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Financial Stability

2
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Norges Bank's reports on financial stability

Norges Bank shall foster robust and efficient payment systems and financial markets. We strive to limit the risks in the clearing and settlement systems and we monitor the financial services industry in order to identify trends which may weaken the stability of the financial sector.

Norges Bank's *Financial Stability* report is published twice a year. In this report, we evaluate trends in the financial services industry, with particular emphasis on banks, and analyse the industry's capabilities for dealing with disturbances in the economy.

Financial Stability is published twice a year and together with *Inflation Report* comprises Norges Bank's series of reports. The report is also available on the Norges Bank website: http://www.norges-bank.no

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The outlook is somewhat less favourable

The value of equities worldwide has fallen by more than 40 per cent since peaking early in 2000. There has been a substantial reduction in the wealth of enterprises, households and financial institutions. Nevertheless, the international financial system has been fairly solid in this period, with the exception of the Japanese banks, which have struggled for a long time with a large volume of non-performing loans. International banks have become more skilled at risk diversification over the last ten years, and they have introduced new risk management systems. More credit is being channelled through securities markets and new financial derivatives have increased the possibility of managing risk. There have been few signs of financial panic. Willingness to take risks has declined considerably after a period of excessive optimism at the end of the 1990s. A more cautious attitude toward risk-taking is probably healthy, but the pendulum can also swing too far.

In Norway, life insurance companies and pension funds in particular have reduced their risk-taking. Life insurance companies have reduced the equity share in their portfolios and shifted to bonds. The Norwegian bond market is small and few issuers have a high credit rating. Therefore, Norwegian companies have to a large extent placed funds with sound foreign borrowers through the Eurokrone bond market, a market for NOK-denominated bonds which are sold outside of Norway. So far this year, Eurokrone bonds for more than NOK 40bn have been issued.

A bond market that functions smoothly may improve the diversification of risk. In Norway, a larger bond market will reduce the heavy concentration of credit risk that currently exists in the banking system. The Storting has recently adopted amendments to the Financial Institutions Act. The amended act allows for securitisation and the issue of asset-backed bonds and will make it more attractive for banks to finance lending by issuing bonds. This should stimulate the Norwegian bond market.

Securities markets are completely dependent on transparency and having the same information available to everyone. If market participants act on the basis of incorrect information, risk may increase rather than be reduced. The accounting and auditing scandals in the US have already prompted the authorities to take initiatives that are intended to increase the reliability of the information that is published. The Finance Credit case in Norway shows how risk in the financial market increases when many participants act on the basis of incorrect and insufficient information.

So far, the decline in the equity market, weaker international growth prospects and higher interest rates in Norway have had little effect on the willingness of Norwegian borrowers to incur debt. Household borrowing in particular is high. Due to their financial strength, Norwegian banks are well equipped to face less favourable economic developments.

Overall, we consider the outlook for financial stability to be satisfactory. Due to the increase in debt burdens in households and enterprises, however, the outlook in our view is less favourable now than it was six months ago.

Svein Gjedrem

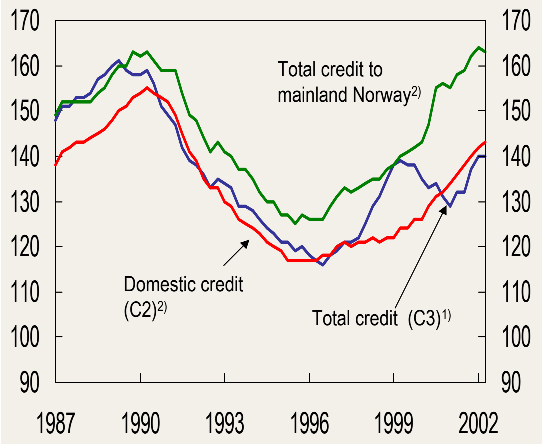
Financial Stability 2/2002

The cut-off date for this report was 22 November 2002.

1 | Summary

Due to the decline in the equities market and weaker growth prospects, the outlook for international financial stability is considered to be less favourable than it was this spring. In a number of areas, the Norwegian economy will be affected by the weak developments in the global economy, but growth in household demand is expected to continue. Overall debt growth in Norway is still high. The current high growth in lending to the household sector cannot be sustained over time. The debt burden in the enterprise sector is high, but debt growth is more moderate than in the household sector. Banks' earnings have declined, but their financial position remains sound. Overall, the outlook for financial stability is considered to be satisfactory, but less favourable than in May 2002.

Chart 1.1 Credit as a percentage of GDP



[1)] Per cent of GDP
[2)] Per cent of mainland GDP

Source: Norges Bank

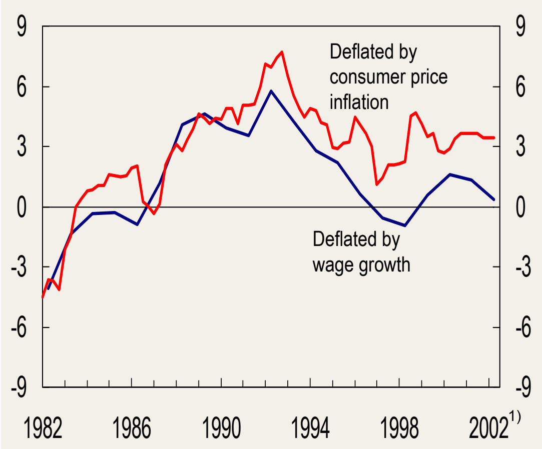
Sharp decline in international equity prices

The fall in equity prices worldwide during the last six months reflects a deterioration in the outlook for the global economy. A number of accounting scandals have also increased the uncertainty about actual earnings in US companies. Equity prices have fallen somewhat more in Europe than in the US. Telecom companies in Europe have been struggling after high investment in the next generation mobile network. In the financial sector, life insurance companies and pension funds in particular have invested heavily in the equity market. These companies' unwinding of positions to reduce risk has pressed equity prices down further. The decline in the Norwegian equity market is approximately the same as the decline in the European market in the last half year.

More uncertainty internationally

The fall in the equity market has to varying degrees weakened the financial position of financial institutions, households and enterprises. Uncertainty about future developments in the international equity markets is currently high. How the decline in the equity market will affect economic developments is uncertain. The international financial system's ability to withstand shocks will depend in part on the existence of adequate buffers against losses. The system has effectively dealt with disturbances in the last few years, but the recent decline in the equity market has reduced reserves.

Chart 1.2 Household borrowing rate after tax deflated by consumer price inflation and annual wage growth.[1)] Per cent



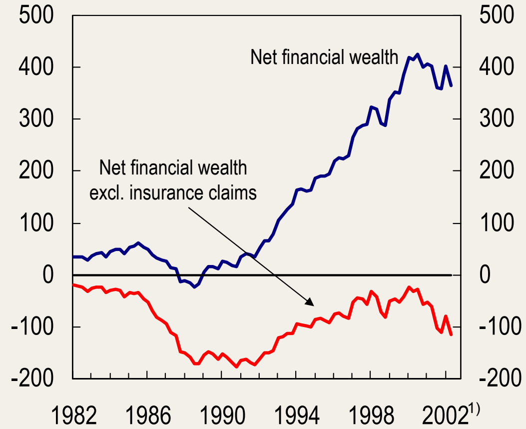
[1)] For 2002: Estimate for borrowing rate deflated by annual wage growth

Source: Norges Bank

Continued high debt growth in the Norwegian economy

So far, the decline in equity markets, weaker international growth forecasts and higher interest rates have had little effect on reducing Norwegian households' and enterprises' willingness to take on debt. The rise in total mainland debt has been more or less unchanged since the previous report. Debt growth has remained very high in the household sector. It is more moderate in the enterprise sector.

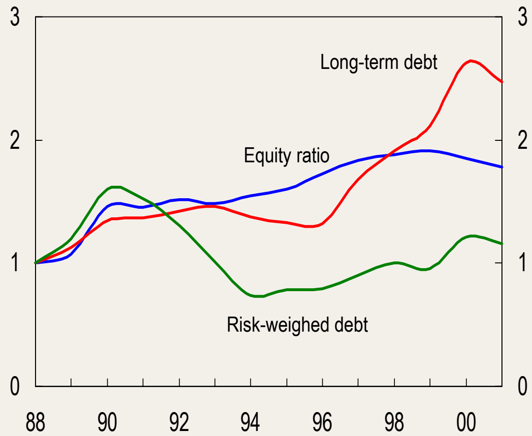
Chart 1.3 Household net financial wealth. NOK billion



[1)] As of Q2 2002

Source: Norges Bank

Chart 1.4 Long-term debt, equity ratio and risk-weighted debt in enterprises [1)]. Indexed. 1988=1



[1)] Measured in 2001 NOK

Source: Norges Bank

Increasing debt burden in the household sector

In the household sector, debt growth has been far stronger than income growth for several years. The debt burden has thus increased rapidly. Nominal and real interest rates have been relatively high the last few years, but high income growth over a period of several years, probably in combination with expectations of a continued increase in purchasing power in the years ahead, has contributed to the high demand for household credit.

Rising house prices have probably had an effect as well. Real house prices are now 25% higher than the previous peak level recorded in 1987. Compared with income growth, however, house prices are still somewhat lower. The rise in house prices has slowed somewhat recently, but this has not reduced debt growth. Figures from the Banking, Insurance and Securities Commission show a definite increase in the number of housing loans which exceed the collateral value of the dwelling. Overall, this may indicate that households are increasingly taking advantage of high property values as collateral when taking loans for other purposes.

Overall net financial wealth in the household sector fell markedly in the second quarter of this year. The net financial wealth of NOK 365bn becomes considerably negative if insurance claims are deducted.

Households with a high interest burden currently account for a considerably larger share of banks' lending than before. A large share of these loans has been given to low- and middle-income households. This is new compared with the period preceding the banking crisis. At that time, this type of high-risk loan to low- and middle-income households represented a considerably lower share of lending. Overall, credit risk associated with loans to the household sector is considered to be moderate and somewhat higher than in the previous *Financial Stability* report.

Continued higher debt burden in the enterprise sector

The overall debt burden in the enterprise sector is high after many years of heavy borrowing. In the last few years, weaker profitability has reduced the ability to service debt. Year-on-year growth in enterprise debt slackened in 2001 and has been stable at about 7%-9% the last six months. However, there are substantial differences across sectors. Enterprises in the exposed sector have substantially reduced debt growth, and year-on-year growth was almost zero at the end of August. On the other hand, debt growth in enterprises in sheltered industries has remained relatively high.

The sharp fall in equity prices in 2002 may indicate that participants in securities markets expect lower enterprise earnings. Lower earnings combined with a very high debt burden may cause debt repayment problems for a number of enterprises in the period ahead. Enterprises in the exposed sector are most vulnerable. Enterprises in the sheltered sector will not be affected to the same degree.

Both the number of bankruptcies and enterprises' gross non-performing bank loans rose markedly in the first three quarters of 2002 compared with the same period of 2001. Nevertheless, both of these indicators are still at a low level compared with the first half of the 1990s. Credit risk associated with loans to the enterprise sector is higher than in May 2002 and must now be described as relatively high for loans to enterprises in the exposed sector, but still moderate for enterprises in sheltered industries.

A slight increase in banks' liquidity risk

The prolonged decline in banks' deposit-to-loan ratio slowed somewhat in the beginning of 2002. In the third quarter, however, it fell again, and at the end of September was lower than ever before. Banks have somewhat reduced their borrowing in the money and capital markets in the last half year. Long-term financing rates have risen less than short-term financing rates during the last half year. While the small- and medium-sized banks have adjusted to these developments by increasing their bond financing, the three largest banks have reduced the share of bond financing in their portfolio. In isolation, this will contribute to increasing these banks' liquidity risk. Overall, banks' liquidity risk is considered to be relatively low, but somewhat higher than in the previous *Financial Stability* report.

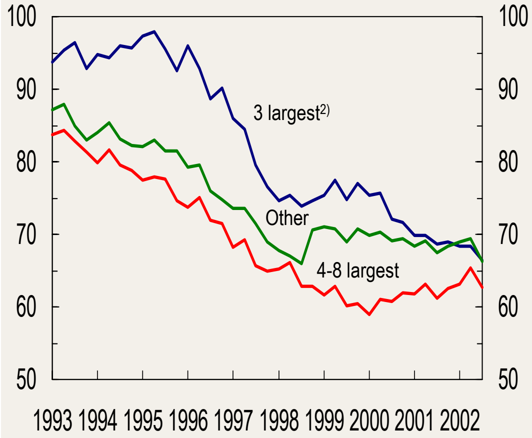
Deterioration in banks' results, but financial position is still sound

Banks' results were considerably weaker in the first three quarters of 2002 than in the same period of 2001. This is mainly due to lower commission income and lower income from securities markets. Losses on loans and the share of non-performing loans have also risen somewhat. Despite weaker results, capital adequacy for banks overall improved in the same period. At the end of the third quarter, the core capital ratio for banks overall was 9.5%, while the core capital ratio in the eight largest financial groups varied between 6.8% and 8.9%. The largest Norwegian financial groups recorded a lower return on equity in the first three quarters of this year than in the same period last year. This was also lower than that recorded by the largest Nordic financial groups.

Financial stability remains satisfactory

Banks are well equipped to deal with more sluggish economic developments. Norwegian banks are typical lending banks and are therefore highly exposed to credit risk. The current sharp growth in household lending cannot be sustained over time. The increased concentration of debt in households with a high interest burden and low incomes is a new uncertainty factor in relation to the period preceding the banking crisis. Even though the increase in direct losses on household loans will probably be relatively limited, weaker household income growth or a decline in asset values will reduce their demand. This in turn may weaken enterprises' financial situation and lead to losses for banks. Overall, the outlook for financial stability is considered to be satisfactory, but less favourable than in May 2002.

