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Norges Bank's reports on financial stability

Financial stability means that the financial system is robust to disturbances in the economy and is able to mediate financing, carry out payments and redistribute risk in a satisfactory manner. Experience shows that the foundation for financial instability is laid during periods of strong growth in debt and asset prices. Banks play a central part in extending credit and mediating payments and are therefore important to financial stability.

Pursuant to the Norges Bank Act and the Payment Systems Act, **Norges Bank shall contribute to a robust and efficient financial system.** Norges Bank therefore monitors financial institutions, securities markets and payments systems in order to detect any trends that may weaken the stability of the financial system. Should a situation arise in which financial stability is threatened, Norges Bank and other authorities will, if necessary, implement measures to strengthen the financial system.

The report *Financial Stability* discusses the risks facing the financial system, particularly credit, liquidity and market risk. We use the designations low, relatively low, moderate, relatively high and high risk in a qualitative assessment of the **degree of risk**. Changes in the risk situation since the previous report are also evaluated. The risk assessment may be different for the short and for the long term.

The report is published twice a year. The main conclusions of the report are summarised in a submission to the Ministry of Finance. The submission is discussed at a meeting of Norges Bank's Executive Board. Norges Bank's annual *Report on Payment Systems* provides a broader overview of developments in the Norwegian payment system.

Financial Stability 1/2005

The cut-off date for this report was 23 May 2005

Auspicious situation at present,

but the root of subsequent problems can often be found in a period of prosperity

The environment for financial stability remains favourable. The short-term outlook is positive. Economic growth in Norway has picked up further, and unemployment has edged down. Price and wage inflation remains subdued. Growth in real income in both households and enterprises is high. Low interest rates have made it easier for borrowers to service their debt. Banks have recorded very low losses, and profits have been high, allowing them to build up a buffer against leaner times. High oil prices result in an increase in Norway's wealth and may have amplified optimism about the future.

This favourable economic situation is stimulating investment. Due to very low real interest rates, debt financing is available on favourable terms. Growth in household debt has been high for a long period. Growth in corporate debt has picked up somewhat, but is still low. Growth in the total debt of households, non-financial enterprises and municipalities has increased. Both house prices and equity prices have risen considerably in recent years.

Long periods of a sharp rise in debt, asset prices and investments may be a source of subsequent instability and problems in the financial system. We have observed this phenomenon both in Norway and in other countries. It is when the optimism underlying a prolonged rise in these variables turns to pessimism that the financial system can come under pressure. However, it is not possible to determine with any degree of precision the level of debt, asset prices and investments that in this context may constitute an unacceptable risk. Both the rise in and level of these variables are probably important, but the situation in the rest of the economy also plays a role.

The trend we have seen in household borrowing is not sustainable over time. It would be wise for both borrowers and lenders to recognise that the root of subsequent problems, requiring demanding corrections, is often to be found during periods of prosperity.

Jarle Bergo

Summary

Favourable outlook in the short term for global financial stability

The short-term outlook for global financial stability has improved somewhat since the previous *Financial Stability* report (November 2004). Economic growth is solid in many countries. Global economic growth is expected to remain solid in 2005 and 2006. Financial institutions and enterprises have improved their earnings and their financial strength. So far, financial markets seem to be relatively unaffected by higher key rates and high oil prices and investors are requiring low risk premiums.

Low interest rates have pushed up demand for financial investments with higher returns and risk. This has driven up prices for these instruments, with an attendant risk of a fall in prices when the interest rate level increases or the outlook is considered more pessimistic. Global imbalances are also continuing to increase. There is a risk of considerable turbulence in foreign exchange and securities markets if the assessment of how long the imbalances can continue changes rapidly.

Solid results in Norwegian banks due to low loan losses

The basis for financial stability since the previous report has also been favourable in Norway. Household income and corporate revenues have both increased and interest rates have been low. Banks achieved solid results in 2004 and in the first quarter of this year, mainly as a result of low losses. Earnings before losses, however, declined from 2003 to 2004. The Tier 1 capital ratio for all Norwegian banks has remained unchanged from the end of 2003 to the end of 2004, but was reduced somewhat in the first quarter of this year.

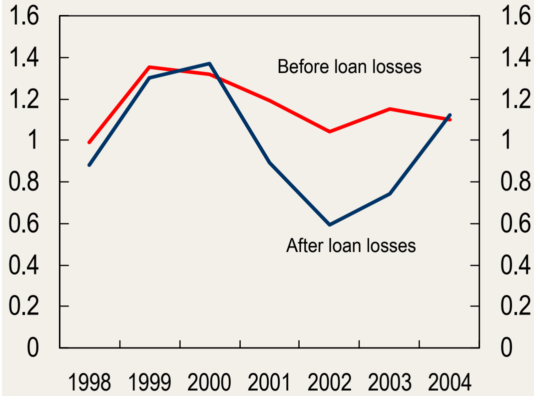
Persistently high household credit growth

Household debt is high and is still growing rapidly, mainly driven by the rise in house prices. The share of household debt secured on dwellings increased from 65 per cent in 1996 to 75 per cent in 2004. The share of household debt with a fixed rate of interest fell in 2004 to 14 per cent at the end of the year. Thus, few households have hedged against an unexpectedly high interest rate. Although the rise in house prices has moderated and is expected to slow further in the years ahead, our projections indicate that growth in household debt may be strong for several years. If this proves to be the case, the household debt burden will be very high. As a result of unusually low interest rates, the interest burden is currently relatively low, but will increase substantially as the interest rate gradually reaches a normal level.

Improved corporate profitability

Profitability in listed companies improved markedly from 2003 to 2004 as a result of high oil prices, higher demand, moderate wage growth and lower interest rates. Oil companies recorded

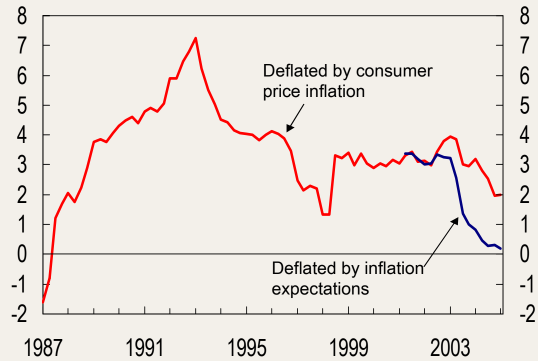
Chart 1 Banks pre-tax profit, before and after loan losses, as a percentage of average total assets[1)]



[1)] Excluding branches of Norwegian banks abroad

Source: Norges Bank

Chart 2 Household borrowing rate after tax deflated by consumer price inflation[1)] and inflation expectations.[2)] Per cent

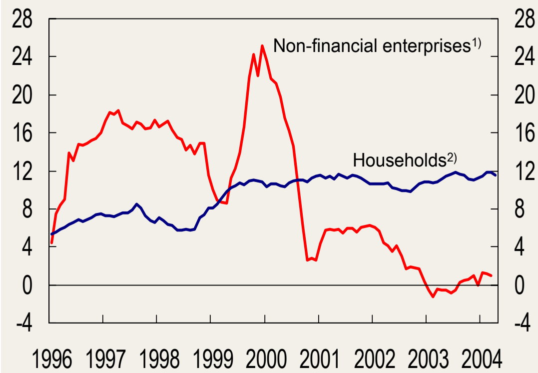


[1)] CPI excluding energy products until 1995, Norges Bank's calculations for CPI adjusted for taxes changes and excluding energy products until 2000 Q2, after that CPI-ATE

[2)] Set equal to the inflation target of 2.5 per cent

Sources: Statistics Norway and Norges Bank

Chart 3 Credit to mainland Norway. 12-month growth. Per cent

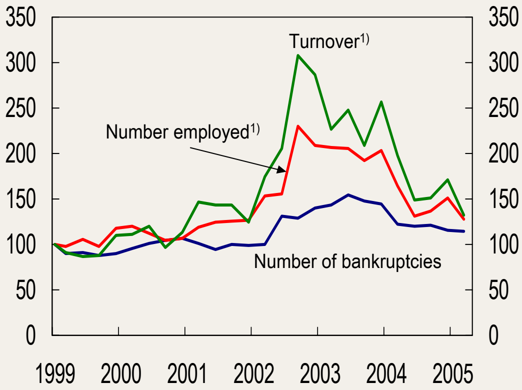


[1)] It is assumed that all credit from foreign sources to mainland Norway goes to non-financial enterprises

[2)] Households' domestic debt

Source: Norges Bank

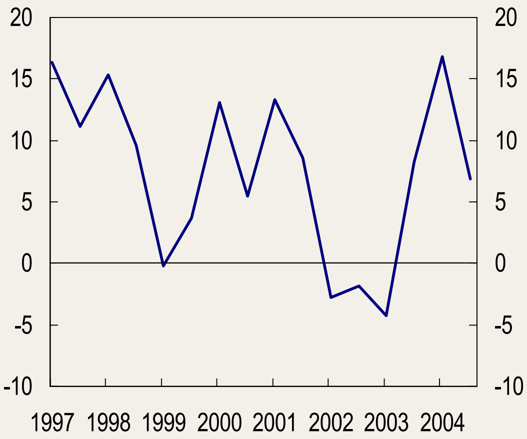
Chart 4 Bankruptcies. Seasonally adjusted figures. Index, 1998 Q4 = 100



1) Turnover and employment in last normal operating year for bankrupt entities

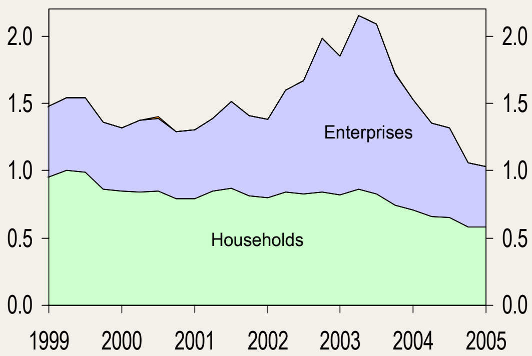
Sources: Statistics Norway and Norges Bank

Chart 5 Prices for commercial properties in Norway. 12-month rise. Per cent



Source: Statistics Norway

Chart 6 Banks' holdings of gross non-performing loans to households and enterprises.1) Percentage of gross lending to municipalities, the non-financial sector and households



1) Excluding branches of Norwegian banks abroad. Including branches of foreign banks in Norway

Source: Norges Bank

the most pronounced improvement. With the exception of the oil companies, results seem to have levelled off in the first quarter of 2005. The number of bankruptcies fell further in 2004. Mainland fixed investment increased substantially in 2004. In spite of this, new loans raised by enterprises have only shown a moderate increase. High profitability has provided enterprises with an ample supply of internal funds to finance their investments.

Low long-term interest rates have made commercial property more attractive as an investment vehicle for both institutional and private investors. As a result, prices for office and commercial property sold in 2004 increased by close to 7 per cent. Although the area of vacant office space is still high, office vacancy rates declined somewhat last year. This has contributed to stabilising the average rental price for office premises in the largest towns.

Liquidity risk in banks virtually unchanged

On the whole, banks' financing has been relatively stable since *Financial Stability* 2/2004. In the first quarter of last year, Norwegian-owned banks again increased their short-term foreign debt after a reduction over the previous two quarters.

Satisfactory financial stability outlook

Banks recorded solid results in 2004 and in the first quarter of 2005, and their capacity to absorb losses has improved somewhat. Losses have been low as a result of low interest rates and high income growth in the household and enterprise sector. Enhanced risk management in banks may also have contributed. However, it must be expected that losses will increase somewhat again. The share of mortgage loans in banks' loan portfolios has continued to rise. Mortgage loans usually involve lower risk than other loans, contributing to lower net interest income because loans secured on dwellings also involve a lower interest rate than other loans.

With today's low bond yields, it may become difficult over time for life insurance companies and pension funds to achieve the return they have guaranteed customers in defined benefit pension schemes. If the yield on long-term government bonds remains at a sufficiently low level, however, the authorities can for new policies lower the maximum return that can be promised to customers in pension schemes.

Households' financial position is considered solid in the short term, partly as a result of low interest rates and favourable growth prospects for the Norwegian economy. The risk of higher losses on loans to households is therefore assessed as unchanged and relatively low in the short term. With high corporate profitability, credit risk associated with loans to enterprises is also assessed as unchanged and relatively low. Banks' liquidity and market risk are both still considered to be relatively low.

The overall outlook for financial stability is therefore regarded as satisfactory and approximately unchanged since the previous report. In the long term, high and rising household debt is a source of uncertainty.

1 | International developments and securities markets

1.1 International developments

The short-term outlook for global financial stability has improved somewhat since the previous *Financial Stability* report (November 2004). Economic growth is solid in many countries. Global economic growth is expected to remain solid in 2005 and 2006 (see Chart 1.1). Financial institutions and enterprises have improved their earnings and their financial strength. So far, financial markets seem to be relatively unaffected by higher key rates and high oil prices and investors are requiring low risk premiums.

Nevertheless, there are a number of uncertain factors that may weaken stability in financial markets. High expectations concerning listed companies' earnings are based on assumptions of solid economic growth. High and volatile oil and metal prices may curb growth. A sharp increase in house prices and household debt in many countries is generating uncertainty about long-term economic developments. Low yields on government bonds have increased the demand for securities with relatively high returns, with an attendant risk of a fall in prices when interest rates rise. The current account deficit in the US remains high.

1.2 International financial services industry

High earnings in banks

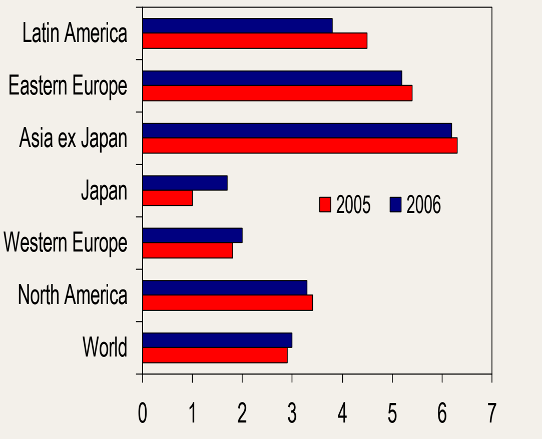
Banks in many countries have recorded favourable results. One important reason for this is lower loan losses. The decline in loan losses is related to low interest rates, solid economic developments and improved risk management in banks. Losses are historically low at present and the potential for a further decline is therefore limited, also because interest rates appear to be rising.

Credit rating agencies rank banks' creditworthiness and financial strength.[1] These ratings indicate that international banks have become more robust in recent years (see Chart 1.2). Ratings of Japanese banks in particular have improved from low levels. This is due to a decline in the share of non-performing loans and to improved earnings.

Prices in securities markets may be used as an indicator of expectations concerning developments in financial institutions. International indices for banks' share prices show mixed developments. Since the beginning of 2005, banks' share prices in Japan have declined by 1%, prices in the US have declined by 2%, whereas prices in Europe have risen by 4% (se Chart 1.3). Developments in banks' share prices have been approximately the same as in the overall market in the three regions.

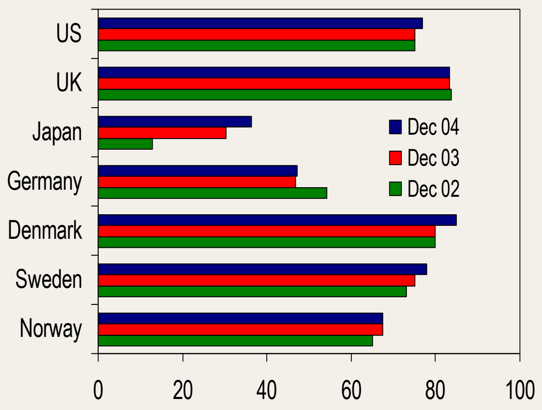
[1] The evaluation of a bank's *creditworthiness* seeks to reflect the bank's capacity to service its debt obligations as they fall due. The evaluation of a bank's *financial strength* may be seen as a measure of the probability that the bank will require assistance from its owners or a third party. How likely it is that the bank actually receives assistance is not taken into account.

