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

Highlights

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

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

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

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

The performance of financial institutions and the economy

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

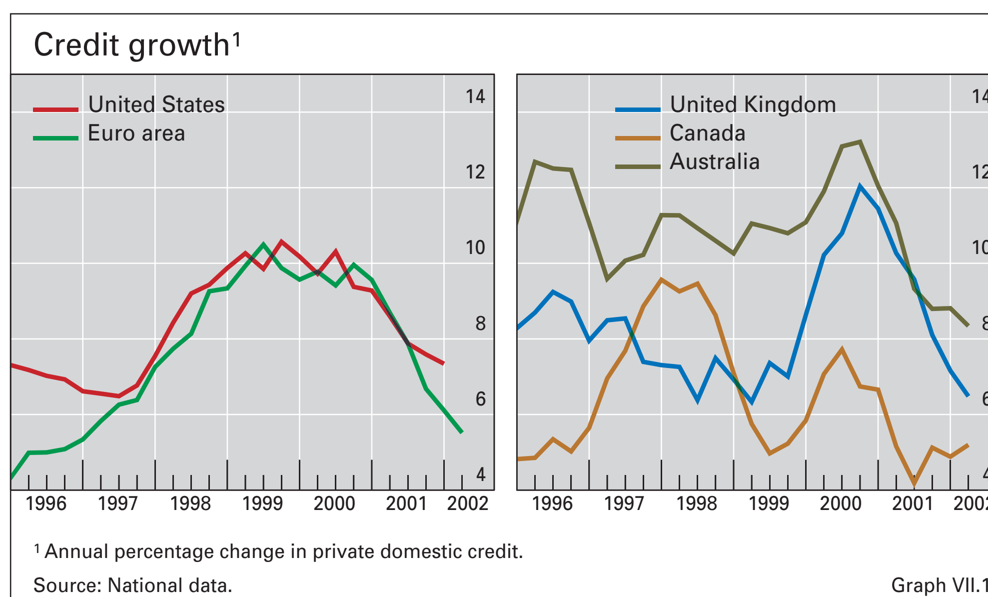
The performance of the financial sector and the health of the economy are closely intertwined. Typically, during the expansion phase of the business cycle, higher asset prices, low levels of problem loans and increased capital market activity all help improve the recorded profitability of financial institutions.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

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

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

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

Credit growth[1]



[1] Annual percentage change in private domestic credit.

Source: National data.

Graph VII.1

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

Source: Fitch. Table VII.1

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

Recent trends

Loan loss provisions have risen …

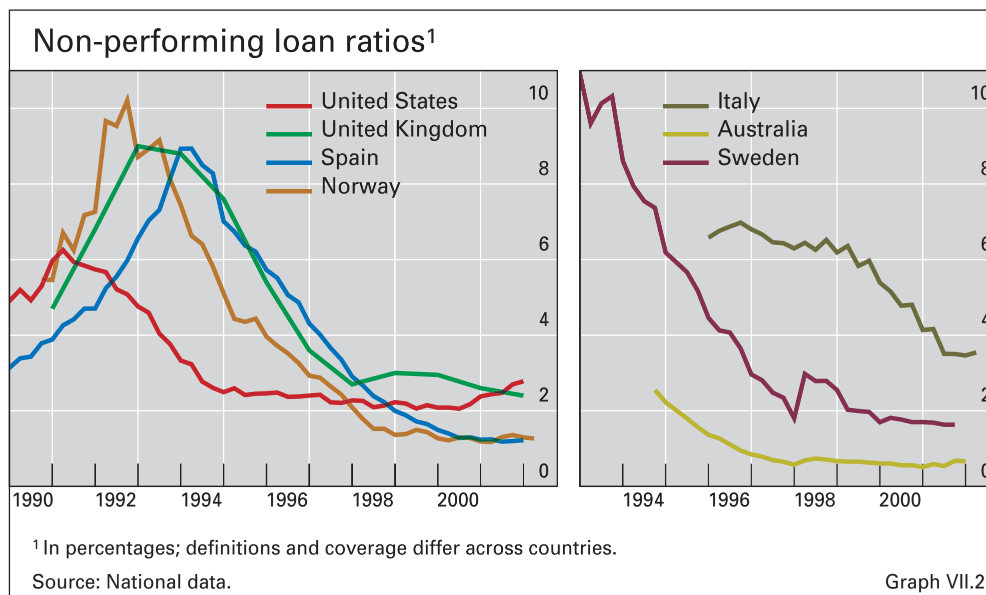
A predominant theme for much of the banking industry over the past year or so has been the deterioration in the credit quality of loan portfolios. As the major economies slowed, many banks saw a significant increase in their provisioning expenses, particularly on corporate loans. There were also signs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

