Bank and the Basle Committee on Banking Supervision in response to the need to strengthen financial systems worldwide. Its first Chairman, John Heimann, took up his position on 1 February 1999. The Institute will focus first on strengthening financial systems and institutions, starting with banking and gradually adding securities dealers and insurance, as the distinctions between these three sectors have become increasingly blurred. It is intended to hold seminars where heads of supervision from

emerging markets will interact with their peers from leading industrial nations and experienced financial sector participants, with the aim of implementing and enforcing better financial structures through application of the Core Principles for Effective Banking Supervision. The Institute collaborates closely with the Toronto International Leadership Centre for Financial Sector Supervision, sponsored by the World Bank and the Canadian government. From June onwards, joint seminars in the broader field of strengthening supervisory capacities and workshops on areas such as market risk and risk management will be organised in Basle and Toronto.

A wide-ranging training programme for middle-level senior supervisors is planned with seminars to be organised in Basle and in each of the major regions of the world. Cooperation with the World Bank, the IMF and central banks is envisaged.

2. Functions as Agent and Trustee

During the past financial year the Bank continued to act as Agent and Trustee in connection with international financial settlements.

Agent for the private ECU clearing and settlement system

Following the introduction of the euro on 1 January 1999, the private ECU clearing and settlement system was replaced by the new euro clearing system of the Euro Banking Association (EBA), Paris. In this connection, the BIS ceased to act as Agent for the private ECU clearing and settlement system on 31 December 1998 and the related BIS/EBA Agreement was terminated as of that date.

The BIS had acted as Agent for the ECU clearing system since October 1986. A description of the structure and operation of the ECU clearing system can be found in the 56th Annual Report of June 1986. The number of clearing banks had risen steadily over the years, and during summer 1998 a further 11 banks were granted the status of clearing bank by the EBA, while five banks withdrew from the system. The total number of ECU clearing banks thus amounted to 62 by the time of the switchover to the new euro clearing system.

Trustee for international government loans

With regard to the funding bonds 1990–2010 of the Dawes and Young Loans, the Deutsche Bundesbank, as Paying Agent for all uncertificated bonds of all issues of the Dawes and Young Loans, notified the Bank that it had paid out approximately DM 3.5 million to bondholders in respect of redemption at the maturity date of 3 October 1998 and DM 7.0 million in respect of interest at the maturity dates of 3 April and 3 October 1998, as well as interest arrears. The newly calculated redemption values and conversion factors in respect of the aforementioned interest maturity dates were published by the Bundesschuldenverwaltung (BSV – German Federal Debt Administration) in the Bundesanzeiger (Federal Gazette).

On the occasion of the introduction of the euro on 1 January 1999, the BSV announced that the aforementioned funding bonds will not be converted into euros. However, the method used by the German authorities to calculate the redemption values of these bonds for payments of interest and principal will be altered. Details can be found in the announcement made by the BSV in Bundesanzeiger No. 57 of 24 March 1999.

Concerning the application of the exchange guarantee clause for the Young Loan by the BSV, the Bank has repeated its earlier reservations stated in the 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 the aforementioned reservations. The Paying Agents have been advised to take the appropriate precautionary measures in order to safeguard the rights of the bondholders.

Details of the funding bond issues and the Bank's functions can be found in the Bank's 63rd Annual Report of June 1993.

Collateral Agent for Brazilian bonds

Under two Collateral Pledge Agreements signed on 15 April 1994, the BIS acts in the capacity of Collateral Agent to hold and invest collateral for the benefit of the holders of certain US dollar denominated bonds, maturing in either 15 or 30 years, issued by Brazil under the external debt restructuring arrangements agreed in November 1993.

Collateral Agent for Peruvian bonds

Under agreements signed on 7 March 1997, the BIS acts in the capacity of Collateral Agent to hold and invest collateral for the benefit of the holders of certain US dollar denominated bonds, maturing in either 20 or 30 years, issued by Peru under the external debt restructuring arrangements agreed in November 1996.

Collateral Agent for Côte d'Ivoire bonds

Under agreements signed on 31 March 1998, the BIS acts in the capacity of Collateral Agent to hold and invest collateral for the benefit of the holders of certain US dollar and French franc denominated bonds, maturing in either 20 or 30 years, issued by Côte d'Ivoire under the external debt restructuring arrangements agreed in May 1997.