Chart 1.1 Real GDP increase forecasts for 2005 and 2006 as of May 2005. Per cent



Source: Consensus Forecasts

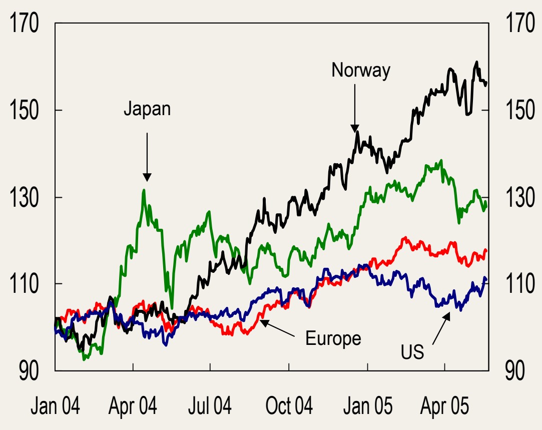
Chart 1.2 Moody's Bank Financial Strength Index[1)]



[1)] The index is constructed according to a numerical scale assigned to Moody's weighted average bank ratings by country. Poorest financial strength corresponds to 0, best to 100

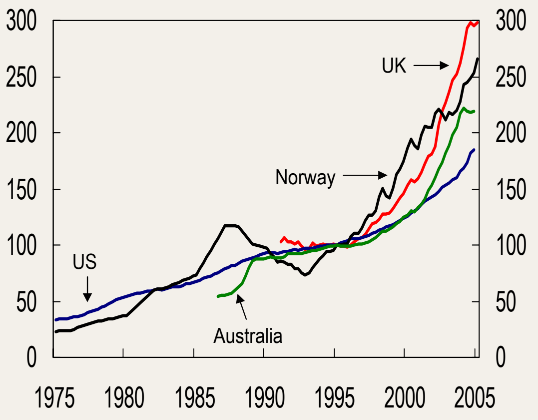
Source: IMF

Chart 1.3 International bank equity indices. Indexed, 01.01.2004 = 100



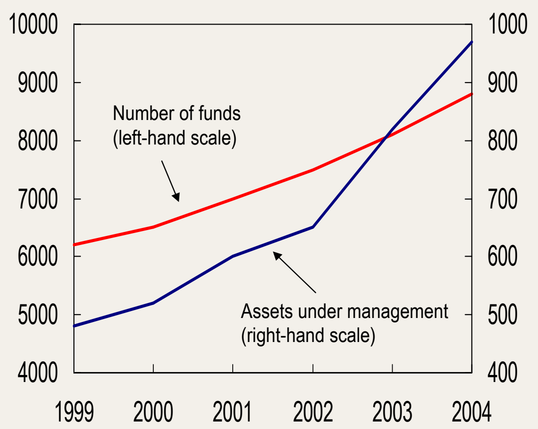
Source: EcoWin

Chart 1.4 International house price indices. Indexed, Q1 1995 = 100



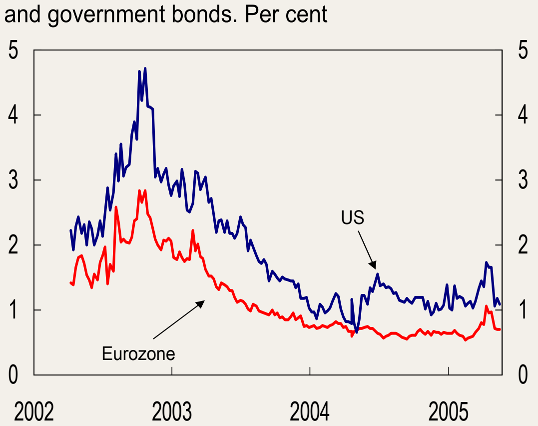
Sources: EcoWin and Norges Bank

Chart 1.5 Hedge funds. Number of funds and assets under management in billions of USD



Source: IMF

Chart 1.6 Yield spread between corporate bonds[1)] and government bonds. Per cent



1) BBB rated

Source: EcoWin

Household borrowing, especially in the form of mortgages, also accounts for a large share of the growth in banks' lending worldwide. This growth is being driven partly by the strong rise in house prices (see Chart 1.4) and by the higher share of home-owners. Household debt in relation to GDP has increased both in the US and Europe. At the same time, the share of non-performing loans has been falling for several years. Surveys conducted by the Federal Reserve and the ECB show that increased competition has resulted in lower borrowing rates in the US and Europe. This may indicate that banks will remain willing to extend loans to households. It may also imply that the risk associated with the loans is not being priced at a sufficiently high level.

The US, the UK and Australia are among the countries that have increased their key rates in the last couple of years. While the rise in house prices has slowed in the UK and Australia, house prices seem to be continuing to rise in the US. One explanation for this may be that long-term interest rates, which are important for housing demand, have remained virtually unchanged in the US despite increases in the key rate.

Increased saving in hedge funds

In many countries, an increasing share of savings is being invested in hedge funds. This is because global institutional investors are searching for ways to spread risk and increase returns. The share of institutional investors that are investing in hedge funds increased from 2003 to 2004, from 23% to 32% in Europe and from 23% to 28% in the US. Nevertheless, hedge funds are still largest in the US. At the end of 2004, there were about 9000 hedge funds worldwide. These funds managed assets equivalent to nearly USD 1 000bn (see Chart 1.5). By comparison, private pension funds in the US alone managed more than USD 4 000bn at the end of 2003.

Hedge funds include different types of funds with very different risk profiles. Many hedge funds have a strategy of exploiting arbitrage opportunities that result from different pricing of the same type of risk in different markets. Such activity normally involves low risk and contributes to smoothly functioning markets. Other hedge funds increase the level of risk in order to increase the return. One feature of some hedge funds is that they take large positions in relation to their equity capital. This can amplify price movements if they are forced to sell large portfolios. The IMF[2] reports that the average leverage of different types of hedge funds varies from 1.1 to 9.4. Leverage has fallen in recent years, but there has been a shift towards investment strategies that involve higher risk.

So far, hedge funds have not been subject to special regulations. As hedge funds have become more important participants in financial markets, the authorities in a number of countries have required more information about the funds. In the EU, the Commission has been requested to present a draft directive on

2 *Global Financial Stability Report*, IMF, April 2005.

hedge funds and the US has recently introduced a registration requirement for hedge fund advisers. In Norway, hedge funds may in the future be established as a special type of fund under the Act on Securities Funds.

1.3 International securities markets

Low long-term interest rates and credit premiums

Long-term interest rates remain low. A characteristic feature of fixed income markets has been that short-term interest rates have risen in the US whereas long-term interest rates have not increased substantially. This reflects uncertainty concerning continued economic growth. High demand for long-term bonds from Asian central banks and from life insurance companies and pension funds may also have contributed to low interest rates. There are also indications that global neutral real interest rates may have fallen somewhat in recent years.

The yield spread between corporate bonds and government bonds has been unusually narrow for a long time. This is due to strong economic growth and high corporate earnings and improved balance sheets. The low interest rate level has also induced investors to invest in instruments with higher risk in their search for yield. This may have reduced the risk premium on many corporate bonds more than the financial outlook for the enterprises would imply. The yield spread rose somewhat in March and April (see Chart 1.6). This was partly due to increased uncertainty concerning the outlook for the corporate sector and partly to Standard & Poor's downgrading of General Motors and Ford, which are among the largest borrowers in the international bond markets. However, the yield spread has narrowed again in May.

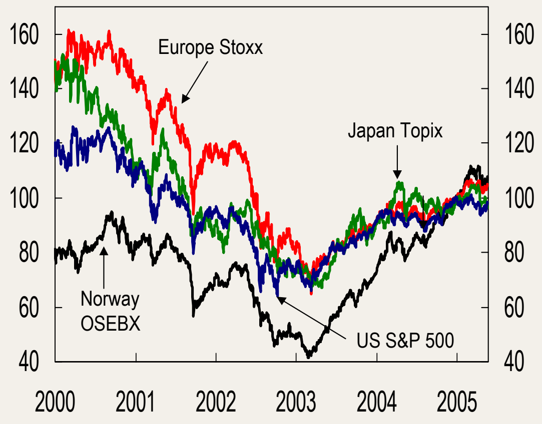
Share price fall in the US and Japan, rise in Europe

Since the beginning of 2005, share prices in Europe have risen by 5%, while share prices in the US and Japan have declined by 2% (see Chart 1.7). The rise in oil prices from an already high level has had a negative effect on global share prices. Despite a substantial rise since the spring of 2003, prices in the largest equity markets remain considerably lower than at the peak in 2000.

Investors' uncertainty concerning future developments in share prices may be measured by the implied volatility from option prices. Global uncertainty has increased somewhat in recent months, but remains historically low (see Chart 1.8).

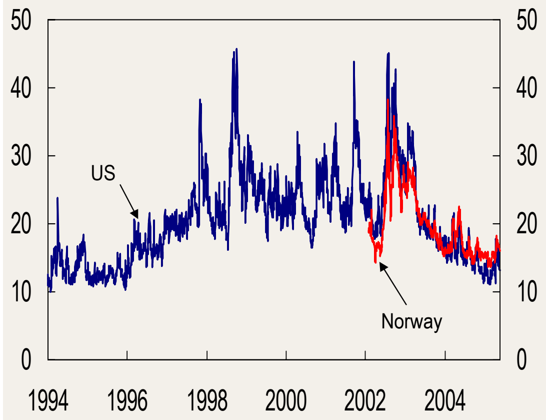
The price/earnings ratio (P/E ratio) is an indicator of the level of share prices. The P/E ratio based on actual earnings has remained virtually unchanged in the US and Europe since the beginning of 2005 (see Chart 1.9). The P/E ratio is somewhat higher than the average since 1985, both in Europe and the US.

Chart 1.7 International equity indices. Indexed, 01.01.2005 = 100



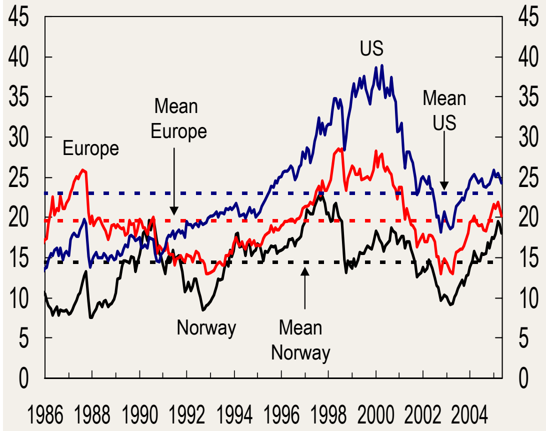
Source: EcoWin

Chart 1.8 Implied volatility in the US and Norwegian equity markets. Per cent



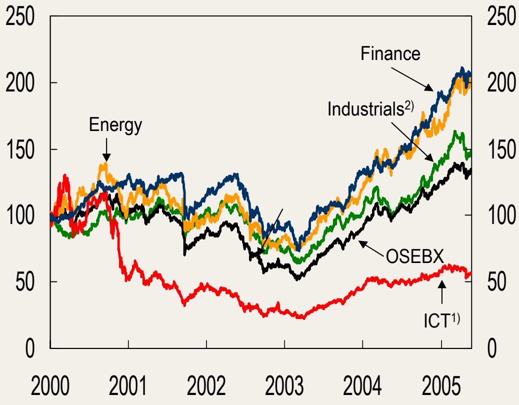
Sources: EcoWin and Oslo Stock Exchange

Chart 1.9 P/E based on earnings in the last five years. Monthly figures and periodic mean



Sources: Thomson Datastream and Norges Bank

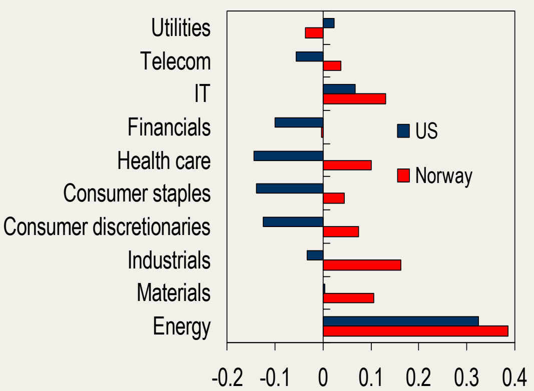
Chart 1.10 Sub-indices on the Oslo Stock Exchange. Indexed, 01.01.2000 = 100



[1] Average of the telecom index and the IT index
[2] Average of the industrials index and materials index

Source: EcoWin

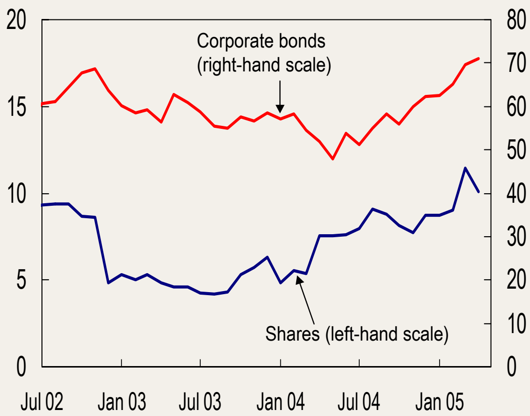
Chart 1.11 Correlation between the oil price and equity indices since January 1996[1]



[1] Total return indices of standardised sectors (GICS). Correlation coefficient for relative change over 20 days

Sources: EcoWin and Norges Bank

Chart 1.12 New issues at the Oslo Stock Exchange last twelve months. Billions of NOK



Sources: Oslo Stock Exchange and Norges Bank

1.4 Securities markets in Norway

New peak on Oslo Stock Exchange

The Oslo Stock Exchange benchmark index (OSEBX) has risen by 8% since the beginning of 2005. Until the beginning of April, a series of historical peaks were recorded. Prices subsequently fell, but have edged up again in May. The last peak on 8 April was 17% higher than the level prevailing in September 2000. On 20 May, the benchmark index was 159% higher than at the trough in February 2003. The current upswing on the Oslo Stock Exchange has been broad, whereas the upswing until the autumn of 2000 was largely driven by the ICT sector. With the exception of the ICT index, all the sub-indices have risen since the beginning of 2005 (see Chart 1.10).

The energy sector accounts for an increasing share of total market capitalisation on the Oslo Stock Exchange. The energy sector's share of the stock exchange's total market value rose from 25% to nearly 50% from 2001 to 2004. The rise in oil prices has led to higher expectations concerning energy companies' earnings and thus to higher share prices. The large number of energy companies on the Oslo Stock Exchange partly explains why prices have risen more in Norway than in other countries. Another reason for the sharp rise in share prices in Norway is that share prices of companies other than energy companies are also positively affected by higher oil prices. Empirical analyses show a positive correlation between oil prices and nearly all the sub-indices on the Oslo Stock Exchange (see Chart 1.11). In the US, the energy index is the only index that has a clearly positive correlation with the oil price.

In the Norwegian stock market, the P/E ratio based on actual earnings has risen steadily since the beginning of 2003. This ratio is currently considerably higher than the average since 1985 (see Chart 1.9).

New share issues on the Oslo Stock Exchange have increased substantially in the past year (see Chart 1.12). New issues of financial and corporate bonds are also increasing. This may be due in part to the low interest rate level.

On 6 June 2005, the Oslo Stock Exchange is opening a new marketplace for bonds and short-term paper. The new marketplace will make it easier to issue debt instruments, partly as a result of reduced information requirements in connection with applications for listing and issuance of debt.