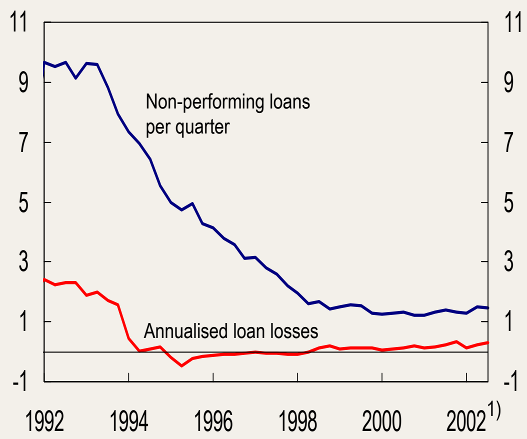
Chart 1.5 Deposit-to-loan ratio in banks[1]. Percentage of gross lending



[1] Excluding branches of foreign banks
[2] Den norske Bank (incl. Postbanken for the entire period), Nordea Bank Norge and Union Bank of Norway

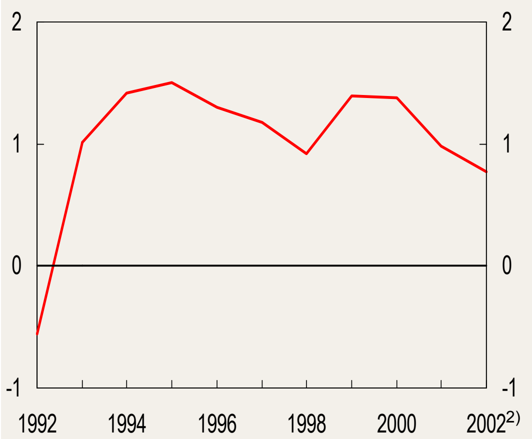
Source: Norges Bank

Chart 1.6 Non-performing loans and recorded loan losses in banks. Percentage of gross lending



[1] As of Q3 2002
Source: Norges Bank

Chart 1.7 Banks' pre-tax operating profit as a percentage of ATA[1]



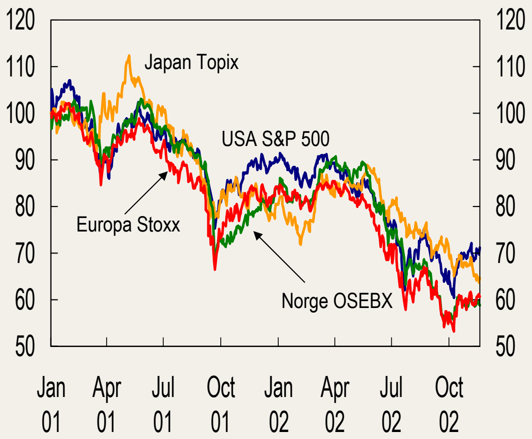
[1] Average total assets. Parent bank
[2] Q1-Q3 (annualised)
Source: Norges Bank

2 | International developments and securities markets

2.1 The international environment

General picture

Chart 2.1 International equity indices. Indexed, 01.01.01 = 100

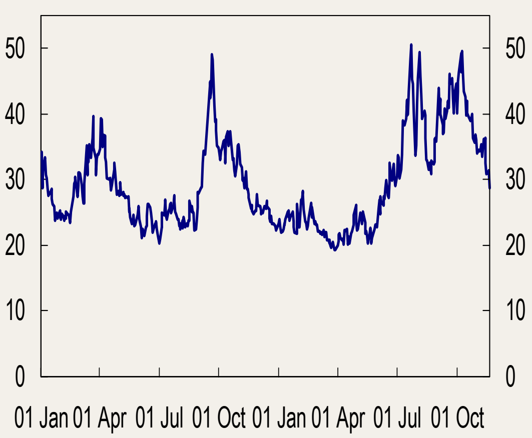


Source: EcoWin

The fall in prices in equity markets worldwide during the past six months must be viewed in the light of deterioration in the outlook for the global economy and increased uncertainty concerning the information in listed companies' accounts. Overall wealth has been substantially reduced. Higher bond values and a continued rise in house prices in many countries have curbed the decline in wealth somewhat. During the third quarter of 2002 alone, the market value of listed shares in industrial countries dropped from 92% to 75% of their combined GDP.

In the financial sector, insurance companies and pension funds in particular have had large shareholdings. Unwinding of positions and attempts to increase future payment capacity by raising new equity have contributed to pushing down equity prices. As a result of the upturn in the equity market through the 1990s, allocations for companies' future pension obligations could be covered largely by the increase in value of existing assets. In the future, pension saving will probably have to lay claim to a larger share of current value added. The problem is exacerbated by the low interest rate level, because the net present value of future obligations is increasing. A larger amount must be allocated today to provide for a given expected disbursement in the future.

Chart 2.2 Implied volatility for options on S&P 100-index. Per cent



Sources: EcoWin and Chicago Board Options Exchange

On the whole, Norwegian and other Nordic banks have low exposure to developments in equity markets, whereas the exposure of Japanese and German banks, for example, is far more extensive.

In recent years, the international financial system has absorbed various shocks effectively, aided by risk diversification, for example through syndication of bank loans, securitisation and increased lending through the securities market. Recently, investors have also demonstrated an improved ability to distinguish between degrees of risk, even in turbulent situations, so that risk premiums reflect actual risk to a greater extent than previously. New financial instruments have allowed for better risk management, so that loan losses are less concentrated in the banking sector.

A robust financial sector is dependent on adequate buffers against losses. The recent decline in the equity market has to varying degrees weakened the ability of financial institutions, households and enterprises to withstand further shocks. Since the economic outlook has deteriorated as well, we now view the outlook for international financial stability as less favourable than in the spring of 2002.

Sharp fall in equity markets

US equity markets have fallen appreciably since the spring, despite the recent upturn (Chart 2.1). Heightened uncertainty regarding companies' actual earnings contributed to a fall in equity prices in the wake of the WorldCom scandal in June and investigations of a number of other enterprises and associated financial institutions. There has been great uncertainty in the equity market for an unusually long period (Chart 2.2).

At the same time, the economic outlook has deteriorated. Up to end-September, analysts lowered their estimates for reported earnings in 2003 for companies in the S&P 500 index. During October, the estimates were nevertheless raised by 10%, chiefly as a result of an upward revision of estimates for the second half of 2003. The price bubble in the US equity market has so far paralleled events in Japan ten years earlier (Chart 2.3). The crash in the US in 1929 was far more severe, however, even though the upturn that preceded the crash was not much more pronounced.

Since this spring, European equity markets have fallen somewhat more than US markets. The weak position of telecom companies has contributed strongly. Telecom companies are struggling, partly because of very high investment in the next generation mobile network. European insurance companies are also in a generally weak position. To a greater degree than US companies, they bear the risk associated with returns on life and pension insurances. Since the beginning of 2002, telecom and insurance company shares have fallen 33% and 46% respectively. The impact on the Swedish equity market has been particularly severe, and the shares of large companies such as Ericsson and Skandia have fallen sharply (Chart 2.4). Banks contributed largely with intermediate financing of the telecom sector's high investments up to 2000. A large portion of these loans have subsequently been refinanced in the bond market, thereby reducing banks' exposure to the telecom sector.

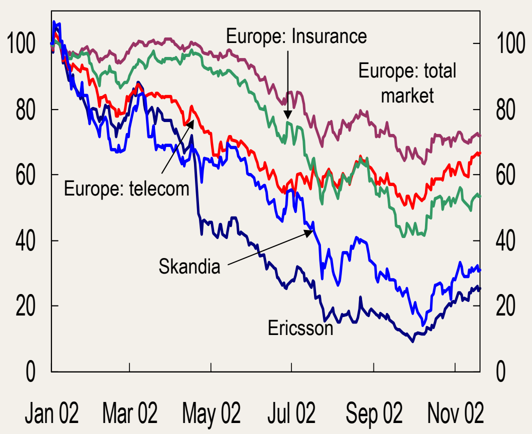
The Japanese equity market has performed appreciably better than the US and European markets so far this year. Since the peak at the end of 1989, it has nevertheless fallen by a full 78%, and equity prices are now at the same level as they were in 1983. The situation of banks remains weak. Non-performing loans account for 9% of the total volume of loans at the end of the first quarter of 2002. The authorities have proposed a number of measures to accelerate restructuring. Among the proposals are stricter rules for calculating losses and equity capital. If banks must reduce lending in order to meet the minimum capital adequacy requirements, the result will probably be closures and major restructuring in enterprises.

Japanese banks have large shareholdings and have been ordered to reduce their exposure from the current level of 140% to 100% of core capital by September 2004. However, a large-scale unwinding of positions by banks in the open market could push prices down further. This is part of the reason that the Japanese central bank has announced that it

Chart 2.3 Selected incidences from the world's stock markets,ten years before and after the top price. Indexed, top price = 100. Logarithmic scale

Sources: EcoWin and Norges Bank

Chart 2.4 European and Swedish share prices. Indexed, 02.01.02 = 100



Sources: Datastream and EcoWin

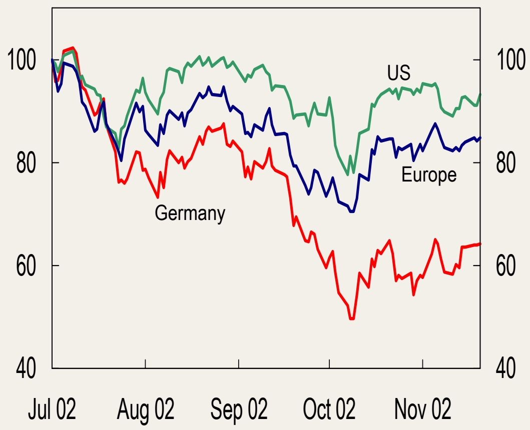
Table 2.1 Banks'[1)] shareholdings as a percentage of assets

	1993	1999
Germany	4.52	6.53
Japan	3.93	5.35
Denmark	3.62	5.19
Sweden	2.93	4.28
Finland	1.98	2.17
Norway	1.94	1.12

1) Commercial banks. For Danmark: Commercial and savings banks

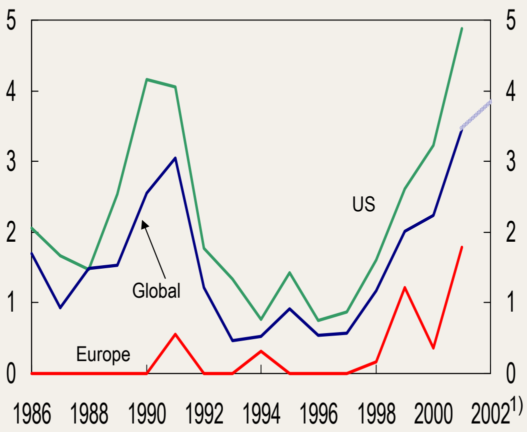
Source: OECD

Chart 2.5 Bank indices in Germany, Europe and the US. Indexed, 1.7.02=100



Source: EcoWin

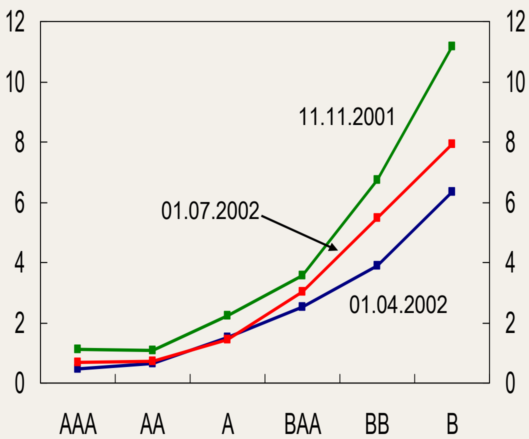
Chart 2.6 Annual default rates on corporate bonds. Percentage of outstanding bonds



[1)] 2002 global: estimates based on figures for first half year

Sources: Moody's Investors Services and Standard & Poor's

Chart 2.7 Yield spread between US corporate bonds with various credit ratings and government bonds. Percentage points



Sources: Datastream and Lehman Brothers

intends to buy shares for up to USD 16 billion from banks in the period up to end-March 2003. This purchase period may also be extended by a year.

Weak developments in German banks

German banks have also traditionally had a high proportion of equities in their portfolios (Table 2.1). It is common for banks to own shares in the companies to which they extend loans. As a result, there is a higher correlation between German banks' loan losses and their losses on shares than is the case in many other countries. German banks also appear to have a relatively low return on equity, and their loan losses have increased. At the same time, many banks face higher financing costs as German state guarantees for bank loans are gradually abolished by mid-2005 in compliance with a EU decision. These factors have contributed to substantially weaker developments in German bank shares than in the US and in Europe as a whole (Chart 2.5).

Downgradings and higher risk premiums in the bond market

The low level of economic activity has led to a sharp rise in defaults on bond loans in the US, Europe and the world in general (Chart 2.6). Global developments up to mid-2002 point to defaults for 2002 as a whole amounting to 3.8% of all bond debt, well over the previous high of 3.1% in 1991. The recent increase in Europe is closely linked to the problems in the telecom sector. In the US, credit quality, as measured by the credit rating companies, has fallen across the board. In the low quality segment, *speculative grade*, there were 1.28 upgrades of credit quality for every downgrade in the period 1993 to 1997. This ratio was 0.38 from 1998 to June 2002. The corresponding figures for the high quality segment, *investment grade*, were 1.1 and 0.58. At the same time, markets demand higher risk premiums for a given rating, even for the highest quality segments (Chart 2.7). This may indicate that markets are characterised by higher risk aversion. At the same time, a clear distinction is made between segments of different qualities, so that risk premiums increase most for the least safe bond loans. For the most reliable borrowers, the fall in the risk-free interest rate level has resulted in more or less unchanged loan costs. For other enterprises, the costs associated with new long-term financing have increased appreciably.

Developments in the enterprise sector also influence the banking sector. US banks have already seen a sharp increase in realised losses, which have exceeded the previous high in 1991 (Chart 2.8). Measured in relation to gross lending, losses are still somewhat lower than in 1991, but have nevertheless shown a marked increase. The situation may gradually deteriorate further as many enterprises must pay high interest rates on new loans. A large share of the loan losses in the US have occurred in the bond market, and this has contributed to shielding banks against the downturn.

Will US households save more?

How US enterprises and households, which have record high debt, will adapt to the lower equity prices, is uncertain. A sharp rise in house prices and falling interest rates have led to extensive refinancing of housing loans. Housing loans have risen by 19% in the past two years. However, this increase may have contributed to curbing growth in various types of consumer loans. Household gross debt has increased from 96% to 107% of disposable income since end-1996. The decline in value since 1999 in households' shareholdings and various funds, including life insurance funds, has amounted to a full 113% of disposable income. However, the decline in total wealth was countered by a steady rise in housing wealth (Chart 2.9). The rise in house prices has so far been of great importance to developments in household wealth. A fall in this market as well could lead to substantially reduced net wealth, so that households would want to save more.

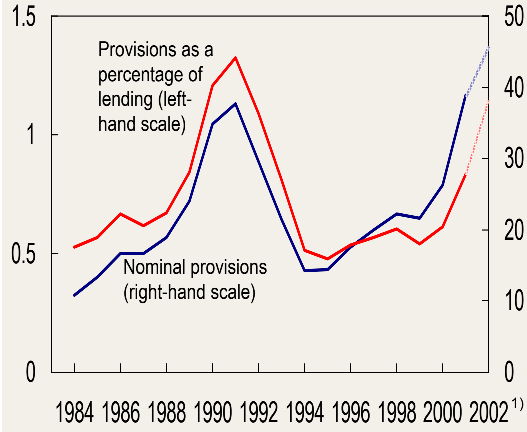
Developments in emerging economies

The deteriorated outlook for the global economy has also had an impact on emerging economies. However, investors appear to be distinguishing between countries, and a general unwinding of positions has been avoided. Russia and many Asian countries have managed relatively well compared with the developed economies. Russian equity markets have climbed through the year, and the market's perception is that credit risk on loans to the Russian state and Russian enterprises has decreased considerably. As a result of the political and financial crisis in Argentina, real GDP is now expected to fall 16% this year, and there are no immediate prospects of a solution to the crisis. Brazil now appears to be the most vulnerable of the larger countries.

Brazil's debt has increased sharply in recent years as a result of the fall in the country's exchange rate. A very large share of government domestic debt, over 40%, is denominated in foreign currency. Interest and instalments on foreign debt and transfers of dividends from foreign direct investment in Brazil account for over 90% of export revenues. The market's assessment of the probability of the government defaulting on its loans has increased sharply (Chart 2.10). A good 40% of bond debt falls due in the next 12 months. If this must be refinanced at the current interest rate level, the burden is likely to become unsustainable.

