

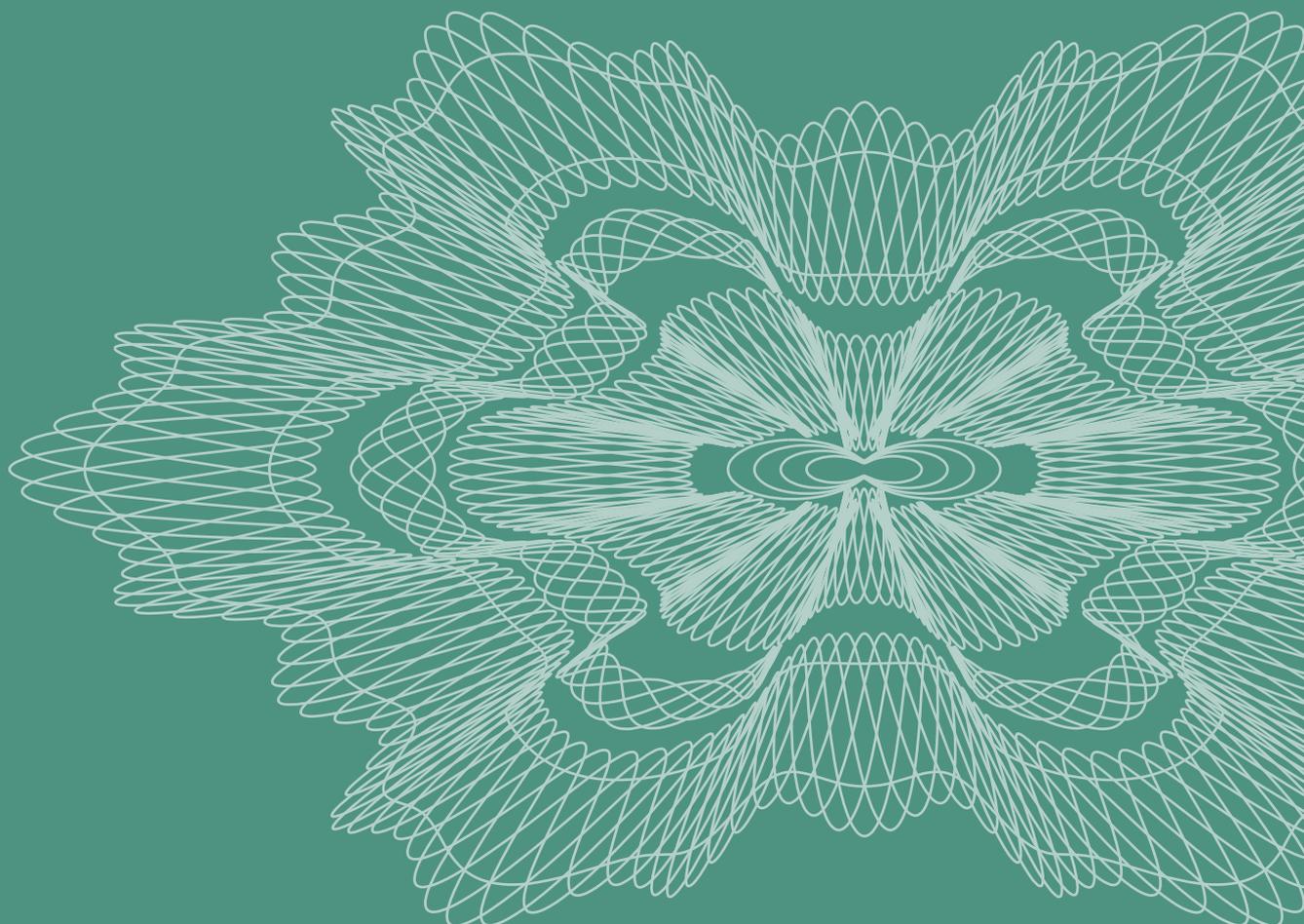
Reports from the Central Bank of Norway
No. 5/2001



Financial Stability

2
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November



Norges Bank's reports on financial stability

One of Norges Bank's main responsibilities is to foster robust and efficient payment systems and financial markets. The preventive tasks in this area are: contributing to containing risk in clearing and settlement systems; monitoring the financial services industry in order to identify trends which may weaken the stability of the financial sector and lead to systemic problems; assessing the influence of monetary policy and general economic policy on the stability of the financial sector and vice versa.

Norges Bank's Financial Stability report is published twice a year, and is a key component of the monitoring of the financial services industry. The report contains an evaluation of trends in the financial services industry, with particular emphasis on banks, and an analysis of how well equipped the industry is to cope with any major disturbances in the economy or changes in participants' expectations. One of the purposes of the report is to contribute to a dialogue with the financial services industry on factors that may create imbalances in the financial system.

Financial Stability is published twice a year as part of Norges Bank's series of reports.
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Satisfactory financial stability, but increased uncertainty

Uncertainty about economic developments has increased after the terrorist attacks against the US. The outlook for stability in the financial system is more uncertain than before. In Norway, enterprises in particular are vulnerable in the event of a recession. Debt as a share of value added is currently at about the same level as at the beginning of the 1990s. Although enterprises have increased their equity ratio in recent years, they are still dependent on high earnings in order to service debt. A number of businesses are feeling the effects of declining demand. At the same time, increasing costs are squeezing earnings. The risk of lending to the enterprise sector has therefore increased.

Lending to the household sector is generally not as vulnerable. Debt as a share of income is lower than at the beginning of the 1990s. The prospects for employment and income are relatively favourable, although there is a risk of increased unemployment in connection with shifts from exposed to more sheltered industries. The savings ratio has been high for a long time, and households have accumulated substantial fixed and financial assets. However, differences in financial position between various age and income groups have increased.

Banks have maintained satisfactory earnings and financial strength despite strong growth in lending. The outlook is more uncertain and banks can expect weaker results. Loan losses are still at a low level and must rise substantially before stability in the banking sector is weakened significantly. Substantial losses on securities in the insurance sector have a negative impact on profits in financial conglomerates. The increased uncertainty indicates that banks should improve cost control, place emphasis on safeguarding assets in loan portfolios and adjust growth in lending to earnings and equity supply. Overall, stability in the financial system is still considered to be satisfactory.

Svein Gjedrem

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The cut-off date for this report was
20 November 2001

1 | Summary

Growth forecasts for the global economy have been revised downwards after the terrorist attacks in the US on 11 September. Future developments are shrouded in considerable uncertainty. Some sectors of Norwegian industry are being affected by the international downturn. However, the outlook for the Norwegian economy in general is still good. Credit growth has been high the last year and the debt burden is higher than half a year ago in both the household and enterprise sectors. Although credit risk has increased, banks are well equipped to meet a moderate increase in loan losses. On the whole, the outlook for financial stability is satisfactory.

Credit growth remains high, but shows signs of slowing

A weaker international growth outlook and increased uncertainty surrounding economic developments in Norway now appear to be curbing credit growth in Norway. Twelve-month growth in domestic credit has slowed slightly since March this year. Nevertheless, credit growth has been stronger than growth in mainland GDP. Corporations in particular have reduced credit growth. In September, twelve-month growth in household borrowing also showed signs of slowing.

Rising debt burden in the household sector

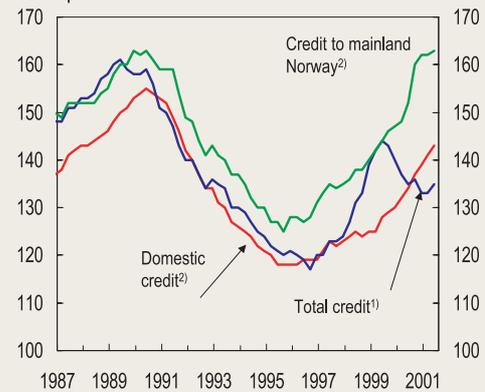
Rising house prices and increased housing wealth have contributed to increasing household debt. Borrowing has risen at a faster rate than disposable income. The debt and interest burden have increased. Households as a group are thus more vulnerable to increased unemployment or higher interest rates.

On the whole, households have solid, positive net financial assets. The decline in share prices through 2001 has reduced these assets somewhat. However, shares account for a relatively small portion of net financial assets and are in addition unequally distributed among households. In the main, a fairly small group of households with high income and considerable wealth will be affected by the decline in share prices. If we exclude insurance claims, which can seldom be redeemed in the event of debt-servicing problems, net financial assets are negative. On the whole, credit risk in connection with loans to the household sector is still considered to be relatively low, but higher than half a year ago.

High debt burden and weaker earnings in the enterprise sector

Enterprise debt has increased more sharply than value added for a long time. Debt growth slowed somewhat in the second and third quarters of 2001, in step with declining mainland business investment. Debt growth slowed most in a number of internationally-exposed sectors, while debt growth has

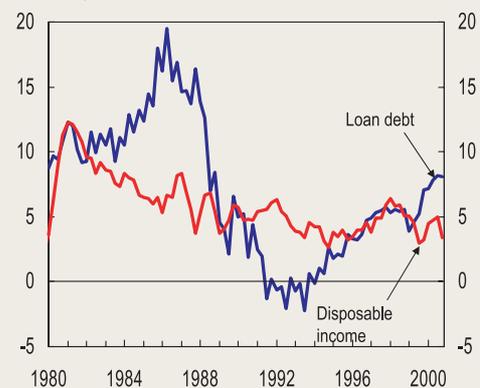
Chart 1.1 Credit from domestic and foreign sources (C3), total and to mainland Norway. Credit from domestic sources (C2). Percentage of GDP for last four quarters



¹ Percentage of GDP
² Percentage of mainland GDP

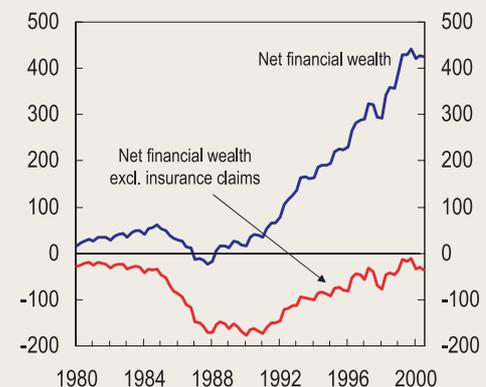
Source: Norges Bank

Chart 1.2 12-month rise in household loan debt and disposable income. Per cent



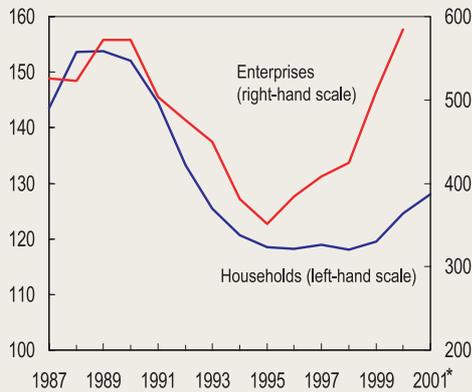
Source: Norges Bank

Chart 1.3 Household net financial wealth. In billions of NOK



Source: Norges Bank

Char 1.4 Debt burden in the household¹⁾ and enterprise sectors²⁾



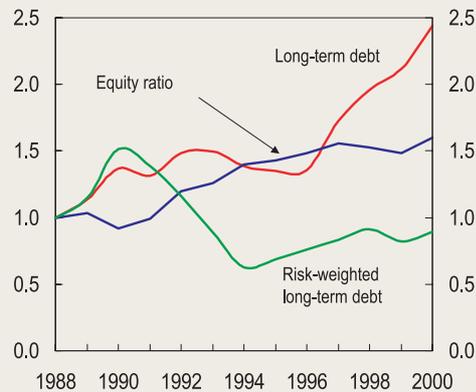
1) Household borrowing as a percentage of disposable income, last four quarters
 2) Interest-bearing debt in non-financial enterprises as a percentage of cash surplus excl. interest expenses
 *First half of 2001
 Source: Norges Bank

remained high in a number of service industries. Earnings in the enterprise sector as a whole declined somewhat from 1999 to 2000, and figures so far this year indicate a further decline. Thus, it appears that the debt burden will increase even more.

The distribution of debt changed through the 1990s. Enterprises with a high probability of bankruptcy accounted for a steadily diminishing share of long-term debt in the enterprise sector. Enterprises on the whole have also increased equity ratios. *Risk-weighted* debt was virtually unchanged from 1999 to 2000.

Due to the strong growth in debt, enterprises are more vulnerable to a decline in earnings. Estimates based on share prices and accounts data to September 2001 show that there has been a considerable increase in the probability of bankruptcy for large unlisted companies in 2001. The decline in share prices this year will also reduce the value of companies' share portfolios and limit the possibility of raising new equity. On the whole, the risk associated with bank lending to mainland enterprises is considered to be relatively high. Continued high debt growth, prospects of weaker economic growth and a decline in earnings have increased credit risk compared with half a year ago.

Chart 1.5 Long-term debt, equity ratio and risk-weighted long-term debt in the enterprise sector. Index. 1988 = 1

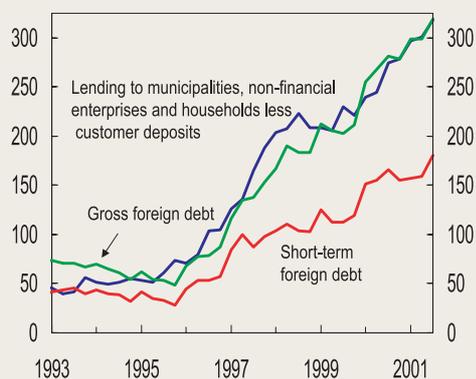


Source: Norges Bank

Banks' lending growth is slowing down

Growth in bank lending has slowed somewhat in relation to the high growth rates in 2000 and the beginning of 2001. Nevertheless, banks' need to raise funds from domestic and foreign money and capital markets has continued to grow since customer deposits have not increased as much as lending. The three largest banks have increased the share of short-term financing, with a shift towards foreign money market financing. Developments at small and medium-sized banks have been the opposite, with a reduction in the share of short-term financing and a shift towards domestic money market financing. The buffer, which is in the form of liquid assets, has also increased somewhat in the three largest banks and remained virtually unchanged in the small and medium-sized banks. Liquidity risk is considered to be more or less unchanged since the last *Financial Stability* report.

Chart 1.6 Banks¹⁾ financing requirements and total and short-term gross foreign debt. In billions of NOK



¹⁾ Excluding branches of foreign banks.

Source: Norges Bank

Banks' financial strength is still satisfactory

Despite high lending growth, the largest banks have maintained financial strength. At small and medium-sized banks, lending growth has been higher and financial strength has declined somewhat, but they still comply with capital adequacy requirements by a solid margin. Lending growth in recent years has coincided with a period of solid economic growth and modest loan losses. Intense competition and low margins in the Norwegian market probably limit the possibilities of substantially strengthening underlying earnings through growth in lending.

Sluggish developments in banks' earnings

Small and medium-sized banks' pre-loss operating profits declined in the first three quarters of 2001 compared with the same period last year. Pre-loss profits for the three largest banks remained virtually unchanged and loan losses were still low. However, the volume of non-performing loans has increased so far this year. After-loss profits declined for the three largest banks, and developments at the small and medium-sized banks were even weaker, compared with the same period last year.