3. Financial assistance to central banks

Within the framework of an international financial support programme put together for Brazil in late 1998, the BIS coordinated a Credit Facility for up to US$ 13.28 billion in favour of the Banco Central do Brasil. Funds made available by the BIS under this Facility are for the most part provided with the backing or guarantee of 19 participating central banks. A parallel Facility for up to US$ 1.25 billion was also granted by the Japanese monetary authorities.

Drawings on both arrangements are made in conjunction with Brazilian purchases under an IMF Supplemental Reserve Facility.

A first drawing of US$ 4.15 billion was made on the BIS Facility on 18 December 1998. A second drawing of US$ 4.5 billion occurred on 9 April 1999. Proportional amounts were made available in each case under the Japanese Facility.

As part of its normal business activity, the BIS also made various short-term advances to central banks during the course of the year on an uncollateralised as well as on a collateralised basis.

4. Operations of the Banking Department

At 31 March 1999 the Balance Sheet stood at 66,237 million gold francs, representing an increase of 6.1% (3,787 million gold francs) over the total of 62,450 million reached a year earlier. Exchange rate factors had a positive impact of approximately 650 million gold francs on the total as a result of a slight weakening of the US dollar against other currencies between the beginning and the end of the financial year.

Against the background of last autumn's financial market turbulence, the Balance Sheet expanded significantly to reach an all-time record level of 89,466 million gold francs in December 1998. The general flight to quality which occurred at this time highlighted the credit standing of the BIS. As credit concerns diminished, however, this increase in the Balance Sheet was largely reversed in the first quarter of 1999.

Liabilities

The BIS customer base consists of more than 100 central banks and international institutions. Continuing its efforts to improve the competitiveness and scope of its banking services, the BIS adopted various measures during the course of the year to price its financial products more attractively and also launched a new longer-term instrument with maturities out to five years.

On 31 March 1999 borrowed funds in gold and currencies (excluding repurchase operations) totalled 60,898 million gold francs, compared with 57,497 million at the end of the previous year. Deposits in gold, which declined by 281 million gold francs to 3,193 million, accounted for 5.2% of total borrowed funds against 6% a year earlier. Currency deposits grew over the period by 3,682 million gold francs, a decline in fixed-term deposits being more than offset by increased investments in more liquid, tradable BIS instruments. The volume of such currency placements tends to be volatile, reflecting not only the active use made by central banks of BIS banking facilities for liquidity management but also the safe haven role of the BIS in uncertain market conditions. The average volume of borrowed currencies measured on a daily basis was 8.4% higher than in the financial year 1997/98.

The past financial year was characterised by a 13.6% increase in funds received in US dollars. As a result, the share of the US dollar in total borrowed funds in currencies continued its upward trend of recent years to reach 65.9%

on 31 March 1999, compared with 62.1% a year earlier. In contrast, the share of the euro or its constituent currencies declined over the same period from 24.8% to 20.2% of total borrowed funds.

Deposits by central banks rose from 50,468 million to 54,016 million gold francs, representing 93.6% of total borrowed funds in currencies at end-March 1999, the proportion being virtually unchanged from the previous year. Funds placed by other depositors (mainly international institutions) amounted to 3,690 million gold francs (or 6.4% of the total), compared with 3,555 million (or 6.6%) on 31 March 1998.

Assets

The bulk of the reserve assets held by central banks with the BIS are short-term and one of the Bank's prime objectives in employing these resources is therefore to preserve a high degree of liquidity. The Bank conducts its operations in a highly prudent manner to ensure the safety of the deposits entrusted to it; credit risk, maturity transformation and exchange rate risk are rigorously monitored.

Having increased year on year by 4,157 million gold francs, investments in currencies amounted to 62,189 million gold francs on 31 March 1999, compared with 58,032 million a year earlier. These assets represent deposits with first-class institutions of international standing as well as short-term negotiable securities, including treasury bills. The Bank also grants advances to central banks; at end-March 1999 the total of such advances outstanding amounted to 2,550 million gold francs, the bulk of which represented funds extended under the multilateral Credit Facility coordinated by the BIS in favour of the Banco Central do Brasil (see 3 above).

The Bank's assets in gold declined from 4,159 million to 3,879 million gold francs during the financial year, reflecting the decrease in gold deposits received.