… but problem loans remain well below early 1990s levels

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

Capital market revenues have declined …

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



Non-performing loan ratios[1]

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

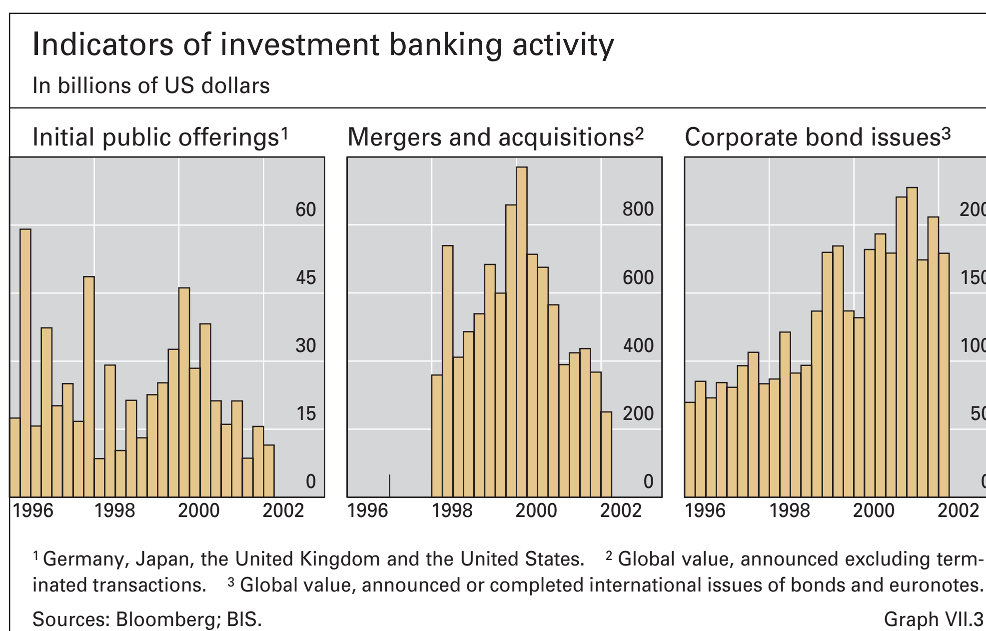
Source: National data. Graph VII.2

... but interest margins have widened

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

Banks remain profitable ...