Due to recent economic developments, it is reasonable to expect a rise in loan losses. Therefore, banks may need to improve their underlying earnings.

Life insurance companies

Life insurance companies are far more exposed than banks when equity and bond prices fall. Problems in insurance companies can spill over to banks and securities markets both directly through current transactions and through a general loss of confidence in the financial sector. A number of life insurance companies in Norway are also part of financial conglomerates where bank activities dominate. A decline in earnings in the life insurance companies will reduce their group contribution or require new equity. The risk of considerable spillover effects from the life insurance operations to the banking operations in financial conglomerates is nevertheless regarded as limited.

Despite increased uncertainty, stability remains satisfactory

The debt burden in the household and enterprise sectors has increased since the last *Financial Stability* report. The household debt burden is still not as high as at the end of the 1980s, whereas the debt burden in the enterprise sector is higher. It should be emphasised that enterprises are dependent on continued high earnings in the years ahead to service debt. At the same time, the economic outlook in Norway and abroad has deteriorated the last six months and uncertainty has increased. Thus, banks' credit risk has grown and loan losses are expected to increase in the future. However, loan losses are still low and must rise substantially before stability in the banking sector is threatened.

2 | International developments and securities markets

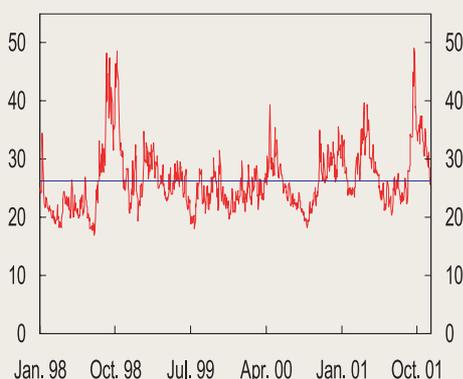
2.1 The international environment

Chart 2.1 International equity indices. Daily figures, 30.12.99 - 20.11.01. Indexed, 30.12.99 = 100



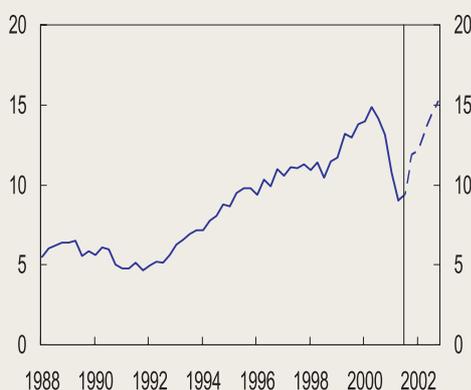
Source: EcoWin

Chart 2.2 Implied volatility of options on the S&P100 index with 30 days to maturity. Daily figures and average, 31.12.97 - 20.11.01 Per cent



Source: EcoWin

Chart 2.3 USD earnings for companies in the S&P 500 index. Quarterly figures



Source: Standard & Poor's

Growth forecasts for the global economy have been further revised downwards after the terrorist attacks in the US on 11 September. Easing of monetary policy in a number of countries has reduced borrowing costs for households and companies. However, slower income growth, which is a result of the downturn, weakens debt servicing capacity. Although banks in many countries have strengthened credit rating procedures and increased their capital adequacy in recent years, the vulnerability of the financial sector has increased due to developments in the last few months. There are signs of an increasing number of bankruptcies and non-performing loans in a number of countries. The situation in Japanese banks has worsened as a result of the decline in share prices, rising loan losses and continued deflation.

Uncertainty surrounding some emerging economies is high, especially in Argentina, where the authorities have now asked to renegotiate interest terms on their foreign currency debt.

Wide fluctuations in stock markets

The US stock market has been characterised by periods of sharp decline in prices and a high degree of uncertainty since September 2000 (see Chart 2.1). Share prices continued to fall through the summer following a temporary rise in April and May. The decline was aggravated by the terrorist attacks on 11 September. From the end of May to the last week of September, the S&P 500 index fell by more than 26%. Since prices hit bottom on 21 September, they have climbed again. The S&P 500 index is now almost 5% higher than just prior to the terrorist attacks, due in particular to developments in technology shares. The prolonged decline in the US stock market must be seen in the light of expectations about weaker growth and reduced earnings in listed companies.

Information from the options market indicates that the uncertainty is greater now than half a year ago (see Chart 2.2). In connection with the terrorist attacks, implied volatility rose sharply, but the level is now approximately at the historical average for the last three years. Market participants' estimates for listed companies' future earnings indicate nevertheless that they believe that the recession will be brief and that earnings will rise again quickly (see Chart 2.3).

Developments in the European stock markets have largely shadowed developments in the US the last year. Since May of this year, however, the European markets have fallen more sharply than the US market, despite a more positive growth outlook for Europe, compared with the US. The correlation with the US stock market may be explained in part by the fact that large European companies are vulnerable to

Terrorist attacks in the US – immediate effects on the financial sector

The terrorist attacks in the US on Tuesday, 11 September 2001, had both direct and indirect effects on the financial sector.

Many key participants in the financial sector, particularly in securities markets, were directly affected by the attacks inasmuch as they leased considerable office space in the World Trade Center (WTC).

The terrorist attacks occurred before the US stock market would have opened. The stock exchanges were technically unable to open. The American Stock Exchange (AMEX) is located very close to the WTC, while the New York Stock Exchange (NYSE) is located in lower Manhattan. The US supervisory authorities immediately decided that the stock market should remain closed until Thursday, 13 September. Trading in the US derivatives market was also halted.

Trading in the US bond market was suspended during the morning of 11 September because many key participants were unable to participate. Trading in the government bond market was resumed on Thursday, 13 September. The market was characterised by poor liquidity the first few days after reopening.

The stock exchanges NYSE, Nasdaq and AMEX opened again on Monday, 17 September, after being closed for the longest period since the Second World War. In connection with the reopening, a number of measures were introduced to enable the market to function. Among other things, companies were given expanded rights to buy their own shares. Moreover, the Federal Reserve lowered its key rate by 50 basis points to 3% before the stock exchange opened. The reopening of the US stock market took place without problems, but prices fell by 5% the first day.

In Europe, no stock exchanges were closed, but trading in shares primarily quoted in the US were suspended in many countries, including Norway. As long as the US stock market was closed, purchases and sales of units in unit trusts with US equities were suspended because it was impossible to provide a correct valuation of the units.

The reduced activity in USD-based markets created a shortage of dollar liquidity. In order to ensure sufficient dollar liquidity in the foreign exchange market, the Federal Reserve entered into currency swaps with a number of foreign central banks.

The Depository Trust Corporation, which is responsible for clearing, settling and registering US

securities, remained open throughout the period. However, there were some problems in connection with the fact that Bank of New York, which handles clearing and settlement for a large portion of the government bond market, had to relocate its offices. In order to prevent any problems in securities settlements, longer than normal settlement periods were agreed in many cases in the days following the terrorist attacks. One reason that this was possible was that market participants had confidence in the counterparty's ability to settle.

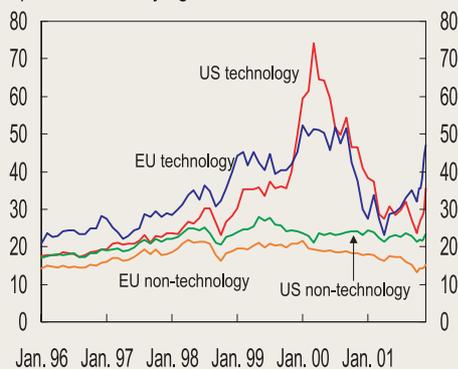
The authorities in both the US and other countries attempted to ensure that financial markets, including payment systems, would function satisfactorily under the prevailing conditions. Among other things, considerable extraordinary liquidity was supplied. On Wednesday, 12 September, Norges Bank issued a press release stating that the Norwegian payment system would be open as usual and that no problems in the system were expected as a result of the terrorist attacks. Moreover, Norges Bank announced that the Bank would as usual ensure that the banking system's NOK liquidity was sufficient. All in all, the financial sector functioned without major problems in this period. The authorities' measures and the willingness to cooperate between participants and between participants and the authorities contributed to this.

The indirect effects of the terrorist attacks were immediate changes in prices in stock, bond and foreign exchange markets as a result of altered perceptions concerning the economic outlook.

The most important international stock markets fell substantially up to Friday, 21 September. Nevertheless, the decline cannot be characterised as panic-driven since there were considerable differences across industries. In the US, airlines, hotels and insurance companies showed a particularly sharp fall.

The uncertainty in financial markets, measured by implied volatility for the stock market and yield spreads in the bond market, increased markedly following the terrorist attacks (see Charts 2.2 and 2.5). Bond yields and the dollar exchange rate fell slightly, while gold and the Swiss franc to some extent functioned as a safe haven. The exchange rate effects were relatively limited.

Chart 2.4 P/E ratios for technology and non-technology shares based on earnings in past 4 quarters. Weekly figures, Jan. 1996 – Nov 01



Source: Datastream

changes in demand in the US economy, especially through their US subsidiaries. The spread of confidence effects from the US to Europe probably plays a significant role as well.¹

In the US and Europe, the decline has at times been driven by strong price corrections in the ICT sector. From March 2000 to March 2001, US ICT shares fell by more than 50%. At its peak, the market value of the ICT sector accounted for as much as 45% of the US stock market, although value added in the sector only accounted for 9% of value added for the entire enterprise sector in 1997. At the end of October this year, the sector accounted for approximately 25% of total market capitalisation in the US stock market. Developments are also reflected in the P/E ratio in the ICT sector compared with the rest of the stock market (see Chart 2.4 and separate box).

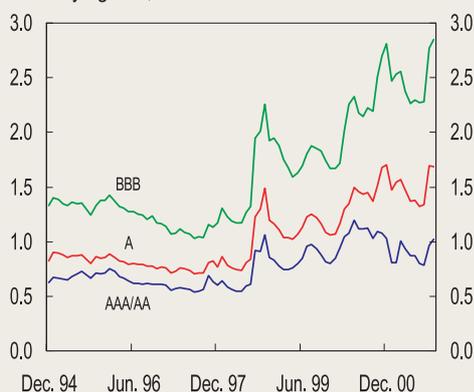
Lower interest rates and a reduction in lending growth

The deterioration in the economic situation has led to slower credit growth in many countries. In the US, total credit to the private sector rose by 7¼% in the first half of 2001, down from 8½% in 2000. Continued high demand for dwellings and other consumer durables have contributed to sustaining the demand for loans in the household sector. In the euro area, the 12-month growth in lending to the private sector was 6.9% in September, down from a growth rate of more than 10% in 1999 and 2000. In Japan, on the other hand, banks' loans to the private sector continue to fall at an annual rate of more than 2%, despite an expansionary monetary policy.

The interest rate cuts in the US and Europe have reduced the costs of short-term fixed-interest loans. Long-term interest rates have fallen less. In addition, the yield spread on bonds has widened (see Chart 2.5).

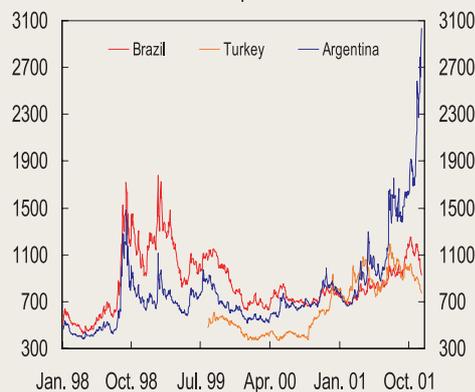
So far, the cyclical downturn has not resulted in extensive defaults. A survey conducted by the supervisory authorities in the US show, however, that the share of syndicated loans considered to be doubtful rose to 9.4% of all syndicated loans in the second quarter of 2001.² This was an increase from 5.1% a year ago, but is still far below the peak level of 16% from the previous downturn.

Chart 2.5 Yield differential against government bonds for various bonds with credit risk in the US. Monthly figures, Dec. 1994 - Oct. 2001. Per cent



Source: Salomon Smith Barney

Chart 2.6 Yield differential against US government bonds for government foreign currency loans to selected emerging economies. Daily figures, 01.01.98 -19.11.01. Basis points



Source: JP Morgan

Developments in emerging economies

Emerging economies are affected by slower growth in industrialised countries and an increased risk aversion among investors. Hardest hit are countries with large foreign debt, such as Argentina, Brazil and Turkey. The risk premium on dollar loans to the Argentinian government has been more than 30 percentage points recently (see Chart 2.6). Combined with weak deflation, this leads to very high real interest rates. The country's banks are highly capitalised, but fear of problems in the banking sector induced customers to

¹See the box in Norges Bank's *Inflation Report* 1/2001, pp. 16-17.

²A syndicated loan is a loan provided by a group of banks.

Indicators of price levels in the stock market

It is normal to assume that the price of a share is equal to the discounted value of expected future dividends. However, there is uncertainty connected with the calculation of value. Both the discount factor and the value of future dividends, which are included in the calculation, are uncertain. The discount factor is affected by the risk-free interest rate and market participants' risk preferences. The value of future dividends is influenced by market participants' expectations. Therefore, at a given point in time, it is difficult to determine whether the share price is "correct". Certain indicators may, however, provide useful information about the relationship between share prices and fundamental factors that affect stock market pricing.

A frequently used indicator is the ratio of market value to companies' total earnings, ie the Price/Earnings (P/E) ratio. Companies' total earnings provide the basis for current dividend payments and growth in future dividends. By studying the P/E ratio, the price level can therefore be seen in relation to companies' underlying earnings. The interpretation of the P/E ratio depends on whether historical values or estimates for dividends and earnings are used.

The ratio of total market capitalisation of the stock market in a country to the country's GDP may also be used as an indicator of the price level in the stock market. If we interpret GDP as the total return on companies' capital, the historical trend in this ratio would provide an indication of whether the price level in the stock market is sustainable.

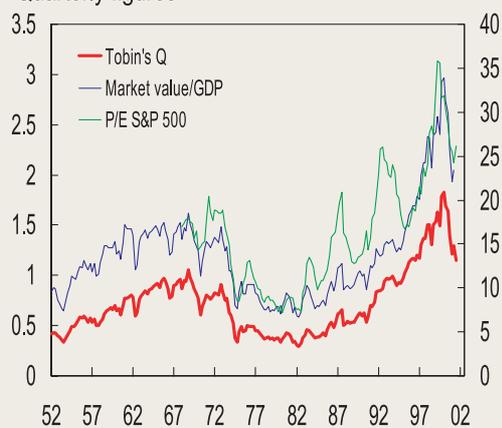
Comparisons of a company's market capitalisation and the replacement cost of the company's assets minus debt are often used to assess the price of a company's shares. This ratio is called Tobin's Q.

If total market capitalisation exceeds the replacement cost, this may indicate that the market is priced at a high level. This may lead to an increase in companies' fixed investment so that the price of capital goods goes up. The difference between the market price and the replacement cost will then fall.

Otherwise, it is assumed that fixed investment is postponed and that the number of company acquisitions increases. This leads to an increase in the price of companies so that the difference between replacement cost and market price is reduced. It can be argued that Tobin's Q should be equal to one in a long-term equilibrium solution.