Apart from its holdings of 192 tonnes of gold, the Bank's own funds are largely held in liquid securities issued or guaranteed by the governments of the major industrial countries as well as top-rated supranationals. This investment policy proved particularly effective during last year's disturbed market conditions.

The Bank also makes use of certain derivative instruments, essentially with a view to managing its own funds more efficiently and hedging risks on its borrowed funds (see Note 8a to the Balance Sheet).

5. Net profits and their distribution

The accounts for the 69th financial year ended 31 March 1999 show a net profit of 303,618,800 gold francs, compared with 259,160,599 gold francs for the preceding financial year. The high level of the Balance Sheet total during the year resulted in an increase in income from borrowed funds operations. Interest income from own funds investments fell slightly as a consequence of the general fall in longer-term interest rates in major markets. However, the

lower interest rate environment also led to large realised capital gains on the Bank's investment portfolios, and the increased gains from securities trading contributed significantly to the recorded rise in profits. A further factor behind the increase in the net profit was the decision of the Bank's Board of Directors to reduce again the amount allocated to the provision for banking risks and other eventualities.

This year's result is shown after deduction of 66,762,397 gold francs in respect of costs of administration, compared with the previous year's figure of 55,701,805 gold francs. Of this increase, 6,016,352 gold francs resulted from the incorporation for the first time of a depreciation charge, following the introduction of the new accounting policy under which the Bank's land, buildings and equipment are capitalised and depreciated. The Bank's costs of administration, excluding depreciation, increased by 5,044,240 gold francs or 9.1%, but valuation adjustments accounted for part of this increase. In terms of Swiss francs, the currency in which most of the Bank's expenditure is incurred, the rise in costs, excluding depreciation, amounted to 6.9%.

On the basis of Article 51 of the Statutes, the Board of Directors recommends that the net profit of 303,618,800 gold francs be applied by the General Meeting in the following manner:

(i) an amount of 57,366,159 gold francs in payment of a dividend of 320 Swiss francs per share;

(ii) an amount of 49,250,528 gold francs to be transferred to the general reserve fund;

(iii) an amount of 3,000,000 gold francs to be transferred to the special dividend reserve fund; and

(iv) an amount of 194,002,113 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.

If the above proposals are accepted, the dividend will be paid on 1 July 1999 to the shareholders whose names are contained in the Bank's share register on 20 June 1999.

The Balance Sheet, the Profit and Loss Account and summary statements showing the movements during the financial year in the Bank's capital and reserves can be found at the end of this Report. The Bank's accounts have been audited by PricewaterhouseCoopers AG, who have confirmed that the Balance Sheet and the Profit and Loss Account, together with the Notes on pages 174–180, give a true and fair view of the Bank's financial position at 31 March 1999 and of the results of its operations for the year ended on that date. Their report is to be found immediately following the accounts.

6. Changes in the Board of Directors

At its meeting on 8 February 1999 the Board elected Urban Bäckström, Governor of Sveriges Riksbank, as Chairman of the Board of Directors and President of the Bank for a period of three years commencing on 1 March

1999, when Alfons Verplaetse relinquished those offices on retiring as Governor of the National Bank of Belgium.

Guy Quaden, who succeeded Alfons Verplaetse as Governor of the National Bank of Belgium, became an ex officio Director from 1 March 1999.

Following the resignation of Philippe Wilmès as a member of the Board in March 1999, Guy Quaden appointed Alfons Verplaetse to this position. Eddie George, Governor of the Bank of England, renewed to May 2002 the appointment of Lord Kingsdown as a member of the Board under Article 27(2) of the Statutes.

Urban Bäckström's term as a member of the Board of Directors under Article 27(3) of the Statutes expired on 31 March 1999 and he was elected for a further three years.

There were three changes amongst the Alternates of ex officio Directors. In September 1998 Hans Tietmeyer, President of the Deutsche Bundesbank, appointed Jürgen Stark. Alan Greenspan, Chairman of the Board of Governors of the Federal Reserve System, appointed Karen H Johnson in November 1998 and in March 1999 Guy Quaden appointed Jan Smets in place of Marcia De Wachter.

The Bank was saddened to hear of the death of René Larre on 1 January 1999 at the age of 83. Mr Larre had joined the Bank on 1 May 1971 as General Manager, a position he occupied until his retirement in February 1981.