Financial markets indicate low credit risk in banks

So far this year, the banking index, which is dominated by DnB NOR, has risen by 10% (see Chart 1.3), which is somewhat more than the benchmark index. Since 2000, banks' share prices have risen more than prices in the market as a whole in Norway. Relatively small differences between interbank rates and yields on government securities also indicate that the credit risk associated with loans to banks is low.

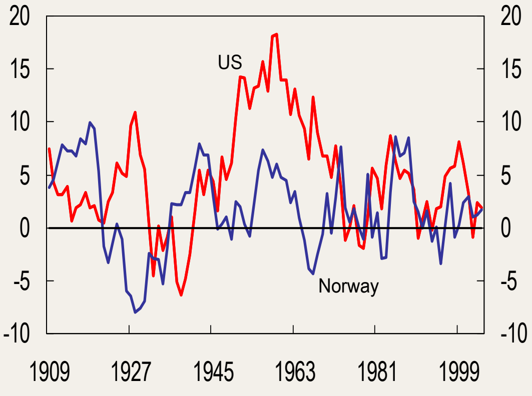
Risk premiums in the equity market

The risk premium in the equity market is often defined as the return on an equity investment compared with the return on a risk-free investment. Changes in the risk premium can affect how investors distribute their funds across different financial instruments. The risk premium therefore has an important impact on price developments in financial markets. For example, a reduction in the expected risk premium will in isolation contribute to a rise in prices in equity markets.

It is important to distinguish between the realised and the expected risk premium. The realised risk premium is the observed excess return on equities compared with a risk-free investment. The expected risk premium is the compensation required by investors now in order to invest in equities. It depends on expected risk related to equities and the willingness of investors to take risks (risk appetite[1]).

Empirical studies show that the realised risk premium varies over time and across countries (see Chart 1). Dimson et al. (2005)[2] find that the risk premium for Norwegian equities has been around 2% on average in the period 1900-2004. The risk premium for US equities was 4.5% in the same period. As shown in the chart, the realised risk premium in both markets has been negative in some 10-year periods. In the most recent 10-year period (1995-2004), the risk premium was about 2% in both the Norwegian and US equity markets.

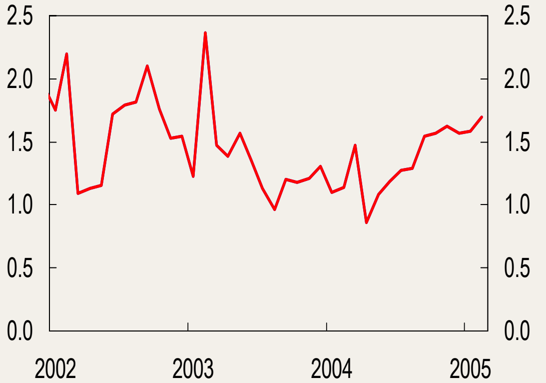
Chart 1 Realised risk premium in the US and Norway 1909-2004. Moving ten-year geometric average measured against bonds. Per cent



Sources: Norges Bank and Global Investment Returns Yearbook 2005

The expected risk premium is not observable. It is, however, possible to estimate this risk premium using a valuation model for equities. Chart 2 shows developments in expected risk premium in the Norwegian equity market based on a three-stage dividend discounting model.[3] The results must be interpreted with caution as they are based on a number of simplified assumptions. The model explains price developments for a selection of the 50 largest companies on the Oslo Stock Exchange in terms of changes in the current dividend-price ratio, the long-term risk-free real yield, long-term real growth in dividend payments and analysts' expectations as to corporate earnings in the medium term.[4] The expected risk premium is the residual in the model. According to the model, the expected risk premium in the Norwegian equity market fell through 2003 and up to the beginning of 2004. Since then, the expected risk premium has increased.

Chart 2 Risk premium in the Norwegian equity market, based on a three-stage dividend discounting model. Per cent



Sources: Norges Bank, Thomson Datastream and EcoWin JCF

[1] Investors' appetite for risk depends on their attitude to uncertainty about future consumption and how great this uncertainty actually is.

[2] Dimson, E., P. Marsh and M. Staunton (2005): *Global Investment Returns Yearbook 2005*, ABN Amro and London Business School.

[3] For a more detailed description of this model, see the article "Analysts earnings forecasts and equity valuation", by Nikolaos Panigirtzoglou and Robert Scammell in the Bank of England's *Quarterly Bulletin*, spring 2002.

[4] The dividend growth rate is assumed to be constant after 6 years. Before this, the rate may vary in pace with analysts' expectations. The 10-year yield on government bonds adjusted for expected inflation of 2.5% is used as the long-term risk-free real yield.

2 Macroeconomic developments, households and enterprises

Table 2.1 Macroeconomic variables. Percentage change on previous year unless otherwise stated

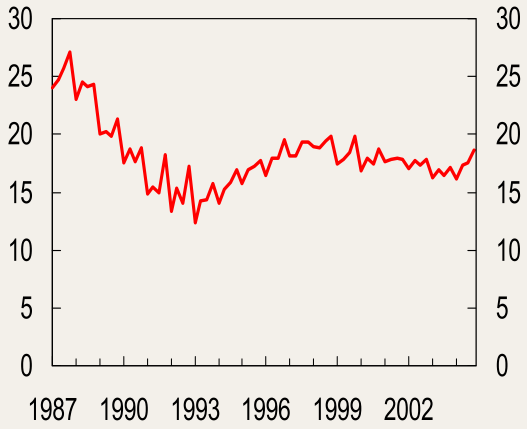
		Projections *Inflation Report* 1/2005[1]					
	2004	2005		2006		2007	
Private consumption	4.3	4¼	(-¼)	3¾	(0)	2½	(0)
Public consumption	2	1¾	(0)	1½	(0)	1½	(0)
Gross investment							
Mainland Norway	6.2	7¼	(2¼)	6½	(1½)	2¼	(-½)
Traditional exports	3.0	5½	(1)	3½	(½)	3½	(½)
Imports	9.0	7½	(1½)	3½	(-½)	2¼	(½)
Mainland GDP	3.5	4	(½)	3	(¼)	2¼	(¼)
GDP trading partners[2]	2.9	2¼	(-¼)	2¼	(-¼)	2¼	(-¼)
LFS unemployment (rate)	4.5	4	(0)	3½	(-¼)	3¾	0

[1] Figures in brackets indicate changes in percentage points relative to the projection in *Inflation Report* 3/2004. Estimates with forward interest rate and forward exchange rate

[2] Weighted total with Norwegian exports used as weighting factor

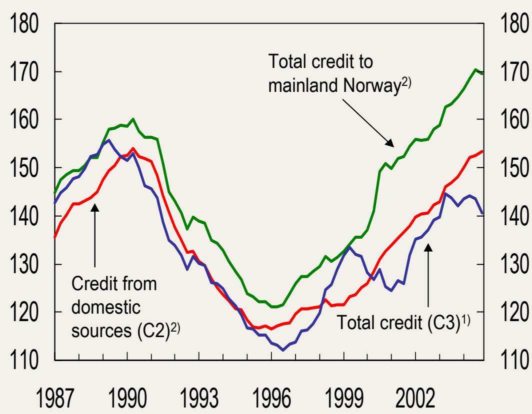
Sources: Statistics Norway and Norges Bank

Chart 2.1 Gross fixed capital formation in percentage of mainland GDP



Source: Statistics Norway

Chart 2.2 Credit as a percentage of GDP



1) Percentage of GDP
2) Percentage of mainland GDP

Source: Norges Bank

2.1 Developments in the Norwegian economy

Activity in the Norwegian economy picked up considerably in 2004. Mainland GDP growth was 3.5%. Low interest rates, the global economic upturn, high oil prices and strong growth in petroleum investment were the main factors contributing to growth. In *Inflation Report* 1/2005, mainland GDP growth is projected to increase further in 2005 and then abate somewhat in 2006 and thereafter (see Table 2.1). Labour Force Survey unemployment is expected to fall from 4.5% in 2004 to 4% in 2005 and 3.5% in 2006. The growth outlook has been revised slightly upward since *Financial Stability* 2/2004.

Norges Bank's key rate has remained unchanged since March 2004, at 1.75%. This is unusually low and markedly lower than that considered to be normal over time. Underlying inflation in the Norwegian economy is still low.

Private consumption exhibited strong growth in 2004. High real wage growth and low interest rates have resulted in high growth in household disposable income, which has fuelled growth in consumption. Private consumption is projected to continue to grow at the same pace in 2005. According to TNS Gallup's consumer confidence indicator for the second quarter of 2005, households remain optimistic about their own financial situation and the domestic economy.

Mainland fixed investment picked up sharply in 2004, and has gradually become an important force driving the economic upturn (see Chart 2.1). Investment has picked up in most industries, and towards end-2004 investment growth was stronger than expected. Higher investment is probably due to improved profitability and prospects of continued solid growth in demand and output. Growth in housing investment has been particularly pronounced, partly as a result of the brisk rise in house prices. Statistics Norway's business tendency survey shows that Norwegian industrial leaders regard the short-term outlook as increasingly positive.

Owing to high oil prices, the current account surplus increased to almost 14% of GDP in 2004. At the end of the first quarter of 2005, the Government Petroleum Fund had risen to 65% of GDP for 2004. Overall credit to mainland Norway as a percentage of mainland GDP is at a historically high level (see Chart 2.2). Household debt accumulation remains appreciably higher than the rate of debt accumulation in the business sector. Growth in overall domestic debt is now on the rise.

The Norwegian economy is marked by optimism on the part of both the household and the private sector, and favourable growth prospects with continued low inflation. Increased demand and output must be viewed in the light of low interest rates.

2.2 Households

Continued strong debt growth

Household debt has been growing rapidly for the last five years. Since the third quarter of 2004, the growth in loans secured on dwellings has declined (see Chart 2.3). At the same time, growth in other types of borrowing has increased (see box on page 32). Growth in mortgage loans nevertheless remains appreciably higher than growth in other loans. Mortgage loans now account for 75% of all loans to households, compared with just over 65% in 1996. Compared with other countries, the share of households who own their own homes is relatively high in Norway (see Chart 2.4). In isolation, this indicates that mortgage loans as a share of GDP are also high in Norway compared with other countries.

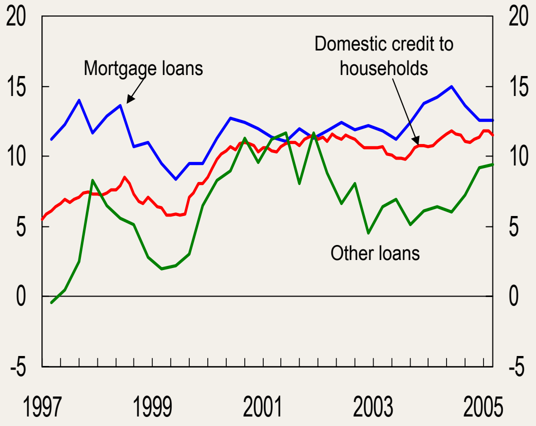
According to Norges Bank's empirical model for household debt,[1] the strong rise in house prices is the most important explanation for the growth in household debt in recent years (see Chart 2.5).

Surveys conducted by the Norwegian Savings Banks' Association show that households' attitude to incurring debt may have changed substantially. Whereas in 1991 only 10% of the population could envisage drawing on their home equity when they became pensioners, over 50% are positively inclined to the idea today. Of these, 40% answered that they would prefer a mortgage loan to finance other projects. This implies a stimulus for further credit growth. However, the change from 1991 to date that is captured in the surveys may be partly due to the difference in the level of house prices. In 1991, house prices were low, after falling for several years, while house prices today are relatively high after increasing more or less steadily over the past 13 years. In general, many households had a lower level of home equity in 1991 than at present, which may explain why households were less willing at that time than they are today to draw on their home equity.

In addition to the high debt burden, the low share of fixed rate agreements means that Norwegian households are more vulnerable to an increase in interest rates than households in other countries. Interest rates have been historically low for the last two years. Despite this, the overall share of household loans with fixed rates dropped from 16% in the first quarter of 2004 to 14% in the fourth quarter of 2004. In the same period, the share of loans with fixed interest rates in the Norwegian State Housing Bank increased from 55% to 67%, while the share in the State Educational Loan Fund fell from 41% to 35%. In the first quarter of 2005, the shares of loans in both the Housing

[1] The relationship is described in more detail in "What influences the growth of household debt?" by Dag Henning Jacobsen and Bjørn E. Naug in *Economic Bulletin* 3/2004.

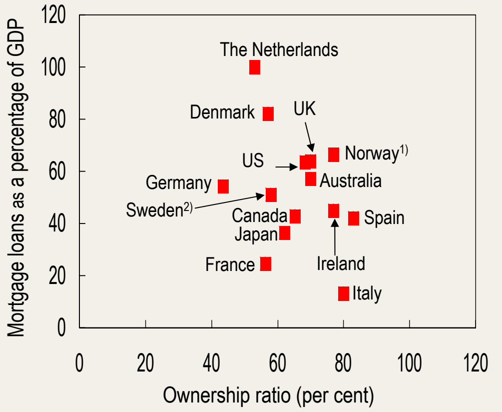
Chart 2.3 Growth in household credit.[1)] Per cent



[1)] Twelve-month growth in domestic credit. Four-quarter growth in mortgage loans and other loans

Source: Norges Bank

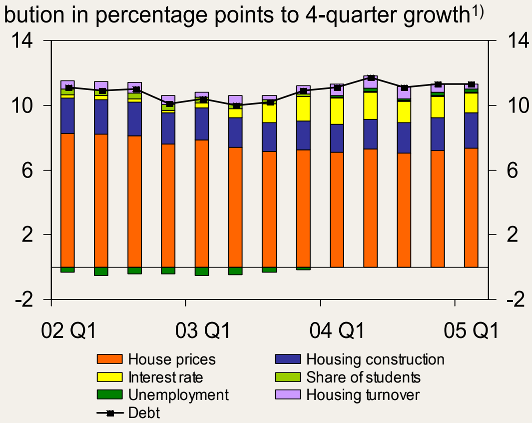
Chart 2.4 Housing indicators in selected countries in 2003



[1)] Total mortgage loans as a percentage of GDP
[2)] Total household debt in Sweden as a percentage of GDP

Sources: IMF, Eurostat, Statistics Norway and Norges Bank

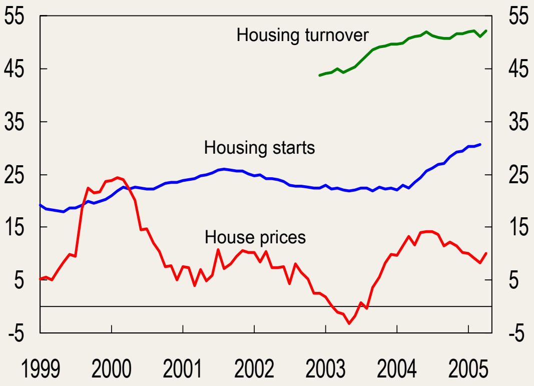
Chart 2.5 Household debt and estimated contributions from explanatory factors in the model. Contribution in percentage points to 4-quarter growth[1)]



[1)] Values for interest rate and housing construction in 05 Q1 are based on estimates from *Inflation Report* 1/2005

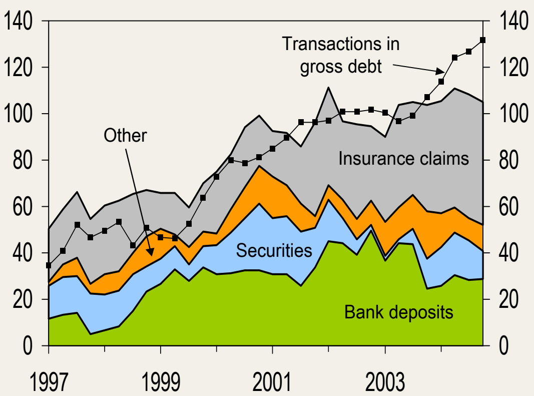
Source: Norges Bank

Chart 2.6 Housing turnover and housing starts in thousands. 12-month change in house prices in per cent



Sources: Association of Norwegian Real Estate Agents (NEF), Association of Real Estate Agency Firms (EFF), Statistics Norway and Norges Bank

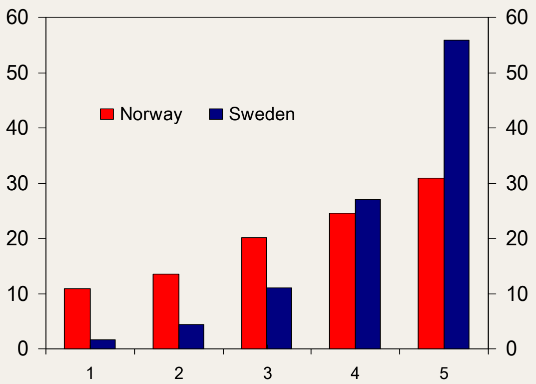
Chart 2.7 Transactions in household gross debt and in financial assets[1)] by investment instrument. Total last four quarters. NOK billion



[1)] Excluding estimated reinvested dividend payments since 2001

Source: Norges Bank

Chart 2.8 Household debt after income groups.[1)] Proportion of total debt in each country. Per cent



[1)] Group 1 consists of the first 20 per cent of households in the population sorted by income. Group 2 the next 20 per cent etc.