Chart 1 shows developments in the three indicators for the US stock market during the last fifty years. In the third quarter of 1999, all three indicators showed historical highs. At that time, the P/E ratio of the US stock market was 36. During the first quarter of 2000, the value of Tobin's Q was 1.8. Market capitalisation of the stock market for non-financial enterprises was nearly three times GDP. Since then, all three indicators have fallen somewhat, but the level is still well above the averages for the last fifty years.

Chart 1 Tobin's Q and the ratio of market value to GDP in the US ¹⁾ 1952 - 2001 (left-hand scale) and the P/E ratio ²⁾ 1968 - 2001 (right-hand scale)
Quarterly figures



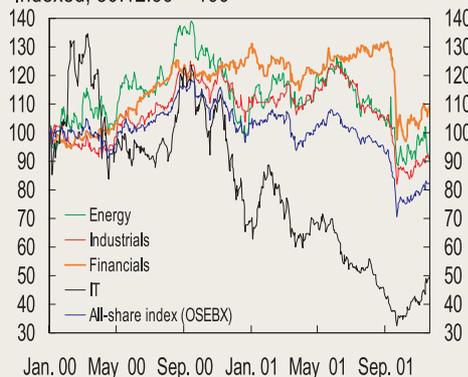
¹⁾ Market value based on S&P Industrials, Replacement cost and value added for non-financial enterprises

²⁾ Based on earnings in last four quarters

Sources: Federal Reserve, Bureau of Economic Analysis and Datastream

withdraw deposits this summer. At the beginning of November, the Argentinian authorities announced that they wished to renegotiate parts of the foreign currency debt amounting to USD 132 billion. The goal is to reduce the budget deficit by reducing the central government's interest expenses by USD 4 billion.

Chart 2.7 Sub-indices on the Oslo Stock Exchange. Daily figures, 30.12.99 - 20.11.01. Indexed, 30.12.99 = 100

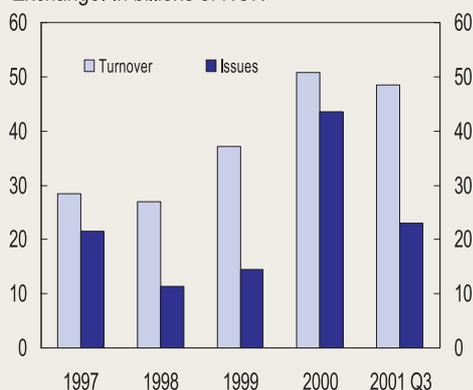


Source: EcoWin

Listing of Statoil

An important event on the Oslo Stock Exchange this year was the listing of Statoil in June. When Statoil was partially privatised prior to the introduction on the stock exchange, 78% of the shares offered were sold to foreign investors. With a market value of about NOK 128 billion as of 20 November, Statoil is the largest company on the Oslo Stock Exchange and about 40% larger than the second largest company, Norsk Hydro. 18.2% of the shares in Statoil may be traded freely. The rest are government-owned.

Chart 2.8 Average monthly share turnover and annual volume issued over the Oslo Stock Exchange. In billions of NOK



Source: Oslo Stock Exchange

After the Russian government defaulted on its loans in the autumn of 1998, the risk premium on foreign currency loans was more than 70 percentage points. Russia has still not renegotiated all of its loans. The agreements that have been made have substantially reduced debt. Strong economic growth, strengthening of government finances and lower inflation have renewed confidence in Russia's debt-servicing capacity. The risk premium is currently lower than for the average of emerging economies.

The countries in Asia are particularly affected by declining demand for computer equipment. Although economic developments are very weak, there is no sign of financial unrest so far.

2.2 Securities markets in Norway

The stock market

Since prices peaked on 25 May 2001, the all share index on the Oslo Stock Exchange has fallen 24% as of 20 November. The Norwegian market fared better than the markets in Europe and Japan through the summer. After the terrorist attacks in the US on 11 September, the Norwegian market performed less favourably; the decline after the attacks was sharper and the subsequent rebound somewhat weaker than in most other countries (see Chart 2.1). Developments are only partially explained by the fall in the oil price since the energy index, which includes Statoil and other oil-related companies, performed better than the all share index to the middle of November. A sharp drop in prices for Storebrand and DnB contributed to the marked decline in the financial index in September (see Chart 2.7).

Turnover in the stock market has gone down so far this year compared with last year (see Chart 2.8), in part due to a lower price level. Periods of lower share prices also affect the volume of new share issues. If we disregard the new share issues in connection with the partial privatisation of Telenor last year and Statoil this year, the volume of new share issues on the Oslo Stock Exchange has fallen from a good NOK 25 billion in 2000 to about NOK 10 billion so far this year. Since this summer, activity in the new issue market has been limited.

We have compared the Oslo Stock Exchange with other stock exchanges during the periods autumn 1987, summer-autumn 1992, summer-autumn 1998 and September 2001 (see Chart 2.9). The first and last periods may be characterised as periods of market shock, with a sharp fall in prices over a short period, while the other two periods were marked by a strong decline in prices over a prolonged period. Compared with stock markets in other small, open economies, the Oslo Stock Exchange has recorded the most substantial decline in prices in three out of four periods. One reason may be that the Oslo Stock Exchange has a large number of commodities-based companies with volatile earnings, such as the smelting industry, and relatively few companies with more stable earnings, such as energy and pharmaceutical companies.

Reduced investments in securities funds this year

Due to falling share prices and increased uncertainty, net subscriptions in securities funds in the first three quarters of 2001 have dropped by 75% compared with the same period last year (see Chart 2.10). Total net subscriptions in the period were less than NOK 4.1 billion. There were net redemptions in both unit trusts and bond funds.

Combined total assets in the securities funds have declined by 10% so far this year, and as of 30 September amounted to NOK 128 billion. As of 30 June 2001, the household sector's share of total assets was 52%. Institutions' share has increased in recent years due to an increase in net subscriptions by institutional investors and to the fact that households have a considerable share in unit trusts that have declined substantially in value.

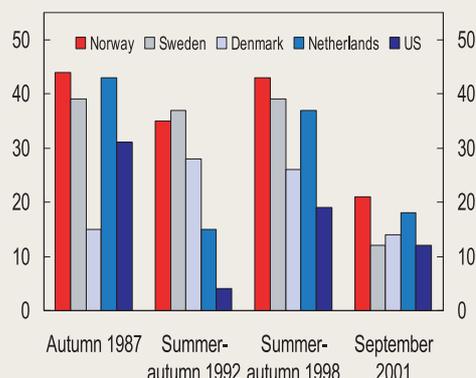
Market risk in Norwegian financial institutions

Norwegian banks' shareholdings are very small, while holdings of bonds and short-term paper are somewhat larger (see Table 2.1). Estimated interest sensitivity for the bond portfolio indicates that interest-rate risk in banks' trading portfolios is low. Use of hedging instruments further reduces the risk. Thus, banks' market risk is relatively small. The market risk may also be measured by using Value at Risk (VaR) models. VaR models take into account recent price fluctuations in bond and stock markets and assume that they are representative of market fluctuations in the immediate future. Based on a simple VaR model, there is less than 1% probability that the value of the banking sector's securities holdings will fall more than 2.5% during a two-week period.

Insurance companies have considerable holdings of shares and interest-bearing securities (see Table 2.1). The equity share in life insurance companies has declined by 11.2 percentage points since the beginning of the year, while the bond share has risen by 8.3 percentage points. Total assets amounted to NOK 383 billion at the end of the third quarter. Buffer capital³ fell through the year to 3.8% of total assets at the end of August. Due to the decline in share prices in September, buffer capital declined further. Extensive share sales in order to satisfy capital adequacy requirements could have reduced customers possibilities to achieve satisfactory returns in the long run and intensified the decline in the Norwegian stock market. To avoid this, the authorities adjusted the rules at the end of September. At the end of the third quarter, life insurance companies' buffer capital came to about NOK 10 billion. After the decline in the securities market, several life insurance companies have strengthened their capital. The rise in prices in the stock market in October and so far in November has also contributed to strengthening buffer capital.

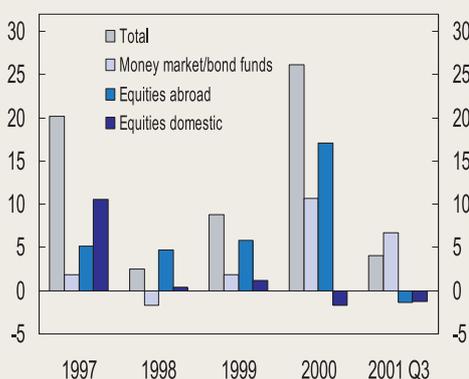
³ Buffer capital consists of capital in excess of 8%, additional provisions and an adjustment fund.

Chart 2.9 Fall in share prices in selected countries in periods of market turbulence. Per cent



Source: EcoWin

Chart 2.10 Net subscription in securities funds in Norway, 1997 - 2001 Q3. In billions of NOK



Source: Norwegian Mutual Fund Association

Table 2.1 Share of total assets invested in securities at 30.09.01. Estimated interest rate sensitivity in the bond portfolio. Percentages

	Equities	Bonds and short-term paper	Interest rate sensitivity
Commercial banks	1.0	9.5	0.7
Savings banks	1.0	6.4	0.8
Life insurance	18.6	56.7	3.9
Non-life insurance	24.4	36.9	2.6

Sources: The Banking, Insurance and Securities Commission

3 | Macroeconomic developments and credit risk

3.1 The macroeconomic environment⁴

Until this autumn, the turnaround in the world economy had only limited effects on the Norwegian economy and Norwegian banks. The downturn was primarily linked to the technology industry, which accounts for a small share of the Norwegian business sector compared with many other countries. Moreover, the Norwegian technology industry is not very export-oriented and has a limited degree of bank financing.

The terrorist attacks on the US have amplified the international downturn. The downturn will also be felt in Norway. The travel industry and airlines have already been affected by growing caution among businesses and households. The volume of traditional merchandise exports has fallen. The same applies to prices for important Norwegian export goods, such as fish and aluminium. Earnings and activity levels in many enterprises may decline markedly next year as a result of the downturn.

At the same time, labour shortages in public and private services are expected to persist. The public sector will generate an increased stimulus to the Norwegian economy in the years ahead. Households have a solid financial position and income growth is expected to be strong over the next few years, providing scope for continued growth in private consumption. An increase in vacation days and low growth in the labour force will result in weak growth in the labour supply. The rise in labour costs and the deterioration in profitability are therefore expected to continue. All in all, mainland GDP is projected to increase approximately in pace with growth in capacity over the next two years.

The business sector will be facing structural challenges as a result of growing tendencies of a dichotomy in the economy. For several years, high growth in labour costs has contributed to weakening profitability. Continued pressures in the public sector and sheltered sectors of the economy are contributing to further shifts of economic resources from industries exposed to international competition.

This will also pose increasing challenges to the banking sector and may result in higher bank losses in the years ahead. This particularly applies to banks that have large loans to industries exposed to international competition.

In general, the scale of losses will depend on the adaptability of the Norwegian economy. The more easily production equipment, property and other fixed assets can be transferred to more profitable uses, the lower banks' losses will be as a result of adjustments. Banks that have large commitments to enterprises with fixed assets that are heavily tied to a specific activity will be most exposed to losses.

Table 3.1 Main macroeconomic aggregates (from *Inflation Report 3/01*). Percentage change from previous year

	2001	2002	2003
Mainland demand	1¾	2	2¼
Exports traditional goods	2¾	-1	3½
Mainland GDP	1¼	1½	1¾
GDP trading partners	1¼	1¼	2½

⁴ Assumptions regarding macroeconomic developments are based on Norges Bank's *Inflation Report 3/01*.

The adaptability of labour is also of considerable importance to banks. If those who become unemployed are swiftly hired by other enterprises, households will be able to maintain their income and debt-servicing capacity.

The scale of loan losses as a result of adjustments is not expected to be of a magnitude that will threaten the financial strength of the banking industry. The downside risk for Norwegian banks is largely associated with the depth of the downturn in the international economy, which will also weaken economic developments in Norway.

In addition to a sharp downturn, a pronounced fall in asset prices might threaten financial stability. These events often coincide in time. Equity markets have fallen sharply since peaking in spring 2000. However, the value of Norwegian households' shares and units in securities funds is limited (see Table 3.2). The fall in the value of households' holdings of equities and units in securities funds has thus far been more than offset by a further increase in housing wealth, which in general is far more important for households.

The oil price is of particular importance to Norway. Projections for the Norwegian economy are based on an oil price that continues to generate high revenues. There is considerable uncertainty concerning future oil prices. A substantial fall will result in more sluggish economic developments in Norway even though lower oil prices will stimulate demand in our export markets. Investment activity in the petroleum sector and supplier industry will be reduced. Household expectations concerning their own finances may be reduced, with a fall in house prices and reduced consumption growth as a result.

Various risks that are facing the financial system are assessed in this report. Credit risk constitutes the largest potential for losses. A severe downturn in the economy would increase the probability that losses associated with several types of risk will occur at the same time.

3.2 Credit developments

Outstanding credit to the public in mainland Norway (households, non-financial enterprises and municipalities) has increased considerably since the mid-1990s. At the end of 1995, total outstanding credit from domestic and foreign sources to mainland Norway came to 128% of mainland GDP. At the end of the second quarter of 2001, this credit had increased to 163% of mainland GDP, or about NOK 1800 billion.

Both enterprises and households have contributed to the sharp growth in credit (see Chart 3.1). Credit from domestic sources to enterprises, measured as a share of mainland GDP, rose from 38% at end-1995 to 53% at the end of the second quarter of 2001. For households, the equivalent share increased from 71% to 79%. Municipalities account for a relatively modest share of total domestic credit even though the rate of growth in municipal borrowing has been very high the past year.