Loans from foreign banks, including Brazilian branches and subsidiaries, account for over half of Brazil's external debt. Almost half of this, in turn, has a term to maturity of less than one year. The country is therefore very vulnerable to a sudden loss of external bank loans. The fact that the lenders are concentrated in a few countries increases the risk. A

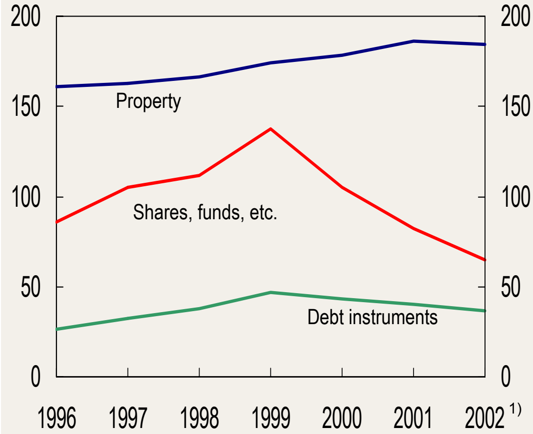
Chart 2.8 Loan loss provisions in US banks. Absolute in USD billion and as a percentage of lending



1) Based on semi-annual figures

Source: Federal Deposit Insurance Corporation

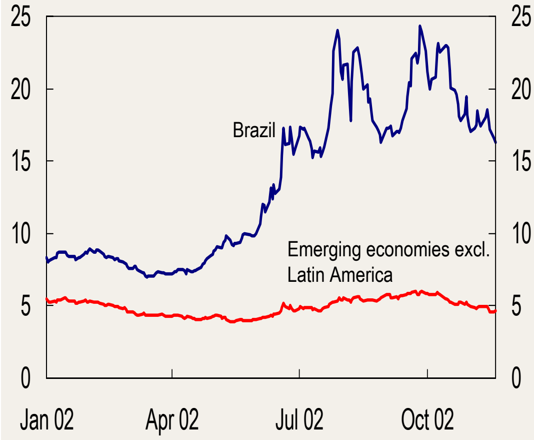
Chart 2.9 Market value of US household wealth. Percentage of disposable income



1) Q2 2002

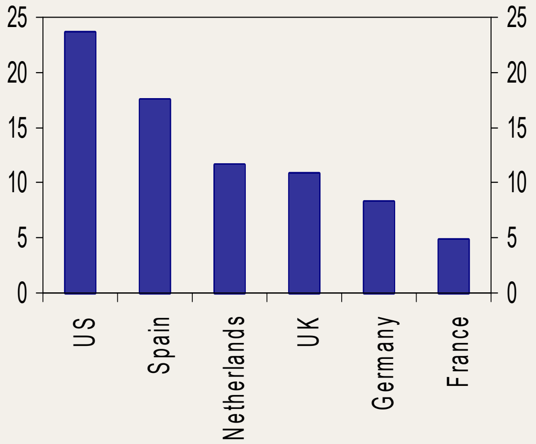
Source: Federal Reserve Board

Chart 2.10 Yield spread between emerging economies' government debt and US government bonds. Percentage points



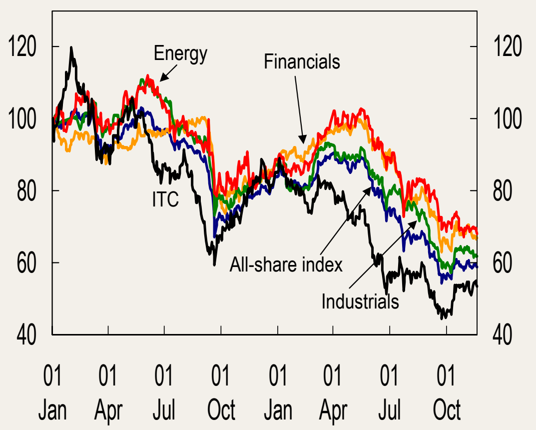
Sources: EcoWin and JP Morgan

Chart 2.11 Bank loans to Brazil broken down by lending country as of 30.06.2002. Percentage of Brazil's total bank debt



Source: Bank for International Settlements (BIS)

Chart 2.12 Sub-indices on the Oslo Stock Exchange. Indexed, 01.01.01 = 100.



Sources: EcoWin and Oslo Stock Exchange

total of 72% of foreign bank debt is from banks or local subsidiaries of banks located in the US, Spain, the UK, the Netherlands and Germany (Chart 2.11). Viewed in relation to the size of these countries, the Spanish banking sector, in particular, is vulnerable to spillover effects from Brazil. Half the foreign lending of Spanish banks and their subsidiaries is associated with Latin America. These loans correspond to about one-fourth of domestic credit in Spain. However, the loans extended through subsidiaries do not expose Spanish banks to risk over and above their equity capital.

2.2 Securities markets in Norway

General fall in equity prices on the Oslo Stock Exchange

Since the end of April, the all-share index on the Oslo Stock Exchange has fallen by 33% (Chart 2.12). This is somewhat more than the fall in the large international indices. The sub-indices have not differed appreciably. The energy index, the financial index, the manufacturing index and an ICT index, which is calculated as the average of the telecom index and the IT index, have fallen by a good 30%. Through the year as a whole, however, the ICT index has declined more than the other indices. At end-October, the market value of the companies listed on the Oslo Stock Exchange was NOK 502bn. Companies in the energy and financial indices accounted for 44% and 13% respectively.

Since the end of April, life insurance company holdings have dropped from 3.4% to 2.1% because these companies have unwound positions in order to reduce the risk in their securities portfolios. Foreign owners have added somewhat to their ownership interests. The volume of new issues in the equity market has been low compared with 2001. By end-October, new issues totalled NOK 4.5bn, compared with NOK 23.7bn at the same time last year. The Statoil issue accounted for NOK 13bn in 2001. However, there was a surge of new issues in the bond market. Private debt securities for about NOK 65bn had been issued by the end of October. In July, the volume issued this year already surpassed the total for the whole of 2001. Developments in the bond market are discussed in more detail in a separate box.

Some spillover effects in the financial sector of the fall in equity prices

Banks in most countries do not have large shareholdings. Important exceptions to this rule are Japan and Germany, where, as a result of a network of cross-ownership between banks and the business sector, a large proportion of banks' assets consist of equities. Norwegian banks have small equity portfolios and are not directly affected to any major degree.

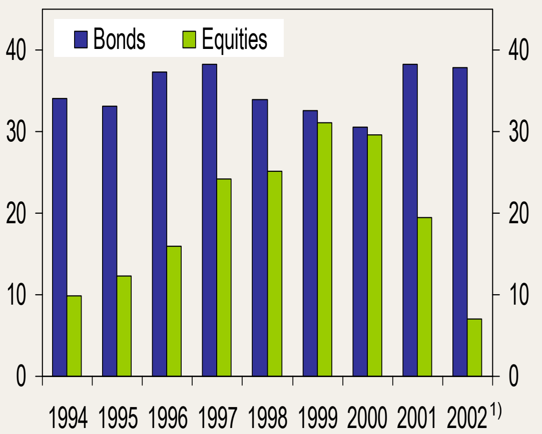
Life insurance companies and pension funds are major participants in securities markets, both internationally and in Norway. Defined benefit schemes account for much of pension saving in Europe. This means that future pension benefits do not depend on returns on savings, and the companies therefore bear the market risk. In addition, many companies have guaranteed their customers a certain minimum return. When equity markets fall and companies' shareholdings are considerable, it may be difficult to fulfil these guarantees. The authorities have introduced various requirements for ensuring that companies are in a position to meet their obligations in relation to customers. Requirements with respect to equity capital and solvency have induced many life insurance companies and pension funds to unwind positions in the equity market. Companies in a number of countries have also announced substantial increases in share capital in order to meet these requirements. Both these factors have contributed to pushing down equity prices.

Because yields are low, it is difficult for life insurance companies in other countries to fulfil guarantees of a minimum return through alternative investment in the bond market. This situation may also compel companies to issue new share capital. In Norway, the guaranteed minimum return cannot be more than 3.75%. The relatively high yield on krone-denominated bonds enables Norwegian companies to fulfil the return guarantee through investments in bonds in their own currency. Therefore, resources that have been freed up from equity investments appear to have been reinvested largely in the bond market (see Chart 1). This may have contributed to the price rise in this market in recent months.

The bond market in Norway is relatively weakly developed, and there are few large borrowers. Life insurance companies wishing to invest more in bonds from Norwegian issuers are therefore restricted by the rules concerning maximum exposure to a single counterparty. Foreign enterprises have taken the opportunity to borrow money from these Norwegian life insurance companies through the market for so-called Eurokrone bonds. These are bonds with a face value and return in NOK which are offered for sale outside Norway. From January to September this year, Eurokrone bonds for more than NOK 30bn were offered for sale, triple the value for the same period in 2001. The majority of issuers of Eurokrone bonds are sound foreign financial institutions. They have little interest in krone financing, and therefore wish to exchange their exposure in NOK to another currency. In currency swap transactions, Norwegian banks with financing in foreign currency are natural counterparties. Therefore, interest in Eurokrone bonds among Norwegian institutional investors has the spinoff effect of making currency-hedged foreign financing cheaper for Norwegian banks because of increased liquidity in this market.

Financial institutions and large manufacturing companies have also met the increased demand by issuing new bonds. In the first three quarters of 2002, Norwegian private issuers raised NOK [10]bn more through the bond market than in the whole of 2001. By contrast, the volume of equity issues so far this year has been very low. A shift toward a more liquid bond market provides a number of alternatives to domestic bank financing. This strengthens financial stability because the credit risk in the enterprise sector is spread across more lenders.

Chart 1 Life insurance companies' stock of short-term share investments and short-term bond investments. Percentage of total assets

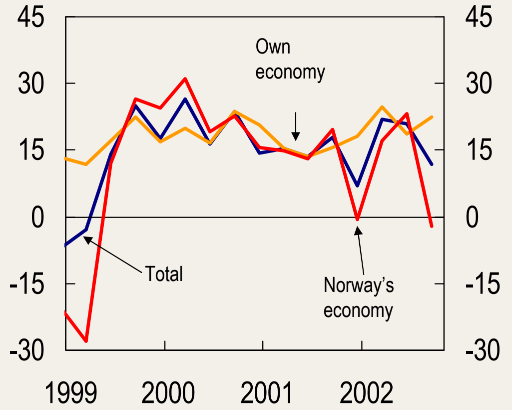


1) Estimates based on Q3 reports from the three largest companies

Sources: The Banking, Insurance and Security Commission and Norges Bank

3 | Macroeconomic developments and credit risk

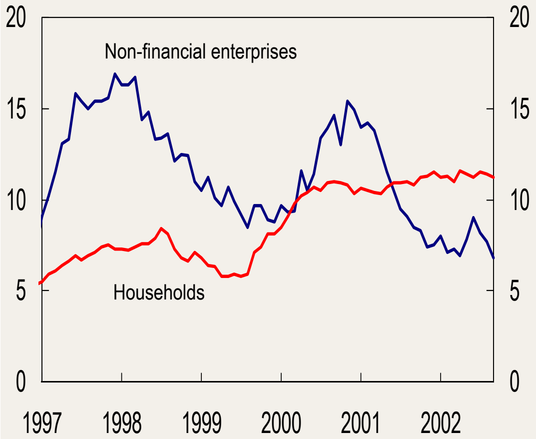
Chart 3.1 Consumer Confidence Indicator.[1)] Figures are not seasonally adjusted



[1)] Provides an expression of the share of consumers with a positive assessment of the current situation and outlook for the future less the share with a negative assessment

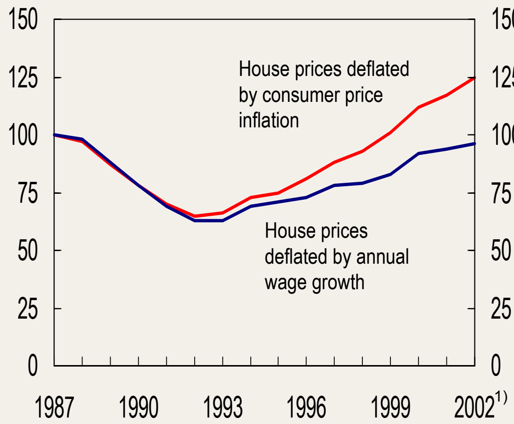
Source: Norsk Gallup Institutt AS

Chart 3.2 Year-on-year growth in credit from domestic sources (C2) broken down by borrower. Per cent



Source: Norges Bank

Chart 3.3 House prices deflated by consumer price inflation and annual wage growth. Indexed, 1987=100



[1)] Estimates for the year 2002

Source: Norges Bank

3.1 The macroeconomic environment

Growth forecasts for the Norwegian economy presented in *Inflation Report* 3/2002 have been revised downwards somewhat compared to the previous report. Weaker international developments, an increase in the key rate in July and an appreciation of the krone are contributing factors. In a number of areas, the Norwegian economy will be affected by the weak developments in the global economy, but factors peculiar to Norway contribute to a mixed picture.

The outlook for the exposed sector is subdued. High wage growth combined with a strong krone has resulted in a considerable deterioration in competitiveness for these industries. High oil prices, which boost activity and investment, contribute to sustaining output and demand in parts of the manufacturing industry. In addition, sustained growth in activity in the service industries is expected in the period ahead. Household real wage growth is high and households are still optimistic about their own future financial developments (Chart 3.1). Fiscal policy is also expected to fuel domestic demand in the period ahead.

In June 2002, Statistics Norway published the revised national accounts for the period 1991-2001. As a result of the revision, the historic development in some of the indicators in this report has been adjusted since last time. Operating results for the enterprise sector have been revised upwards appreciably, especially in the period 1996-2001. Consequently, the debt burden in the enterprise sector is somewhat lower than calculated earlier. The changes in household income figures have been small so that changes in the historic debt burden are insignificant. The household saving rate is considerably lower than previously estimated because consumption growth was higher in the latter half of the 1990s than assumed earlier.

3.2 Credit growth

Year-on-year growth in total credit to the public (municipalities, non-financial enterprises and households) (C3) has been relatively stable at around 8% this year. Credit from foreign sources has increased less than credit from domestic sources since year-end 1999. Overall credit growth has been appreciably higher than GDP growth in recent years. At the end of the second quarter 2002, overall credit amounted to 140% of GDP, while overall credit to mainland Norway increased to 163% of mainland GDP (Chart 1.1). Viewed in isolation, strong growth in credit over a long period increases the risk of financial instability.

Year-on-year growth in domestic credit to non-financial enterprises has been between 7% and 9% this year (Chart 3.2). This is still a substantial real growth, but appreciable lower than in 2001. In September, year-on-year growth declined to 6.6%. Growth in credit to the household sector in particular remains high. Year-on-year growth in domestic credit to households has been over 10% since March 2000 and was 11.2% at the end of September. Household borrowing in foreign currency (from both domestic and foreign sources) has increased sharply the last few years. However, foreign currency loans still account for a small portion of overall household debt (about 1.5%).

3.3 Credit risk associated with loans to the household sector

Sustained high growth in household debt

Household debt continues to rise sharply. High income growth and considerable optimism about the future increase household willingness to take on debt and press house prices up. Real house prices are now 23% higher than the previous peak level recorded in 1987. In relation to income growth, however, house prices are still somewhat lower (Chart 3.3). Growth in household debt has remained record high throughout 2001 and so far in 2002 even though the rise in house prices has slowed in this period. At the end of October 2002, house prices were about 7% higher than one year earlier. After seasonal adjustments, house prices rose both in September and October. According to real estate industry statistics, average turnover time was 32 days in September and October, down from 37 days in August. Thus, available statistics provide few indications of a marked shift in the housing market this autumn.