Sources: Sveriges Riksbank, Norges Bank and Statistics Norway

Bank and the State Educational Loan Fund dropped a couple of percentage points. Less than 1% of the new mortgage loans granted by the banks in Kredittilsynet's (The Financial Supervisory Authority of Norway) survey of autumn 2004 were at fixed rates.

Slower rise in house prices

House prices in Norway have risen substantially in the past decade compared with other countries (see Chart 1.4). However, over the past year, the rise in house prices has slowed somewhat (see Chart 2.6). Strong economic growth and tighter labour market conditions should imply high housing demand. This is reflected in a decline in the time it takes to sell a dwelling, while the number of dwellings sold remains high. On the other hand, according to figures from Prognosesenteret (forecasting centre), fewer households were planning to move within the next three months in January this year than at the same time last year. In isolation, this indicates slower growth in housing demand. The slower rise in house prices must also be viewed in the light of the unwinding of the effects of the sharp reduction in interest rates in 2003 and into 2004.

In isolation, the increased housing supply has reduced pressures in the housing market. Housing starts increased considerably in 2004 as a result of high house prices and a favourable economic outlook. The level of housing starts has been high in Oslo in particular.

Increase in household financial assets

Household gross financial assets increased further in 2004. The increase primarily reflects higher household net lending, and to some extent valuation changes. Gross financial assets rose more than gross debt from end-2003 to end-2004 (Table 1 in Annex 1) resulting in an increase in net financial assets.

Figures for household income and assets have been affected by extraordinarily high share dividends since 2002 as a result of the planned changes in the taxation of share dividends. This makes it difficult to interpret underlying developments. A large share of dividends has probably been ploughed back into enterprises in the form of loans to the enterprises or payment for new shares issued by unlisted companies. Preliminary estimates for reinvested equity of NOK 2bn, NOK 20bn and NOK 36.5bn have been recorded in households' financial accounts for 2001, 2002 and 2003, respectively. If we disregard these estimated extraordinary financial investments, the increase in household debt exceeds their financial investments (see Chart 2.7).

Assets and debt are unevenly distributed among households

Both assets and debt are unevenly distributed among different groups of households. Compared with corresponding figures for Swedish households, Norwegian low-income households have an appreciably larger share of overall debt (see Chart 2.8).

The distribution of debt between households with high and low debt burdens has changed considerably over the past 15 years (see Chart 2.9). In the late 1980s, more than 2/3 of debt was incurred by households with a debt burden of more than 20%, whereas the corresponding share in 2002 was just over 1/3. If we project household debt, income and interest expenses in line with the baseline scenario in *Inflation Report* 1/2005, we see that the distribution of debt between households with high and low interest burdens will change markedly after 2005 when interest rates normalise.[2]

Developments ahead

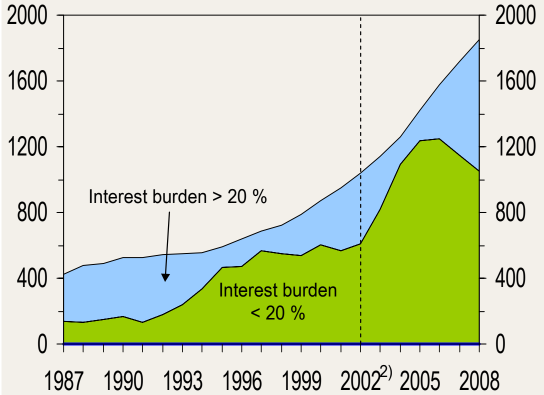
As a result of high credit growth, the household debt burden has increased over the past year. The debt burden is now at a record high (see Chart 2.10). Nevertheless, as a result of unusually low interest rates, the interest burden is relatively low (see Chart 2.11). A normalisation of interest rates will increase households' net interest expenses.

The debt and interest burden projections are based on the baseline scenario in *Inflation Report* 1/2005 and estimated relationships for house prices and household debt. The projections indicate that the debt burden will rise to over 200% in 2008. The interest burden rises in pace with the interest rate, and towards the end of the projection period will be approaching the level in 1994.

Growth in household debt has been high for a long period. In the short term, households' financial position is sound. However, the accumulation of debt will lead to a substantial increase in households' interest expenses when the interest rate reaches a more normal level. There is uncertainty as to how households will adjust their saving when this time comes. If they choose to maintain their saving at the same level, or increase it, consumer demand will decline, and corporate profitability and debt-servicing capacity may weaken. This may lead to increased losses in financial institutions and affect the stability of the financial system. In this respect, the high level of household debt growth represents an element of uncertainty for financial stability a few years ahead.

2 The same growth in income and debt as in the macroeconomic projections is used as the basis for the projections for all households.

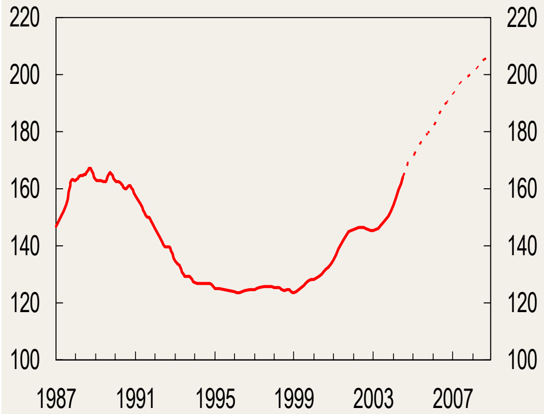
Chart 2.9 Household debt after interest burden. 1) In billions of NOK



1) Interest paid in per cent of income after tax
2) Forecasts for the period 2003 - 2008

Sources: Norges Bank and Statistics Norway

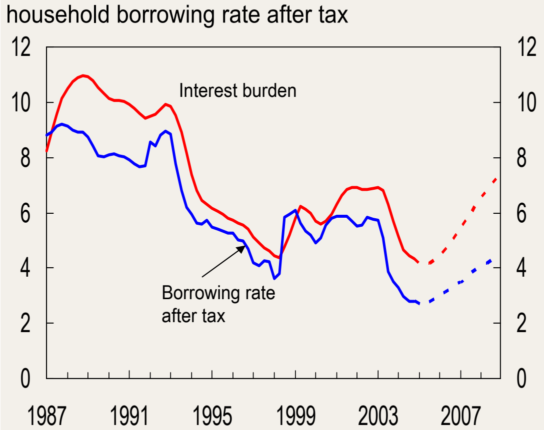
Chart 2.10 Household debt burden 1)



1) Loan debt as a percentage of liquid disposable income (disposable income less the return on insurance claims)

Source: Norges Bank

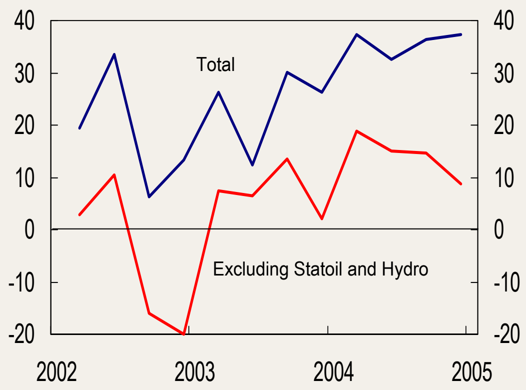
Chart 2.11 Household interest burden 1) and household borrowing rate after tax



1) Interest expenses after tax as a percentage of liquid disposable income plus interest expenses

Source: Norges Bank

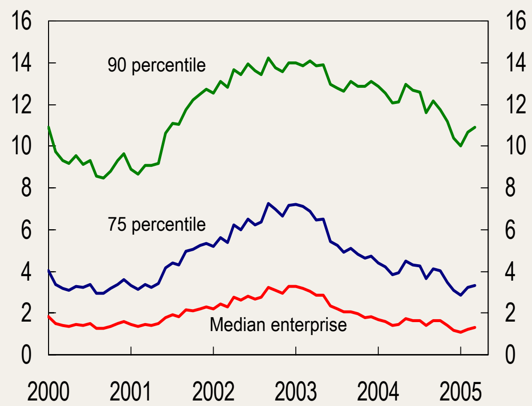
Chart 2.12 Pre-tax return on equity for companies listed on Oslo Stock Exchange.[1)] Per cent



[1)] Companies registered in Norway with the exception of banks and insurance companies

Sources: Statistics Norway, Statoil and Hydro

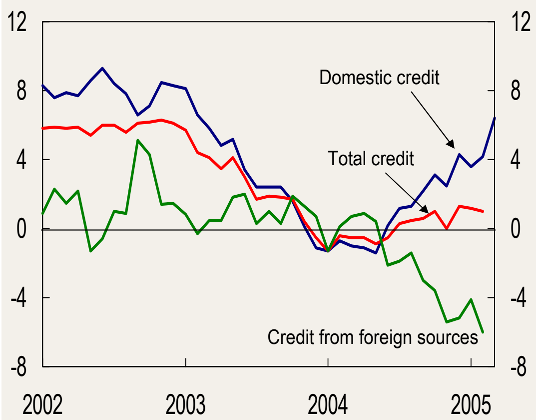
Chart 2.13 Expected default probabilities for large Norwegian unlisted enterprises.[1)] Per cent



[1)] Non-financial enterprises with turnover of more than NOK 70 million. Probability of default within a year

Source: Moody's KMV

Chart 2.14 Credit to mainland non-financial enterprises.12-month growth. Per cent



Source: Norges Bank

2.3 Enterprises

Solid profitability and fewer bankruptcies

The profitability of listed companies improved markedly from 2003 to 2004 (see Chart 2.12). High oil prices, increasing demand, moderate wage growth and lower interest rates were contributory factors. Oil companies recorded the most pronounced improvement. With the exception of oil companies, results appear to have levelled off in the first quarter of 2005. Performance gains for listed companies provide a strong indication that profitability in the remainder of the Norwegian corporate sector also improved from 2003 to 2004.[1]

High profitability led to a further decline in the number of bankruptcies in 2004 (Chart 4 in the summary). Improved competitiveness due to a weaker krone exchange rate and slower wage growth in 2003 and 2004 made a particularly large contribution to the decline in the number of bankruptcies last year (see box on 'What influences the number of bankruptcies?' on page 22).

Rising equity prices and slightly less volatile equity markets in 2004 contributed to a somewhat lower probability of debt default by large Norwegian unlisted enterprises (see Chart 2.13). The probability of debt default by enterprises in the various risk categories has shown a small increase so far in 2005, and is at about the same level as in early 2000.

Credit growth has increased somewhat

In the first half of 2004, total growth in credit to mainland enterprises was negative. Since then, credit growth has shown a gently rising trend. At end-February this year, overall annual credit growth was 1.0% (see Chart 2.14). Growth in credit from domestic sources has increased, while growth in credit from foreign sources has been negative. The shift towards domestic funding may to some extent have been motivated by the low level of interest rates in Norway.

Mainland business fixed investment rose by 11.8% in the year to the fourth quarter of 2004, with a particularly strong increase in investment in manufacturing, mining, and service production.

Credit growth has also picked up later than investment growth in previous cyclical upturns (see Chart 2.15). In the early phase of cyclical upturns, investment is largely funded using internally generated funds. There may be several reasons for this. A cyclical downturn is often followed by a decline in wage growth and interest rates. Productivity normally increases early in a cyclical upturn. The overall result will often be improved profitability. This will also put enterprises in a better position to finance investment using current earnings. Another possibility is that in the early phase of a cyclical

[1] See the box "Relationship between the results of companies listed on the Oslo Stock Exchange and of the Norwegian enterprise sector as a whole" in *Financial Stability* 2/2004.

upturn banks tend to be cautious about extending loans until enterprises have improved their financial position.

The difference from the situation in the late 1990s is therefore that enterprises are to a greater extent financing investments by means of own funds, both internally generated and paid-up equity capital. In the 1990s, there was an accumulation of debt, paid-in share capital and financial assets (see Chart 2.16). Paid-in share capital deriving from issues has risen throughout the period, with the exception of a decline in 2002. The increase in recent years may also be attributable to adaptation to the signalled tax on dividends and to an increase in new entrants.

The commercial property market is improving

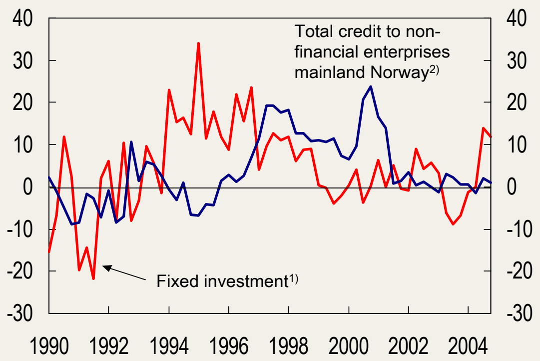
A low level of building starts combined with moderate growth in occupied office space has reduced office vacancy rates in a number of large cities. This has contributed to stabilising the average rental price for office premises. However, there are differences between various areas within cities. In centrally located areas, rental prices have increased in a number of cities, while rental prices are continuing to fall in more peripheral areas. The office vacancy rate has been higher in the Oslo area than in other cities, but fell from 10½% at the beginning of 2004 to 9% at the beginning of 2005 (see Chart 2.17). A moderate level of building starts, also in 2005, combined with high economic growth in office-intensive industries points towards a continued fall in vacancy rates.

Long-term interest rates have been low both in Norway and other countries for a long period. In the search for yield, commercial property has become more attractive as an investment vehicle for both institutional and private investors. Life insurance and syndication companies increased their purchases of commercial properties in 2004. Life insurance companies' holdings of commercial property increased by NOK 7bn in 2004, i.e. a rise of 16%. Commercial property prices rose by 6.8% in 2004 (see Chart 5 in the summary).

Lower interest burden

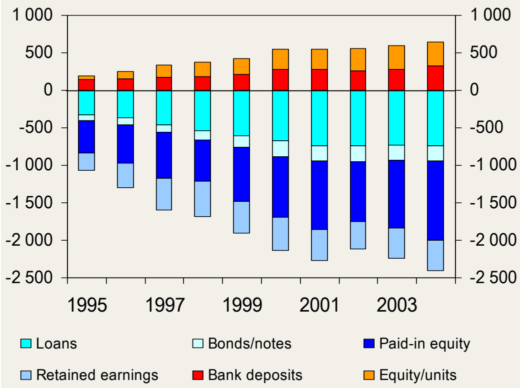
The low interest rate level is pushing down enterprises' interest burden (see Chart 2.18). However, the enterprise sector's debt burden rose slightly from 2003 to 2004. Solid profitability and slow debt growth should normally have reduced enterprises' debt burden. However, high extraordinary dividend payments contributed to a sharp fall in net capital income. Although net capital income was adjusted using the estimates for reinvested dividend, the cash surplus declined.