Robert D Sleeper was appointed Head of the Banking Department from 1 February 1999. He succeeded Malcolm Gill, who retired in March 1999, having joined the Bank in December 1991.

Balance Sheet and Profit and Loss Account

at 31 March 1999

Balance Sheet at 31 March 1999

(in gold francs – see Note 2(a) to the Accounts)

1998	Assets	1999
	Gold	
3 037 168 543	Held in bars	*2 801 471 476*
1 122 386 712	Time deposits and advances	*1 077 182 612*
4 159 555 255		3 878 654 088
7 776 756	Cash on hand and on sight account with banks	8 289 300
1 863 872 732	Treasury bills	7 314 049 359
	Time deposits and advances in currencies	
25 267 793 274	Not exceeding 3 months	*21 413 790 799*
9 594 385 217	Over 3 months	*11 009 185 563*
34 862 178 491		32 422 976 362
	Securities purchased under resale agreements	
2 696 998 195	Not exceeding 3 months	*276 014 585*
83 973 665	Over 3 months	–
2 780 971 860		276 014 585
	Government and other securities at term	
3 024 906 378	Not exceeding 3 months	*4 658 672 728*
15 492 166 080	Over 3 months	*17 509 173 124*
18 517 072 458		22 167 845 852
1	Land, buildings and equipment	124 693 036
258 747 077	Miscellaneous	44 554 468
62 450 174 630		66 237 077 050

After allocation of the year's net profit 1998	Liabilities	Before allocation of the year's net profit 1999	After 1999
323 228 125	Paid-up capital	323 228 125	323 228 125
2 268 525 024	Reserves	2 359 389 062	2 605 641 703
247 188 455	Valuation difference account	265 360 020	265 360 020
	Deposits (gold)		
3 010 120 795	Sight	*2 775 616 571*	*2 775 616 571*
309 454 649	Not exceeding 3 months	*233 632 571*	*233 632 571*
154 169 729	Over 3 months	*183 327 484*	*183 327 484*
3 473 745 173		3 192 576 626	3 192 576 626
	Deposits (currencies)		
3 388 447 478	Sight	*3 005 634 040*	*3 005 634 040*
48 774 372 346	Not exceeding 3 months	*51 674 794 423*	*51 674 794 423*
1 860 721 733	Over 3 months	*3 025 353 687*	*3 025 353 687*
54 023 541 557		57 705 782 150	57 705 782 150
	Securities sold under repurchase agreements		
30 730 705	Not exceeding 3 months	121 452 148	121 452 148
256 984 348	Staff pension scheme	–	–
1 773 681 784	Miscellaneous	1 965 670 119	1 965 670 119
	Profit and Loss Account	303 618 800	
52 549 459	Dividend payable on 1 July		57 366 159
62 450 174 630		66 237 077 050	66 237 077 050

Profit and Loss Account

for the financial year ended 31 March 1999
(in gold francs)

	1998	1999
Interest and discount, and other operating income	3 823 693 826	4 050 134 509
Less: interest and discount expense	3 508 831 422	3 679 753 312
Net interest and other operating income	314 862 404	370 381 197
Less: costs of administration		
Board of Directors	*1 244 034*	*1 330 121*
Management and staff	*39 425 067*	*40 819 397*
Office and other expenses	*15 032 704*	*18 596 527*
Depreciation	–	*6 016 352*
	55 701 805	66 762 397
Net profit for the financial year	259 160 599	303 618 800
The Board of Directors recommends to the Annual General Meeting that the net profit for the year ended 31 March 1999 be allocated in accordance with Article 51 of the Statutes as follows:		
Dividend: 320 Swiss francs per share on 517 165 shares (1998: 300 Swiss francs)	52 549 459	57 366 159
	206 611 140	246 252 641
Transfer to general reserve fund	41 322 228	49 250 528
	165 288 912	197 002 113
Transfer to special dividend reserve fund	3 000 000	3 000 000
	162 288 912	194 002 113
Transfer to free reserve fund	162 288 912	194 002 113
	–	–

Movements in the Bank's paid-up capital and reserves

during the financial year ended 31 March 1999
(in gold francs)