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

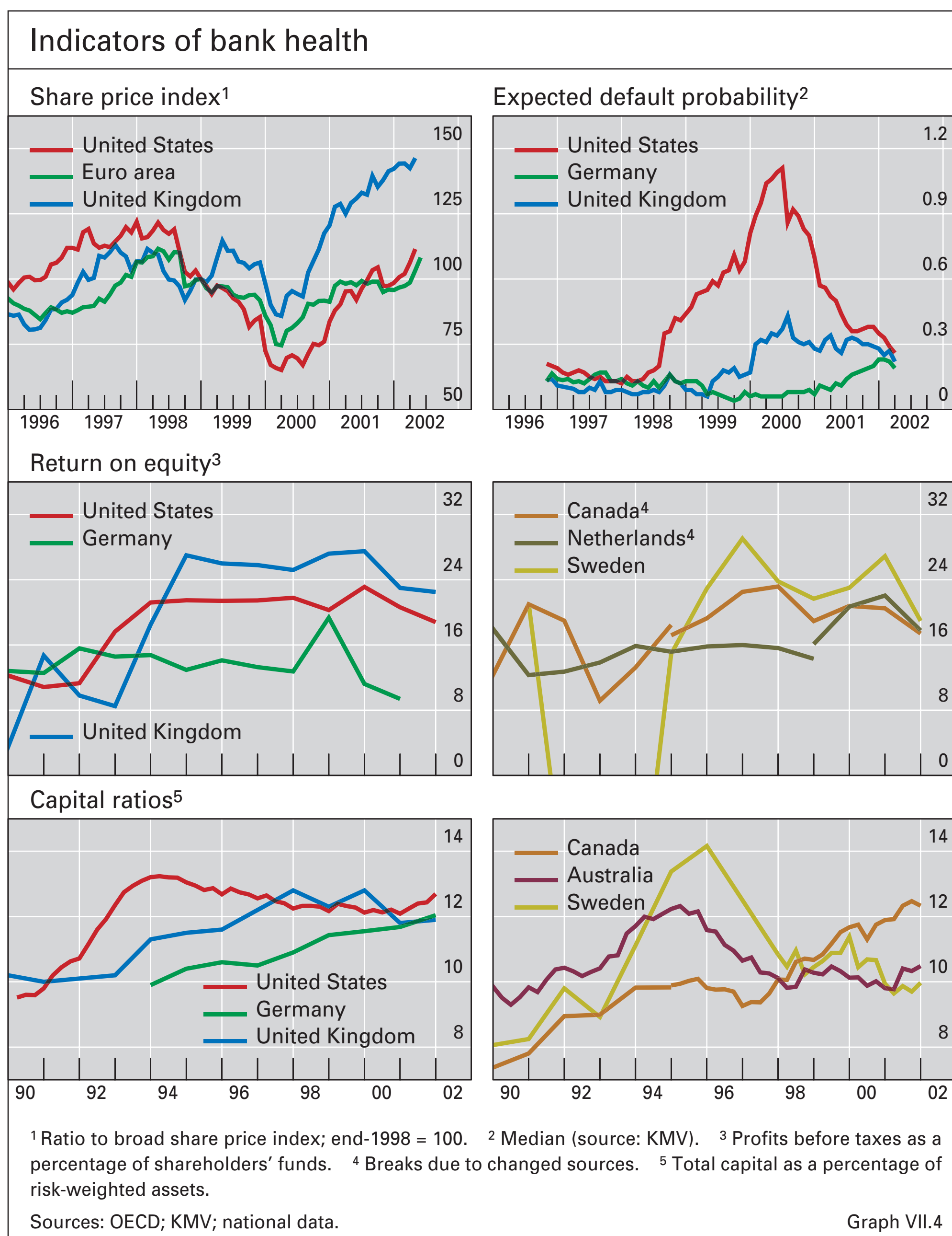


Indicators of investment banking activity

In billions of US dollars

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

Sources: Bloomberg; BIS. Graph VII.3



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

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

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

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

Italy, the Netherlands and Switzerland, have fallen since the beginning of 2001, although the declines have generally been in line with that of the broader market.