Chart 2.15 Enterprises' fixed investment and credit to non-financial enterprises. 4-quarter real growth. Per cent



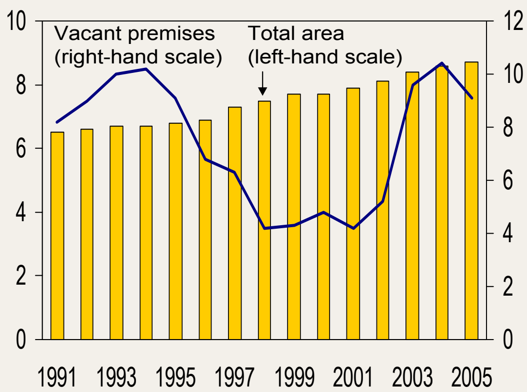
1) Mainland fixed investment excluding public sector investment and households' housing investment
2) Deflated by GDP deflator for mainland Norway
Sources: Statistics Norway and Norges Bank

Chart 2.16 Non-financial enterprises' financing and financial assets1) Stocks. In billions of NOK



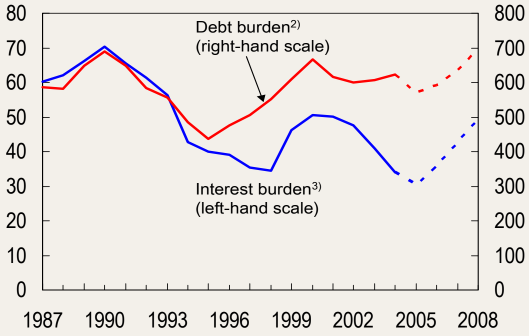
1) The figures do not include debt relationships between non-financial enterprises. Non-financial enterprises include both public sector and private enterprises
Source: Norges Bank

Chart 2.17 Total area of office premises in Oslo, Bærum and Asker in millions of square meters, and vacant premises in per cent of total area1)



1) As of February
Source: Eiendomsspar AS

Chart 2.18 Debt and interest burden in non-financial enterprises excluding enterprises in the oil and gas industry and shipping. Per cent of cash surplus[1)]



[1)] The cash surplus is adjusted by estimates for reinvested dividends in the period 2001-2004
[2)] Cash surplus (computation of debt burden) = Value added – labour costs + net capital income
[3)] Cash surplus (computation of interest burden) = Value added – labour costs + capital income

Sources: Statistics Norway and Norges Bank

If developments in the Norwegian economy are in line with the baseline scenario in *Inflation Report* 1/2005, both the interest burden and the debt burden will fall from 2004 to 2005. The interest burden will increase again up to 2008, because the assumed rise in interest rates will lead to higher interest expenses. Increased debt, combined with higher interest expenses which push down the cash surplus, will also lead to a further increase in the debt burden during this period.

Developments ahead

Enterprises' profitability is satisfactory and their financial strength has increased in recent years. The enterprise sector is therefore well equipped to cope with an increase in the interest burden. The financial outlook for the enterprise sector as a whole is now satisfactory, and at the same level as it was six months ago.

What influences the number of bankruptcies?

In general, an enterprise will be bankrupt if the value of its assets is less than its debt and it cannot meet its current commitments. An increase in the number of bankruptcies usually increases banks' losses. The development in the number of bankruptcies is therefore monitored closely in connection with financial stability surveillance. Using a theoretical model that gives a relationship between bankruptcies and factors that influence corporate profitability,[1] we carry out an empirical analysis of the number of bankruptcies in Norway. The empirical model was estimated using quarterly data over the period 1991-2004, see below.

Higher demand will usually raise enterprises' income due to increased sales and/or increased price. This reduces the probability of firms going bankrupt. In the model, the effect of domestic demand is captured by including unemployment as an explanatory variable. According to the model, the number of bankruptcies decreases by 10¾% over time if unemployment falls from 4% to 3% of the labour force, and the other explanatory factors remain constant. The number of bankruptcies will also dip temporarily with increased demand from abroad, which is measured in the model as the output gap for the OECD area.

Higher labour costs or an increase in other input prices contribute to declining profitability. According to the model, the number of bankruptcies will increase by 2¾% over time if unit labour costs in real terms increase by 1%. Similarly, the number of bankruptcies will increase by 2% in the long term if the real costs associated with materials input increase by 1%.

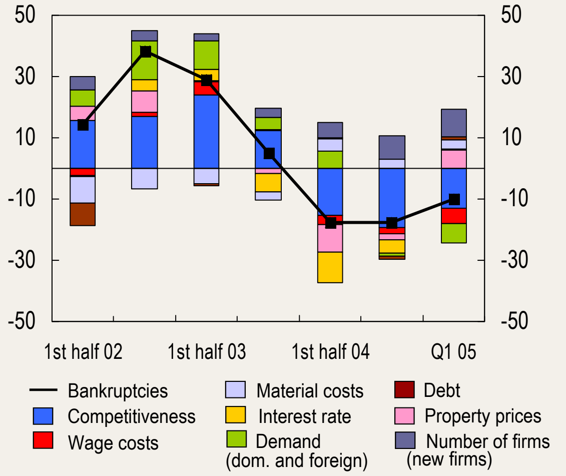
Higher real interest rates push up enterprises' debt-servicing costs. At the same time, higher real interest rates will reduce real equity by lowering the net present value of expected future earnings. In the model, the number of bankruptcies will increase by 3½% in the long term if real interest rates increase by 1 percentage point.

The number of bankruptcies also depends on the competitiveness of domestic relative to foreign enterprises in both the domestic and foreign markets. Competitiveness, represented by the real exchange rate, is weakened if domestic wage growth is higher than among trading partners, or if the krone appreciates. The model implies that the number of bankruptcies increases by 2% in the long term if competitiveness is weakened by 1%.

According to the model, higher real prices for commercial property result in a temporary reduction in the number of bankruptcies. This effect captures the improvement in profitability in the property and construction sectors that results from an increase in property prices. Moreover, commercial property is often used as collateral for loans to enterprises. If property prices decline, collateral values will fall. This limits the possibilities, or increases the costs, of raising loans with commercial property as collateral.

The number of bankruptcies increases with the number of enterprises. The model implies that the number of bankruptcies increases by 1% over time if the number of enterprises increases by 1%. The number of bankruptcies will also rise if enterprise debt increases. In the model, however, higher real debt only has a short-term effect on the number of bankruptcies.

Chart 1 Annual percentage change in bankruptcies and calculated contributions from explanatory variables in percentage points. Measured in real terms



Sources: Statistics Norway and Norges Bank

Chart 1 shows the estimated contributions to bankruptcies from the explanatory variables in the model in the period 2002 to 2005 Q1. The explanatory variables affect the number of bankruptcies with a (somewhat variable) lag. Developments in costs, competitiveness, interest rates and cyclical fluctuations in the Norwegian and global economies, have been among the most important driving forces during this period.

There was a downturn in the global economy in 2001, and growth among trading partners remained low for the next two years. The Norwegian economy did not begin to exhibit sluggish developments until late 2002. The combined contribution from domestic and foreign demand therefore pushed up the number of bankruptcies from 2002 to the first half of 2004. Growth in both the Norwegian and the global economy picked up in 2004, and this contributed to curbing the number of bankruptcies in 2005 Q1.

The sharp growth in real wages spring 2002, contributed to increase the number of bankruptcies in the second half of 2002 and first half of 2003. However, wage growth has also affected the number of bankruptcies through its effect on competitiveness. Weakened competitiveness pushed up the number of bankruptcies in 2002 and 2003. In addition to high (domestic) wage growth, a stronger krone also had a negative effect on competitiveness. The krone appreciated from May 2000 to January 2003, with a particularly marked appreciation in 2002. A widening interest rate differential against other countries contributed to this.[2] Subsequently, the interest rate decline from December 2002 contributed to a depreciation of the krone through 2003 and into 2004, and wage growth has slowed down over the past two years. Competitiveness has therefore improved, contributing to the fall in the number of bankruptcies in 2004 and 2005 Q1. The direct contribution from lower real interest rates pushed down the number of bankruptcies in the second half of 2003 and in 2004.

[1] See Wadhwani, Sushil B. (1986): "Inflation, Bankruptcy, Default Premia and the Stock Market". *The Economic Journal*, Vol. 96, No. 381, pp. 120-138.
[2] For a more detailed discussion, see box in *Inflation Report* 1/2003: "Factors behind developments in the krone exchange rate".

The model is defined by:

$$\Delta b_t = \underset{(1,9)}{2{,}03} + \underset{(3,7)}{1{,}76}\,\Delta_3 (w-p)_t - \underset{(4,6)}{1{,}32}\,\Delta_3 e_{t-2} - \underset{(3,2)}{0{,}74}\,\Delta_2 (pc-p)_{t-1} - \underset{(2,8)}{0{,}06}\,\Delta y_{t-5} + \underset{(2,8)}{0{,}48}\,\Delta_2 (d-p)_{t-2}$$

$$- \underset{(9,6)}{0{,}93}\,[(b_{t-1} - f_{t-3}) - \underset{(4,5)}{3{,}44}\,R_{t-1} - \underset{(6,4)}{0{,}36}\,u_{t-2} - \underset{(3,5)}{2{,}77}\,(w-p)_{t-3} - \underset{(5,4)}{2{,}10}\,(q-p)_{t-1} + \underset{(7,9)}{1{,}90}\,e_{t-4}].$$

Estimation period: 1. 1991 Q1 - 2004 Q4
$R^2 = 0.90$ Absolute *t*-values are shown in parentheses under the estimates.
Δ is a difference operator: $\Delta X_t = (X_t - X_{t-1})$, $\Delta_2 X_t = (X_t - X_{t-2})$, $\Delta_3 X_t = (X_t - X_{t-3})$.
The variables are defined as (small letters indicate that variables are in logarithms):

b = Number of bankruptcy proceedings initiated. Source: Statistics Norway.
w = Unit labour costs in mainland Norway excluding the public sector. Source: Statistics Norway.
p = Price deflator for mainland GDP. Source: Statistics Norway.
e = Real exchange rate (competitiveness) measured by the trade-weighted exchange rate index and hourly labour costs in manufacturing for Norway and trading partners respectively. Sources: The Technical Reporting Committee on Income Settlements, the Ministry of Finance and Norges Bank.
pc = Price index for office and commercial property. The time series prior to 1996 has been extended backwards using the growth rate in the real estate industry's house price index. Sources: Statistics Norway, Norwegian Association of Real Estate Agents (NEF), Association of Real Estate Agency Firms (EFF), FINN.no, ECON and Norges Bank.
y = Output gap for the OECD area. Source: OECD.
d = Gross debt in non-financial enterprises. Source: Norges Bank.
f = Number of enterprises (Register count). Sources: Statistics Norway and the Brønnøysund Register Centre.
R = Real interest rate measured by banks' average lending rate to private non-financial enterprises less average four-quarter rise in *p* over four quarters. Source: Norges Bank.
u = Unemployment rate. Source: Directorate of Labour.
q = Cost index for materials input. Source: Statistics Norway.

The model also contains effects of seasonal variation and a dummy variable for 1993 Q4. The dummy variable must be viewed in connection with new registration rules for personal bankruptcies at year-end 1993.

Small enterprises more exposed to risk than large enterprises

This box examines in more detail the relationship between the size of Norwegian enterprises and their exposure to risk. The analysis is based on the annual accounts for 2003 of some 140 000 non-financial enterprises. We have divided enterprises into groups on the basis of balance sheet total (book value of assets). Among the smallest enterprises, a very high share show poor profitability and weak financial strength (see Table 1). More than 2/3 of these enterprises recorded an operating loss in 2003, and almost half had negative equity. There is a positive relationship between the size of an enterprise and its equity ratio. Whereas the equity ratio of the smallest enterprises is negative on average, it is 40% for the largest enterprises.

Table 1 Facts about non-financial enterprises of different balance sheet totals at year-end 2003. Per cent

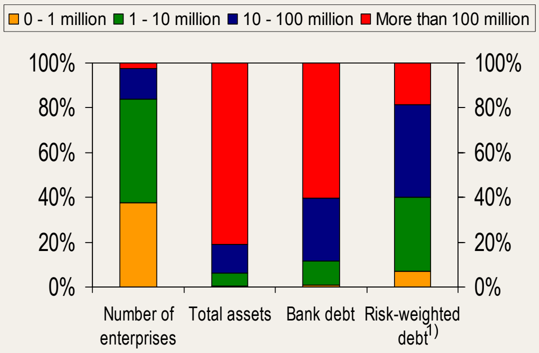
Balance sheet total (in millions of NOK)	Share of number of enterprises	Share of enterprises with		Average equity ratio
		operating loss	negative equity	
0 - 0.1	7.0	68	46	Negative
0.101 - 1	30.8	46	20	7
1.001 - 10	46.0	29	12	19
10.001 - 100	13.7	30	7	29
Over 100	2.5	36	4	40

Source: Norges Bank

The largest enterprises (with a balance sheet total of more than NOK 100m) account for only 2.5% of the total number of enterprises. At the end of 2003, however, these enterprises accounted for 81% of the assets and 60% of the debt to banks (see Chart 1). By comparison, enterprises with a balance sheet total of less than NOK 1m accounted for less than one per cent of both assets and debt to banks. The distribution of aggregated profit/loss for the year across the different groups of enterprises is largely the same as the distribution of assets.

If the difference in risk between small, medium-sized and large enterprises is taken into account, a different picture emerges of where the risk lies.

Chart 1 Distribution of different variables between enterprises with different balance sheet totals at year-end 2003.



1) Risk-weighted debt = Bankruptcy probability multiplied by the bank debt of each enterprise totalled for all enterprises in the group

Source: Norges Bank

Calculations using the bankruptcy prediction model SEBRA show that the largest enterprises only account for 19 per cent of risk-weighted debt, while enterprises with a balance sheet total of less than NOK 10m account for as much as 40%.

Banks lend extensively to the property management, manufacturing and retail trade industries. The distribution within these industries largely corresponds with the distribution in Chart 1. There are, however, some differences. In retail trade, enterprises with a balance sheet total of less than NOK 10m account for as much as 63 per cent of risk-weighted debt. The property management sector deviates from the usual pattern whereby an enterprise's equity ratio increases with its size, as the average equity ratio is fairly high in all enterprise groups. This reflects banks' lending, which is clearly highest in the property management sector. A bank will require that owners invest a sufficient volume of their own funds in the property enterprise before the bank will extend a loan to the enterprise.

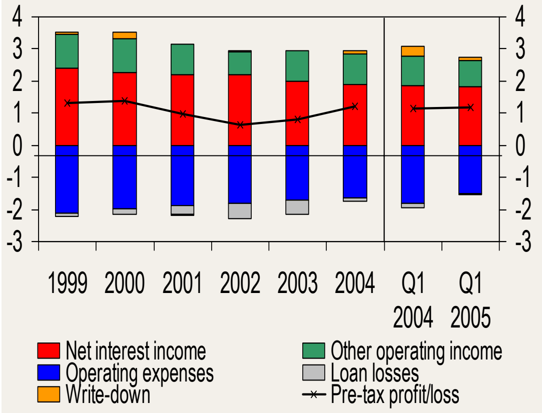
3 | Financial institutions

The Norwegian banking sector has become both more international and integrated with other financial institutions. The market share of foreign-owned banks in Norway increased further in the last half year, and is now around 30% measured by total assets. Many banks today are part of larger financial conglomerates, although banking still accounts for the bulk of the conglomerates' activities in Norway (see Table 11 in Annex 1).