I. Paid-up capital

	Number of shares	Gold francs
Shares of 2 500 gold francs, of which 25% is paid up:		
Balances at 31 March 1998	517 165	323 228 125
Balances at 31 March 1999 as per Balance Sheet	517 165	323 228 125

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 1998 after allocation of net profit for the financial year 1997/98	32 322 813	1 016 326 624	62 530 055	1 157 345 532	2 268 525 024
Add: effect of change of accounting policy for land, buildings and equipment: see Notes to the Accounts (g) and (l)	–	90 864 038	–	–	90 864 038
Balances at 31 March 1999 before allocation of net profit	32 322 813	1 107 190 662	62 530 055	1 157 345 532	2 359 389 062
Add: allocations of net profit for the financial year 1998/99	–	49 250 528	3 000 000	194 002 113	246 252 641
Balances at 31 March 1999 as per Balance Sheet	32 322 813	1 156 441 190	65 530 055	1 351 347 645	2 605 641 703

III. Paid-up capital and reserve funds at 31 March 1999 (after allocation) were represented by:

	Paid-up capital	Reserve funds	Total of capital and reserves
Net assets in			
Gold	323 228 125	338 760 661	661 988 786
Currencies	–	2 266 881 042	2 266 881 042
Balances at 31 March 1999 as per Balance Sheet	323 228 125	2 605 641 703	2 928 869 828

Notes to the Accounts

for the financial year ended 31 March 1999

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 Basle, 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-five 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 1998/99 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$ 1.941 49… . Article 4 of the Bank's Statutes defines the gold franc (abbreviated to GF) as representing 0.290 322 58… grammes 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 1 gold franc = US$ 1.941 49...). 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

With effect from 1 April 1998 the Bank changed its accounting policy to capitalise and depreciate its buildings and equipment on a straight line basis over their estimated useful lives, as follows:

Land – not depreciated.
Buildings – 50 years.
Building installations and machinery – 15 years.
Computer 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 under (a); 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

The Board of Directors sets aside an amount each year to the above provision, which is incorporated in miscellaneous liabilities.

(l) Change of accounting policy in the financial year 1998/99

On 1 April 1998 the Bank's land, buildings and equipment were revalued in the Balance Sheet to their historical cost less accumulated depreciation for the years during which the assets were held. The effect of this change was to increase the value of land, buildings and equipment in the Bank's Balance Sheet by GF 90.9 million; this amount was added to the Bank's reserves (see also the table entitled "Movements in the Bank's paid-up capital and reserves"). In addition, with effect from the financial year 1998/99 the Bank's Profit and Loss Account contains a depreciation charge instead of the previous transfers to specific provisions.

The unspent balances on the provisions for building purposes and modernisation of premises and renewal of equipment were credited in 1998/99 to the provision for exceptional costs of administration.

Notes to the Balance Sheet

for the financial year ended 31 March 1999

1. Gold holdings

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

Assets	*1998*	1999
Gold bars held at central banks	*3 037 168 543*	2 801 471 476
Gold time deposits:		
Not exceeding 3 months	*438 825 618*	274 154 547
Over 3 months	*683 561 094*	803 028 065
	4 159 555 255	3 878 654 088

The Bank's own gold holdings at 31 March 1999 amounted to GF 662.0 million, equivalent to 192 tonnes of fine gold (1998: GF 662.0 million; 192 tonnes).

2. Treasury bills

The Bank's holdings were as follows:

	1998	1999
Book value	*1 863 872 732*	7 314 049 359

The market value of Treasury bills at 31 March 1999 was GF 7 319.2 million (1998: GF 1 863.6 million).

3. Government and other securities at term

The Bank's holdings were as follows:

	1998	1999
Book value	*18 517 072 458*	22 167 845 852

The market value of Government and other securities at term at 31 March 1999 was GF 22 331.4 million (1998: GF 18 623.8 million).

4. Land, buildings and equipment

	Land & buildings	IT & other equipment	Total
Cost:			
Opening balance at 1 April 1998	101 585 513	38 117 021	139 702 534
Capital expenditure	29 925 031	7 793 648	37 718 679
Exchange adjustments	2 377 877	892 230	3 270 107
Cost at 31 March 1999	133 888 421	46 802 899	180 691 320
Depreciation:			
Accumulated depreciation at 1 April 1998	26 665 183	22 173 313	48 838 496
Depreciation charge for the current year	2 069 321	3 947 031	6 016 352
Exchange adjustments	624 169	519 267	1 143 436
Accumulated depreciation	29 358 673	26 639 611	55 998 284
Net book value at 31 March 1999	104 529 748	20 163 288	124 693 036

The cost of the Bank's land at 31 March 1999 was GF 26 610 450 (1 April 1998: GF 19 566 319). During the year the Bank purchased an additional property in Basle which will be used mainly by the Banking Department.