Table 3.2 Gross financial wealth, gross debt and housing wealth of households. Second quarter 2001

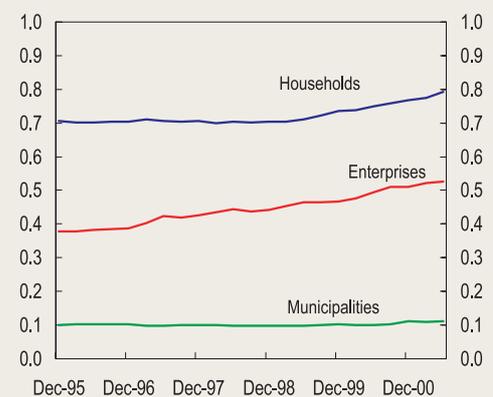
In billions of NOK	
Bonds and short-term paper	18
Equities and primary capital certificates	191
Securities funds	93
Insurance claims	462
Bank deposits	434
Other	147
Gross financial wealth	1345
- Gross debt	919
Net financial wealth	426
+ Housing wealth	1312
Total wealth	1738

Memo:
 Present value at 01.01.2000 of future gov't cash flow from the petroleum sector¹⁾ 2325
 Value of the Petroleum Fund at 2001 Q2 523

¹⁾ Source: Storting Report no. 30 (2000-2001): The Government Long-Term Programme 2002-2005

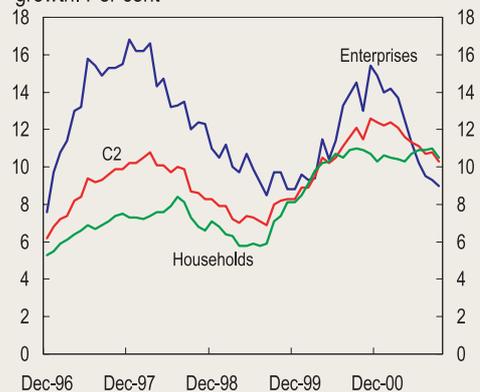
Source: Norges Bank

Chart 3.1 Credit from domestic sources to households, enterprises and municipalities. Share of mainland GDP



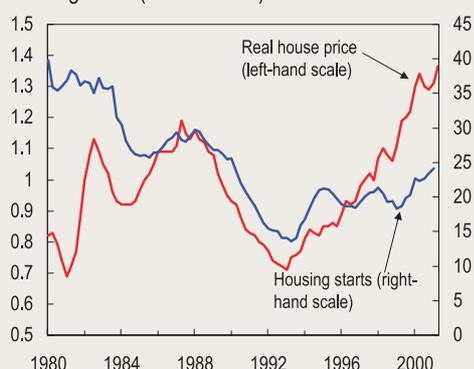
Source: Norges Bank

Chart 3.2 Credit from domestic sources to households and enterprises (C2). 12-month growth. Per cent



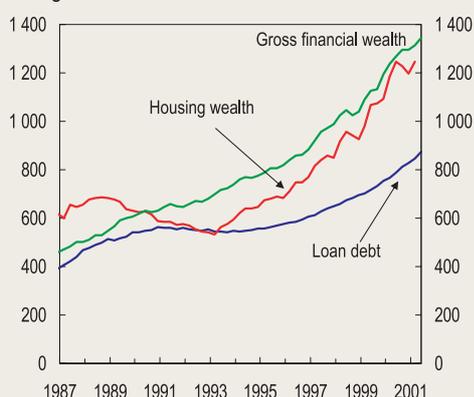
Source: Norges Bank

Chart 3.3 Real house prices (index, 1997 = 1) and housing starts (in thousands)



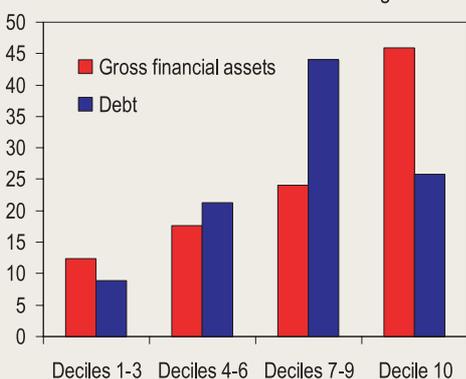
Sources: Statistics Norway and Norges Bank

Chart 3.4 Household loan debt, housing wealth and gross financial wealth. In billions of NOK



Source: Norges Bank

Chart 3.5 Share of debt and gross financial assets in various income deciles¹⁾ in 1999. Percentage of total



¹⁾ Households are divided into 10 equal-sized groups according to increasing income. Decile 1 is the 10 per cent of households with lowest income, etc.

Source: Statistics Norway

The 12-month growth in credit to households came to 10.5% at end-September 2001 (see Chart 3.2). The rate of growth has been more than 10% for 18 months. The rate of growth in loans to enterprises has been very high in periods, but has slowed markedly the past year and is now lower than growth in credit to households. At end-September, the 12-month growth in credit to enterprises was 9.0%. Credit to municipalities grew by 15.8%.

3.3 Credit risk associated with loans to the household sector

Continued high growth in debt...

Household debt is still growing rapidly. One reason for this is the sharp rise in house prices (see Chart 3.3). Higher house prices result in increased borrowing requirements for house purchases. At the same time, the rise in house prices boosts the housing wealth of households, and hence their possibilities for borrowing, as dwellings are often used as collateral. This situation may lead to a price-credit spiral driven by expectations of a further rise in prices.

Debt has risen at a faster pace than disposable income since the third quarter of 1999. This will place increased demands on income growth in the period ahead. Loan repayments should generally be covered by disposable income. If borrowing is used to accumulate liquid wealth, it will be possible to use this when loans are to be repaid.

The household saving ratio has remained high for several years and increased further in 2000. Total gross fixed and financial investments were thus higher than borrowing in 2000. This means that an amount equivalent to all loans raised plus part of disposable income were used for fixed and financial investments. Households' fixed investment is generally equal to investment in new dwellings. The continued sharp rise in the number of housing starts in the first eight months of 2001 indicates that fixed investment has continued to increase this year. Gross investments in financial assets levelled off in the first half of 2001 at a little less than NOK 100 billion, measured as the sum of the last four quarters, after having increased sharply for several years.

Traditionally, banks have exercised caution in extending credit for investments in financial assets. The sharp rise in debt nevertheless appears to have been used to finance both fixed and financial investments. The explanation for this may be that households raise new loans or increase their loans on the basis of rising housing wealth and refrain from repaying loans when part of the increase in housing wealth is realised.

...but wealth is also increasing

Positive investments in fixed and financial assets in recent years have resulted in an increase in household wealth in the form of fixed and financial assets (see Chart 3.5).

Gross financial wealth increased at a particularly sharp rate after 1998. A large part of the increase in wealth reflects a higher market value for securities. The all-share index of

the Oslo Stock Exchange fell by 23½ % in the third quarter of this year. On the basis of the fall in value as a result of the drop in securities prices in autumn 1998, the decline this autumn may reduce the value of households' securities holdings by about NOK 30 billion.

Financial wealth is largely concentrated in high-income households: in 1999, 10% of households with the highest income accounted for more than 45% of households' total gross financial wealth. Debt is also unequally distributed among households, but to a lesser extent than gross financial wealth. Net financial wealth is therefore also unequally distributed. The unequal distribution is also evident when we look at different age groups (see Chart 3.6). Younger age groups have on average negative net financial wealth. The difference between younger and older age groups has widened over the past ten years.

All in all, households have accumulated net financial wealth of more than NOK 400 billion. Financial wealth, to the extent that it can be used when required, will serve as a buffer for servicing debt in the event of lower growth or a fall in income. If wealth is adjusted for insurance claims, which are not very liquid and cannot be used to the same extent if households should experience problems in servicing their debt, financial wealth is negative.

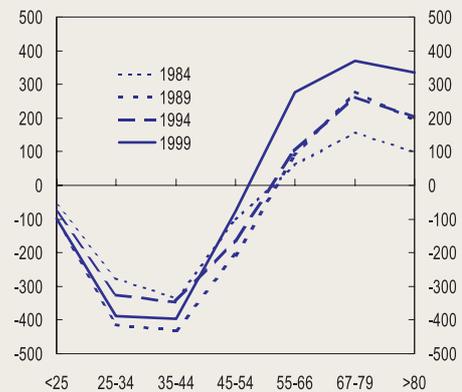
Reduced ability to withstand strong economic downturn

The sharp growth in household debt over the past two years has led to an increase in the debt burden (debt as a percentage of disposable income) (see Chart 3.7). Over the past six months, the debt burden has increased further, approximately in line with the projections in the baseline scenario in the previous report. The high level of borrowing also contributes to an increase in the interest burden (interest expenses as a percentage of cash income, i.e. disposable income before deducting gross interest expenses) (see Chart 3.8). The interest burden in the baseline scenario is somewhat lower than in the spring report as a result of some upward revisions in the estimates for growth in household disposable income in the period ahead.

A higher debt and interest burden has weakened the household sector's ability to withstand macroeconomic shocks which result in higher unemployment or a higher interest rate. With a sharp reduction in income, households will have to cut back on consumption and reduce debt. If households experience problems in repaying their debt, this may increase banks' losses on loans to households. Banks' losses may also increase if earnings in enterprises are reduced as a result of lower private consumption.

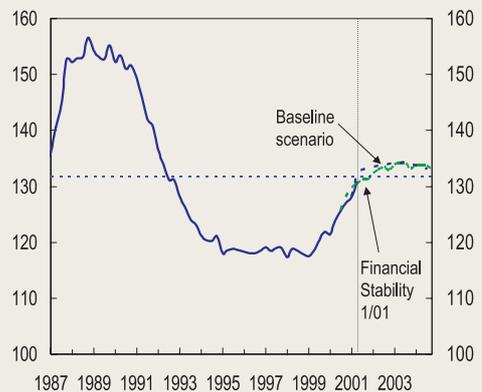
Developments in credit risk associated with loans to the household sector are thus closely related to general economic developments. The financial position of households influences the earnings potential of enterprises and hence credit risk associated with loans to enterprises. The economic outlook for households is favourable but more uncertain than it was six months ago. Credit risk is deemed to have increased

Chart 3.6 Households' average net financial assets for various age groups. In 1000s of 1999 NOK



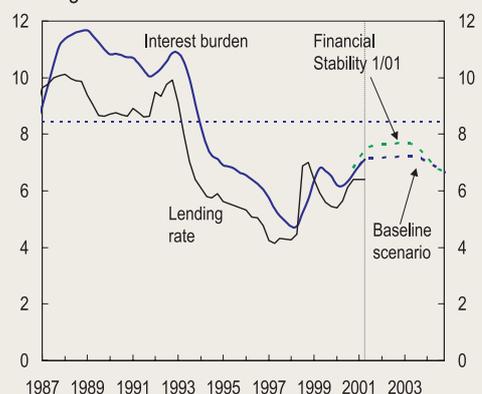
Sources: Statistics Norway and Norges Bank

Chart 3.7 Household loan debt as a percentage of disposable income in the last four quarters



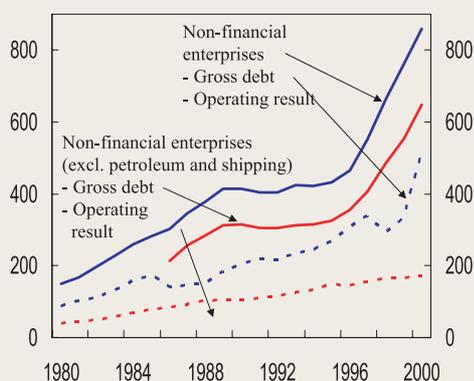
Source: Norges Bank

Chart 3.8 Household interest expenses after tax as a percentage of cash income, and banks' average lending rate after tax



Source: Norges Bank

Chart 3.9 Gross debt and operating result in enterprise sector. In billions of NOK



Source: Norges Bank

further over the past six months. Both the debt and interest burden have continued to rise. Moreover, uncertainty about future developments has increased. All in all, credit risk is nevertheless still considered to be relatively low.

3.4 Credit risk associated with loans to the enterprise sector

Continued high debt growth, but signs of slowing...

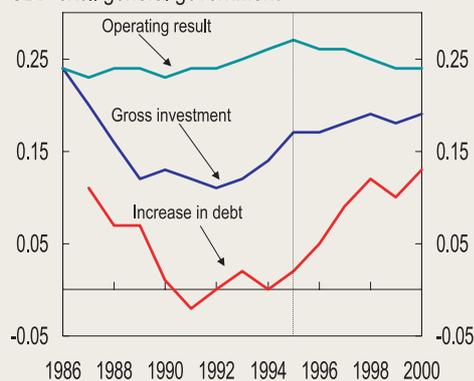
Debt in the enterprise sector has increased considerably over the past 5-6 years following relatively moderate growth at the beginning of the upturn in the 1990s. Mainland enterprises in particular have accounted for the sharp increase in borrowing (see Chart 3.9). Gross loan debt in these enterprises has doubled since 1995, to a little more than NOK 600 billion.

The strong growth in debt is closely related to investment growth in enterprises. A steadily higher portion of debt in the enterprise sector is being used for investments in financial assets (see separate box). Fixed investment also rose sharply in the 1990s. Growth in fixed investment has slowed since 1995, while borrowing continued to increase up to the last part of 2000 (see Chart 3.10).

Growth rates for borrowing have slowed since November 2000. At end-September 2001, the 12-month growth in credit from banks came to 6.1% after having remained between 15 and 20% in the second half of 2000 and beginning of 2001. There are considerable differences across industries, which seem to underpin the impression of a dichotomy in the economy (see Chart 3.11). Sheltered industries, such as retail trade and services, are largely maintaining relatively high growth rates, while industries exposed to international competition, for example manufacturing, have sharply reduced credit growth this year.

Operating profits in non-financial enterprises, excluding oil and shipping, have shown far more moderate growth than changes in debt. The debt burden has thus increased and is now higher than it was at the end of the 1980s.

Chart 3.10 Operating result, gross investment and increase in debt in non-financial enterprises excl. petroleum and shipping. As a share of mainland GDP excl. general government



Source: Norges Bank

Slight increase in risk-weighted debt in 2000...

In spring 2001, Norges Bank developed a new credit risk model that predicts bankruptcy probabilities for enterprises as a function of, among other things, corporate earnings, liquidity and financial strength (equity ratio).⁵ According to the model, the bankruptcy probability of a typical enterprise (median enterprise) was approximately unchanged from 1999 to 2000 (see Chart 3.12).

The reduction in bankruptcy probability through the 1990s primarily reflects solid corporate earnings over several years. This contributed to improving enterprises' liquidity and equity ratio. A rising equity ratio indicates that a steadily smaller portion of corporate investment is debt-financed.

Chart 3.11 Banks' lending to enterprises, by industry. 12-month growth



Source: Norges Bank

⁵ See *Economic Bulletin* 3/01 for a presentation of the model.

Despite a continued sharp rise in debt, risk-weighted long-term debt⁶ rose only marginally from 1999 to 2000. One reason for this is that the equity ratio increased in many enterprises in 2000. Moreover, enterprises with a high bankruptcy probability account for a steadily smaller share of long-term debt in the enterprise sector.

Risk-weighted debt increased in a number of industries in 2000 (see Chart 3.13 and 3.14). The fisheries industry, tourism, IT enterprises and the shipbuilding industry showed the sharpest increase. With the exception of the fisheries sector, these industries account for a small share of total risk-weighted debt. In isolation, the greatest cause of concern relates to the increase in risk-weighted debt in retail trade and property management, which are the two industries that have the most risk-weighted debt

...and lower earnings

Weaker earnings are the first indication that enterprises are beginning to experience financial problems. A moderate decline does not increase bankruptcy risk to any extent. If the decline is considerable and persists, enterprises' liquidity and financial strength will come under pressure.

An enterprise normally uses 5-10 years to repay its long-term debt. It is therefore not unreasonable to assume that earnings after interest expenses and tax should amount to a minimum 10% of long-term debt if the enterprise is to be able to service its debt without major problems. In industries where enterprises generally have a longer maturity for debt (for example, property management), the earnings requirement each year will be lower than for the average industry. In 2000, total earnings in the enterprise sector came to 14.6% of total long-term debt, down from 15.7% in 1999. Earnings deteriorated in a number of industries from 1999 to 2000, and in 2000 were at a low level in relation to debt obligations in several industries.