This chapter focuses on a discussion and analysis of Norwegian banks. Analyses of institutional factors are concentrated on Norwegian banks, while analyses of market conditions also include branches of foreign banks in Norway. Developments in other financial institutions are discussed when they have a bearing on banks and on financial stability in general.

3.1 Banks' results and financial strength

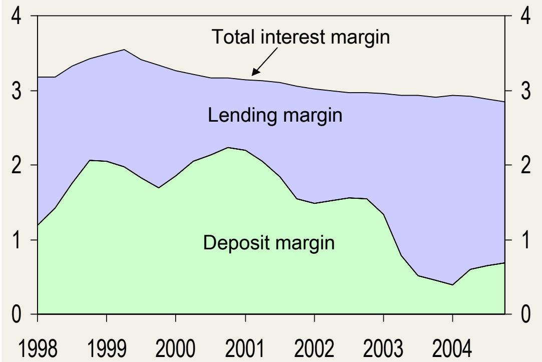
Chart 3.1 Banks' profit/loss.[1)] Percentage of average total assets



[1)] Excluding branches of foreign banks in Norway and branches of Norwegian banks abroad

Source: Norges Bank

Chart 3.2 Banks' deposit and lending margins, and total interest margin.[1)] Per cent



[1)] Interest margin is defined as the average of lending rates (excluding non-accrual loans) minus the average of deposit rates. 3-month money market rate (NIBOR) is used to split the interest margin into lending margin and deposit margin. The chart shows a moving average over the last four quarters

Source: Norges Bank

Banks achieved solid results in 2004 and in the first quarter of 2005. In the first quarter of 2005, pre-tax profits came to 1.18% of average total assets. The return on equity for the seven largest banks has increased compared with 2003, and is now in line with the return of the largest Nordic financial conglomerates (see Table 6 in Annex 1).

Beginning with the 2005 accounting year, listed companies in the EU/EEA area are required to report consolidated accounts according to the new international accounting standards (IFRS). Important changes for banks are increased use of market values for financial instruments and valuation of the lending portfolio at amortised cost. Increased use of market values means that banks' results will fluctuate to a greater extent in step with the movements in financial asset prices. Another change following from IFRS is that goodwill shall no longer be amortised. When reporting the quarterly results for 2005, the corresponding accounting figures for 2004 are to be presented. For the DnB NOR Group the new rules mean that the result for the first quarter of 2004 increased by a little more than NOK 0.4bn, to slightly more than NOK 1.9bn.

The improved performance from 2003 to 2004 and the first quarter of this year primarily reflects lower loan losses (see Chart 3.1). The result before securities income and losses declined somewhat from 2003 to 2004 measured as a percentage of average total assets. Net interest income, which is banks' main source of income, continued to fall in 2004 and declined further in the first quarter of this year, measured as a percentage of average total assets. This is partly due to a decline in banks' interest margins. The deposit margin increased somewhat in 2004 despite low interest rates, while lending margins fell again, partly as a result of lower interest rates on corporate loans (see Chart 3.2).[1] In addition, banks have increased their share of loans to households,

[1] Banks' interest margin indicates what banks earn from lending when the loans are financed by deposits.

which on average have lower interest margins than loans to enterprises. This year, banks will not pay a premium to the Norwegian Banks' Guarantee Fund because the requirement concerning the Fund's size has been satisfied. In isolation, the premium exemption has a positive impact on banks' interest income. Banks' operating expenses, measured as a percentage of average total assets, have fallen in recent years and continued to decline in the first quarter of 2005.

Results for non-bank financial intermediaries varied in 2004. The results for life insurance companies and mortgage companies were weaker in 2004 than in 2003, while finance companies improved their results during the same period. Mortgage companies, finance companies and life insurance companies recorded somewhat weaker results in the first quarter of 2005 compared with the first quarter of last year. Mortgage companies posted very low loan losses in 2004 (see Table 8 in Annex 1).

The Tier 1 capital ratio for Norwegian banks as a whole was approximately the same at the end of 2004 as at the end of 2003, but weakened somewhat in the first quarter of this year. The higher share of banks' mortgage loans, which have a lower risk weight than loans to the corporate sector, has in isolation led to a slower rise in the basis for the capital adequacy requirement, the risk-weighted balance sheet, than in average total assets. The share of perpetual capital securities in banks' Tier 1 capital increased through 2004 and in the first quarter of 2005. Tier 1 capital ratios are slightly higher for Norwegian banks than for the largest Nordic banks (see Chart 3.3). However, credit ratings are generally lower for Norwegian banks. This indicates that factors such as size, market share and geographical spread may also be important for banks' credit ratings.

3.2 Risk outlook for banks

Banks are exposed to various risks, primarily as a result of lending activities. Risks are also associated with market activities and own funds. See box in the margin for further definition of the various types of risk.

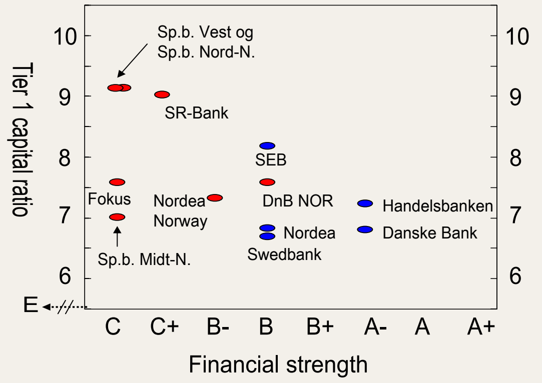
Credit risk

Banks' total lending to households, non-financial enterprises and municipalities accounts for 3/4 of total assets. Credit risk is accordingly the primary source of risk for banks. Households and non-financial enterprises account for the largest share of bank lending.[2] As a result of higher growth in lending to households in recent years, these loans now make up more than 70% of banks' total loans (see Chart 3.4).

Loans secured on dwellings account for about 75% of banks' total lending to households. According to Kredittilsynet's survey of mortgage loans, the loan-to-asset value ratio

[2] The household sector also includes the self-employed.

Chart 3.3 Moody's rating for financial strength and financial groups' Tier 1 capital ratio.[1)] As at 31.03.2005[2)]



[1)] Banks include results for Q1 2005 in their Tier 1 capital ratio to a variable degree
[2)] Fokus Bank's Tier 1 capital ratio as at 31.12.2004

Source: Banks' websites

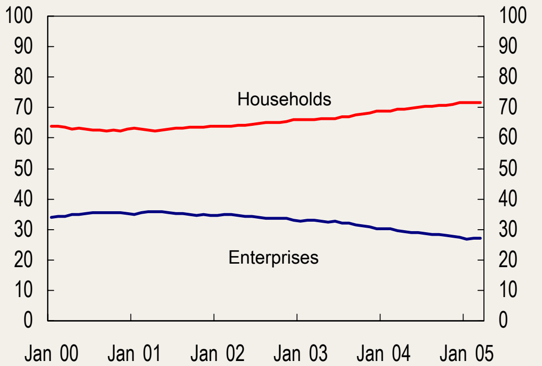
Types of risk

Credit risk: the risk of a loss due to the inability of a counterparty to meet his obligations, for example when a borrower does not pay interest and/or instalments.

Liquidity risk: the risk of substantial extra expenses due to loss of financing, i.e. the bank's lenders no longer being able or willing to extend credit to the bank, or to a counterparty failing to fulfil his obligations at the right time.

Market risk: the risk of losses due to changes in interest rates, exchange rates or share prices.

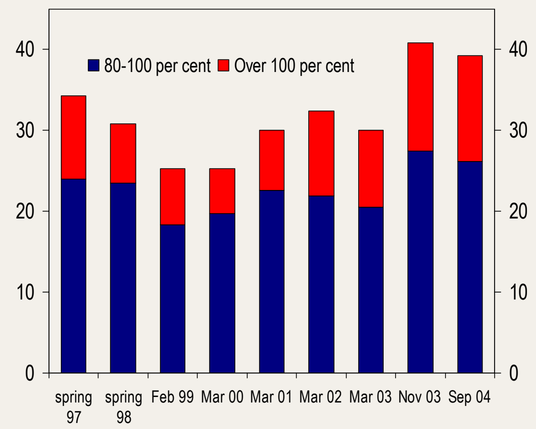
Chart 3.4 Norwegian banks' lending to households and enterprises.[1)] Percentage of gross lending to households, non-financial enterprises and municipalities



[1)] Non-financial enterprises. Including branches of foreign banks

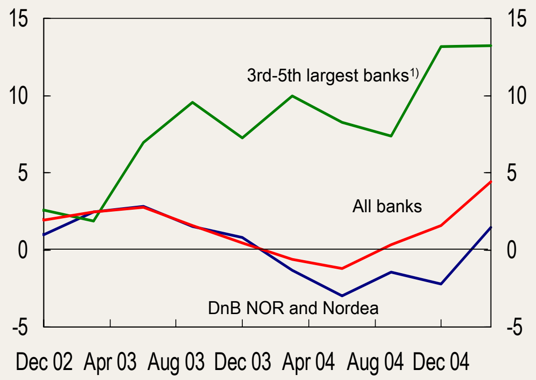
Source: Norges Bank

Chart 3.5 Mortgage loans to households according to loan-to-asset value. Per cent



Source: Kredittilsynet

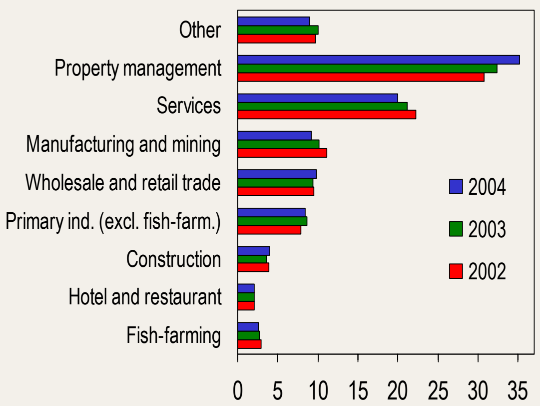
Chart 3.6 Growth of loans to the enterprise sector from the largest banks. Twelve-month growth. Quarterly figures. Per cent



1) 3rd-5th largest in the lending market: Fokus Bank, Handelsbanken (Swedish branch) and Sparebank 1 SR-bank

Source: Norges Bank

Chart 3.7 Percentage distribution of commercial loans.[1] All banks



1) Commercial loans comprise both lending to non-financial enterprises and households including the self-employed

Source: Norges Bank

for new mortgage loans is now at a higher level than it was two years ago (see Chart 3.5). High loan-to-asset value ratios increase the probability that the loans will not have sufficient collateral in the event of a decline in house prices. Growth in loans to households that are not secured on dwellings has increased recently (see Chart 2.3). In general, these loans carry a higher risk than loans that are secured on dwellings (see box on page 32).

The average interest rate for all loans secured on dwellings continued to fall in the fourth quarter of last year. Competition between banks and conversion of existing fixed-rate loans to floating-rate loans or new, lower fixed rate loans have led to a decrease in the average interest rate. Interest rates may also be pushed down when foreign banks seek to position themselves in the Norwegian market.

Growth in bank lending to non-financial enterprises has edged up since *Financial Stability* 2/2004. However, growth in lending is unevenly distributed among the largest banks in the Norwegian market (see Chart 3.6). From the third to fourth quarter, interest rates on loans to enterprises fell more than mortgage rates. The difference between these interest rates is now the lowest it has been since the second quarter of 2003. The largest banks have indicated that this reflects intensified competition for loans to the enterprise sector. A more positive assessment of the risk associated with such loans, as a result of improved corporate earnings, may also play a role. In addition, the differentiation of risk between different corporate loans is enhanced under the new capital adequacy rules compared with the current rules.

Banks' holdings of large loans fell further through 2004.[3] At the end of the year large loans accounted for just over 6% of total lending, compared with a share of around 10% at the beginning of 2003.

The property management industry accounts for the largest share of bank lending to the enterprise sector. Loans to this industry account for about 35% of banks' total loans to the corporate market (see Chart 3.7). The share and volume have increased in the last quarters. The figures for building starts are higher than last year. This would suggest that banks' lending to the property management industry will continue to rise.

Banks have several ways of managing credit risk. Asset-backed bonds can be used to transfer credit risk from banks to purchasers of the bonds. Credit risk may also be transferred by means of credit derivatives. Credit derivatives count as a risk-reducing technique in calculating the capital adequacy requirement and may also be used to change the composition of the bank's credit risk. The use of credit derivatives is rapidly increasing internationally, but is still limited in Norway.[4]

3 A large loan is defined as an exposure that accounts for more than 10% of owners' capital. For more details see Kredittilsynet's report *The Financial Market in Norway* 2004.

4 For a more detailed discussion of transfer of credit risk, see Andresen and Gerdrup: "Kredittrisikooverføring" (credit risk transfer) in *Penger og Kreditt* 4/2004 (Norwegian only).

Growth in finance companies lending to the corporate market was high throughout 2004, while growth in mortgage companies lending to this market was low. As with banks, property management accounts for the largest share of corporate loans from mortgage companies, while service industries account for the bulk of finance company lending.

Liquidity risk

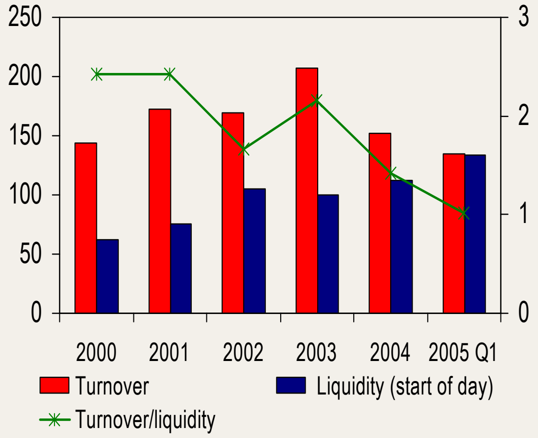
Banking operations give rise to liquidity risk in a number of areas, such as the execution of payment settlements and banks' funding.[5]

In the first quarter of 2005 an average of NOK 134.5bn was settled each day between various banks in Norges Bank's Settlement System (NBO). During this period, banks had on average NOK 133.8bn available in the settlement system at the beginning of the day, of which borrowing facilities from pledged securities totalled NOK 94.7bn and deposits NOK 39.1bn (see Chart 3.8). The development in the ratio between turnover in NBO and available liquidity indicate that a higher settlement volume is possible with the current liquidity level, or that liquidity may be reduced without causing delays in the settlement system.

Norges Bank has proposed amendments to the regulations regarding collateral for loans in the central bank. The proposed changes were presented to banks in a consultative paper on 22 April 2005. Among other things, the proposal means that it will no longer be possible to use certain securities currently approved as collateral, and that banks will be permitted to furnish certain asset-backed securities as collateral. Norges Bank has emphasised that the amendments will not have negative consequences for execution of payment settlements.