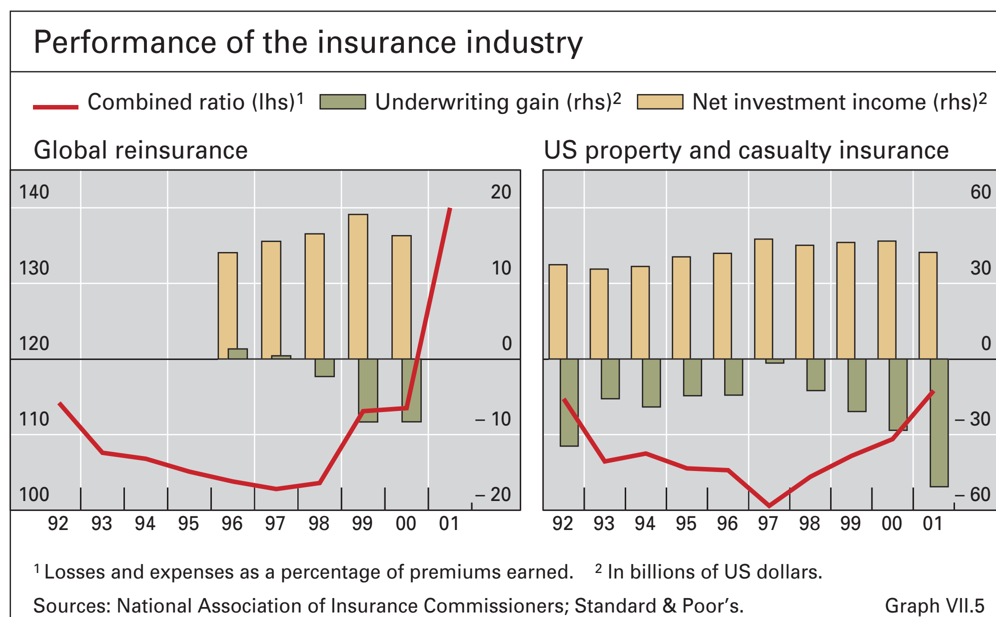
... and relatively well capitalised

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

The insurance industry has had difficulties

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

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



[1] Losses and expenses as a percentage of premiums earned. [2] In billions of US dollars.
Sources: National Association of Insurance Commissioners; Standard & Poor's. Graph VII.5

The changing nature of risk

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

Financial institutions are more resilient than in the early 1990s

Asset market developments

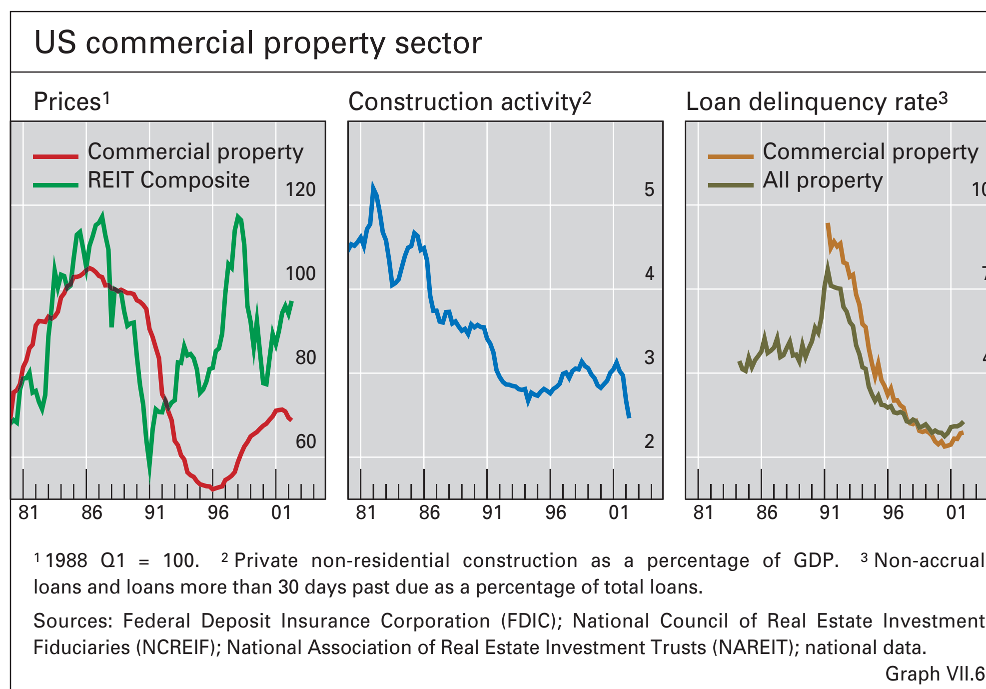
The slowdowns in economic growth in 2001 and in the early 1990s were both preceded by very strong asset markets. In the earlier episode it was property markets that were particularly robust, and it was banks that provided much of the leverage that funded the boom. In contrast, while some property markets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

Commercial property price cycle largely absent …

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

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

… in part due to better market discipline …



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

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

Graph VII.6

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

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

... better risk management ...