5. Capital

The Bank's share capital consists of:

	1998	1999
Authorised capital: 600 000 shares, each of 2 500 gold francs	*1 500 000 000*	1 500 000 000
Issued capital: 517 165 shares	*1 292 912 500*	1 292 912 500
of which 25% paid up	*323 228 125*	323 228 125

6. Reserves

The Bank's reserves consist of:

	1998	1999
Legal reserve fund	*32 322 813*	32 322 813
General reserve fund	*1 016 326 624*	1 156 441 190
Special dividend reserve fund	*62 530 055*	65 530 055
Free reserve fund	*1 157 345 532*	1 351 347 645
	2 268 525 024	2 605 641 703

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".

7. Deposits

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

	1998	1999
Central banks		
Sight	*3 323 820 195*	2 890 343 276
Not exceeding 3 months	*45 283 968 982*	48 100 323 078
Over 3 months	*1 860 469 306*	3 025 353 687
Other depositors		
Sight	*64 627 283*	115 290 764
Not exceeding 3 months	*3 490 403 364*	3 574 471 345
Over 3 months	*252 427*	–
	54 023 541 557	57 705 782 150

8. 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

(in millions of gold francs)	*1998*	1999
Exchange rate contracts:		
Foreign exchange swaps and forwards	*12 040.5*	10 470.4
Currency swaps	*2 054.4*	2 796.1
Interest rate contracts:		
Interest rate swaps	*5 689.5*	7 222.0
Forward rate agreements and futures	*4 928.4*	5 987.8

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 1999 was GF 484.1 million (1998: GF 499.7 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.

(in millions of gold francs)	*1998*	1999
Nominal value of securities held in safe custody	*7 660.2*	7 167.8
Gold held under earmark	*930.8*	671.2

c) Staff Pensions System and Savings Scheme

In previous years the liabilities of the Pensions System were set out in the Bank's Balance Sheet under the heading "Staff pension scheme", while those of the Savings Scheme were included within miscellaneous liabilities. On 1 October 1998 new pension regulations came into force, and the assets and liabilities of both schemes were transferred from the Bank's Balance Sheet to two separate funds. These changes were made to modernise the Pensions System and to facilitate the management of the assets of the Pensions System and Savings Scheme separately from the assets of the Bank. The two new funds are similar to trust funds and have 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 Pensions System and Savings Scheme, and all payments under these schemes are debited to the fund concerned. Certain assets previously earmarked to meet the liabilities of the Pensions System and Savings Scheme, amounting to GF 293.2 million and GF 24.5 million respectively, were transferred to the new funds on 1 October 1998.

The Bank is committed to maintain 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 to the funds is included in its costs of administration.

At 31 March 1999 the market value of the assets of the Pension Fund amounted to GF 295.5 million, representing a coverage ratio of 127% compared with the latest actuarial value of the fund's obligations. The market value of the assets of the Savings Fund amounted to GF 25.8 million on 31 March 1999, which represents a coverage ratio of 109% compared with the liabilities of the scheme. The first annual accounts of the Pension and Savings Funds will relate to the year ending 30 September 1999.

Report of the Auditors

Report of the Auditors
to the Board of Directors and to the General Meeting
of the Bank for International Settlements, Basle

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 1999 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 John K Fletcher

Basle, 27 April 1999

Five-year summary of the Balance Sheet

(in millions of gold francs)