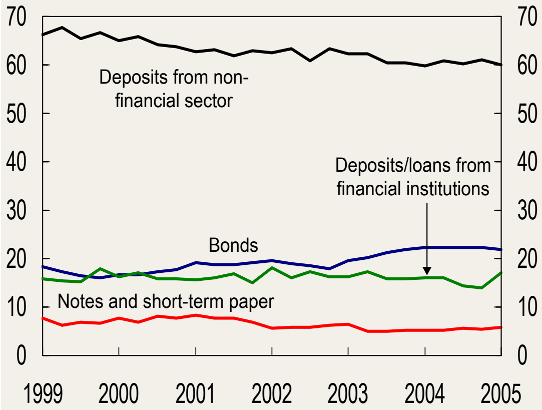
On the whole, banks' funding has been relatively stable since *Financial Stability* 2/2004. The share of funding from stable sources (customer deposits, equities and bonds) increased somewhat in the fourth quarter of last year, but this was counteracted by growth in deposits from foreign financial institutions in the first quarter of this year (see Chart 3.9). However, the trend has not been the same for all banks. The liquidity indicator shows a slight decline for DnB NOR, but a small increase for other banks excluding Nordea and Fokus (see Chart 3.10).[6]

Chart 3.8 Turnover and liquidity in Norges Bank's settlement system (NBO). In billions of NOK (left-hand scale) and as a ratio (right-hand scale)



Source: Norges Bank

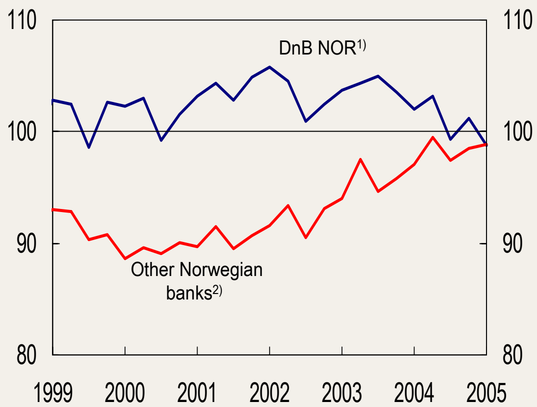
Chart 3.9 Banks' financing.[1)] Percentage of gross lending



[1)] Excluding branches of foreign banks

Source: Norges Bank

Chart 3.10 Developments in banks' liquidity indicator



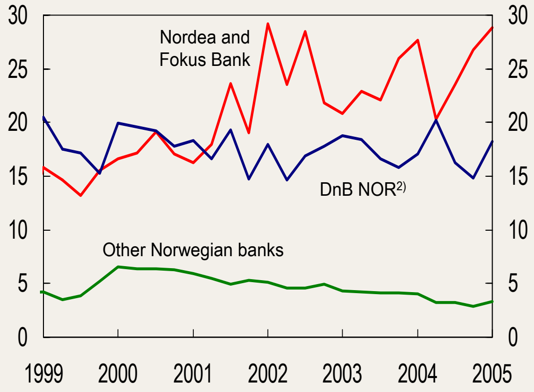
[1)] Nordlandsbanken included
[2)] Excluding Nordea, Fokus Bank and branches of foreign banks

Source: Norges Bank

5 Banks are also exposed to liquidity risk associated with delayed payment of interest and instalments, and with reduced earnings.

6 An index value of 100 means that the banks have balanced the illiquid assets with stable financial sources. An increase in this ratio indicates a reduction of liquidity risk. Illiquid assets include: Gross lending to households, non-financial enterprises and municipalities, other claims, assets acquired by recovery of claims, and fixed assets. Stable sources of financing include: Deposits from households, non-financial enterprises and municipalities, bonds, subordinated loan capital and equity. Banks' drawing facilities are not taken into account.

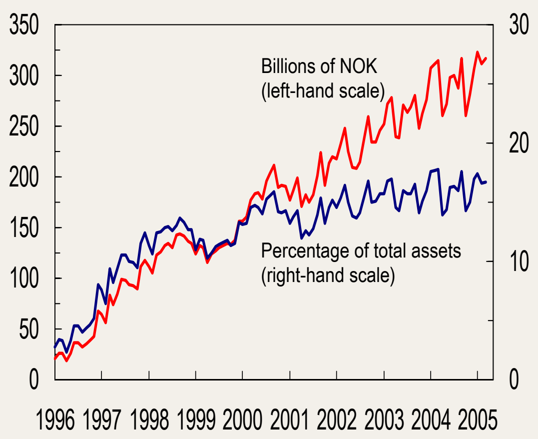
Chart 3.11 Banks' short-term foreign debt.[1)] Percentage of gross lending



[1)] Deposits and loans from other financial institutions and short-term paper. Excluding branches of foreign banks.
[2)] Nordlandsbanken included

Source: Norges Bank

Chart 3.12 Banks' net debt to foreign lenders (liabilities minus assets). Monthly figures



Source: Norges Bank

Despite low interest rates, deposits from households, non-financial enterprises and municipalities showed a higher percentage increase than gross lending to these sectors in the fourth quarter of last year, primarily as a result of high growth in deposits from non-financial enterprises.

With the exception of DnB NOR, savings banks increasingly relied on funding in the bond market throughout 2004, mainly by issuing bonds in NOK. The smaller savings banks have had the sharpest relative growth in bond financing. This indicates that small savings banks are also obtaining favourable prices in the current bond market. Commercial banks, excluding Nordea and Fokus, have to a greater extent financed lending growth by issuing short-term paper.

In the first quarter of this year Norwegian-owned banks increased their short-term foreign debt after a decline in the two previous quarters (see Chart 3.11). Nordea and Fokus increased financing via their foreign conglomerates. There is a risk that foreign investors will reduce financing of Norwegian banks more quickly and to a greater extent in herd behaviour than domestic investors in the event of any weak developments in the Norwegian economy and financial sector. Short-term foreign debt is therefore considered to be a somewhat more unstable form of financing. On the other hand, it will be easier for banks to cope with periods of expensive and illiquid funding markets if they have access to several different sources of funding and markets. This requires that they maintain a presence in these types of markets.

Banks' total net foreign debt decreased somewhat from the third to the fourth quarter last year, but increased again in the first quarter of 2005 (see Chart 3.12). As a result of fluctuations in foreign deposits and short-term paper, the total net debt may vary considerably from month to month. After increasing sharply in the last half of the 1990s, net foreign debt, as a share of total assets, has been fairly stable over the last five years.

DnB NOR's funding has been roughly unchanged in recent years. Since the third quarter, the bank has increased its short-term financing, but has in the same period increased its liquid assets by nearly as much. The deposit-to-loan ratio is approximately unchanged. Short-term foreign debt increased in the first quarter, but is about at the average level for the past few years (see Chart 3.11). DnB NOR's total bond debt has been approximately unchanged since the same time last year, although the share of bonds in foreign currency has risen.

Risk exposures to other financial institutions and other major counterparties

Since 2001, Norges Bank and Kredittilsynet (The Financial Supervisory Authority of Norway) have surveyed banks' counterparty exposures to assess the credit and liquidity risk associated with banks' unsecured, short-term positions.[7]

[7] A sample of eight to ten banks.

The surveys show the size of the positions of the largest Norwegian banks against their largest counterparties (see Chart 3.13). The surveys show that foreign financial institutions account for the largest exposures. A relatively limited share involves Norwegian banks.

Banks have traditionally had the largest counterparty exposures in connection with foreign exchange settlement transactions. In September 2003, the Norwegian krone was included in an international system for settling currency trades, CLS (Continuous Linked Settlement). Currency trades settled in CLS do not entail credit risk for banks. About 90% of the currency trades in the last two counts were secured through CLS. This means that Norwegian banks currently have limited credit risk exposure with regard to settlement of currency trades. However, the exposures may still entail a liquidity risk.

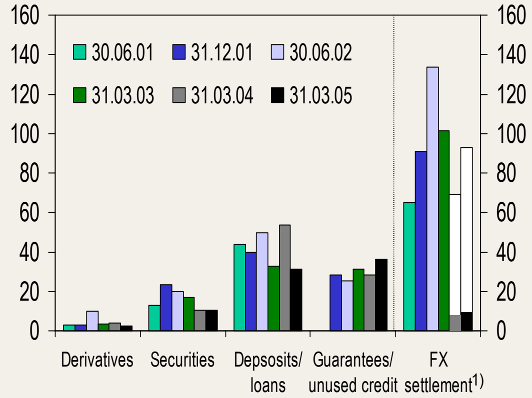
Chart 3.14 shows what the effect would have been on banks' Tier 1 capital ratio had either the largest, second largest or third largest counterparty failed to honour its obligations. The foreign exchange settlement positions are not included in the chart. In the latest survey, one bank would have failed to meet the statutory Tier 1 requirement of 4% if the largest counterparty had failed to settle. Two other banks would have had a Tier 1 capital ratio of between 4 and 7% had the largest counterparty failed to settle. The survey shows that few positions are so large that they would result in serious solvency problems for banks should a large counterparty fail to settle.

Market risk

Only a small portion of Norwegian banks' total assets consists of assets directly exposed to market fluctuations, and banks engage to only a limited extent in securities trading for their own account. Even if prices in equity and bond markets should fall, the negative effect of the trading portfolio on banks' earnings would therefore be limited.

Banks can use derivatives to manage the market risk to which they are exposed. Banks' derivatives exposures can be divided into hedging transactions and transactions for trading purposes. The aim of hedging transactions is to reduce market risk and their value is assessed and recorded in the balance sheet together with the underlying instruments. Trading can potentially increase the market risk in the bank. However, banks' trading activities largely consist of sales of derivatives to customers and the hedging of positions. The derivatives in the trading portfolio are recorded in the balance sheet at market value. Banks primarily trade interest and foreign currency derivatives, and use has increased in recent years. In the last six years, the total nominal amount of the hedging transactions has nearly doubled. While hedging transactions are used by many

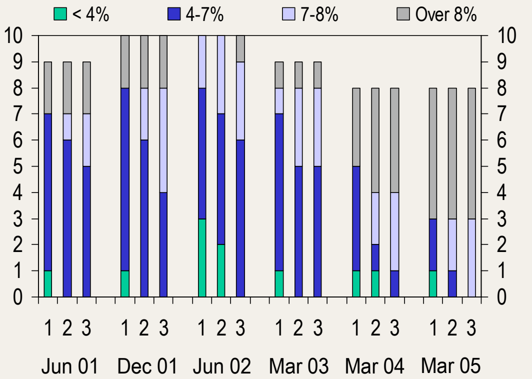
Chart 3.13 Sum of the surveyed banks' exposures to their 15 largest counterparties. By different types of exposure. In billions of NOK



1) The white areas illustrate FX settlement secured through CLS

Sources: Kredittilsynet and Norges Bank

Chart 3.14 Tier 1 capital ratio for the banks surveyed when either the largest, second largest or third largest counterparty fails to settle.1) Number of banks



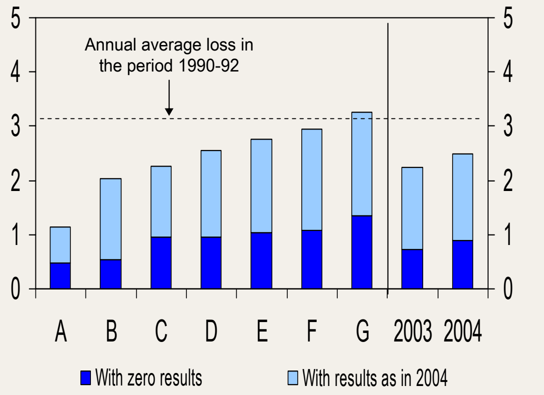
1) All exposures, except FX settlement. It is assumed that there is no dividend from the estate

Sources: Kredittilsynet and Norges Bank

banks, DnB NOR is the only Norwegian bank whose trading portfolio also includes considerable derivatives exposures.

Life insurance companies are more exposed to market risk than banks. Nearly 80% of the companies' total assets consist of fixed income instruments and shares. When interest rates are low, as they are now, it may be more difficult for companies to achieve a return that is sufficient to satisfy the guaranteed minimum return for its customers. However, if the yield on long-term government bonds is sufficiently low, the authorities may reduce the maximum technical interest rate.[8] In that case, premium payments would have to rise. The authorities may also require life insurance companies to set aside additional capital in the insurance fund in order to strengthen their buffer capital. Life insurance companies' buffer capital is relatively low. It fell from the fourth quarter of 2004 to the first quarter of 2005, but is somewhat higher than in the first quarter of last year.

Chart 3.15 Annual losses, depleting buffer capital over three years, measured as a percentage of gross lending. Seven largest Norwegian bank groups (A-G), and average for these groups in 2003 and 2004



Source: Norges Bank

3.3 Outlook ahead

Banks posted solid results in 2004. The main reason for this was very low losses, partly reflecting low interest rates. Solid performance means that banks have further increased their capacity to absorb losses (see Chart 3.15). Developments in banks' results and hence their loss-absorbing capacity in the future will depend on several factors:

- Banks' losses must be expected to increase again, but it is likely that the average loss level over time has been reduced somewhat as a result of a higher share of mortgage loans in banks' lending portfolios. Enhanced risk management may also contribute to keeping losses relatively low.

- However, lower average losses will to some extent be offset by lower net interest income because mortgage loans have lower interest rates than other loans. If the composition of loans had been the same as in 2001, the interest margin on banks' lending would have been about 0.1 percentage point higher than it was in the fourth quarter of 2004. In addition, the notification rules in the Financial Contracts Act may exert temporary pressure on banks' interest margins when interest rates rise again. The reason for this is that an increase in interest rates can be put into effect immediately for deposits, while the notification deadline for interest rate changes on loans is as a rule six weeks. In the short term, the pressure on lending margins may be offset to some extent by cheaper funding using asset-backed bonds. Some banks have signalled that they intend to issue such bonds this year.

- In the longer term, increased use of credit derivatives will make banks' loan losses more predictable and contribute to more stable profitability for banks.

[8] See regulation on premiums and insurance funds in life insurance.

Credit risk is the most important risk facing Norwegian banks. It is considered to be relatively low in the short term, for loans to both households and enterprises.

Banks have increased their lending to both households and enterprises since *Financial Stability* 2/2004. The household debt burden is now historically high. Given the unusually low level of interest rates, the interest burden is still low. The situation in the enterprise sector is favourable.

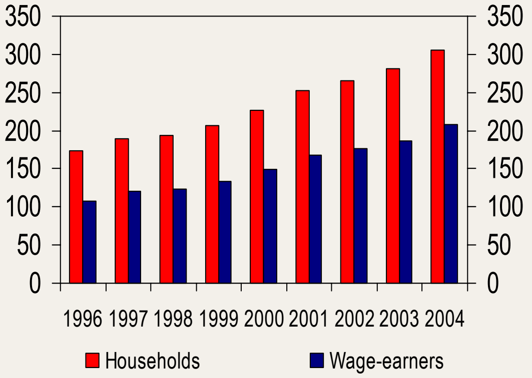
In the slightly longer term, with continued debt accumulation, it is uncertain how household saving will be affected by an increase in interest rates or loss of income. If households use a larger portion of their income to service their mortgage loans, demand for goods and services will fall. This will in turn reduce corporate profitability and may increase the risk of losses on loans to the corporate sector.[9]

[9] See box on page 22 in *Financial Stability* 2/2003 for a more detailed analysis of how a fall in household consumption may affect the enterprise sector.

Loans to households other than mortgage loans

Household loans from banks and financial undertakings (including state lending institutions) came to a total of NOK 1 203bn at end-2004. Of this amount, NOK 897bn were loans secured on dwellings. The remaining NOK 306bn were thus loans without security on dwellings (see Chart 1).

Chart 1 Loans other than mortgage loans to households and wage-earners from banks and financial undertakings (including state lending institutions). In billions of NOK



Source: Norges Bank

Excluding loans to the self-employed, loans to wage-earners (including pensioners, social security recipients and students) amounted to NOK 1 021bn at end-2004. Loans without security on dwellings accounted for NOK 208bn of this amount. These loans may be secured using other types of assets such as cars, boats or securities, or may be unsecured. Financial market statistics do not specify the share of loans that is unsecured or the share that is secured on assets other than dwellings.