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

... and lower interest rates

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

House prices and household indebtedness have risen

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

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

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

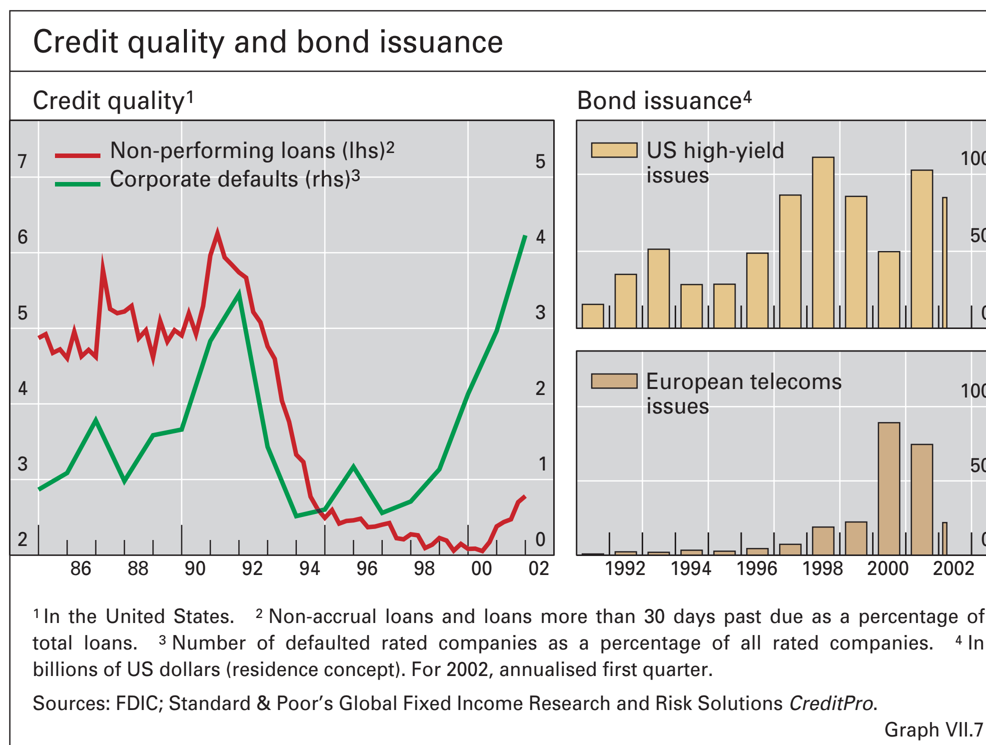
Sources: Catella; Frank Russell Canada Ltd; Investment Property Databank Ltd; Jones Lang LaSalle; Ministère de l'Équipement, des Transports et du Logement; NCREIF; Nomisma; OPAK; Ring Deutscher Makler; Sadolin & Albæk; Wüest & Partner; national data; BIS estimates. Table VII.2

Financing through the capital markets

The financing of the boom largely through capital markets ...

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

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



Credit quality and bond issuance

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

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

Graph VII.7

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

… has contributed to resilience …

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

… but banks remain exposed to market turmoil

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

Credit risk transfer

The emergence and growth of markets that allow risk to be more easily transferred amongst financial institutions has also contributed to the recent resilience. The largest and most well established of these markets is the one for asset-backed securities. Recent years, however, have also seen very strong

growth in markets for credit derivatives, including synthetic securitisations, and in the trading of secondary loans (Graph VII.8).

New instruments allow better diversification …

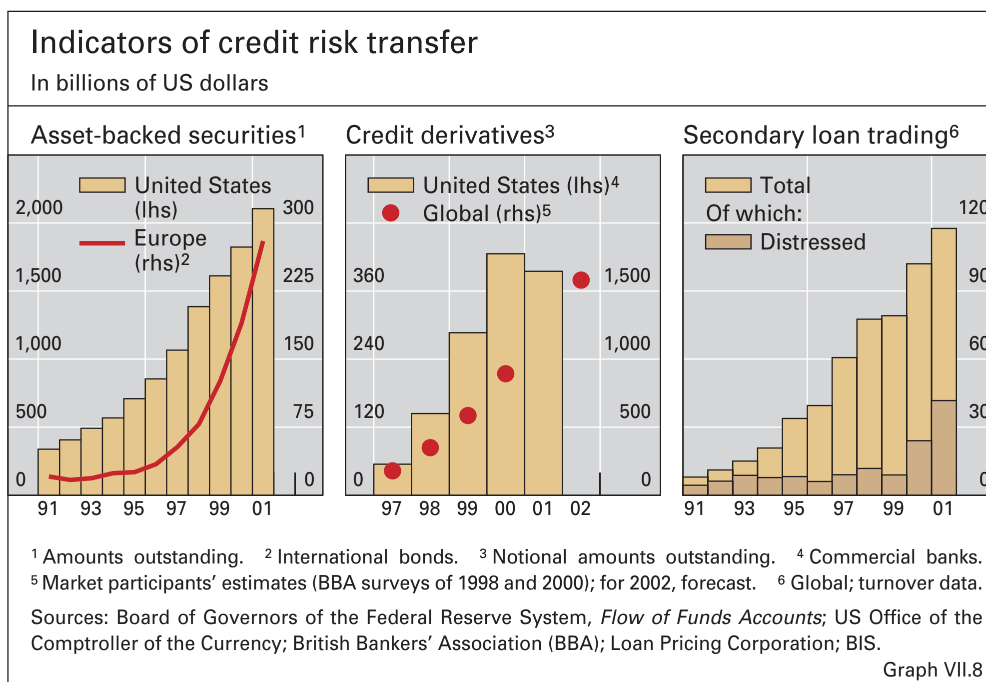
These markets have contributed to resilience in a number of ways. Most importantly, they permit risk to be transferred away from institutions that have a comparative advantage in arranging loans towards those that specialise in bearing and managing risk. This allows institutions to be better diversified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