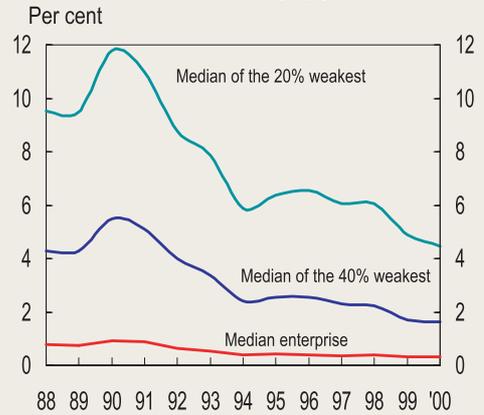
The return on total assets (earnings as a percentage of total assets) was reduced from 1999 to 2000 in all the industries analysed. The reduction was greatest in IT enterprises, telecommunications, the shipbuilding industry and the fisheries sector. In 2000, the return on total assets varied from 1% in the telecommunications industry to about 11% in the construction sector and transport industry.

Small regional differences

Risk-weighted debt is largely concentrated in retail trade and property management in the most populated counties. However, the less populated counties increased their share of risk-weighted debt in 2000. Even though enterprises in some counties and industries have a relatively small share of total risk-weighted debt, some banks may be exposed.

⁶ That is, the bankruptcy probability according to Norges Bank's credit risk model multiplied by debt in each enterprise and adding them up for all enterprises. This can be interpreted as an estimate of expected loan losses given that collateral is not realised.

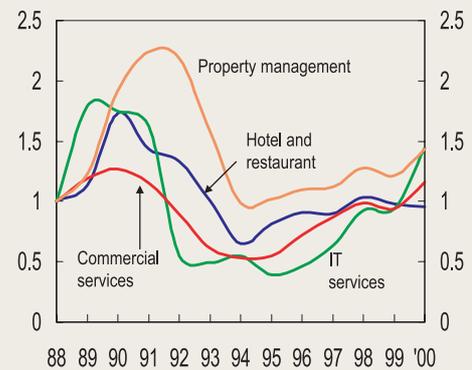
Chart 3.12 Predicted bankruptcy probabilities.¹⁾



¹⁾ Probability of the enterprise ceasing to deliver accounts and going bankrupt. Limited companies excluding enterprises in the oil and gas industry, financial industry and public sector.

Source: Norges Bank

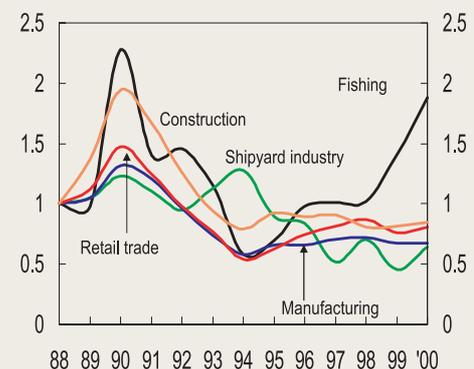
Chart 3.13 Risk-weighted debt¹⁾ in selected service industries. Index, 1988=1



¹⁾ In 2000-NOK

Source: Norges Bank

Chart 3.14 Risk-weighted debt¹⁾ in selected production-based industries. Index, 1988=1



¹⁾ In 2000 NOK

Source: Norges Bank

Table 3.3 Earnings as a percentage of long-term debt in selected industries¹⁾

	1990	2000	2001 ²⁾	2001 ³⁾
Primary industries (excl.fishing)	5.1	21.3	19.1	17.2
Fishing	-3.4	24.6	22.1	19.9
Fish-farming	-5.2	42.6	38.4	34.5
Shipyard industry	14.3	18.3	16.5	14.9
Other manufacturing	19.1	36.9	32.4	29.1
Utilities	10.5	10.3	9.3	8.3
Construction	5.1	21.5	19.4	17.4
Retail trade	8.0	17.6	15.8	14.3
Hotels, cafes and restaurants	0.2	8.9	8.1	7.3
Shipping	12.1	7.6	6.9	6.2
Transport	11.1	14.1	12.7	11.5
Telecoms	98.2	14.9	13.5	12.1
IT	8.1	1.3	1.2	1.1
Commercial services	7.1	5.8	5.2	4.7
Travel and tourism	6.1	12.5	11.3	10.2
Property management	0.7	6.7	6.0	5.4
Total	9.8	14.6	13.1	11.8

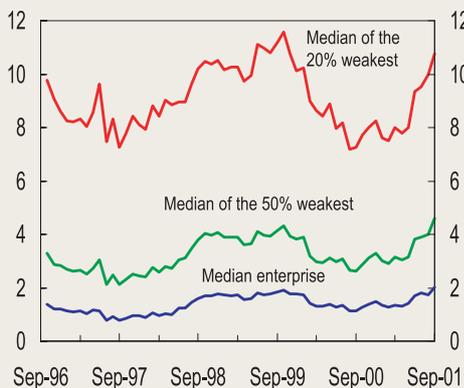
¹⁾ Only enterprises with long-term debt and/or bank overdrafts.

²⁾ Assuming the same earnings as in 2000 and an 11% increase in debt.

³⁾ Assuming a 10% reduction in earnings and an 11% increase in debt.

Source: Norges Bank

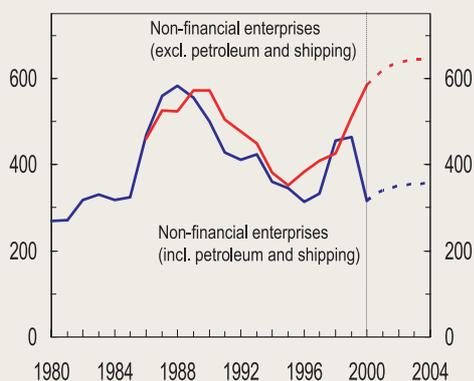
Chart 3.15 Estimated probability of bankruptcy (EDF) for large non-listed enterprises. Per cent



¹⁾ Non-financial, unlisted enterprises with a turnover of more than NOK 70 million

Source: KMV Corporation

Chart 3.16 Interest-bearing debt in non-financial enterprises as a percentage of cash surplus¹⁾ excl. interest expenses



¹⁾ Cash surplus = Value added - labour costs + capital income

Sources: Statistics Norway and Norges Bank

Møre og Romsdal, Hordaland, Rogaland, Vest-Agder, Østfold, Vestfold and Telemark have a relatively large number of export-oriented industries. Enterprises in these counties may be particularly vulnerable in the event of an international downturn.

Risk-weighted debt has shown very similar developments in all counties since the end of the 1980s. This indicates that the potential for regional risk diversification is fairly limited. Charts 3.13 and 3.14 also indicate that there is little potential for risk diversification across industries in Norway.

Outlook for a further decline in earnings in 2001

Negative developments in the third quarter of this year, as well as the weak outlook for the remainder of the year, provide grounds for assuming that earnings will decline further in 2001. If earnings are reduced by 10%, and the high level of borrowing is maintained, earnings will on average amount to 11.8% of long-term debt at the end of the year, compared with 14.6% in 2000 (see Table 3.3). The situation will nevertheless be better than at the beginning of the 1990s when corporate earnings only came to 9.8% of long-term debt. Even if the level of earnings from 2000 is maintained, a number of industries at the end of 2001 will have earnings that are lower than 10% of long-term debt if the level of borrowing is maintained.

Calculations made by KMV Corporation based on equity prices and accounts data show a considerable increase in the bankruptcy probability for unlisted enterprises in 2001 (see Chart 3.15). The increase has taken place in recent months. This demonstrates that enterprises' debt-servicing capacity is vulnerable to a fall in earnings. Bankruptcy probability has also increased sharply for listed non-financial enterprises in recent months.

According to figures from Dun & Bradstreet, the number of payment notations so far this year has increased in relation to the same period last year. This is an indication that a growing number of enterprises are beginning to experience financial problems. Due to changes in the data supply, it is difficult to quantify the actual increase.

Developments ahead

Generally sound liquidity and the high equity ratio at the end of 2000 imply that the enterprise sector as a whole is still fairly solid. The outlook ahead, however, is less favourable. This is reflected in developments in enterprises' debt and interest burden in the period ahead (see Chart 3.16 and 3.17). In the estimates, it is assumed that debt growth in mainland enterprises slows in the years ahead and that earnings decline in line with developments witnessed so far in 2001. This implies that the debt burden will remain high in the years ahead.

As a result of the strong increase in debt, enterprises must maintain high earnings in the years ahead to allow them to service their debt. Uncertainty concerning future economic

Enterprise investment and financing

Investments in financial assets account for a steadily higher portion of enterprises' total assets. At end-2000, financial assets constituted nearly 55% of total assets, up from 40% in 1990 (see Table 1). The main reason for this increase is that enterprises to a far greater extent than earlier invest in and provide loans to subsidiaries, associated companies and companies in the same group. Purchases of shares in other companies account for a far smaller portion of enterprises' total assets than in 1990. Enterprises also have a smaller share of intangible assets (see below) and fixed assets than was the case ten years ago.

Table 2 shows that a smaller share of enterprises' total assets is now financed by borrowing. In 2000, 64% of total assets were debt-financed, against 72% in 1999. However, the *nominal* debt of the average enterprise has risen sharply, a factor that places considerable demands on future earnings. A far smaller share of total assets is now based on short-term funding, indicating that liquidity in enterprises is generally better than it was at the beginning of the 1990s.

The increase in the equity ratio since 1990 has taken place through an increase in accumulated earnings and new equity. Reduced taxation of the return on equity is probably an important reason for this. At end-2000, 16% of enterprises had negative book equity, down from 17% in 1999 and 28% in 1990. There were relatively wide variations across industries. Nearly 33% of enterprises in the hotel and restaurant sector had negative equity at the end of 2000, while the figure for property management and the shipbuilding industry was 12%.

Smaller portion of intangible assets

The equity ratio is the explanatory variable in the credit risk model that is associated with the greatest uncertainty with regard to valuation. This is partly because goodwill and other intangible assets *can* account for a substantial share of equity. The value of these assets is based on expectations concerning future earnings, often many years ahead. There is normally less uncertainty regarding other assets.¹ It is realistic to assume that the smaller intangible assets are in relation to equity and the fewer the

number of enterprises that have intangible assets in the balance sheet, the less is the risk of forecast errors by the model, other things equal.

At the end of 2000, intangible assets accounted for only 3.7% of enterprises' total book assets, down from 10.1% in 1990 (see Table 1). Some large enterprises are very vulnerable to changes in valuations of intangible assets. However, the vast majority of enterprises have not recorded intangible assets in the balance sheet.²

Table 1 Enterprise sector¹⁾ assets. Percentage of total assets

	1990	1999	2000
Investments in fixed assets ²⁾	49.6	45.0	41.9
Investments in financial assets ³⁾	40.0	51.7	54.4
Intangible assets ⁴⁾	10.4	3.3	3.7
Total	100.0	100.0	100.0

¹⁾Norwegian limited companies excluding companies in the oil and gas industry, financial industry and public sector

²⁾Property, buildings, capital assets and inventories

³⁾Cash, bank deposits, accounts receivable, securities, and investments in and loans to subsidiaries, associated companies and companies in the same group

⁴⁾Goodwill, research and development, patents and deferred tax assets.

Source: Norges Bank

Table 2 Enterprise sector financing. Percentage of total investments

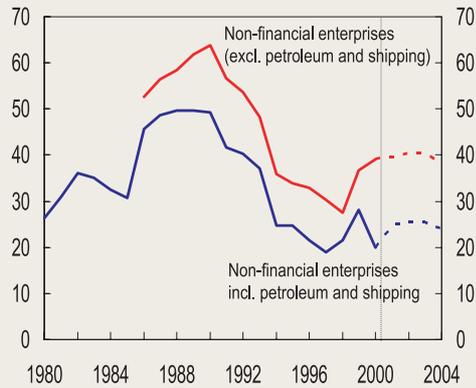
	1990	1999	2000
Short-term debt	35.5	30.1	28.5
Working capital facility	4.6	2.4	2.7
Accounts receivable	14.3	7.5	6.9
Unpaid taxes and excise duties	4.2	3.9	3.9
Other short-term debt	12.4	16.3	15.0
Long-term debt	37.3	34.4	35.3
Allocations for commitments	5.1	3.8	4.1
Other long-term debt	32.2	30.6	31.2
Equity	27.2	35.5	36.2
Paid up share capital	7.1	18.0	19.6
Retained earnings	20.1	17.5	16.6
Total	100.0	100.0	100.0

Source: Norges Bank

² At end-2000, only 6% of enterprises had intangible assets (excluding deferred tax assets) in the balance sheet, compared with 31% in 1990.

¹ There may also be considerable differences between book and market values of, for example, real property and production equipment. However, these assets have a "historical" value, which often makes it easier to arrive at a book value. The same largely applies to current assets and securities.

Chart 3.17 Interest expenses in non-financial enterprises as a percentage of cash surplus¹⁾



¹⁾ Cash surplus = Value added - labour costs + capital income

Sources: Statistics Norway and Norges Bank

developments has also increased. The risk of payment problems in enterprises and subsequent loan losses in banks is thus greater now than it was six months ago.

There is reason to be particularly aware of developments in industries that have a high risk-weighted debt and are also export-oriented. This particularly applies to the fisheries industry and fish farming as well as some manufacturing sectors (including metal goods and chemical products). The two industries with the highest share of risk-weighted debt, property management and retail trade, are to a lesser degree *directly* exposed to the international downturn. If the downturn extends over a longer period, these industries may also be affected to a sizeable extent. The risk of a deeper and more prolonged international downturn than currently envisaged does exist and the risk has increased in recent months. All in all, the risk associated with loans to mainland enterprises is considered to be higher than in the previous *Financial Stability* report.

4 Risk in payment and settlement systems

Large amounts are transferred daily between financial institutions, households, enterprises and other agents. As a result of the transfers, banks have substantial short-term claims on one another. The majority of Norwegian banks settle such claims in Norges Bank through Norges Bank's settlement system (NBO). Average daily turnover in NBO in the first ten months of 2001 was NOK 171 billion (see Chart 4.1). This is an increase of a good 25% compared with the same period in 2001.

Banks are exposed to various types of risk in payment and settlement systems. Credit risk and liquidity risk are regarded as the fundamental risk types. Analyses show that under normal circumstances, and following a number of risk-reducing measures by Norges Bank and the banking industry in recent years, there is limited credit and liquidity risk associated with domestic payments.⁷⁾ However, banks may be exposed to considerable liquidity and credit risk as a result of factors such as operational failure or positions taken in foreign exchange trades.

4.1 Operational risk

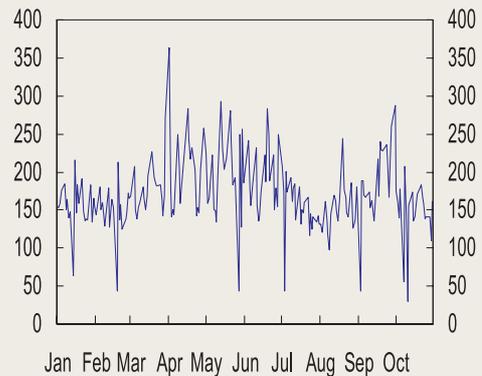
The disrupted operations at EDB Fellesdata earlier this year (see separate box) is an example of how dependent the financial sector is on efficiently functioning technological systems. The trend towards highly automated technology, the development of electronic commerce and the integration of computer systems to exploit the economies of scale offered by mergers and takeovers are all factors that may add to the scale and complexity of operational risk. In consequence, operational risk is increasingly defined and treated as a separate risk area, and more and more attention is being devoted to it, both nationally and internationally.