Financial year ended 31 March	1995	1996	1997	1998	1999
Gold					
Held in bars	*4 373.4*	*4 364.2*	*3 547.3*	*3 037.1*	*2 801.5*
Time deposits and advances	*541.8*	*637.3*	*956.7*	*1 122.4*	*1 077.2*
	4 915.2	5 001.5	4 504.0	4 159.5	3 878.7
Cash on hand and on sight account with banks	9.8	9.8	384.4	7.8	8.3
Treasury bills	5 483.1	4 105.7	2 813.4	1 863.9	7 314.0
Time deposits and advances in currencies	42 478.7	37 328.1	42 355.1	34 862.2	32 423.0
Securities purchased under resale agreements	2 988.7	1 652.2	884.2	2 781.0	276.0
Government and other securities at term	9 332.8	10 488.1	15 651.1	18 517.1	22 167.9
Land, buildings and equipment	–	–	–	–	124.7
Miscellaneous assets	19.2	32.8	200.8	258.7	44.5
Total assets	65 227.5	58 618.2	66 793.0	62 450.2	66 237.1
Paid-up capital	295.7	295.7	323.2	323.2	323.2
Reserves *(after allocation of the net profit for the year)*					
Legal reserve fund	*30.1*	*30.1*	*32.3*	*32.3*	*32.3*
General reserve fund	*764.9*	*803.3*	*974.9*	*1 016.3*	*1 156.4*
Special dividend reserve fund	*53.5*	*56.5*	*59.5*	*62.5*	*65.5*
Free reserve fund	*807.0*	*893.6*	*995.1*	*1 157.4*	*1 351.4*
	1 655.5	1 783.5	2 061.8	2 268.5	2 605.6
Valuation difference account	449.5	373.5	351.1	247.2	265.4
Deposits					
Gold	*4 157.0*	*4 245.0*	*3 836.4*	*3 473.7*	*3 192.6*
Currencies	*56 549.0*	*49 649.2*	*57 585.6*	*54 023.6*	*57 705.8*
	60 706.0	53 894.2	61 422.0	57 497.3	60 898.4
Securities sold under repurchase agreements	385.4	376.6	674.8	30.7	121.5
Staff pension scheme	271.0	283.1	252.6	257.0	–
Miscellaneous liabilities	1 411.0	1 558.3	1 658.7	1 773.7	1 965.6
Dividend	53.4	53.3	48.8	52.6	57.4
Total liabilities	65 227.5	58 618.2	66 793.0	62 450.2	66 237.1

Five-year summary of the Profit and Loss Account

(in millions of gold francs)

Financial year ended 31 March	1995	1996	1997	1998	1999
Net interest and other operating income	229.3	254.3	263.8	314.9	370.4
Less: costs of administration					
Board of Directors	*1.2*	*1.5*	*1.3*	*1.3*	*1.3*
Management and staff	*40.2*	*46.6*	*42.9*	*39.4*	*40.9*
Office and other expenses	*17.4*	*18.3*	*16.3*	*15.0*	*18.6*
Depreciation	–	–	–	–	*6.0*
	58.8	66.4	60.5	55.7	66.8
Net operating surplus	170.5	187.9	203.3	259.2	303.6
Less: amounts transferred to					
Provision for exceptional costs of administration	*3.4*	*3.5*	*3.0*	–	–
Provision for modernisation of premises and renewal of equipment	*4.7*	*3.1*	*6.0*	–	–
	8.1	6.6	9.0	–	–
Net profit for the financial year	162.4	181.3	194.3	259.2	303.6
Dividend	53.4	53.3	48.8	52.6	57.4
	109.0	128.0	145.5	206.6	246.2
Transfer to general reserve fund	32.7	38.4	41.0	41.3	49.2
	76.3	89.6	104.5	165.3	197.0
Transfer to special dividend reserve fund	3.0	3.0	3.0	3.0	3.0
	73.3	86.6	101.5	162.3	194.0
Transfer to free reserve fund	73.3	86.6	101.5	162.3	194.0
	–	–	–	–	–

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Chairman of the Board of Directors,
President of the Bank

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Vice-Chairman

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Antonio Fazio, Rome
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Clifford Smout, London
Jean-Jacques Rey or
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Alice M Rivlin or
Karen H Johnson, Washington
Carlo Santini or
Stefano Lo Faso, Rome
Jürgen Stark or
Helmut Schieber, Frankfurt a/M.

Senior Officials of the Bank

Andrew Crockett	General Manager
André Icard	Assistant General Manager
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William R White	Economic Adviser, Head of the Monetary and Economic Department
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Renato Filosa	Manager, Monetary and Economic Department
Mario Giovanoli	General Counsel, Manager
Guy Noppen	Manager, General Secretariat
Günter Pleines	Deputy Head of the Banking Department

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