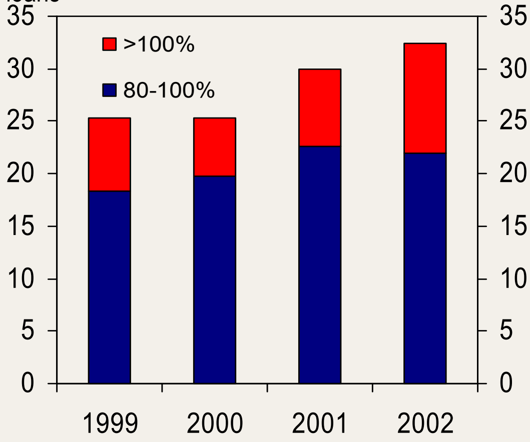
Figures from the Banking, Insurance and Securities Commission's housing loan survey show that the average loan-to-asset value ratio in connection with house purchases rose in 2002. The share of housing loans (measured in terms of value) with a loan-to-asset value ratio of more than 100%, i.e. loans that are larger than the collateral value of the dwelling, has increased markedly the last two years (Chart 3.4). At the same time, however, there has been an increase in the share of loans that have been granted contingent on the provision of additional collateral. Nevertheless, the value of total collateral (primary plus additional) is lower than the loan amount on only four of ten loans with a loan-to-asset value ratio over 100%.

Increased debt in vulnerable groups

Even though the overall debt burden (debt as a percentage of disposable income) in the household sector is still lower than at the end of the 1980s, we showed in *Financial Stability* 1/02 that the debt burden of the low- and middle-income categories is higher than ever before. Payment problems for households in these income categories may thus have a greater impact on banks than earlier.

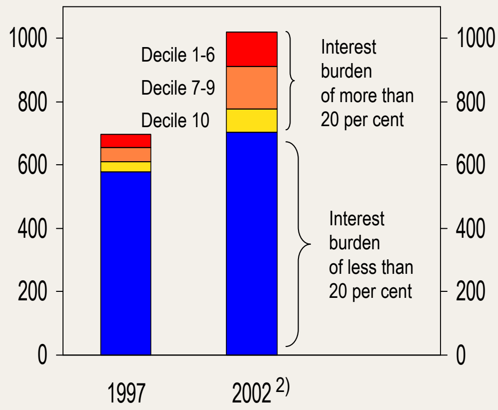
Statistics Norway's income and wealth survey for 2000 shows that an increasing share of total household debt may

Chart 3.4 New housing loans with loan-to-asset value ratios between 80 and 100 per cent and 100 per cent and more. Share of total new housing loans



Source: The Banking, Insurance and Security Commission

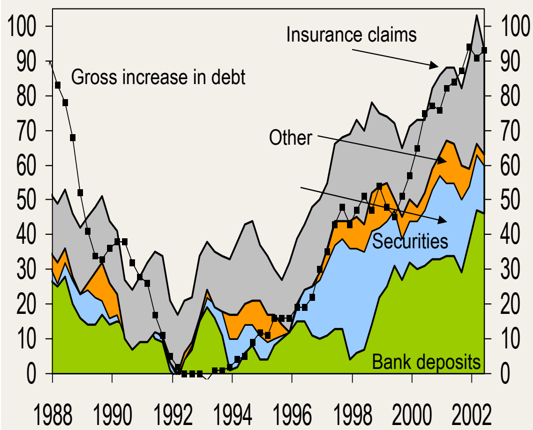
Chart 3.5 Household debt with various degrees of interest burden.[1)] NOK billion



1) Household debt with interest burden of less than 20 per cent, and household debt with interest burden of more than 20 per cent broken down by income (deciles).
2) Estimates, first half year 2002

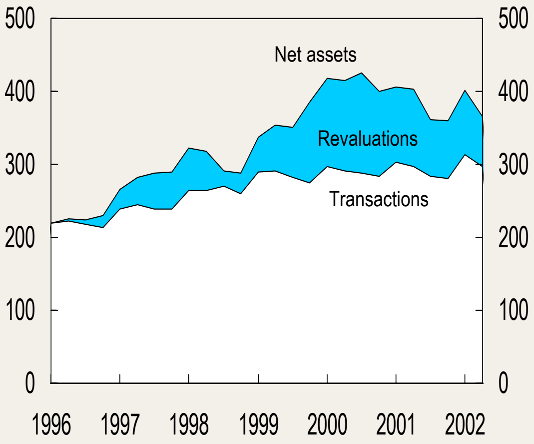
Sources: Statistics Norway and Norges Bank

Chart 3.6 Gross increase in household debt and financial investments by investment instrument. Total last four quarters. NOK billion



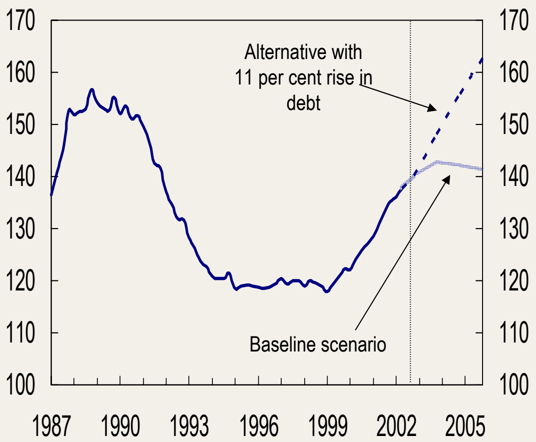
Source: Norges Bank

Chart 3.7 Household net financial wealth. Changes since 1996 broken down by net financial investment (transactions) and revaluations. NOK billion



Source: Norges Bank

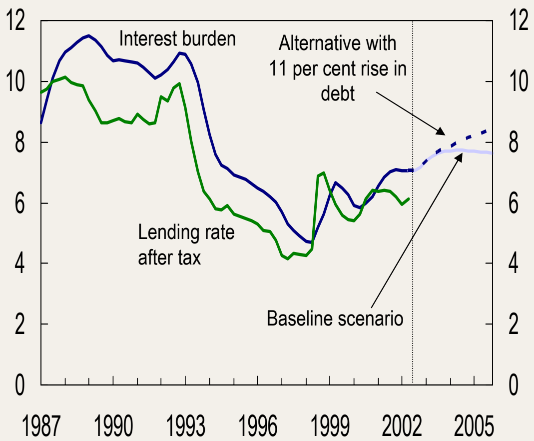
Chart 3.8 Household debt burden[1)]



[1)] Household loan debt as a percentage of disposable income

Source: Norges Bank

Chart 3.9 Household interest burden[1)] and lending rate



1) After tax interest expenses as a percentage of disposable income and interest expenses

Source: Norges Bank

be ascribed to households with a heavy interest burden (interest expenses as a percentage of disposable income before deductions of interest expenses). Many households have taken on loans which are large relative to their disposable income. More than 30% of total household debt in 2000 may be attributed to households with a relatively high interest burden (more than 20% of disposable income). The corresponding figure in 1997 was 17%.

As of 30 June 2002, total household debt was just over NOK 1000bn. If we assume that the distribution of debt by income categories and the share of loans to households with a high interest burden have remained unchanged from 2000 to the first half of 2002, households with a relatively high interest burden will account for about NOK 315bn in debt (Chart 3.5). Of this amount, approximately NOK 108bn is debt in households with an income after tax of less than NOK 300 000 (deciles 1-6). In 1997, the corresponding risk-weighted debt in income deciles 1-6 amounted to about NOK 42bn.

Households in low- and middle-income categories with a high interest burden may experience debt servicing problems in the event of a loss of income or an increase in interest rates. As we showed in *Financial Stability* 1/02, households in the low-income category have few financial assets on which to draw should they experience payment problems. Thus, viewed in isolation, this development implies increased credit risk for banks.

Reduced financial wealth

In the second quarter of 2002, household gross investment in financial assets (calculated as the sum of the last four quarters) was equivalent to gross credit growth in the same period (Chart 3.6). Thus, net investment in financial assets was zero in this period. As a result of the drop in equity prices, the value of household securities holdings fell by NOK 18bn from the first to the second quarter of 2002, while the value of their insurance claims declined by NOK 2bn in the same period. Overall net financial wealth declined by NOK 38bn from the second quarter of 2001 to about NOK 365bn at the end of the second quarter 2002 (Chart 3.7). If wealth is adjusted for insurance claims, which are illiquid and can only be used to a limited degree if households experience debt-servicing problems, financial wealth is considerably negative (Chart 1.3)

Developments ahead

The household debt burden continues to rise as a result of sustained strong credit growth (Chart 3.8). If the level of borrowing in relation to income growth remains as high in the years ahead as in the last year, the average debt burden at the end of 2004 will be as high as at the end of the 1980s. Despite the high level of borrowing, the average interest burden has declined slightly the last half year (Chart 3.9). The reason for this is somewhat lower interest rates in the first half of the year.

Norsk Gallup's consumer confidence indicator shows that household expectations regarding their own future financial developments are still relatively high. In relation to household expectations concerning own income growth, interest rates may seem fairly low (Chart 1.2). If future income developments do not match household expectations, accumulated debt will not "disappear" as quickly as in the 1970s and 1980s, due to the low inflation rate. For this reason, there is a greater need than earlier for households to think long-term with regard to financial dispositions. Overall, credit risk associated with loans to the household sector is considered to be moderate and somewhat higher than in the last *Financial Stability* report.

3.4 Credit risk associated with loans to the enterprise sector

Relatively moderate rise in debt, but continued rise in debt burden

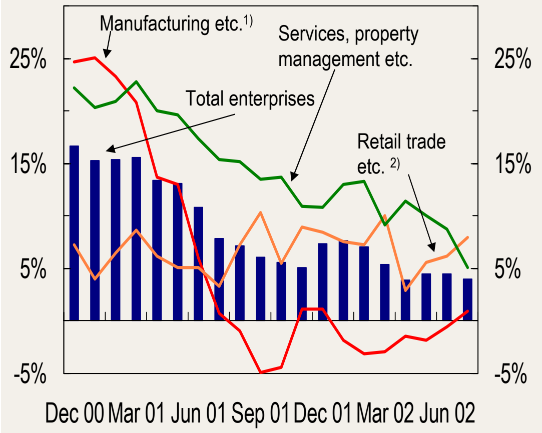
Enterprise sector debt is now growing at a relatively moderate pace. For the past half year, the year-on-year rise in enterprise debt has been stable at about 7-9%. Borrowing trends of different sectors differ considerably (Chart 3.10). Bank lending to sheltered industries like retail trade and services has increased more than lending to exposed industries. The debt situation in enterprises is closely tied to their investment. Mainland business investment declined by 8.8% from the first half of 2001 to the first half of 2002. Investment tax was abolished on 1 October this year and planned investments may have been postponed in anticipation of this.

Growth in enterprise sector debt is still stronger than growth in value added. The enterprise debt burden (interest-bearing debt as a percentage of the cash surplus less interest expenses) has increased further (Chart 3.11). Their debt burden is now as high as it was during the banking crisis. The enterprise interest burden (interest expenses as a percentage of cash surplus) has also increased. In 2001, interest expenses amounted to almost 50% of the surplus. The interest burden is now at the same level as in the first half of the 1990s.

Profitability down in 2001…

Recently published corporate account figures for 2001 show that profitability measured as enterprises' return on total assets fell in most sectors, but not all (Table 3.1). The fall was greatest in the IT, telecom and fish farming sectors. Profitability improved in the mining, shipbuilding, utilities, construction and shipping sectors. Return on equity fell appreciably in 2001 compared with the previous year (Chart 3.12). The equity ratio dipped somewhat from 2000 to 2001, but remained relatively high.

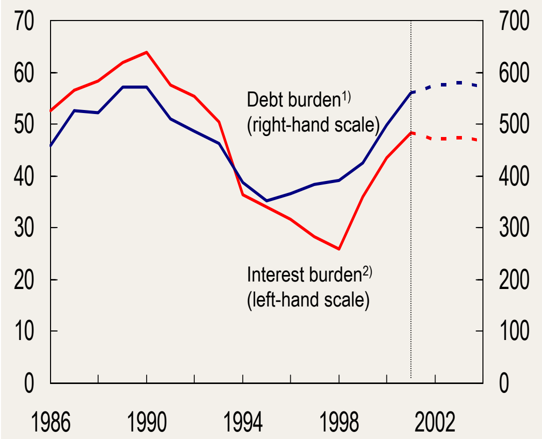
Chart 3.10 Banks' lending to entreprises, by industry. Year-on-year growth



1) Manufacturing, mining, utilities and construction
2) Retail trade, hotels and restaurants

Source: Norges Bank

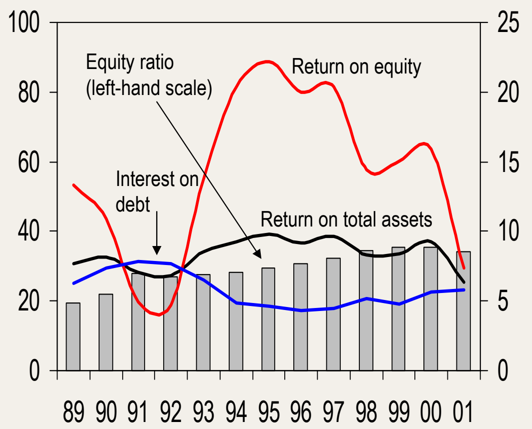
Chart 3.11 Debt and interest burden in non-financial enterprises excluding petroleum and shipping. Per cent



1) Debt as a percentage of cash surplus excl. interest expenses
2) Interest expenses as a percentage of cash surplus
Cash surplus = Value added – labour costs + capital income

Sources: Statistics Norway and Norges Bank

Chart 3.12 Companies' return1) and equity ratio. Per cent



1) Total pre-tax return as a percentage of averge total assets and equity. Limited companies in operation for at least two years, excluding companies in the oil and gas industry, financial industry and public sector.

Source: Norges Bank

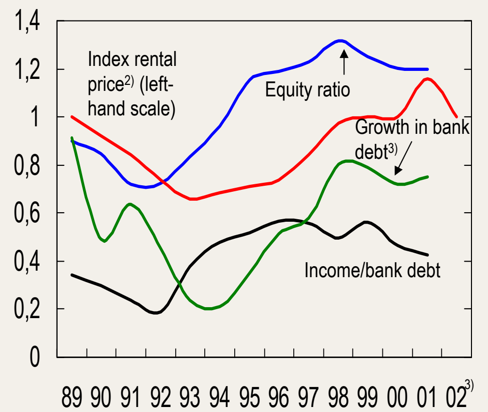
Commercial property market

The commercial property industry is the single largest recipient of bank loans in the business sector. At the end of 2001, loans to property companies accounted for NOK 135bn or 11% of total bank lending. Banks' loans to property companies are often secured against property belonging to the company. Because of the close connection between the property company's earnings and the value of its property, changes in banks' expected losses can be rapid and substantial. In other words, developments in the property industry have a considerable impact on the risk in banks' loan portfolios.

Property companies are, however, a complex group, ranging from a group subsidiary leasing property to the parent company to property companies that simply develop and lease various types of premises. Important rental market segments are offices, shops, restaurants, shopping centres and hotels. Lower demand for commercial space from financially weak groups of tenants may in some cases be replaced by increased demand from other groups experiencing growth in activity. The decline in the equity market, for example, has had an impact on the financial industry and parts of the consultancy sector. In addition, the outlook for activity in the ICT industry is uncertain. However, expected growth in the sheltered sector may boost demand for space.

Risk exposure for a property company depends on a number of factors in addition to geographical diversification and the leasing of property to several types of segments. Risk depends on the length of rental contracts and the spread of rental due dates.

Chart 1 Key figures for property companies[1]. Index and per cent



[1] Limited companies in the property management sector with bank debt and at least two years of operations.