Pursuant to the Act relating to Payment Systems, Norges Bank is the authorising and supervisory authority for interbank systems. The authorisation requirement applies to systems of importance to financial stability. Authorisation is based partly on information concerning measures to safeguard technical operations, including contingency plans for disrupted operations if the ordinary system does not function. Since March 2001, three interbank systems have been granted authorisation pursuant to the Payment Systems Act.

As supervisory authority, Norges Bank is responsible for requiring that the systems have an organisation that assures the necessary operational reliability, and with respect to the event at EDB Fellesdata, has required more detailed reporting on abnormal situations and follow-up of such situations from the bank that is operator of the interbank system in question. Norges Bank and the Banking, Insurance and Securities Commission are also investigating the cause of the problems, while the banking industry itself is following up the event.

⁷⁾ See *Economic Bulletin* 1/01: "Risk in the Norwegian settlement system" and 3/01: "Do Norwegian payment systems satisfy the new BIS recommendations?"

Chart 4.1 Daily turnover in Norges Bank's settlement system (NBO) in 2001. In billions of NOK



Source: Norges Bank

The operational disruptions at EDB Fellesdata

On Thursday, 2 August, at 5.40 pm, all operations at EDB Fellesdata came to a halt. The loss of service caused serious problems in relation to ATMs, balance checking, internet banking, account information, telebanking and company terminals.

The clearing and settlement system for a number of small and medium-sized savings banks was also down. 114 savings banks and an estimated one million users were affected. It was over a week after the problem arose before all systems were back in normal operation on Friday, 10 August.

In this case, it proved possible to reconstruct transaction data, which helped to contain the financial consequences of the disrupted operations. Incidents of this type show that satisfactory contingency plans are important to prevent banks from incurring substantial costs as a result of operational failure.

Operational risk

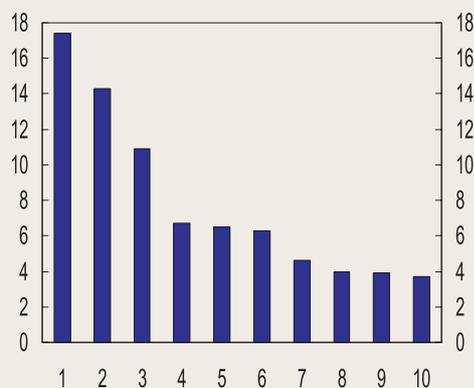
Operational risk is associated with factors such as inadequate procedures, disruptions in IT systems, infringement of rules, fraud, fire and terrorist attacks.

One of the reasons that methods for measuring and analysing operational risk are still poorly developed is that operational risk is difficult to define and quantify. The scale of operational risk will also vary between institutions, depending on their organisation and internal control systems, which makes data collection and comparison difficult. However, a survey carried out by the Basle Committee estimates that operational risk comprises between 15% and 25% of banks' total risk exposure.

An important goal in analysing operational risk is to decide how institutions can best reduce the probability of operational disruptions, and the extent to which institutions should have a buffer against such risk.

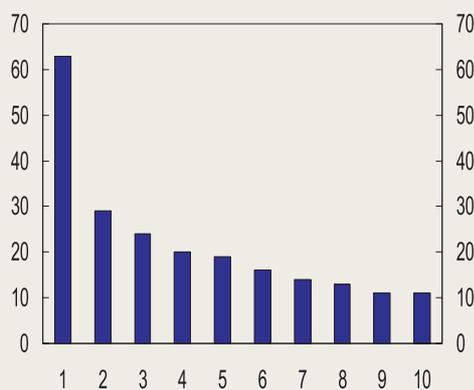
Work is currently in progress through the Basle Committee to formulate separate capital adequacy rules for operational risk in the banking sector. As a starting point for determining a minimum requirement for capital adequacy against operational risk, the Basle Committee in collaboration with the banking industry has concluded that a workable definition of operational risk is that it is risk of loss as a result of inadequate or unsuccessful internal processes, human error, systems failure or external events. In formulating the definition, it is important to take into account that the capital requirement must as far as possible reflect actual risk, and that measures to reduce risk must be "rewarded" with a less stringent buffer capital requirement. The current proposal from the Basle Committee presupposes that as they develop more sophisticated tools and methods for measuring operational risk, banks will use more advanced models to calculate the minimum capital adequacy requirement against such risk.

Chart 4.2 The ten most important counterparties in currency trading for the banks in the survey. Total exposure in billions of NOK



Sources: Banking, Insurance and Securities Commission and Norges Bank

Chart 4.3 The ten largest counterparty exposures in currency trading as percentages of core capital. Weighted average for the banks in the survey



Sources: Banking, Insurance and Securities Commission and Norges Bank

4.2 Risk associated with banks' foreign exchange trading

On average, Norwegian banks buy and sell foreign exchange for the equivalent of about NOK 120 billion each day. In currency trading, the parties settle their commitments in two independent national payment systems. This implies a risk for banks, since they normally deliver foreign currency that has been sold before receipt of the purchased foreign exchange has been confirmed. If one party does not meet its commitment, the counterparty may at worst incur a loss equivalent to the principal in the trade. Such risk is called Herstatt risk and means that banks' foreign exchange positions can be regarded as unsecured loans. The share of a foreign exchange position a bank ultimately loses if a counterparty becomes insolvent will depend on the estate in bankruptcy's treatment of the bank's dividend demands.

Norges Bank has obtained figures for banks' counterparty exposures in currency trading (see also box in Section 5). Six of the largest Norwegian banks have specified i) exposure to their ten main counterparties in various currency pairs and ii) total exposure to all counterparties in the various currency pairs on a given trade date. The study shows that banks' total exposure in connection with currency trading was a little over NOK 140 billion on this date. The more concentrated this exposure is to a few counterparties, the greater the risk. The largest total exposure of the Norwegian banking industry to a single counterparty was over 12% of overall exposure. This means that the Norwegian banking industry could have sustained a loss of about NOK 17.4 billion if this counterparty had become insolvent (see Chart 4.2). The corresponding figure for exposure to the 10 largest counterparties combined was NOK 78 billion.

By comparing banks' exposure with their core capital, it is possible to assess their ability to withstand a potential loss. In the most extreme case, a bank had an exposure of 120% of its

core capital to a single counterparty. However, Norwegian banks generally have smaller exposures to their main counterparties (see Chart 4.3). On average, the six banks would have lost a good 60 % of their core capital if the largest counterparty for each of these banks had been unable to settle, and if they had not received any dividend payment from the estate in bankruptcy. Such a loss would have made it difficult for some banks to fulfil the authorities' capital adequacy requirements, while a few other banks would still have complied with the requirements.

The probability of a counterparty being unable to settle its leg of a foreign exchange trade must be regarded as very low. A review of Standard & Poor's and Moody's ratings of the most important foreign counterparties shows that Norwegian banks generally trade with banks with high credit ratings. The short exposure time involved in foreign exchange trades also means that it is normally possible for banks to avoid trading with financially unsound counterparties (see separate box). There is therefore reason to assume that expected losses are low, even though exposures may be very high. However, the possibility of a major counterparty suddenly developing problems cannot be excluded, for example because it has been unfortunate in its own choice of counterparties.

In the long term, it will be possible to virtually eliminate the credit risk associated with banks' foreign exchange trading through settlement in CLS (see separate box), which will make payment versus payment possible in foreign exchange trading. According to plan, CLS will commence commercial operations in summer 2002. Initially, it will only be possible to settle trades in seven currencies (AUD, CAD, CHF, EUR, GBP, JPY and USD), but CLS has given the final go-ahead for the inclusion of the Scandinavian currencies as well. This will probably take place in the first half of 2003. Even though NOK will not be included from the start, Norwegian banks will be able to take part in settlements of other currencies included in CLS. However, settlement in CLS is contingent on both parties settling their leg of the trade in CLS, and since Norwegian banks' foreign exchange trading normally involves NOK, the risk reduction for Norwegian banks will initially be limited.

Exposure in currency trading

Settlement of currency trades can be divided into phases according to the risk status of the settlement:

- i) delivery of sold foreign currency
- ii) deadline for cancellation of payment
- iii) due date for purchased foreign currency and
- iv) confirmed receipt of purchased foreign currency

Banks' exposure starts from the time when payment cannot be recalled, and ceases with confirmation of receipt of the purchased currency. Banks' exposure time depends on their own and their counterparties' routines for the execution of currency trades, and on which currencies are bought and sold. If the exposure period is more than 24 hours, a bank's exposure will exceed its daily foreign currency turnover. Trading in the currency pair EUR/USD has the shortest exposure period, at 11 hours, and trading in USD/JPY has the longest, at 37½ hours.

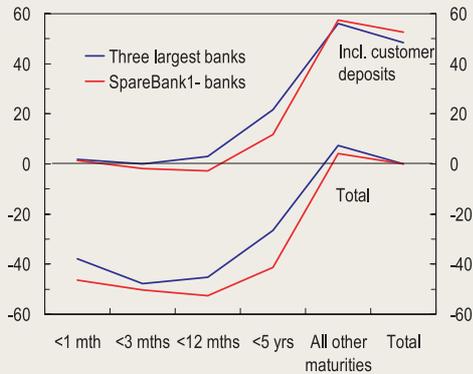
Continuous Linked Settlement (CLS)

Banks that take part in CLS will settle currency trades among themselves over accounts in a common "multi-currency bank", CLS Bank (CLSB). Between 7 am and 12 noon (C.E.T.), CLSB will i) receive payments, ii) settle currency trades for which there is cover and iii) pay settled currency trades. Incoming and outgoing payments will take place by way of CLSB's accounts in national central banks, and settlement of banks' currency trading will take place via their accounts in CLSB. One condition for settlement is that both parties have paid a sufficient amount into CLSB's accounts in the national central banks. CLS will thus virtually

eliminate the credit risk a bank may create for other banks in connection with currency trading. It is difficult to say anything definite about what effect CLS will have on banks' liquidity requirements. Banks' payments to CLS will take place on a net basis, thereby reducing banks' liquidity requirements. On the other hand, payments must be made within a shorter period than is the case at present. Moreover, banks will not be able to settle currency trades over internal accounts in correspondent banks to the same extent as previously, as CLS requires that incoming and outgoing payments take place via CLSB's accounts in central banks.

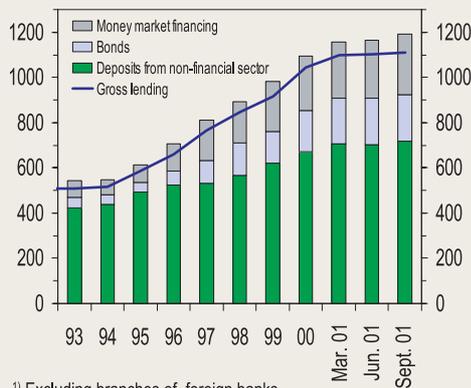
5 | Liquidity risk

Chart 5.1 Cumulative financing requirements according to residual maturity on the balance sheet. Three largest bank groups and four largest Sparebank 1 banks. Percentage of total assets



Sources: Banks' annual reports for 2000 and Norges Bank

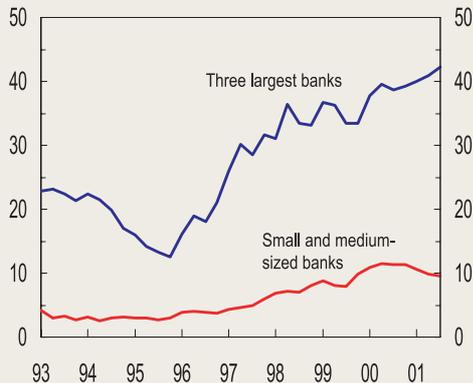
Chart 5.2 Banks¹⁾ financing requirements and financing in money and capital markets. In billions of NOK



¹⁾ Excluding branches of foreign banks.

Source: Norges Bank

Chart 5.3 Gross foreign debt in the three largest banks¹⁾ and in small and medium-sized banks²⁾. Percentage of gross lending



¹⁾ Den norske Bank (incl. Postbanken throughout the period, Christiania Bank and Union Bank of Norway).

²⁾ Banks in Norway excluding the three largest banks and branches of foreign banks

Source: Norges Bank

Little risk of liquidity problems in the short term,...

A bank is liquid if it succeeds in meeting its commitments as they fall due. Banks accept short-term deposits and provide long-term loans (see Chart 5.1). This makes them particularly vulnerable to liquidity problems. In practice, a large portion of banks' financing has a longer expected residual maturity than the fixed period or contracts indicate. Customer deposits, in particular, are normally a stable source of financing, among other things because they are backed by guarantee schemes. Liquidity problems may arise in connection with unexpected liquidity shocks. Major changes in the payment pattern or payment problems experienced by large financial counterparties or others may lead to liquidity problems.

Banks normally have no problems with liquidity under normal market conditions and where there is no uncertainty regarding their financial soundness. Situations may arise in which market liquidity deteriorates sharply. On 11 September this year, there was considerable uncertainty concerning dollar liquidity for a short period, and the interest rate on dollar loans was high for some banks. However, the market stabilised rapidly, and caused no major problems for Norwegian banks.

...but money market financing from abroad is increasing

Banks' lending growth has been strong for several years. As customer deposits have not increased as much as lending, the need to obtain financing from money and capital markets has also increased (see Chart 5.2). From end-1995 to September 2001, the difference between lending to households, municipalities and non-financial enterprises and customer deposits rose from NOK 74 to NOK 319 billion. A falling deposit-to-loan ratio may reflect the fact that bank deposits are meeting strong competition from other types of saving, such as securities funds and various insurance products. It may also to some degree reflect the fact that the deposit-to-loan ratio, as we measure it, does not take fully into account that customers save more than previously in indexed bonds, which are a source of long-term financing for banks.

The sharp increase in banks' financing requirements in recent years could scarcely have been met by domestic money and capital markets without a marked increase in interest rates. Domestic non-banking sectors have recorded a large outflow of capital which has not been offset by a corresponding inflow of foreign capital. In this situation, banks have found it profitable to obtain foreign capital to finance the sharp increase in lending. From end-1995 to September 2001, gross foreign debt increased from NOK 49 billion to a little more than NOK 319 billion (see Chart 5.3). This has made banks more diversified with regard to financing, but at the same time makes it easier for turbulence from abroad to spill over to Norwegian banks. The uncertainty in the global economy has increased the risk of problems in obtaining refinancing from abroad.

Financing in money and capital markets has largely shadowed the cost differential in recent years (see Chart 5.4). In the past six months, there has been an increase in bond yields relative to money market rates. It appears that the three largest banks may have adapted to this tendency by increasing their share of short-term financing.