… but raise potential risks as well

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

Indicators of credit risk transfer

In billions of US dollars



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

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

Graph VII.8

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

Continuing problems in Japan

Further losses by Japanese banks ...

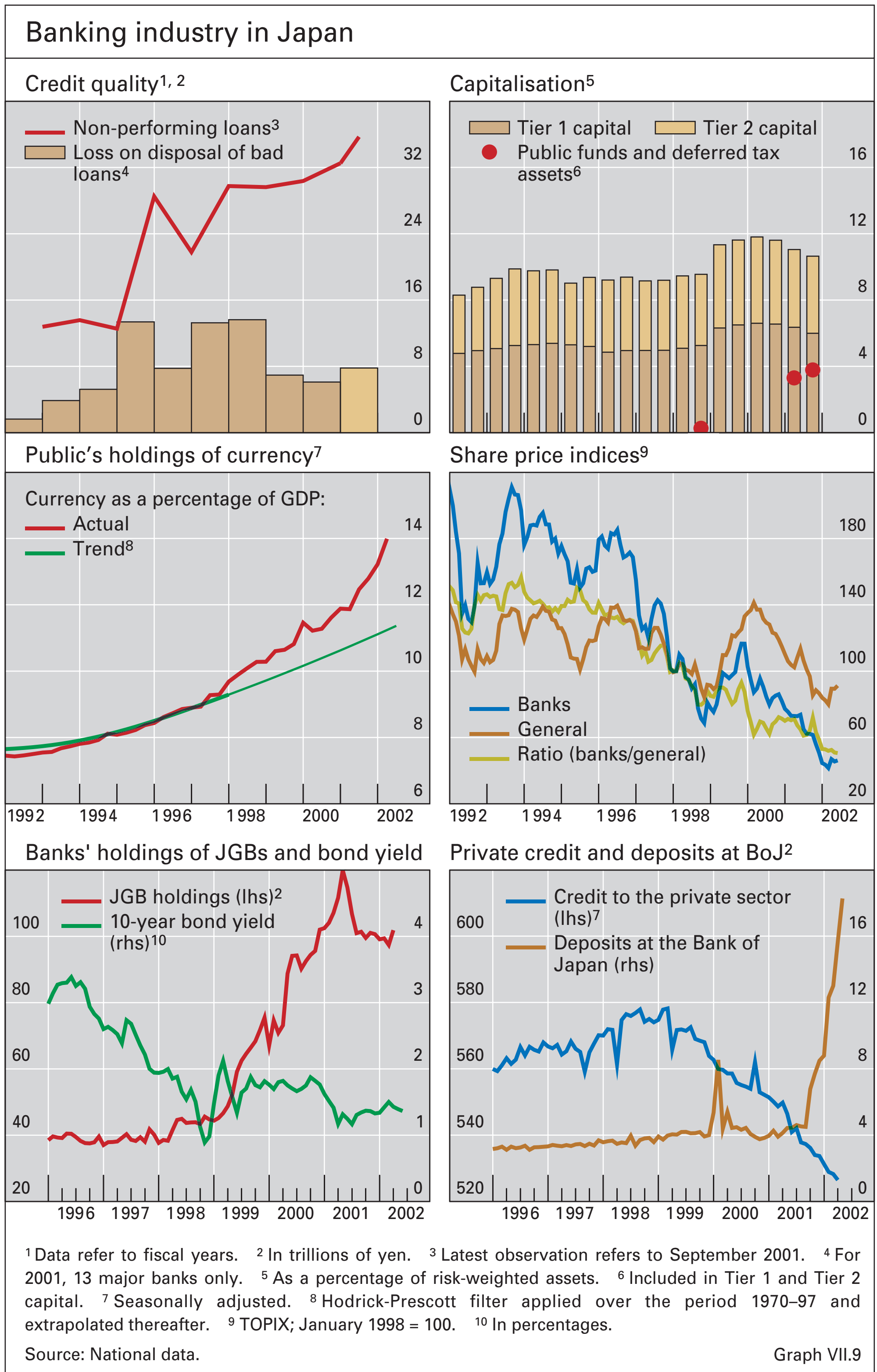
In contrast to the generally robust performance of most financial systems, the Japanese system has been operating under considerable strain. The fall in private sector credit has continued and banks, after having built up their holdings of Japanese government bonds in previous years, have since mid-2001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