[2] Index rental price applies to high standard office space located in central Oslo

[3] June 2002

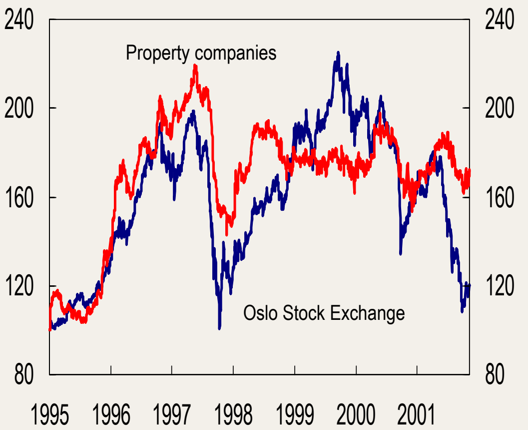
Sources: Norges Bank and Dagens Næringsliv

In addition to the risk associated with rental income, property companies' profits are directly influenced by interest rate changes and changes in property portfolio values.

A large share of banks' losses during the banking crisis was linked to commercial property. During the banking crisis years, rental prices for commercial space were reduced and the equity ratio and debt servicing capacity (earnings in relation to bank debt) of enterprises in the commercial property market declined (Chart 1). In the years following the banking crisis, rental prices increased and enterprises improved their debt servicing capacity and equity ratio.

In recent years, the supply of commercial properties has risen. The figures on commercial building starts indicate that this will continue. Property companies have increased their debt, but have not increased their earnings/rental prices to the same extent. Little information is available about price developments in commercial property. This is partly because there are so many different types of premises and price developments may vary from one to another. Figures for commercial property in the Oslo area show that rental prices have fallen over the past few quarters. Future price developments, and thus the debt servicing capacity of property companies, will depend on both the supply of and the demand for commercial property and thus on the general economic situation. The equity market does not seem to be particularly worried. Although share prices for listed Norwegian property companies fell in 2002, they fell less than prices on the Oslo Stock Exchange as a whole (Chart 2).

Chart 2 Share price developments for listed property companies. 01.01.95=100



Source: EcoWin

… and virtually unchanged probability of bankruptcy

Enterprise results and equity ratios fell in 2001 viewed as a whole. This is largely due to developments in the enterprises that are least exposed to risk. Our bankruptcy prediction model[1] uses the revised accounts figures for 2001 to show that the probability of bankruptcy for a median enterprise in 2001 was roughly unchanged from the level in 2000 (Chart 3.14). However, the probability of bankruptcy for the weakest enterprises was reduced. The most vulnerable enterprises, i.e. those with a probability of bankruptcy of more than 2%, improved their equity ratio in 2001 compared with the previous year. The results of some of these enterprises also showed some improvement.

Calculations by Moody's KMV based on share prices and accounting data show an increase in bankruptcy probabilities for the largest Norwegian non-listed companies in 2002 (Chart 3.14). The increased risk of bankruptcy can be explained by the decline in corporate assets and uncertainty regarding future earnings (see separate box).

The share of bank debt in various risk groups changed little in 2001 compared with the previous year (Chart 3.15). At end-2001, bank debt in enterprises with an estimated bankruptcy risk of less than 1% accounted for almost 78% of total bank debt.

Risk-weighted debt (debt multiplied by the probability of bankruptcy) is a measure of banks' expected loan losses in the absence of collateral. In 2001, risk-weighted debt increased in service sectors including IT, commercial services and property management, and in production sectors including manufacturing and fish farming (Chart 3.16). However, risk-weighted debt decreased in a number of sectors, partly as a result of lower bankruptcy probabilities.

Risk-weighted debt in enterprises where the probability of bankruptcy was greater than 2% edged up in 2001 to 78% of total risk-weighted debt. Most of this debt is attributable to the retail trade, property management, manufacturing and commercial services sectors. Geographically, most of this debt is attributable to Oslo/Akerhus County and Western Norway. The negative developments in fish farming have affected Western and Northern Norway. As a result of the negative developments in the IT sector, debt associated with this sector now constitutes a large share of debt with the highest risk level in Oslo/Akershus and Southern Norway. The increase in risk-weighted debt in the property business has affected Oslo/Akershus, Eastern Norway and Northern Norway in particular.

Table 3.1 Return on total assets [1)] and earnings in relation to bank debt in selected industries. Per cent

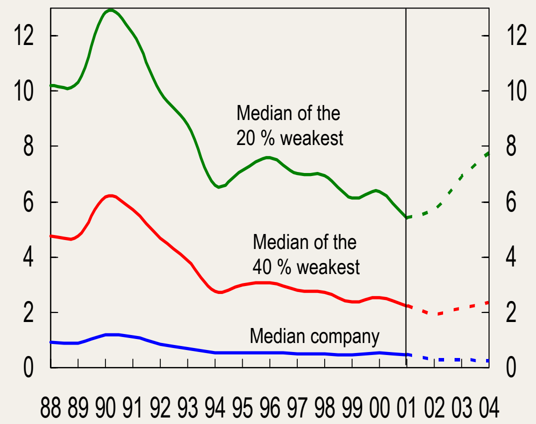
	Return		Earnings/bank debt[2)]	
	2000	2001	2000	2001
Hunting, farming and forestry	9.6	7.3	20.2	22.3
Fishing	16.1	8.8	24.3	10.6
Fish farming	24.0	6.5	42.5	9.7
Mining	7.6	11.2	15.3	24.3
Shipbuilding	4.3	12.7	19.5	22.5
Other manufacturing	14.0	11.4	36.5	30.5
Utilities	5.7	6.0	10.2	8.7
Construction	8.4	9.4	20.5	20.4
Retail trade	9.4	8.2	16.5	14.5
Hotels and restaurants	5.4	3.7	7.6	9.6
Shipping	7.3	8.4	8.7	14.3
Other transport	6.8	6.0	13.8	12.1
Telecom	6.2	-6.3	9.2	3.2
IT	-1.6	-53.8	-1.1	-150.0
Commercial services	7.4	4.9	5.8	5.2
Travel and tourism	9.7	9.2	12.1	23.8
Property management	9.3	8.4	6.4	5.4
Total	**9.3**	**6.3**	**13.7**	**10.8**

[1)] Total pre-tax return before interest on debt as a percentage of average total assets for limited companies that have been in operation at least two years

[2)] Only enterprises with bank debt

Source: Norges Bank

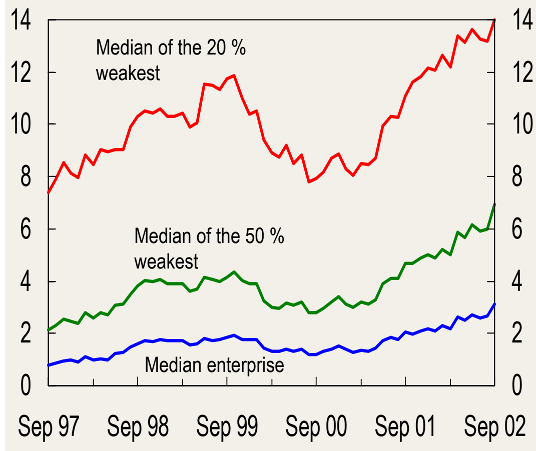
Chart 3.13 Predicted probabilities of bancruptcy.[1)] Per cent



[1)] Probability that companies stop submitting their accounts and go bankrupt. Limited companies excluding companies in the oil and gas industry, financial industry and public sector.

Source: Norges Bank

Chart 3.14 Probability of bankruptcy for large non-listed companies. KMV model[1)]. Per cent

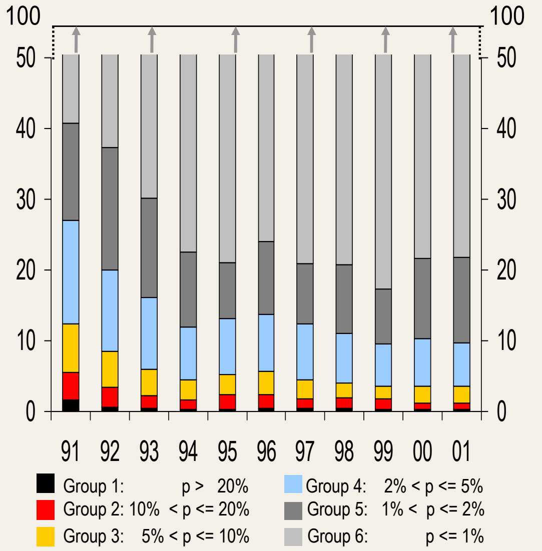


[1)] Non-financial, non-listed companies with a turnover of more than NOK 70 millions.

Source: Moody's KMV

[1] See Eklund, Trond, Kai Larsen and Eivind Bernhardsen, "Model for analysing credit risk in the enterprise sector", *Economic Bulletin 3/2001*, Norges Bank.

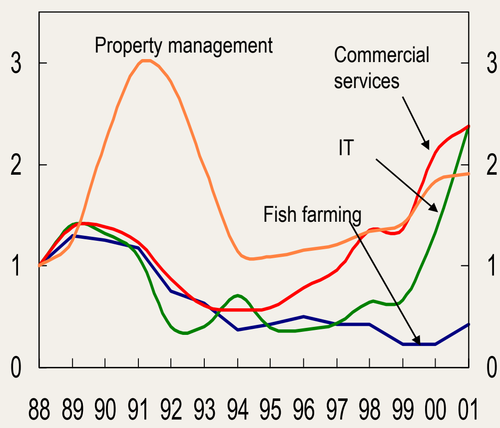
Chart 3.15 Bank debt in different risk groups. Percentage distribution



p = predicted probability of bankruptcy within three years

Source: Norges Bank

Chart 3.16 Risk-weighted debt[1)] in selected industries. Indexed, 1988=1



1) Debt multiplied by probability of bankruptcy, measured in 2001 NOK

Source: Norges Bank

Increase in defaults and bankruptcies

Gross non-performing loans in the enterprise sector, measured as a percentage of the sector's total bank loans, have increased this year. At the end of the third quarter, there was a marked increase to 2.3% from 1.8% in the same period last year. However, the level is still low compared with the first half of the 1990s.

The number of bankruptcy proceedings initiated was 20% higher in the first three quarters of this year than in the same period in 2001. The percentage rise in market value of the enterprises that have gone bankrupt is even higher. If fourth quarter developments are similar to developments so far this year, the number of bankruptcies will exceed 4000. This would be a substantial increase compared with recent years. Construction, property management, rental activities, commercial services and fishing and fish-farming are among the sectors that have had the largest increase in bankruptcies so far this year, compared with the end of the third quarter of 2001.

Developments ahead

The sharp fall in equity prices in 2002 indicates that participants in securities markets are expecting lower enterprise sector earnings. If enterprise earnings decline and the interest rate increases, a number of enterprises may have debt repayment problems. Enterprises in the exposed sector are most vulnerable, particularly enterprises in sectors such as IT and manufacturing. Sheltered sector enterprises will not be affected to the same extent. On average, enterprises' equity ratios are higher than at the beginning of the 1990s. If enterprise debt growth continues, however, projections of enterprise accounts indicate that the probability of bankruptcy will increase[2] markedly for the weakest enterprises from 2003 (Chart 3.13). The weakest enterprises, in particular, will be affected by a prolonged period of low earnings. We expect an increase in banks' losses on loans to enterprises in the most exposed industries. The credit risk associated with loans to enterprises is higher than it was half a year ago, and must now be described as relatively high for loans to enterprises in the exposed sector, but still moderate for enterprises in sheltered industries.

2) The projection method is described in Frøyland, Espen and Kai Larsen, "How vulnerable are financial institutions to macroeconomic changes?" *Economic Bulletin* 3/2002, Norges Bank.

Market values and the risk of bankruptcy

The risk of enterprise bankruptcy is a key factor in our analysis of the credit risk associated with enterprises. Financial strength is an important explanatory factor for this risk. Enterprises with sound financial strength are capable of absorbing future losses. The equity ratio is a measure of the financial strength of the enterprise, but there is a difference between equity capital based on market values and equity capital based on recorded values. Whereas market values reflect expectations with respect to future earnings, accounting values are based on the completed accounting period and asset valuations according to the historic cost method, i.e. they are retrospective.

Norges Bank's bankruptcy prediction model *SEBRA*[1] is based on enterprise accounts and thus represents the latter approach. However, models based on market values have also been developed.[2] These approaches complement one another. Particularly when economic conditions change substantially, market values may reflect important new information that is not yet reflected in the accounts.

Calculating the equity ratio, i.e. the ratio of equity capital to the total value of the enterprise, using the accounts, is not a problem. However, calculating the equity ratio from market values is not as simple. The market value of the equity capital of listed enterprises is known, but the market value of the total assets of the enterprise (value of liabilities and equity capital) is not directly observable. One approach is to use a pricing approximation in which the total assets of the enterprise determine the value of the equity capital. The total assets can then be derived from the observed value of the equity capital. One such approach is to use option pricing theory. The owners have a right to the enterprise's assets after its debts have been paid. This right can be regarded as an option on the enterprise's assets with a contract price equivalent to the enterprise's debt. Information from equity markets can then be used to estimate the level and volatility of the enterprise's total assets.[3]

This approach offers useful insight into the fundamental conditions that influence the competitiveness of enterprises: how much debt the enterprise has, expected developments in the total assets of the enterprise and uncertainty associated with these developments. If the value of the assets is less than the enterprise's debt when it falls due for payment, the enterprise will be bankrupt. For a given debt level, a decline in expected total assets will increase the risk of bankruptcy, because it will be more probable that the value of the enterprise is less than its debt (Chart 1). An increase in uncertainty regarding future value has the same effect (Chart 2).

Chart 1 Probability of bankruptcy before and after a fall in expected total value

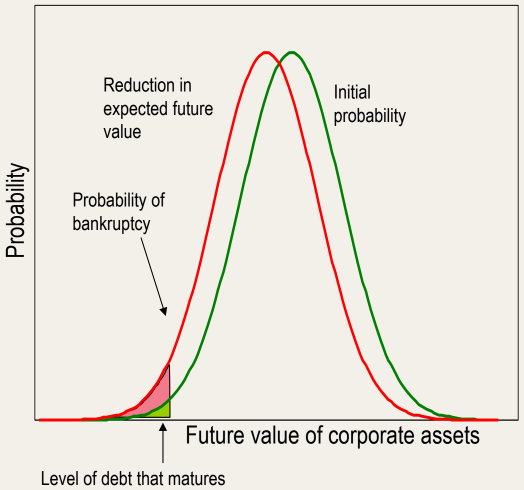
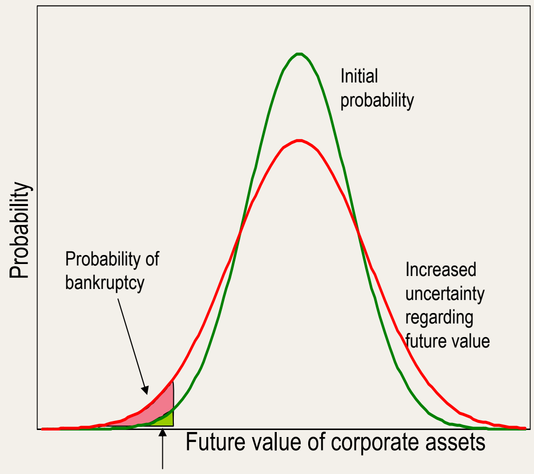


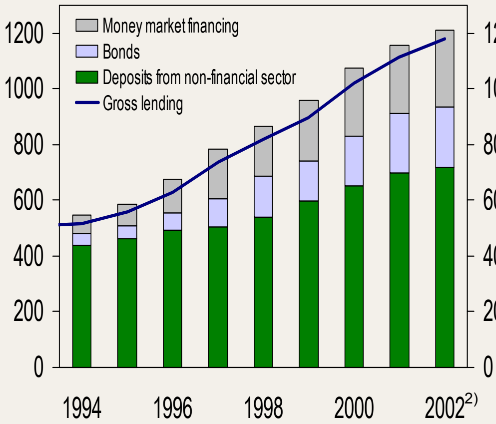
Chart 2 Probability of bankruptcy before and after an increase in uncertainty



1) See Eklund, Trond, Kai Larsen and Eivind Bernhardsen: "Model for analysing credit risk in the enterprise sector", *Economic Bulletin* 3/01, Norges Bank.
2) This approach is also used in the model developed by Moody's KMV.
3) See for example Merton, R.C., "On the Pricing of Corporate Debt: The Risk Structure of Interest Rates", *Journal of Finance*, Vol 29, No 2, 1974, pp. 449-470 and Black, F. and M. Scholes., "The Pricing of Options and Corporate Liabilities", *Journal of Political Economy*, 1973, pp. 637-654.