In the second and third quarters this year, the three largest banks increased their short-term foreign debt markedly at the expense of their domestic short-term debt. During the same period, liquid assets increased somewhat, but less than short-term debt (see Chart 5.5). Liquidity risk may therefore have increased somewhat in the past six months, but from a relatively low level. The three largest banks have relatively good buffers in the form of liquid assets. However, it must be added that the value of securities, and hence the basis for new financing, may drop sharply in the event of turbulence.

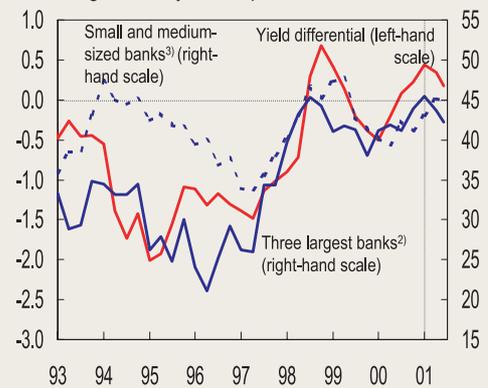
In the past six months, small and medium-sized banks have increased their long-term financing, reduced their short-term foreign debt somewhat and slightly increased their domestic money market financing. In isolation, this has led to a reduction in liquidity risk. However, the liquid assets are small in relation to money market financing, so liquidity risk is probably not smaller than for the three largest banks. The low level of liquid assets may be due to the fact that small and medium-sized banks base themselves more on agreements for drawing rights in other banks or interbank deposits when extra liquidity is needed. In times of turbulence and uncertainty regarding the financial soundness of banks, drawing rights may be uncertain, and it may be difficult to raise loans in the interbank market. Although small and medium-sized banks still have relatively little money market financing from abroad, there may still be a high level of risk associated with this financing because these banks may not be very well known in international markets. Moreover, their rating is relatively low compared with major Nordic and other foreign banks.

Factors influencing liquidity risk in the future

In Report no. 6 from the Banking Law Commission (NOU 2001: 23 Activities of financial undertakings) it is proposed that banks' liquidity requirements should be qualitative as a general rule, and that liquidity management and maturity reporting requirements should be set out for both balance sheet and off-balance sheet items. Increased use of stress tests is also recommended. These proposals should induce banks to focus on liquidity risk, and contribute to revealing vulnerable financial structures in institutions in which this risk exists. The Commission also proposes giving financial undertakings the right to issue asset-backed bonds and to securitise parts of the loan portfolio. Such a change could improve the funding situation of banks and reduce liquidity risk. In addition, it could contribute to the development of the Norwegian securities and capital market, so that large Norwegian enterprises could to a greater extent obtain financing directly in the capital market.

The proposed new Basle rules may lead to higher capital requirements for interbank deposits for Norwegian banks, if banks' ratings form the basis for the rules. This may make long-term financing more profitable than short-term financing.

Chart 5.4 Yield differential¹⁾ (percentage points) and banks' bond financing as a percentage of financing in money and capital markets



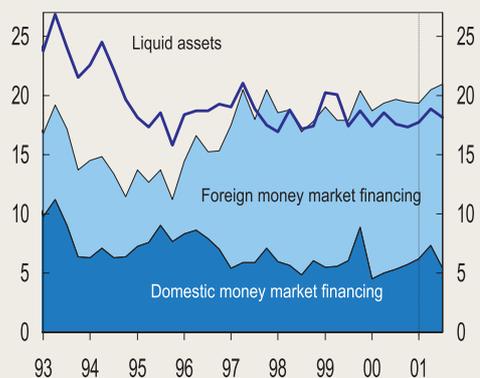
¹⁾ Differential between 12-month money-market rate and effective yield on 5-year private bonds

²⁾ Den norske Bank (incl. Postbanken throughout the period), Christiania Bank and Union Bank of Norway

³⁾ Banks in Norway excluding the three largest banks and branches of foreign banks

Source: Norges Bank

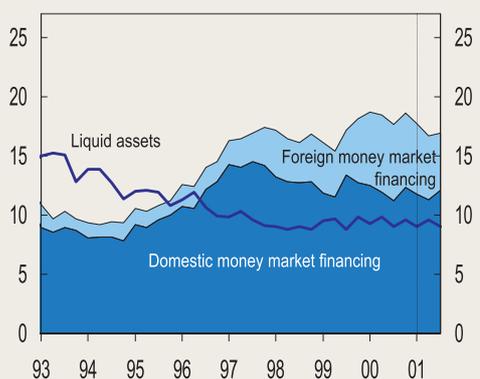
Chart 5.5 Liquid assets of the three largest banks (line) and domestic and foreign money market financing¹⁾ (coloured areas). Percentage of total assets



¹⁾ Deposits and loans from other financial institutions and notes and short-term paper

Source: Norges Bank

Chart 5.6 Liquid assets of small and medium-sized banks (line) and domestic and foreign money market financing¹⁾ (coloured areas). Percentage of total assets



¹⁾ Deposits and loans from other financial institutions and notes and short-term paper

Source: Norges Bank

Counterparty exposure

Banks may have large exposures to certain counterparties for short periods. If an important counterparty has problems with its commitments, this may have ripple effects which at worst may make the financial system unstable. Such instability may arise directly if a number of banks are exposed to the same counterparty, or indirectly if a chain reaction is triggered. This may give rise to liquidity problems, because an expected incoming payment is late, or a credit loss, if the claim must be regarded as lost. Both may have major consequences for banks' financial strength. Foreign counterparties may allow greater diversification and reduced risk of contagion, but may also be a channel for the spillover of turbulence from abroad.

Norges Bank and the Banking, Insurance and Securities Commission together investigated the magnitude of unsecured counterparty exposures in financial positions in some large banks as at 30 June 2001. The survey is also to be carried out on 31 December 2001 and 30 June 2002. Both balance sheet and off-balance sheet exposures will be included:

- the positive market value of derivatives
- the value of securities issued by counterparties and
- deposits/lending without security

In addition, banks were requested to report exposures in foreign exchange settlements to these counterparties. These amounts may be substantial (see Section 4 for a more detailed analysis).

If market developments for underlying financial instruments have been favourable for the bank at the time of reporting, the positive market value of a derivative represents the largest possible loss if the counterparty does not meet its commitment. Banks are particularly active in the market for interest rate and currency agreements, but also participate in equity-related contracts. Commodity-related contracts also occur. The value of securities issued by the counterparty will depend on developments in the value of the company and may at worst be completely lost in the event of bankruptcy. If unsecured deposits cannot be withdrawn from another bank or unsecured loans are not repaid according to agreement, the bank may have liquidity problems or the exposure may be lost.

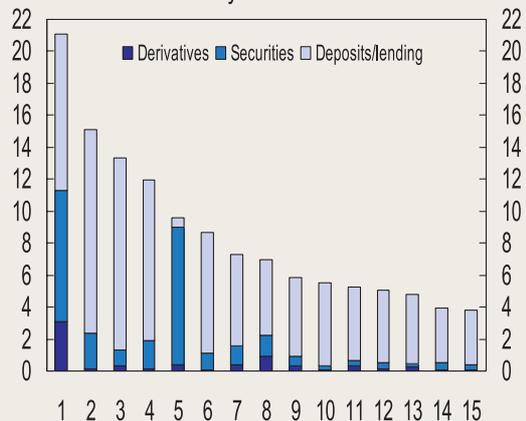
Banks were asked to rank their 15 largest counterparties by aggregate exposures in the form of derivatives, securities and deposits/loans without collateral. Chart 1 shows the weighted average exposure for each of the counterparties as a percentage of the weighted core capital for the banks in the survey. The

results must be interpreted with caution, because there is considerable uncertainty associated with this first survey.

The chart shows that deposits and loans without collateral dominate for the majority of large counterparties. Up to now, derivatives exposure has been of limited scope. Exposures in the form of securities vary considerably. If the largest counterparty of an average bank cannot meet some of its commitments, on average 21% of its core capital will be lost. If exposures in foreign exchange settlement to the largest counterparty are also lost, core capital will be reduced by 35%. If the next largest counterparty goes bankrupt, the average loss will be 15% of core capital (17% including exposures in the foreign exchange settlement). Any disbursements from an estate in bankruptcy may reduce this loss considerably, however. Although these are extreme effects, stress tests of this type illustrate that upper limits for counterparties are important.

The largest counterparties are mainly other financial institutions. The financial strength of financial institutions, represented, for example, by their ratings, is an important indicator of the risk of the counterparty experiencing problems. The largest foreign counterparties are very solid. However, the bulk of them are domestic financial institutions, and some large enterprises. Some counterparties are common to a number of the banks in the survey. It is important that they are sound. Counterparty ratings are of great importance in the proposed new Basle rules. Capital adequacy will then to a greater extent have to reflect this risk, as expressed in counterparty ratings.

Chart 1 The 15 largest counterparty exposures as percentages of core capital. Weighted average for the banks in the survey



Sources: Banking, Insurance and Securities Commission and Norges Bank

6 Banks' financial position

6.1 Growth in lending, financial strength and competitive environment

Despite high lending growth, financial strength remains satisfactory

Growth in bank lending has been relatively strong for a prolonged period (see Chart 6.1). Banks have curbed lending growth from the second to the third quarter 2001 and twelve-month growth is now less than 10%.

So far, lending growth has not caused an appreciable decline in banks' financial strength. Lending growth has been higher in small and medium-sized banks, which have also experienced a reduction in financial strength in contrast to the three largest banks. Nevertheless, they still comply with capital adequacy requirements by a good margin. Several of the larger banks have reduced lending growth and improved core capital ratios the past year to the end of the third quarter 2001 (see Chart 6.2). Some banks have raised new equity. Overall financial strength in the banking sector at the end of the third quarter 2001 is relatively good. The core capital ratio was 8.5% and 10.3% for commercial banks and savings banks respectively. Continued high lending growth in banks will nevertheless require solid earnings to avoid a reduction in capital adequacy.

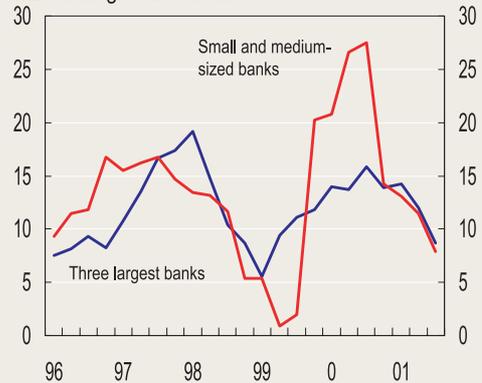
The competitive situation and interest margins

Banks' lending margins should cover expected losses on loans, costs connected with lending activities and a competitive servicing of equity. If an increased volume of lending is to contribute to improving earnings, loan pricing must be both satisfactory and sound. When competition is intense, there is a risk that banks' risk premium on lending is too low.

Competition is relatively strong in the Norwegian banking sector. Estimation of the Herfindahl index⁸ for the Norwegian loan market shows that market concentration is low in the retail market (see Chart 6.3). The corporate market is somewhat more concentrated but is still at a fairly moderate level. Developments in banks' interest margins may also reflect this. Banks' overall interest margin has declined for several years (see Chart 6.4). One possible explanation for this is increasing competition. During the first half of 2001, however, the lending margin has increased somewhat while the deposit margin has declined. Strong competition and low margins make it difficult for banks to substantially strengthen underlying earnings through growth in lending.

⁸The Herfindahl index is the sum of the square of the individual market share of each firm measured as a percent. Concentration is considered low in markets with a Herfindahl index under 1000, while markets with an index above 1800 are considered to be concentrated.

Chart 6.1 Lending to the public (municipalities, non-financial enterprises and households) by 3 largest banks¹⁾ and small and medium-sized banks²⁾, 12-month growth, Per cent

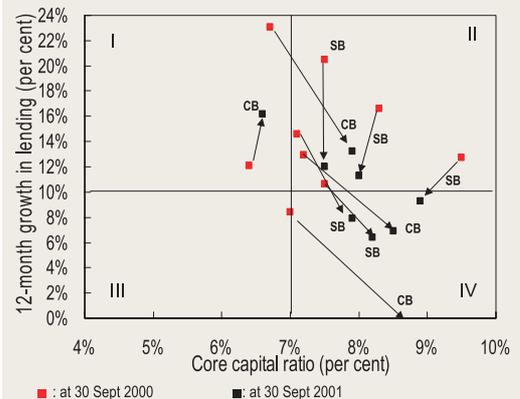


¹⁾ Den norske Bank (incl. Postbanken throughout the period), Christiania Bank and Union Bank of Norway

²⁾ Banks in Norway excluding the three largest banks and branches of foreign banks

Source: Norges Bank

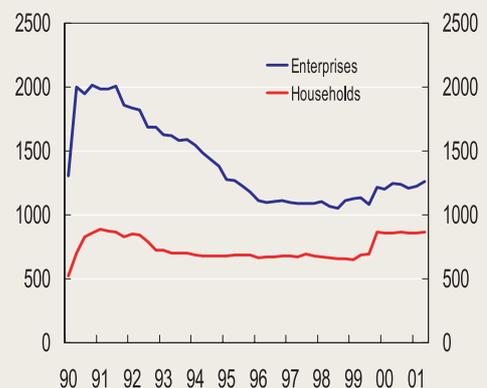
Chart 6.2 Core capital ratio¹⁾ and 12-month lending growth in the largest banks at end of 2000 Q3 and 2001 Q3



¹⁾ The result for the period 1 Jan to 30 Sept is not included when the core capital ratio is calculated.

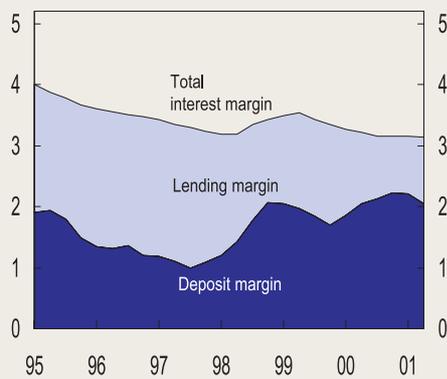
Source: Norges Bank

Chart 6.3 Market concentration in the lending market for enterprises and households (Herfindahl index)



Source: Norges Bank

Chart 6.4 Banks' deposit and lending margins and overall interest rate margin.¹⁾ Per cent



¹⁾ Moving average over the past four quarters

Source: Norges Bank

Table 6.1 Profit trend for the three largest banks
First three quarters of 2000 and 2001.¹⁾

	In billions of NOK		% av ATA ²⁾	
	2000	2001	2000	2001
Net interest income	10.3	11.2	1.99	1.97
Other operating income	6.0	6.4	1.17	1.12
Other operating expenses	9.8	10.3	1.89	1.80
Operating result before losses	6.5	7.3	1.26	1.29
Recorded losses	-0.2	0.5	-0.03	0.09
Operating profit after losses	6.7	6.8	1.29	1.20
Gain on sale of capital assets	0.8	-0.1	0.16	-0.02
Pre-tax operating profit	7.5	6.7	1.46	1.18

¹⁾ Den norske Bank, Christiania Bank and Union Bank of Norway

²⁾ Average total assets

Source: Norges Bank

Table 6.2 Profit trend for the other banks. First three
quarters of 2000 and 2001.¹⁾

	In billions of NOK		% av ATA	
	2000	2001	2000	2001
Net interest income	9.4	9.9	2.57	2.45
Other operating income	3.1	2.4	0.84	0.60
Other operating expenses	7.1	7.6	1.93	1.87
Operating result before losses	5.4	4.7	1.47	1.18
Recorded losses	1.2	1.4	0.33	0.35
Operating profit after losses	4.2	3.3	1.14	0.83
Gain on sale of capital assets	1.6	0.0	0.45	0.01
Pre-tax operating profit	5.8	3.4	1.59	0.84

¹⁾ Average total assets

Source: Norges Bank

6.2 Banks' profits

The three largest banks had approximately the same pre-loss operating profits in the first three quarters of 2001 as in the corresponding period of 2000 (see Table 6.1). Pre-loss profits in small and medium-sized banks were weaker than in the same period last year (see Table 6.2). This reflects both lower net interest income and a reduction in other operating income as a percentage of average total assets (ATA).