... have led to a fall in capital ratios

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

Ongoing problems include low lending margins ...

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



Banking industry in Japan

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

Source: National data. Graph VII.9

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

... large equity holdings ...

Another aspect of the Japanese situation that is unusual by international standards is the relatively large holdings of equities by banks. For much of the 1990s, the gradual realisation of earlier gains on these holdings helped compensate for the low level of margin income and offset some of the losses

arising from bad loans. But the fall in the equity market in 2001 and the introduction of mark to market accounting have seen this situation turn around, with equity-related losses in fiscal 2001 being equivalent to 7% of banks' regulatory capital. Further declines in equity prices would make still more significant inroads into the banks' capital base, given that equity holdings exceed Tier 1 capital for many banks. Another vulnerability stems from the banks' large holdings of Japanese government securities. To the extent that the banks have not hedged the associated interest rate risk, a rise in long-term bond yields could create sizeable capital losses.

... and cross-holdings of capital

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

Confidence is fragile

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

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

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

Resolving the difficulties requires actions to improve balance sheets

Policy issues

Interlinkages between the financial system and the economy raise difficult issues

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

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

While it is sometimes argued that these macroeconomic concerns fall outside the remit of regulatory authorities, the interrelationships between financial regulation and the macroeconomy have attracted increased interest over recent years. Given the recurrence of financial cycles, three related issues

have received particular attention. The first is the extent to which financial regulation can incorporate a macroprudential or systemic dimension. The second is whether risk-based capital standards are likely to amplify or dampen economic cycles. And the third is the extent to which banks' loan values should reflect forward-looking considerations, including the overall economic outlook.

The measurement of risk and macroprudential regulation

Bank regulation can have both micro and macro perspectives

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

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

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

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

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

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

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

Risk-based capital requirements

Under Basel II, minimum capital requirements ...

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

... are likely to increase in economic downturns

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

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

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

However, better risk quantification ...

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

... disclosure ...

Second, comprehensive disclosure requirements, including details of banks' loans by ratings grade, have the potential to limit any tendency for capital ratios to decline in expansions. Counterparties might rightly be concerned if a bank were to increase its leverage during a boom in response

to a decline in its minimum capital requirement arising from favourable re-evaluation of its loan portfolio. Accordingly, buffers over the regulatory minimum could well increase in good times and fall in bad times. The effectiveness of this type of market discipline would be reinforced if banks disclosed the results of various macroeconomic stress tests, including how the required capital level would change if the economy were to experience a downturn. Enhanced disclosure is also likely to lead to earlier corrective action and to reduce regulatory forbearance.

... and supervisory review ...

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

... should dampen procyclical effects

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

Forward-looking provisioning

Loan values and recorded bank profitability ...

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

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

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

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

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

difficulty with this approach is that valuation of loans is highly dependent upon the judgment of a bank's management.

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

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

... all of which raise issues about verification

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

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