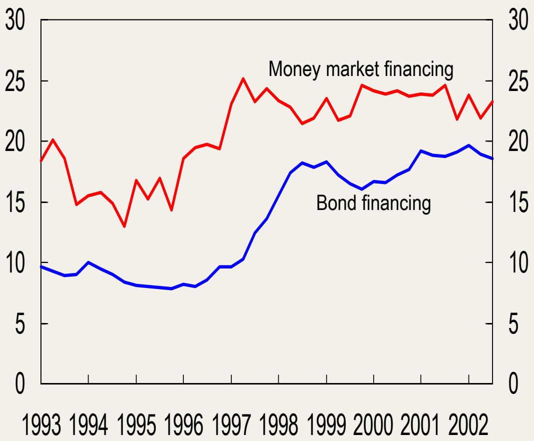
4 Liquidity risk

Chart 4.1 Banks'[1)] financing requirements and financing in the money and capital markets. NOK billion



[1)] Excluding branches of foreign banks
[2)] Q3 2002
Source: Norges Bank

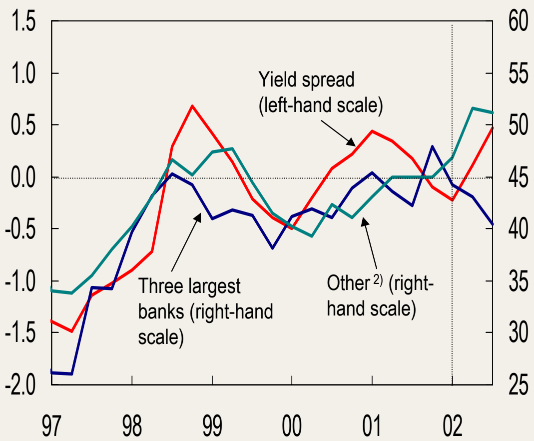
Chart 4.2 Banks' financing[1)] in bond and money market. Percentage of gross lending



[1)] Excluding branches of foreign banks

Source: Norges Bank

Chart 4.3 Yield spread[1)] (percentage points) and banks'[2)] bond financing as a percentage of financing in money and capital markets



[1)] Difference between12-month money-market rate and effective yield on 5-year private bonds
[2)] Excluding branches of foreign banks

Source: Norges Bank

The term to maturity on banks' borrowing in relation to the term to maturity on their claims is decisive for liquidity risk. A high level of short-term funding will represent a liquidity risk for banks if their liquid assets are not adequate. Short-term foreign financing is normally considered more unstable than short-term domestic financing. Foreign creditors may have a lower threshold for withdrawing funding in the event of uncertainty about Norwegian banks' financial strength or uncertainty about national and international market conditions.

Somewhat higher share of short-term funding

Banks' funding in the money and capital markets has increased through the 1990s (Chart 4.1). This is due to a prolonged decline in banks' deposit-to-loan ratio (customer deposits as a percentage of lending to the public). The decline in banks' deposit-to-loan ratio slowed somewhat in the beginning of 2002, but in the third quarter, it fell again. At the end of September, the deposit-to-loan ratio was 66%, a decline of 2 percentage points since March.

Banks' funding in the money and capital markets has decreased somewhat in the last half year (Chart 4.2). Long-term funding in the bond market in particular has declined in this period, while money market financing has remained stable.

Bank's choice of short-term or long-term funding will depend in part on the costs involved in the two types of financing. Chart 4.3 shows how banks' bond market funding has developed in pace with the difference between short-term rates and long-term rates. In periods when bond yields are lower relative to interest rates on money market loans, banks have traditionally increased the share of bonds. Similarly, they have reduced the share of bonds in periods when the rate spread narrows. From 2001, this pattern was broken, however, when banks increased the funding in the bond market even though the spread between short and long rates narrowed through four quarters. In isolation, this adjustment contributed to reducing liquidity risk.

From March 2002, the rate spread widened sharply. Small and medium-sized banks have continued to shift to more bond funding, while the largest banks, on the other hand, have reduced the share of bond funding.

Gross foreign debt is somewhat lower

Banks' total foreign debt has risen sharply the last few years, but has decreased somewhat in the last half year (Chart 4.4). At end-September 2002, this debt was NOK 316bn, corresponding to 27% of gross lending. The largest banks account for most of the foreign borrowing, but foreign borrowing is also fairly substantial at some other banks. At end-September, the three largest banks' foreign debt corresponded to 42% of gross lending, down from 47% in March this year. Small- and medium-sized banks' foreign debt is considerably lower and has been reduced in the last half year.

Short-term money market funding accounts for a large portion of the three largest banks' foreign debt (Chart 4.5). At the same time, these banks have a relatively large share of liquid assets. Liquid assets may be used at short notice if funding dries up. Such assets may also serve as a guarantee for those lending to banks so that the risk of losing funding for this reason alone may be reduced. The share of short-term foreign funding is lower in small- and medium-sized banks and has been reduced since March.

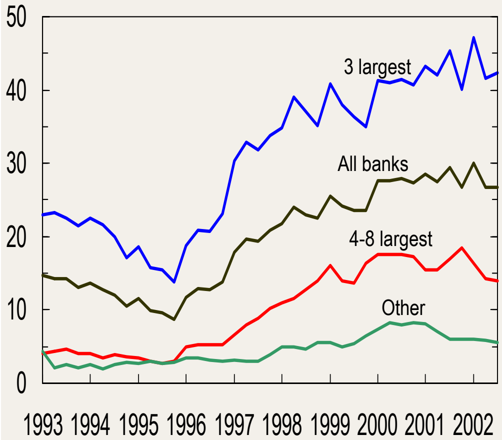
Stable financing as a share of illiquid assets is an indicator of liquidity risk (Chart 4.6). An increasing value for the indicator reflects a reduction in liquidity risk. Risk has increased for the three largest banks and for small banks due to a higher share of money market financing, while it has declined somewhat for medium-sized banks.

Liquidity risk ahead

The three largest Norwegian banks have the best rating for short-term funding, according to Moody's. Among the next five banks, measured by size, one bank has the best short-term rating while the rest have the second best rating.

At some banks, short-term foreign funding accounts for a large share of financing. This makes them vulnerable if refinancing opportunities abroad should disappear. The ownership structure in the banking industry has changed compared with earlier. Even if Norwegian-owned banks experienced funding problems abroad, foreign-owned banks would not necessarily experience the same. Therefore, the probability that financial stability will be weakened if foreign financing dries up for individual banks may be somewhat lower than earlier. On the other hand, the Norwegian economy may be affected if foreign parent banks encounter financing problems in their respective countries. Overall, liquidity risk is still considered to be relatively low, but somewhat higher compared with six months ago.

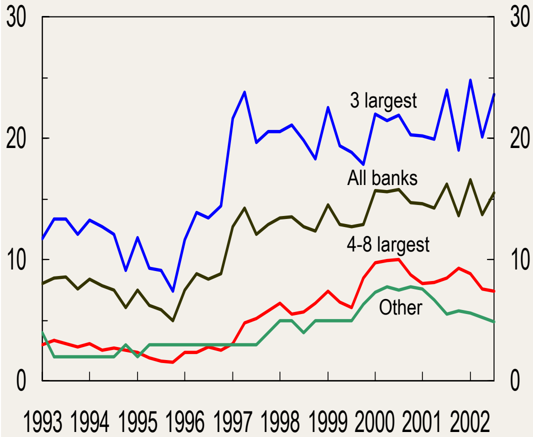
Chart 4.4 Gross foreign debt in banks[1]. Percentage of gross total lending



[1] Excluding branches of foreign banks

Source: Norges Bank

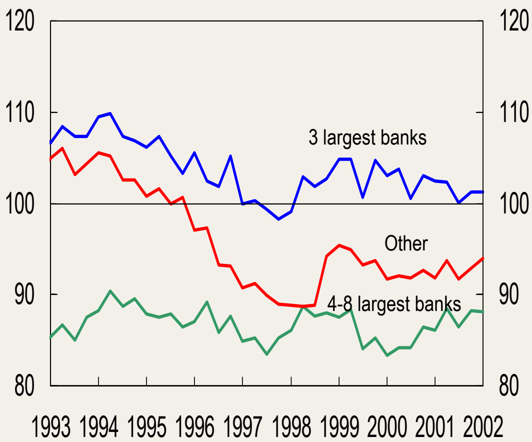
Chart 4.5 Short-term foreign debt in banks.[1] Percentage of gross lending



[1] Excluding branches of foreign banks

Source: Norges Bank

Chart 4.6 Banks' [1] stable financing [2] as a percentage of illiquid assets [3]



[1] Excluding branches of foreign banks
[2] Deposits, equity and bonds
[3] Lending and fixed assets

Source: Norges Bank

Norwegian banks' counterparty exposure

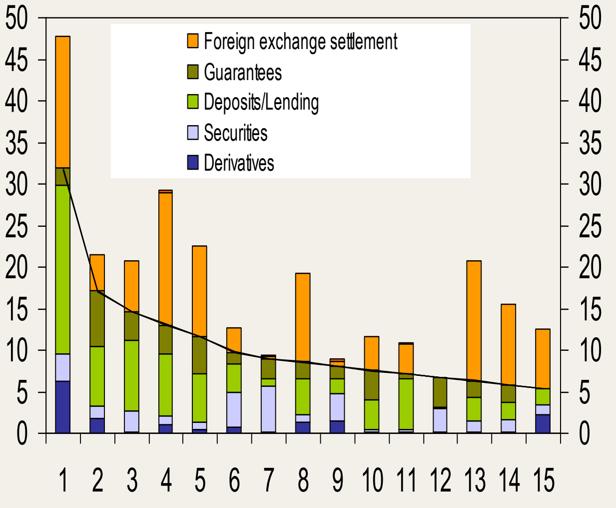
On 30 June 2002, Norges Bank, in cooperation with the Banking, Insurance and Securities Commission, conducted a survey of banks' counterparty exposures. This is the third time the survey has been conducted and the same ten banks participated. Banks report the magnitude of unsecured exposures spread over their 15 largest counterparties. The sum of the exposures to each counterparty shows how much a bank can lose if one of the 15 largest counterparties defaults. This sheds light on the degree to which counterparty risk may be a source of systemic risk where contagion between banks may threaten financial stability.

The counterparty exposures reported by the banks are in the form of derivatives, unsecured deposits/loans, securities and guarantees. The size of these exposures provides the basis for ranking the counterparties. Exposures in foreign exchange settlements are reported as additional information. The banks in the survey have the largest exposures to foreign financial institutions, Norwegian non-financial corporations and other Norwegian banks and financial institutions. Only two banks have a foreign non-financial corporation among their 15 largest counterparties. Several banks in the survey have exposures to the same counterparty. In addition, the survey shows interbank exposures. A large counterparty's payment problems may thus spread in the banking system. However, the most important foreign counterparties are assessed to be sound by international credit rating services. Therefore, the probability that the largest foreign counterparties will not meet their obligations is considered to be small.

The banks in the survey have increased their exposures to the 15 largest counterparties since the last survey. Foreign exchange settlement exposures in particular have increased sharply. This probably reflects normal variations in banks' foreign exchange transactions. If the average bank's largest counterparty had gone bankrupt on the reporting date, the bank would have lost close to 48% of its Tier 1 capital, assuming no recoveries and including foreign exchange exposures (Chart 1). The corresponding figures from the survey as of 31 December 2001 were 38%. However, the results must be interpreted with caution. Both exposures and counterparties may change considerably within a short time.

The size of banks' exposures as a percentage of Tier 1 capital varies. Thus, their ability to absorb losses varies. The survey illustrates that counterparty exposures may be considerable, especially when foreign exchange exposures are included. When the Norwegian krone is included in the new international settlement system CLS, credit risk connected to foreign exchange settlements will be substantially reduced, cf. Chapter 5. In practice, payments from a bankrupt estate will also reduce losses. In a number of cases, however, the banks in the survey have exposures to the same counterparties and to each other. This increases the risk of contagion in the Norwegian banking system. Nevertheless, the risk is considered to be limited since the largest counterparties are deemed to be financially sound.

Chart 1 The 15 largest counterparty exposures as a percentage of core capital for the banks in the survey. 30.06.02



Sources: Banking, Insurance and Securities Commission and Norges Bank

5 | Settlement risk

Increased trade and liberalisation of capital markets has lead to a considerable increase in foreign exchange transactions the last 20 years. One consequence of this is that banks' exposures in connection with foreign exchange transactions have become substantial. Traditionally, these exposures have been unsecured, although very short-term, and they have resulted in considerable liquidity and credit risk for banks. As a result of this, the authorities in a number of countries have put increasing pressure on the banking industry to improve their risk management in this area. The international foreign exchange banks' response to this has been CLS (Continuous Linked Settlement), which commenced ordinary operations on 14 October 2002 and will probably remove most of the credit risk connected with the settlement of foreign exchange transactions. So far, CLS settlements may only be made in seven currencies (AUD, CAD, CHF, EUR, GBP, JPY and USD). According to current plans, the Scandinavian currencies will be included in the first half of 2003. The focus on banks' foreign exchange settlement risk has increased after a number of initiatives between 1997 and early 2002 reduced settlement risk in the national clearing and settlement system.

Foreign exchange settlement risk

Foreign exchange settlement risk consists of both liquidity risk and credit risk. While liquidity risk is the risk of increased costs because a counterparty fails to meet an obligation when it is due, credit risk is the risk of direct losses because a counterparty is unable to meet an obligation either when it is due or at any time thereafter. Surveys in Norway and abroad show that banks' foreign exchange settlement exposures are considerable and that in some cases the amount of a bank's exposure to a single counterparty may exceed the bank's core capital (Chart 5.1). Foreign exchange settlements must therefore be seen as a considerable source of risk for banks.

The work to limit the risk connected with foreign exchange transactions has been difficult because such transactions are settled in national settlement systems that operate independently of each other. Banks have therefore been exposed to their counterparties from the time of final transfer of one currency until confirmation of final transfer of another currency. Such exposure periods may extend over several days, especially if the two legs of the transaction have been settled in different times zones. Another problem is that the settlement rules may differ from one country to another. How long the remitting bank can wait to cancel a payment may, for example, vary between countries. This is a particular problem if one bank becomes insolvent.