Loan losses in the three largest banks are still low, but showed an upward trend this year (see Chart 6.6). A substantial portion of the losses was recorded in the third quarter. Loan losses in the other banks are somewhat higher. The volume of non-performing loans at the three largest banks is low but has increased during the first three quarters of 2001. Gross non-performing loans have increased more in the other banks. The low volume of non-performing loans in the three largest banks is probably related to the fact that in recent years these banks have chosen a somewhat different credit strategy and a less expansive lending policy than the smaller banks. The largest banks can thus have developed a loan portfolio of higher quality (see Box on loan losses).

On the whole, banks' results are weaker this year than last. Many more banks have reported profits between 0.5% and 1.5% of ATA this year than last (see Chart 6.5). More banks have also reported a loss. Pre-tax profits have declined for small and medium-sized banks compared with last year, partly because banks recorded a substantial gain on the sale of shares in Fellestata last year. The two largest commercial banks won a tax dispute concerning the treatment of preference capital transferred to the banks at the beginning of the 1990s, and this has affected the year's results *after* tax for the three largest banks.

The three largest Norwegian banks have generally been able to show very good results for a number of years. This reflects a favourable tax position for a long period combined with low loan losses. During the first three quarters of 2001, banks' return on equity was more than 16%. If the largest banks' results are adjusted for a more normal tax level and more normal loan losses, the banks' return on equity based on the earnings reported for the first three quarters of 2001 would have been between 10% and 11%. This shows that the largest banks, despite solid results so far this year, will need to improve underlying earnings. In order to achieve this, banks must reduce costs, find alternative sources of income and/or charge higher fees on lending and deposit activities.

6.3 Uncertain outlook

Weaker results ahead

A number of factors indicate that banks' results will be weaker in the future. The negative trend in the stock market may reduce underlying earnings. Due to increased domestic

uncertainty and a downward revision of international growth forecasts, it is reasonable to expect an increase in non-performing loans and subsequent loan losses.

Falling share prices may result in lower commission income from customer trading in shares and fund units through both lower prices on traded volume and lower traded volume. Due to a decline in share prices, more companies may also choose to delay plans for share issues, which affects banks by reducing commissions. Banks' own securities trading is also negatively affected, although the impact is limited since trading portfolios are relatively small.

Credit risk in banks' loan portfolios is considered to be higher due to increased uncertainty in the domestic economy, a reduction in international growth forecasts and a higher debt burden in both the household and enterprise sectors (see Section 3). There is a risk that banks may incur losses on loans in the private customer market due to an increase in defaults and falling house prices. In the largest commercial and savings banks, most mortgage loans are collateralised within 80% of the assessed value. Losses on loans to the household sector are still expected to be fairly low. Enterprises are dependent on continued solid earnings in order to service debt. Developments so far this year may point more strongly to weaker earnings in the enterprise sector. Loan loss predictions based on Norges Bank's credit risk model indicate a slight upward trend (see Chart 6.7). Defaults in the enterprise sector were on the rise from the second to the third quarter of this year (see Chart 6.8).

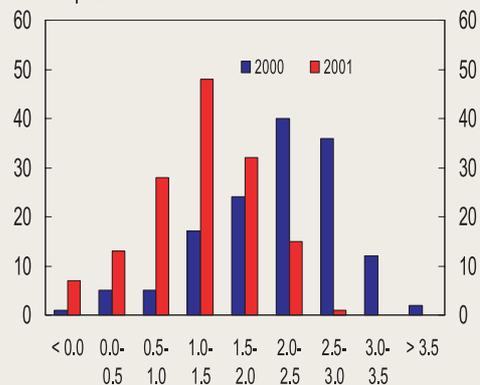
In the event of a recession, losses will increase and banks' profitability will be under pressure unless banks succeed in raising the interest margin on loans. To allow for the possibility of a strong increase in loan losses over and above expected losses, banks must maintain their financial strength and preferably improve it somewhat (in some banks). Recorded losses are on the rise. However, losses are still low and must increase markedly before stability in the banking sector is eroded.

Life insurance companies and financial stability

Life insurance companies have been hit hard by the decline in share prices (see Section 2). Several companies were on the verge of losing their buffer capital and the authorities implemented measures that strengthened the companies' buffer capital by NOK 6 billion in the short term. Some companies have also strengthened their equity.

Life insurance companies play a less important role than banks with regard to financial stability, primarily because these companies do not have the kind of liquidity risk that banks have. Banks' liabilities consist largely of short-term deposit accounts (which may be terminated with immediate effect), while life insurance companies' liabilities are long-term and contractual. Thus, there is no basis for the kind of rapid withdrawals that can have a negative effect on banks and cause serious financial instability. The significance of life insurance companies for financial stability must also be

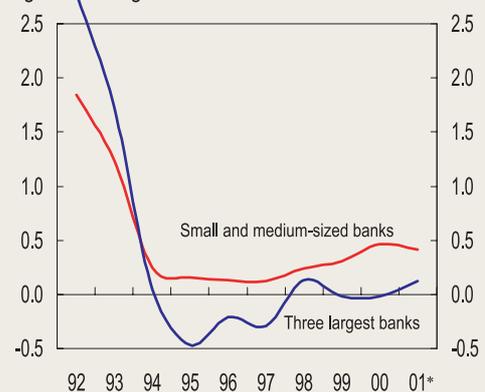
Chart 6.5 Number of banks, by banks' results. Pre-tax result as a percentage of ATA¹⁾. First three quarters



¹⁾ Average total assets

Source: Norges Bank

Chart 6.6 Recorded losses in three largest banks¹⁾ and in small and medium-sized banks²⁾. Losses as a percentage of gross lending to others than financial institutions



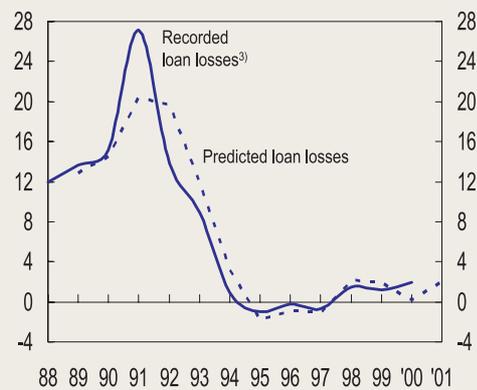
*) As at 2001 Q3

¹⁾ Den norske Bank (incl. Postbanken throughout the period), Christiania Bank and Union Bank of Norway

²⁾ Banks in Norway excluding the three largest banks and branches of foreign banks

Source: Norges Bank

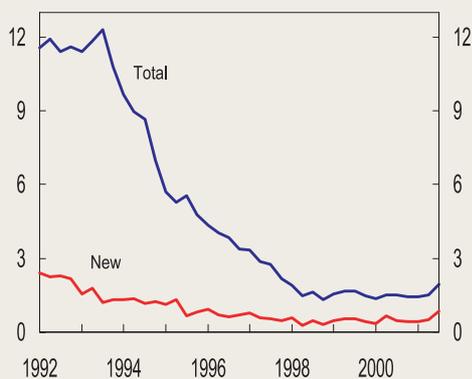
Chart 6.7 Loan losses predicted using previous year's estimates for risk-weighted debt and changes in house prices¹⁾. Recorded loan losses²⁾. In billions of 2000 NOK



¹⁾ Current and previous year's changes.
²⁾ Recorded losses and loss provisions adjusted for reversal of previous years' loss provisions. All types of loans

Source: Norges Bank

Chart 6.8 Gross non-performing loans and new non-performing loans in last quarter. Enterprises' loans from private banks. Percentage of lending



Source: Norges Bank

seen in the light of the fact that the companies' total assets are only one-quarter of banks' total assets and that they play no role in the payment system.

Therefore, life insurance companies have a more indirect impact on financial stability. Problems in insurance companies can spill over to banks and securities markets both directly through current transactions and through a general loss of confidence in the financial sector. Problems can also spread through financial groups, although legislation regulating financial groups aims at limiting this risk.

A number of life insurance companies in Norway are part of financial conglomerates where bank activities dominate. The risk of spillover effects from the conglomerate's life insurance operations to banking operations is limited. If the life insurance company should need fresh capital, one solution might be for other parts of the conglomerate to supply the capital. This supply of capital is not regarded to represent a threat to the overall financial strength of these financial conglomerates, a threat that could have had a negative impact on banking operations. Due to the recent reduction in life insurance companies' buffer capital, the companies' equity is more exposed to a new decline in the securities markets. More emphasis must be placed on contingency plans designed to strengthen the capital base.

Breakdown of loan losses and loss provisioning practices

Loan loss provisions play an important role in revealing the value of assets in banks' balance sheets. Loan loss provisions are also very important for both fluctuations in and the degree of cyclicity in banks' earnings and profits over time.¹

Norway has a separate regulation that provides guidelines for recording loan losses.² Book losses

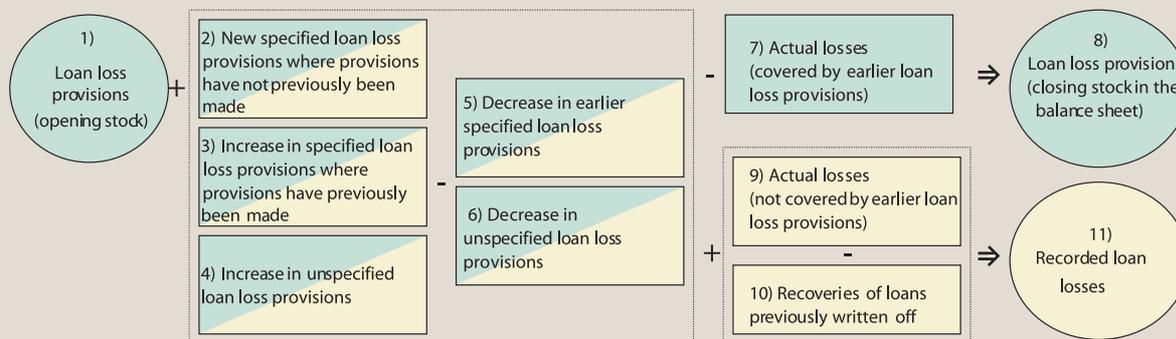
consist primarily of specified and unspecified loan loss provisions as well as actual losses (see the diagram below). *Specified loan loss provisions* are made on loans that the institution considers to be doubtful, for example when a customer has defaulted³ on a loan. When the bank makes a new provision for loan losses, however (2)⁴, the timing and

¹ Refer to Borio, Claudio and Phillip Lowe, "To provision or not to provision", *BIS Quarterly Review*, September 2001, pp. 36-48.

² Regulation for commercial banks, savings banks, finance companies and Den norske Industribank AS concerning assessment of loss on loans, guaranties etc. Laid down by the Banking, Insurance and Securities Commission on 14 November 1991 pursuant to Act No. 1 of 7 December 1956.

³ A loan is considered in default when the principal/interest has not been paid when due. The bank shall then evaluate the necessity of making a provision for loss on the loan. If 90 days have elapsed since the loan payment fell due and no principal/interest has been paid, the loan is considered to be in default regardless (and the bank must evaluate the necessity of making a provision for loss).

⁴ The figures in () refer to the diagram.



amount of the loss are unknown. In the course of one period, the bank can therefore either increase (3) or decrease (5) an earlier provision for loss.

In addition, based on an assessment of the economic outlook, industry analyses and other factors that are important to the loan portfolio's risk profile, the bank should make a discretionary provision for *unspecified losses*. Depending on the size of the previous unspecified loan loss provision, the provision will either represent an increase (4) or a decrease (6).

Loan loss provisions at the end of an accounting period (8) are thus equivalent to the provisions at the beginning of the period (1) plus new and increased loan loss provisions (2+3+4) minus decreases in previous loan loss provisions (5+6) and actual losses that have already been covered by loan loss provisions (7).

Gradually, some loans will move from being doubtful to being *actual losses*. The size of the actual loss will then be the difference between the size of the loan and the value of realised collateral. The bank may have made allowances for the actual loss by previously making a provision for loss on the loan. The actual loss (7) will then contribute to reducing the loan loss provision at the end of the period (8). The alternative is that the bank has *not* made a provision for the loan earlier (9). Then, the actual loss has no effect on the bank's loan loss provisions but increases the recorded loss directly. Losses or gains in connection with acquired assets will either be recorded as actual losses on loans (9) or recoveries of loans previously written off (10). Recorded loan losses (11) thus consist of the "net" increase in loan loss provisions (2+3+4-5-6) plus "net" actual losses not previously covered by loan loss provisions (9-10).

The table below shows losses in the eight largest banks during the first three quarters of 2001. Recorded losses during the period are due in particular to new specified provisions for losses on loans where provisions have not previously been

made, but banks also increased provisions on existing problem loans. There were some new actual losses during the period, whereas new unspecified loan loss provisions were low.

Loan loss provisioning practices will vary to some extent at different banks. This may be reflected in how early losses are recorded as an expense and how strictly the banks assess predictable losses (for example, with regard to the valuation of collateral). At the end of the third quarter 2001, specified loan loss provisions in the eight largest banks accounted for between 31% and 45% of problem loans (gross non-performing and doubtful loans). Unspecified loan loss provisions in the same group of banks came to between 0.4% and 1.3% of gross loans. The variation in provision ratios may be related to the different risk profiles of banks. This may also be due to differences in banks' use of discretion and practices when interpreting loan loss provisioning rules.

Table 1 Losses in the eight largest banks. First three quarters of 2001. In billions of NOK

Loss provisions at 1.1 (1)	12,5
- Actual losses covered by previous loss provisions (7)	1.2
+ Increased specified loss provisions (3)	0.5
+ New specified loss provisions (2)	1.3
- Reduction in previous years' loan losses (write-backs) (5) + (6)	0.5
+ New unspecified loss provisions (and/or other corrections) (4)	0.2
= Loss provisions at 30.9 (8)=(1)+(2)+(3)+(4)-(5)-(6)-(7)	12,8
+ Actual losses not covered by previous loss provisions (9)	0.3
- Recoveries of loans previously written off (10)	0.5
= Losses on loans and guarantees (11)=(2)+(3)+(4)-(5)-(6)+(9)-(10)	1.3

Figures in () refer to the chart