With CLS, foreign exchange transactions will be settled in one common multicurrency bank, the CLS Bank (CLSB). The CLSB will maintain accounts for all participating banks

Key concepts

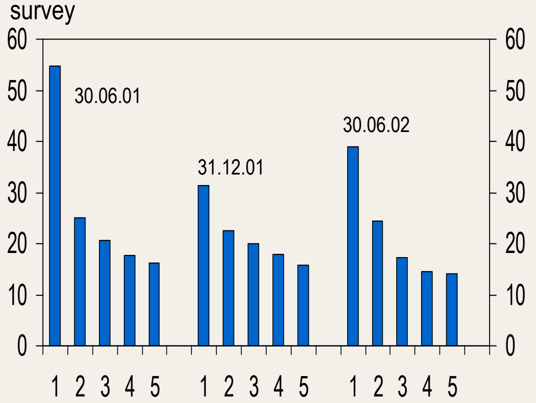
<u>Foreign exchange settlement risk:</u> The risk that one party in a foreign exchange transaction will pay for the currency it sold without receiving the currency it bought. Such risk may be divided into liquidity risk and credit risk.

- Liquidity risk: The risk of increased costs because purchased currency is not received when due.
- Credit risk: The risk of loss of all or part of a contract amount because the counterparty fails to meet its obligation.

<u>Payment Versus Payment (PVP):</u> A mechanism which ensures that final transfer of one currency occurs if and only if a final transfer of the other currency takes place.

<u>Exposure duration:</u> The period during which a party in a foreign exchange transaction is exposed to settlement risk. The period extends from the time of final transfer of once currency until confirmation of final transfer of another currency.

Chart 5.1 The five most important counterparties for the Norwegian banking system. Exposures as a percentage of core capital for the banks in the survey



Sources: Banking, Insurance and Securities Commission and Norges Bank in all currencies that are included in the system. Settlement of transactions will be executed individually (gross) and requires that both parties have met their payment obligations. It will not be possible to cancel transactions that have been settled even if one of the parties becomes insolvent. With CLS, both sides of a trade are settled simultaneously on a payment versus payment basis. This eliminates the credit risk connected with transactions in those currencies that are included in CLS.

Execution of CLS settlement as planned requires that banks have met their payment obligations to the CLS system. Since banks' foreign exchange transactions are considerable, positions can be so large that banks experience problems raising adequate liquidity. However, CLS has several features that limit banks' liquidity needs and thus the risk of being unable to meet their obligations.[1] Most important is that payment obligations are based on banks' net positions in each currency. Banks' liquidity needs will thus be considerably lower than if they had to procure cover for each individual transaction as is required in other gross settlements. The netting effect will probably be between 75% and 90% in most currencies.

So-called in/out swaps have been introduced to further limit risk. This means that banks can reduce their positions by swapping currency within the CLSB and reverse the currency swap outside the CLSB the same day. This will reduce banks' liquidity needs, but will reintroduce a measure of credit risk because one leg of the transaction will be settled outside the CLS system.

Challenges associated with CLS

CLS should remove most of the credit risk associated with banks' foreign exchange transactions if there is extensive support for the system. Settlement in CLS presupposes that both parties in a foreign exchange transaction participate in CLS. So far, it appears that the system will receive extensive support, but the extent to which banks will use CLS to settle transactions remains to be seen.

CLS means that the settlement systems in a number of countries will be linked together. This means that operational failures in one country may have consequences for other countries that are linked to CLS. In the work to establish CLS, considerable emphasis has therefore been placed on ensuring that the participating banks' systems, the national settlement systems and the CLS systems are as robust as possible. From the time the solutions were developed until they became operational, the various systems were tested for more than half a year. New participants will have to go through extensive testing before they may link up to CLS. Based on this, the central banks for the first seven currencies

[1] See Norges Bank's *Annual report on payment systems (2001)* for a more detailed account of CLS settlement and banks' payment obligations.

linked to CLS have found that the robustness and stability of the operational solutions are adequate. Although the solutions have been developed and tested in an acceptable manner, the system will be vulnerable to operational failures.

If a bank does not pay in an adequate amount to CLS, it will not be possible to settle all or parts of the bank's transactions. This will mean that the bank's counterparties' payment obligations will change, and situations may arise where the counterparties are asked to pay in a large amount in one currency when they originally should have received currency. The deadline for making such unexpected payments will be short, and in extreme cases the counterparties may have problems raising the necessary liquidity. As a consequence of this, it will be impossible to settle a number of transactions in CLS. To avoid such problems, it is important that banks participating in the system have good liquidity management.

CLS and the Norwegian payment system

In Norway, the banking industry and Norges Bank have cooperated closely in preparing for the inclusion of the Norwegian krone in CLS. This work encompasses issues related to liquidity and operational solutions. An important premise for the operational solutions is that banks may also send and receive transactions to and from CLS in the event of an operational failure in the Norwegian payment system. The banking industry and Norges Bank have therefore developed contingency solutions which specify the various participants' responsibilities in the event of such a failure. In addition, the solutions in both the Banks' Payment and Central Clearing House (BBS) and Norges Bank have been adapted to impede long delays caused by technical problems. The risk of non-settlement or a considerable delay in settlement in CLS due to an operational failure in the Norwegian payment system should therefore be limited.

CLS may affect banks' liquidity needs, and emphasis has been placed on evaluating whether a liquidity shortage may be a problem when the Norwegian krone is included in the system. With current transaction patterns, the risk of this seems limited, but banks are nonetheless working on measures to improve liquidity. One of the measures is to change the time of certain settlements in NBO (Norges Bank's Settlement System) so that the liquidity will be available for CLS in the most critical period. In addition to this, the Scandinavian countries will establish more effective solutions for cross-border collateral. These solutions will mean that in critical situations, a bank may move liquidity from one Scandinavian country to another within the short deadlines set by CLS.

Thus, conditions seem to favour an inclusion of NOK in CLS in the first half of 2003.

BIS reports

The BIS has published three reports about foreign exchange settlement risk. In 1996, ”Settlement Risk in Foreign Exchange Transactions” was published and showed that banks' exposures in connection with foreign exchange transactions were protracted and that control was lacking. The report recommended initiatives at three levels: i) central banks, ii) groups in the private financial sector, and iii) individual banks. While individual banks and groups in the financial sector were to take responsibility for specific measures to reduce risk, the central bank's role was to contribute to banks' awareness and progress. In 1998, "Reducing Foreign Exchange Risk: A Progress Report" was published. This report stated that banks had improved their risk management routines and that internal distribution of responsibility had been more clearly defined. On the other hand, banks' exposures had increased due to higher foreign currency turnover. In 2000, "Supervisory Guidance for Managing Settlement Risk in Foreign Exchange Transactions" was published. This report stressed that banks should have formal routines and procedures to limit the risk connected with foreign exchange settlements and that banks' management should monitor the work to limit the risk. It also pointed out that the supervisory authorities should focus on whether banks have given adequate consideration to the possibility of using netting or other private sector initiatives to reduce risk.

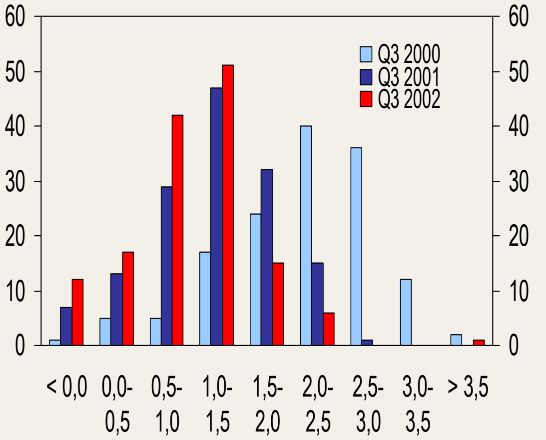
6 Financial institutions

Table 6.1 Profit trends for Norwegian banks[1)]

	Q1-3 2001		Q1-3 2002	
	NOK bill.	*% ATA* [2)]	NOK bill.	*% ATA* [2)]
Net interest income	21.1	*2.16*	22.8	*2.17*
Other operating income	8.9	*0.91*	6.6	*0.63*
Other operating expenses	17.9	*1.83*	18.6	*1.78*
Operating result before losses	**12.1**	***1.24***	**10.7**	***1.03***
Losses on loans and guarantees	2.0	*0.20*	2.7	*0.26*
Pre-tax profit	**10.0**	***1.03***	**8.1**	***0.77***
Profit after tax	8.8	*0.90*	5.6	*0.53*
Gross lending3)	1 010.0		1 087.7	
Core capital ratio (%)	9.30		9.52	

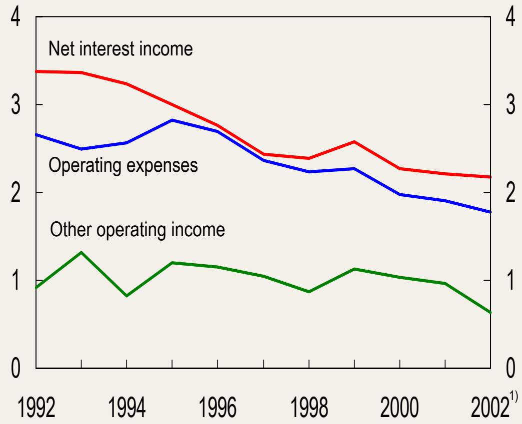
1) Parent bank
2) Annualised
3) To others than financial institutions
Source: Norges Bank

Chart 6.1 Number of banks by pre-tax profits. Percentage of average total assets (ATA)



Source: Norges Bank

Chart 6.2 Selected variables as a percentage of ATA



1) Q1-Q3 (annualised)
Source: Norges Bank

6.1 Profits

Weaker results

Banks' profits have continued to decline this year. Banks' pre-tax profits were 0.77% of average total assets (ATA) in the first three quarters of this year (Table 6.1). Banks have not recorded weaker results since 1992. The figure for the same period last year was 1.03%. The decline in profits is mainly due to lower commission income and income from securities markets. Higher loan losses have also contributed to the decline. The number of banks recording weak results has increased (Chart 6.1). At the end of the third quarter, 12 of a total of 144 banks recorded negative pre-tax profits, as against 7 banks a year earlier.

Banks total net interest income was approximately unchanged compared with the first three quarters of 2001. In relation to average total assets, total net interest income now accounts for just below 2.2%. This is close to 1 percentage point lower than in the mid-1990s (Chart 6.2). On average, net interest income is highest in the small banks.

Negative developments in securities markets have reduced banks' income from other activities. Commission income, share dividends and capital gains on securities were lower during the first three quarters of this year than in the same period last year, while exchange gains rose.

Banks' overall operating expenses as a percentage of average total assets have been marginally reduced over the past year. There has, however, been a steady decline in operating expenses since the mid-1990s, which indicates that banks have become more cost-effective.[1]

The weak developments recorded in parts of the corporate sector in 2002 have so far had little impact on loan losses. This is because most enterprises were financially very strong at the beginning of the year (Chapter 3). Banks' recorded loan losses increased from 0.24% of gross lending in the third quarter of 2001 to 0.30% in the third quarter of this year. The number of gross non-performing loans has also risen.

Lower return on equity

Weak results have contributed to a reduction in banks' return on equity. Return on equity for the financial groups DnB, Nordea Bank Norway and Fokus Bank was below 9%, while the Union Bank of Norway recorded a return of over 10% in the first three quarters of this year. This is substantially lower than in the same period last year, and is also lower than recorded by the largest Nordic financial groups (Chart 6.3).

1 See the forthcoming article: Gresvik, Olaf og Grete Øwre, "Banks' costs and income related to the payment system", *Economic Bulletin* 1/2003, Norges Bank.

6.2 Financial strength

Banks still financially strong…

Norwegian banks' core capital ratio increased overall from 9.3% at the end of the third quarter last year to 9.5% in the same period this year. The core capital ratio in the eight largest financial groups varied between 6.8 and 8.9%. At the end of the third quarter, the largest Norwegian financial groups, with the exception of the Union Bank of Norway, had a relatively high core capital ratio compared with the other Nordic bank groups (Chart 6.3).

Moody's rating for financial strength and long-term financing for a selection of Nordic banks is shown in Chart 6.4. The financial strength rating may be regarded as a measure of the probability of a bank needing assistance from its owners and/or a third party. The rating for long-term financing is intended to reflect the bank's capacity to service its long-term debts as they fall due.

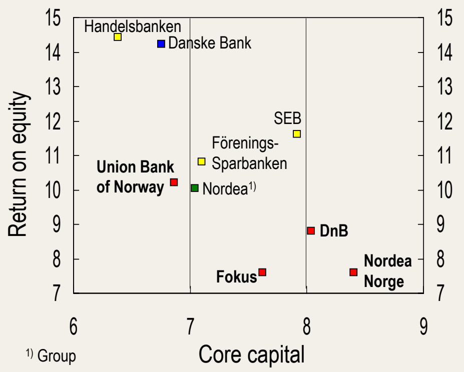
The largest Norwegian banks have a somewhat lower rating than several of the largest Nordic banks. The ratings nonetheless indicate that they are financially strong and that their debt servicing capacity is good or very good. The medium-sized Norwegian banks have a considerably lower rating than the three largest Norwegian banks with regard to both financial strength and long-term financing. However, according to the ratings, their financial strength is satisfactory and their debt servicing capacity is good.

In Norway, 70% of the banks have a rating indicating only satisfactory or moderate financial strength. This is a far larger share than in Sweden, Denmark or Finland. The share is also larger than in Germany, France, the UK and the US, where 66%, 60%, 58% and 52% respectively of the rated banks were listed in these groups. However, Norway has more banks above a certain minimum size than the other Nordic countries. As a result, more of Norway's medium-sized banks have been rated by the international credit rating agencies (Chart 6.2).

…but reduced financial strength in life insurance companies

Life insurance companies pre-tax result before customer awards showed a deficit of NOK 10.7bn or -3.6% of ATA for the first three quarters of 2002 compared with a deficit of NOK 9.5 or -3.4% of ATA for the first three quarters of 2001. Premium income rose and net income from financial assets was less negative than at the end of the first three quarters of 2001. This was more than offset by higher insurance provisions, however, so that the result was somewhat weaker than for the first three quarters of 2001. Capital adequacy rose from 12.2% to 15.2% from the end of the third quarter 2001 to the same time a year later. This is mainly due to a lower measurement base as a result of reallocation from

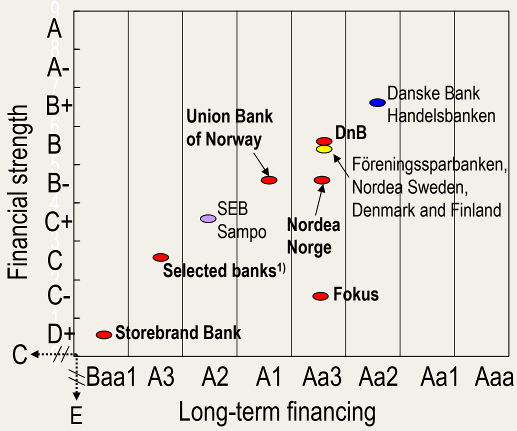
Chart 6.3 Return on equity and core capital ratio in selected financial groups. Per cent.



[1] Group

Source: The financial groups' accounts for Q3 2002

Chart 6.4 Moody's rating of financial strength and long-term financing. Selected banks (parent company). October 2002



[1] Individual ratings for Sparebank 1 Vest, Sparebanken Øst, Sparebank 1 Midt-Norge, Sparebank 1 Nord-Norge and Sparebank 1 SR-Bank

Source: Moody's KMV

Table 6.2 Number of banks in different rating categories for financial strength[1]. As of Oct. 2002

	A	B	C	D/E
Norway	0	3	6	1
Sweden	0	3	1	0
Denmark	0	3	1	0
Finland	0	2	2	0
Germany	0	13	22	3
France	1	9	13	2
UK	4	14	21	4
US	17	64	69	20

[1] A is the highest rating.

Source: Moody's Investors Service

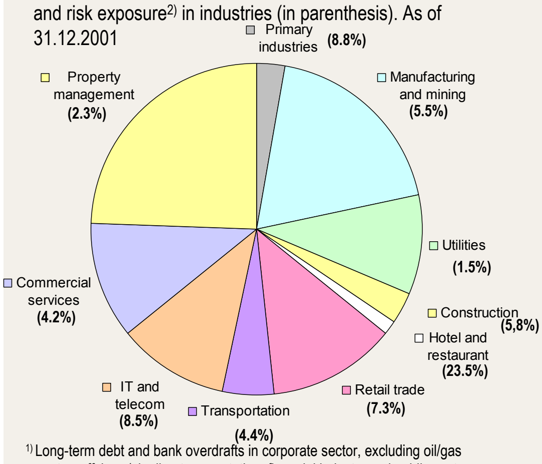
Table 6.3 Financial institutions' securities holdings[1] and portfolios' interest sensitivity[2]. Per cent

	Equities		Bonds and short-term paper	
	31.12.01	30.06.02	31.12.01	30.06.02
Commercial banks	0.9	0.9	9.2	8.0
Savings banks	1.1	1.0	5.9	6.4
Life insurance companies	19.8	13.6	55.9	55.9
Non-life insurance companies	26.3	11.0	32.8	45.6

	Interest sensitivity	
	31.12.01	30.06.02
Commercial banks	0.6	1.3
Savings banks	1.3	1.1
Life insurance companies	3.9	3.8
Non-life insurance companies	3.2	2.3

1) Share of total assets invested in securities
2) Estimated interest sensitivity for fixed income instruments with a 1 percentage point increase in the interest rate
Source: Banking, Insurance and Securities Commission

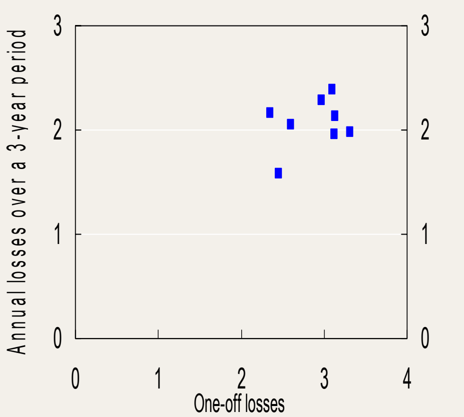
Chart 6.5 Share of total debt[1] in selected industries and risk exposure[2] in industries (in parenthesis). As of 31.12.2001



1) Long-term debt and bank overdrafts in corporate sector, excluding oil/gas sector, offshore/pipeline transportation, financial industry and public sector
2) Probability of bankruptcy. Median of the 20 per cent weakest companies.

Source: Norges Bank

Chart 6.6 The largest banks' ability to absorb losses.[1] Losses as a percentage of gross lending that will empty the capital buffer



1) DnB, Nordea Bank Norge, Union Bank of Norway, Fokus Bank, Sparebank 1 Vest, Sparebank 1 Nord-Norge, Sparebank 1 Midt Norge and Sparebank 1 SR-Bank

Source: The financial groups' accounts for Q3 2002

high-risk equities to lower-risk bonds. The buffer capital has been reduced, and at the end of the third quarter amounted to only 2% of total assets.

The reduction in shareholdings has reduced their vulnerability to any further decline in equity markets (see box in Chapter 2). On the other hand, reduced shareholdings may limit future returns. Life insurance companies' buffer capital must be strengthened to enable them to rebuild their shareholdings. At the end of October, no life insurance company had been granted or had applied for exemption from the capital adequacy requirement. One company had, however, applied for an extension of the temporary exemption from the solvency margin requirement. Earlier this year, three companies were granted exemption from the capital adequacy requirement for the third quarter.

Low market risk in banks, but higher credit risk

Norwegian banks' direct exposure to developments in securities markets is relatively limited. Their shareholdings are very small, while holdings of bonds and short-term papers are somewhat larger (Table 6.3). Estimated interest sensitivity for the bond portfolio indicates that interest-rate risk in banks' trade portfolios is low.

Banks' credit risk is considered to have risen in the past half-year (Chapter 3). Overall household debt burden is now as high as it was in the years immediately preceding the banking crisis. The corporate debt burden is also very high. However, banks' share of loans to industries with the highest risk is relatively small (Chart 6.6). For some banks, exposure may nonetheless be high in these industries.

Banks able to absorb loan losses

Simplified calculations carried out at Norges Bank indicate that banks' loan losses can increase markedly for several years before the risk to banks' financial strength reaches a critical level. According to the projections, all the banks in the analysis will be able to absorb a single loss of close to 2½% or more of gross lending before their buffer capital, i.e. the difference between eligible capital and the capital requirement, is depleted. Banks will also be able to absorb a loss of 1½% or more of gross lending each year over a three-year period before the buffer is depleted, assuming that profits are the same as in 2002. At the end of the third quarter, none of the banks in the analysis had recorded loan losses of more than 0.6% of gross lending. Average loan losses for the banks in the analysis were 0.3%.

Because of their financial position, banks are well equipped to deal with more sluggish economic developments. Persistently high credit growth in a situation with a high debt burden means that both households and enterprises will face substantial demands in terms of future income growth in order to maintain debt servicing capacity. The interaction between households and enterprises in terms of real economic developments is important. Weaker household income growth leading to lower demand might result in corporate loan losses without any appreciable rise in housing loan losses. If interest margins and income from other activities continue to fall, this will exert further pressure on banks' earnings. Overall, banks financial position is regarded as sound, although somewhat weaker than in the previous report.

6.3 The competitive situation

Market continues to be dominated by the largest banks

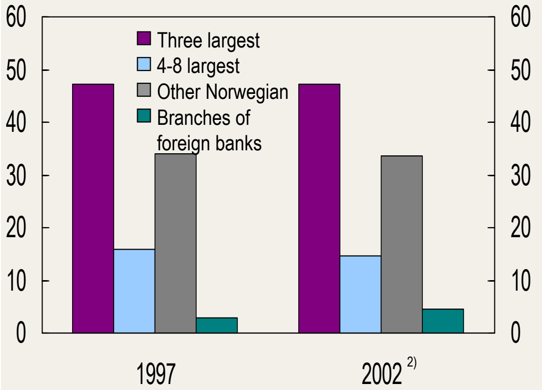
There has been little change in market shares for small, medium-sized and large banks over the past five years (Chart 6.6). The three largest banks still account for almost half of the loans to Norwegian households and non-financial enterprises. Small and medium-sized banks have marginally reduced their market shares, while branches of foreign banks have increased their share from 2.9 to 4.5%. The increase is mainly due to the takeover of Bergensbanken by Handelsbanken in 2001. In total, foreign-owned branches and subsidiary banks have substantially increased their share of the Norwegian loan market after Kreditkassen and Fokus Bank became subsidiaries of foreign-owned banks. At the end of the third quarter, these banks together accounted for over 21% of the Norwegian loan market.

DnB acquired Skandia Asset Management earlier this year. Nordea Bank Norway has largely sold off its non-traditional banking activities. This means that this bank, like Fokus Bank, is now more oriented towards traditional banking operations. In September, the Union Bank of Norway was converted into a limited company and listed on the Oslo Stock Exchange. The purpose of the conversion was to make it easier for the bank to raise new capital.

Little change in interest margins

There has been a marginal reduction in Norwegian banks' interest margins over the past year (Chart 6.7). The lending margin is approximately 0.4 percentage point higher than at the end of the second quarter last year. This *may* be an indication that banks are now placing more importance on pricing the risk linked to their loans (see separate box). The deposit margin is almost 0.5 percentage point lower than at the same time last year. Some of the smaller Norwegian banks are perceived as relatively high-risk in the market. This means that money market financing is relatively costly. The authorities guarantee deposits up to NOK 2 million under the deposit guarantee scheme in Norway. A cheaper financing option for banks with expensive money market financing may therefore be to increase their deposit-to-loan ratio by offering higher interest rates on customer deposits. To the extent this has occurred, it may have contributed to reducing deposit margins in general.

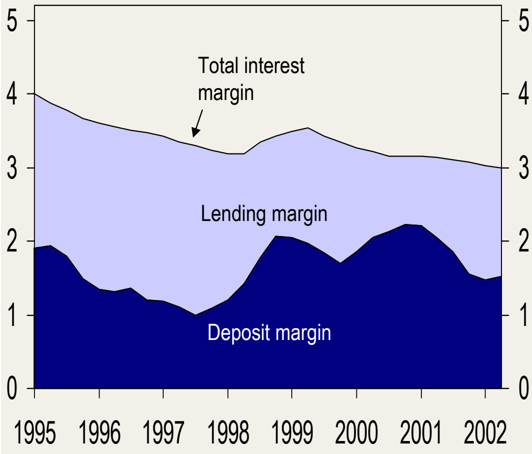
Chart 6.7 Different bank groups' share of total lending[1] in Norway



[1] Gross lending to institutions other than financial institutions
[2] As of Q3

Source: Norges Bank

Chart 6.8 Banks' interest margins[1]. Per cent



[1] Moving average over the last four quarters

Source: Norges Bank

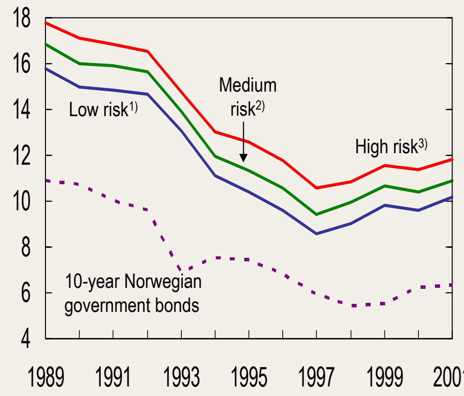
Risk pricing in Norwegian Banks

If a bank's pricing of loans is on average too low in relation to the actual risk linked to the loans, the bank's financial position will weaken in the long run. This means that banks' pricing of risk is important to the stability of the financial system. Pricing can also have implications for allocation of capital to profitable investment projects.

We have attempted to analyse the degree of risk pricing for loans to Norwegian limited companies.[1] Several of the assumptions in the analysis are uncertain, and the results must be interpreted with caution.

A borrowing rate has been estimated for each company for the period 1989-2001.[2] The companies were then divided into risk groups according to bankruptcy probability.[3] The average estimated borrowing rate for the various groups provides an indication of whether risk has been taken into account in the pricing of loans. In 2001, companies with low risk accounted for about 75% of loans outstanding, while the high-risk group accounted for 7.5%. The figures for 1991 were 44% and 26.5%, respectively.

Chart 1 Lending rate for different risk groups. Per cent



1) Probability of bankruptcy below 0.5%
2) Probability of bankruptcy 0.5 – 2.0%
3) Probability of bankruptcy above 2.0%

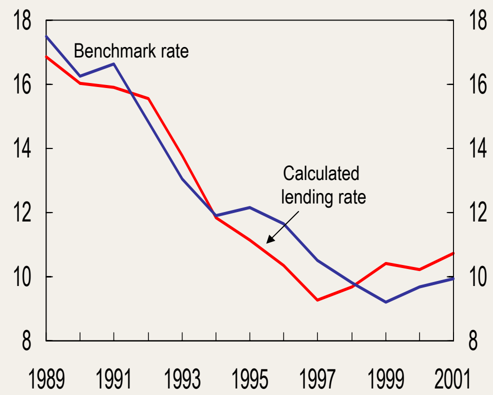
Source: Norges Bank

Chart 1 indicates that there is a relationship between the estimated borrowing rate and the risk group. A comparable relationship also applies when risk groups are divided into smaller groups by degree of risk.[4] The relationship is weakest during the banking crisis period. The figures seem to indicate that the degree of risk pricing increased in the mid-1990s, but has decreased somewhat in recent years.

The analysis above indicates that the degree of risk in the pricing of loans is differentiated. A difference in borrowing rates of less than 2 percentage points between companies with high and low risk may seem small, however. Furthermore, one may ask whether a total margin of about 4-5 percentage points over risk-free interest for the total loan portfolio is sufficient to cover the risk of loan losses, administrative costs and the owners' required return.

We have estimated a reference interest rate to take account of opportunity cost (i.e. risk-free interest), the probability of the borrower's going bankrupt, level of losses given bankruptcy, administrative costs and the owners' return requirements.

Chart 2 Lending rate and benchmark rate. Per cent



Source: Norges Bank

According to the analysis, the reference interest rate was on average about the same as the estimated borrowing rate up to 1994 (Chart 2). The estimated borrowing rate was then somewhat lower than the reference rate up to 1997. During this period, the loan market expanded rapidly and competition intensified, while the risk in the enterprise sector was generally perceived as low and falling. This may have contributed to a lesser degree of risk pricing. Between 1999 and 2001, the estimated borrowing rate was higher than the reference rate. One reason for this may have been growing fears of loan losses as a result of periodic unrest in financial markets in 1998 and 1999, in addition to the negative developments observed in the latter half of 2001. Moreover, greater focus in general on credit risk and the

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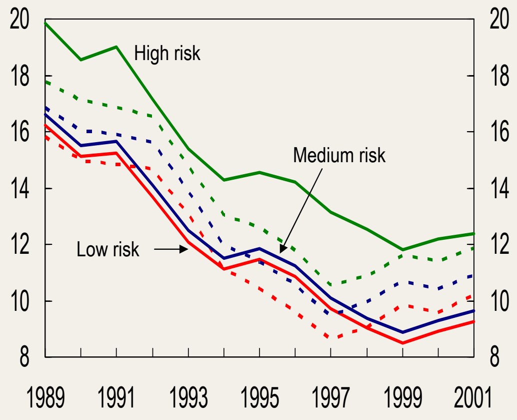
introduction of more advanced risk management systems may have contributed to a greater degree of risk pricing.

Chart 3 Lending rate (dotted line) and benchmark rate (solid line). Per cent



Source: Norges Bank

The reference rate for companies with high risk was markedly higher than the estimated borrowing rate in much of the period up to 1999 (Chart 3). Since 1999, the reference rate for companies with high risk has stood at about the same level as the estimated borrowing rate, while the borrowing rate for companies with low and medium risk has been too high in relation to the reference rate. The reference rate does not take into account that the rate may have a retroactive effect on bankruptcy probability. When the probability of bankruptcy is strong, the relevance of the reference rate as a measure of "correct" pricing is uncertain.

1 The analysis will be published in a forthcoming article: Bernhardsen, Eivind and Kai Larsen, "Analysis of risk pricing in the loan market", Economic Bulletin 1/03.

2 Since we do not have access to companies' actual borrowing rates, the rates have been estimated using a selection of annual company accounts, consisting of approximately 500 000 annual accounts for 85 000 companies.

3 Calculated using Norges Bank's bankruptcy prediction model (see Economic Bulletin 3/01). The risk has been divided into the categories low, medium and high risk on a discretionary basis.

4 We have looked at a division into 8 and 12 risk groups, respectively, and found that there is a relationship between the estimated borrowing rate and risk group for all years in the period 1989-2001.

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