Kredittilsynet (The Financial Supervisory Authority of Norway) conducts a quarterly survey of a selection of financial institutions that primarily provide unsecured consumer loans. Combined, the 10 companies included in the survey had outstanding loans of NOK 23bn, an increase of 9.6% over the past year.[1]

In general, loans to households with other types of collateral than dwellings involve a higher risk of losses for financial institutions than mortgage loans. Loans without any form of collateral imply a particularly high risk of losses for financial institutions.[2] Moreover, it may be difficult for a lender to obtain information about a customer's total debt if the customer has unsecured loans from several lenders. In the absence of collateral, it is even more important to assess the customer's creditworthiness and price the risk.

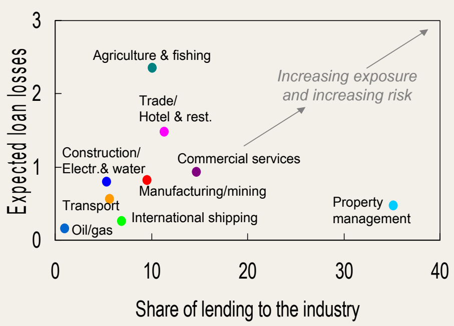
[1] See Kredittilsynet's report *The Financial Market in Norway* 2004.
[2] Unsecured consumer loans are offered by banks and finance companies in the form of credit lines (credit card, overdraft facilities, etc.) or as ordinary repayment loans.

Risk associated with loans to various industries

The share of bank lending to the corporate market has fallen steadily in recent years and currently accounts for only about 30% of banks' total loans (see Chart 3.4). Even though lending to the corporate sector accounts for a steadily smaller share of banks' lending, this may continue to be the largest source of loan losses. This is partly because retail market lending does not involve any large losses on single commitments and industry-specific problems. In addition, retail loans are generally more standardised and homogeneous than loans to the corporate sector and it is normally easier to anticipate changes in retail customers' future debt servicing capacity.[1] Most mortgage loans are also highly secured. Moreover, it is easier to determine a realistic sales value of housing collateral compared with commercial property.[2] As a result, the average risk associated with retail lending is lower and it is generally easier to quantify the credit risk associated with retail loans.

Loans to the *property industry* dominate banks' corporate portfolios (see Chart 1). At the end of 2004, the average share of lending to the property industry was 35% of total corporate lending.[3] The share varies from about 30 to 60% for the largest banks. Most of these banks have recorded an increase in their share of loans to the property industry over the past five years. Many of the banks have also posted an increase in their relative share of lending to primary industries including the fishing and fish farming industry. Some banks' share of loans to this industry ranges between 20-30%. The relative share of loans to *manufacturing, mining and quarrying,* and *retail trade and the hotel and restaurant industry* has fallen for most banks in this period.

Chart 1 The largest Norwegian banks' lending[1)] and expected loan losses[2)] to selected industries. Per cent



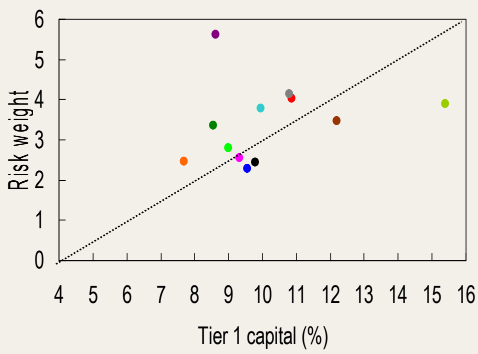
1) Per cent of total lending to the non-financial enterprise sector at 31.12.2004
2) Expected loan losses = *Probability of bankruptcy * bank debt* in the individual enterprise. Aggregated for all the enterprises in the industry. Per cent of total bank debt in the non-financial enterprise sector at 31.12.2003. Interpretation: Expected loan losses related to bankruptcy, excluding realisation of collateral

Source: Norges Bank

The average credit risk associated with loans to the *property industry* is relatively low (see Chart 1). However, since property companies' main source of income is often rental income from other companies, they may be *indirectly* highly dependent on developments in other industries.[4] *Primary industries* have by far the highest credit risk. *Retail trade and the hotel and restaurant industry* also account for a relatively large share of banks' corporate loans. The average credit risk for this industry is lower than for primary industries, but higher than for other industries.

Under the current capital adequacy rules (Basel I), all loans to the corporate sector have the same risk weight. This means that a bank with loans confined to companies with a low credit risk will have a capital adequacy requirement for its corporate loans that is just as high as a bank with loans confined to companies with a high credit risk. The capital adequacy figures do not therefore reflect the underlying credit risk associated with banks' loans to the corporate sector.

Chart 2 The largest Norwegian banks' Tier 1 capital ratio[1)] and risk weight[2)]



1) Tier 1 capital ratio at 31.12.2004. Parent bank
2) The individual bank's share of lending to selected industries (at 31.12.2004) * expected loan-losses to the industry (at 31.12.2003). The sum of all industries is weighted with the bank's total share of lending to the non-financial enterprise sector

Source: Norges Bank

Chart 2 shows a risk index that we have constructed for the 12 largest banks in Norway. This index was constructed by weighting each bank's loans to the different industries with the average risk for each industry. The sum of all industries is then weighted using each bank's total share of lending to the corporate sector. It is important to note that we have not used or do not have access to information about the banks' individual commitments. The credit risk estimated for each industry is the average for the entire industry based on the predictions using Norges Bank's SEBRA-model. Each bank's credit risk exposure to the various industries may deviate from the average for the industry as a whole. The banks' Tier 1 capital ratio is shown on the x-axis.

We see that as a rule there is a correlation between risk weight and Tier 1 capital ratio. Banks with a high risk weight also have a high Tier 1 capital ratio. None of the banks stands out as particularly negative with a high risk weight and low capital ratio. Admittedly, the bank with the highest risk weight is also among the banks with the lowest Tier 1 capital ratio. However, this bank still has a Tier 1 capital ratio above 8%, or almost twice as high as the minimum requirement. The main reason why some banks have a high risk weight is that they have a relatively large share of loans to primary industries.

1 For example, unemployment is virtually the only variable that influences a retail customer's income to a significant extent. As a rule, there are far more uncertain factors associated with corporate income.
2 Partly because the turnover rate for dwellings is normally higher than for commercial property (particularly commercial property outside urban areas).
3 Some of these loans are loans to property companies that are spun off from operating companies (i.e. they are not traditional property companies).
4 For example retail trade and service industries.

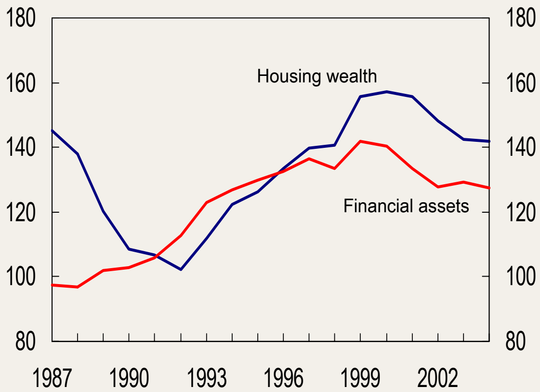
Banks' financial position is more robust today than prior to the banking crisis

Household debt is high and rising at a rapid pace. Enterprises' debt is high in relation to their earnings. An overall assessment nevertheless shows that both banks and enterprises are considerably better poised to cope with adverse economic developments than they were prior to the banking crisis. The situation for the household sector is more uncertain.

Household saving has been markedly higher in recent years than it was in the years prior to the banking crisis when it was negative in periods. As a result, the ratio of financial assets to debt is now considerably higher (see Chart 1). Households have larger buffers even though the value of both their financial assets and not least their housing wealth could fall if asset prices decline. The lowest income groups have increased their debt since the banking crisis while the highest income groups have reduced their debt. This increases the vulnerability of the sector as a whole.

Enterprises' debt burden is now about the same as prior to the banking crisis (see Chart 2). Partly due to solid profitability with an attendant increase in buffers in the form of equity capital, Norges Bank's bankruptcy prediction model SEBRA shows that the probability of bankruptcy for enterprises is clearly lower than prior to the banking crisis.

Chart 1 Households' financial assets[1)] and housing wealth as a percentage of debt



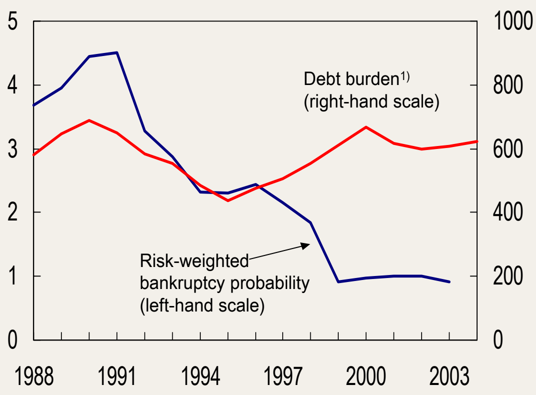
[1)] Break in the statistics for 1995 Q4

Source: Norges Bank

Banks' loss-absorbing capacity has been substantially strengthened since the banking crisis (see Chart 3). Performance has improved and equity ratios are higher. Prior to the banking crisis, low equity ratios were partly compensated for by raising subordinated loan capital, but this capital did not function as the intended buffer.

A number of other factors also suggest that the financial system is less vulnerable than prior to the banking crisis:

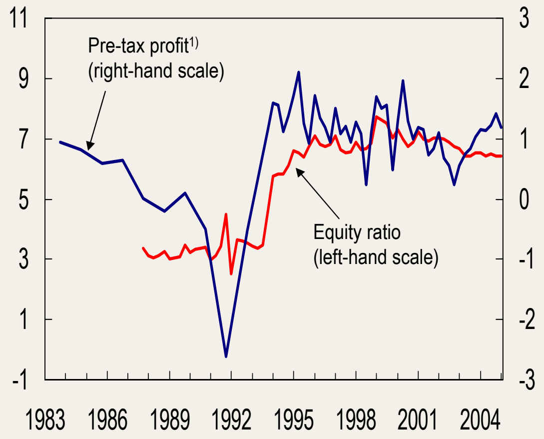
Chart 2 Risk indicators for non-financial enterprises excluding enterprises in the oil and gas industry and shipping. Per cent



1) Debt as a percentage of cash surplus

Source: Norges Bank

Chart 3 Risk indicators for banks. Per cent



1) As a percentage of average total assets

Source: Norges Bank

- The share of bank lending to the retail market has increased from 45% to nearly 60% of total credit to households, non-financial enterprises and municipalities. Banks' loan losses on loans to the retail market averaged 1.3% annually in the period 1990-1992 as a whole, while the figure for the corporate sector was 5.3%. Applying these figures and current portfolio compositions, overall annual losses over a three-year period will be reduced by 0.61% of total loans compared with the losses in the period 1990-1992.
- With regard to severe systemic crisis, the financial system has also become less vulnerable than prior to the banking crisis thanks to a considerable increase in foreign ownership interests.
- Inflation targeting implies a reduced risk of sharp and simultaneous increases in interest rates and unemployment.

Five to six years elapsed between the cyclical peak in 1986 and the culmination of the banking crisis in 1991-1992. If adverse developments persist over a sufficiently long period, any financial system will experience problems irrespective of how solid it was at the outset. The capital position of banks is considerably stronger than prior to the banking crisis. Nonetheless, only one of the seven largest banks would be able to absorb losses over three years corresponding to the three years of largest losses during the banking crisis without the depletion of its buffer capital (see Chart 3.15). The higher the debt, asset prices and investments are before the downturn starts, the more severe the problems will be.

Annex 1: Statistics

Table 1 Wealth and debt of households. In billions of NOK

	December 03	December 04
Bonds and short-term paper	28	30
Equities and primary capital certificates	162	184
Securities funds	78	86
Insurance claims	568	631
Bank deposits	518	547
Other	239	264
Gross financial assets	**1593**	**1741**
- Gross debt	1233	1367
Net financial assets	**360**	**374**
+ Housing wealth[1]	1758	1939
Total net assets	**2118**	**2313**
Memorandum:		
Gross financial assets excluding insurance claims	1025	1110

[1] There is substantial uncertainty related to the housing wealth estimates

Source: Norges Bank

Table 2 Structure of the Norwegian financial industry.[1] As at 31 March 2005

	Number	Lending (NOK bn)	Total assets (NOK bn)	Tier 1 capital ratio (%)	Capital adequacy (%)
Banks (excluding branches of foreign banks in Norway)	140	1 273.02	1 719.15	9.57	12.03
Branches of foreign banks	8	82.10	180.26		
Mortgage companies	13	241.18	378.62	9.24	12.16
Finance companies	48	98.71	109.50	9.44	11.08
Life insurance companies	11[2]	17.58	548.83	10.31	13.99
Non-life insurance companies	46	1.42	122.73	37.38	37.76
Memorandum:			(NOK bn)		
Market value of equities, Oslo Stock Exchange			1 030.80		
Outstanding domestic bonds and short-term paper debt			671.80		
Issued by public sector and state-owned companies			304.70		
Issued by banks			236.40		
Issued by other financial institutions			62.90		
Issued by other private enterprises			43.60		
Issued by non-residents			24.20		
GDP Norway, 2004			1 685.55		
GDP mainland Norway, 2004			1 307.51		

[1] Branches of foreign financial institutions are included if other is not specified

[2] 6 companies and 5 unit-link companies

Sources: Norges Bank, Oslo Stock Exchange and Statistics Norway

Table 3 Results in Norwegian banks in selected quarters[1)]

	2004 Q1		2004 Q2		2004 Q3		2004 Q4		2005 Q1	
	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA
Net interest income	7.27	1.86	7.51	1.86	8.09	2.01	7.84	1.93	7.67	1.83
Other operating income	3.52	0.90	3.70	0.92	3.35	0.83	4.59	1.13	3.44	0.82
commission income	2.05	0.52	2.10	0.52	2.28	0.57	2.38	0.59	2.20	0.52
securities, foreign exchange and derivatives	1.23	0.31	0.96	0.24	0.76	0.19	1.91	0.47	1.02	0.25
Other operating expenses	7.10	1.81	6.24	1.55	6.41	1.59	6.82	1.68	6.30	1.50
personnel expenses	3.38	0.86	3.34	0.83	3.38	0.84	3.68	0.90	3.46	0.82
Operating result before losses	**3.70**	**0.94**	**4.98**	**1.23**	**5.02**	**1.25**	**5.61**	**1.38**	**4.82**	**1.15**
Losses on loans and guarantees	0.48	0.12	0.27	0.07	0.25	0.06	0.25	0.06	0.19	0.05
Pre-tax operating profit	**4.53**	**1.16**	**4.56**	**1.13**	**4.93**	**1.22**	**5.76**	**1.42**	**4.97**	**1.18**
Profit after taxes	3.32	0.85	3.14	0.78	3.89	0.96	4.44	1.09	3.75	0.89
Capital adequacy (%)	12.03		12.04		11.81		12.16		12.03	
Tier 1 capital ratio (%)	9.34		9.38		9.27		9.76		9.57	

1) All Norwegian commercial and savings banks. Result figures as a percentage of ATA are annualised.

Source: Norges Bank

Table 4 Results in Norwegian banks[1)]

	2000		2001		2002		2003		2004	
	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA
Net interest income	27.12	2.27	28.90	2.19	30.72	2.19	30.14	1.99	30.71	1.91
Other operating income	12.49	1.04	12.70	0.96	10.21	0.73	14.31	0.94	15.16	0.94
commission income	7.15	0.60	7.03	0.53	7.09	0.51	7.63	0.50	8.82	0.55
securities, foreign exchange and derivatives	4.46	0.37	3.93	0.30	1.95	0.14	5.69	0.37	4.86	0.30
Other operating expenses	23.74	1.98	25.02	1.89	25.49	1.82	25.86	1.70	26.56	1.65
personnel expenses	12.27	1.02	13.15	1.00	13.26	0.95	13.81	0.91	13.77	0.86
Operating result before losses	**15.87**	**1.33**	**16.58**	**1.26**	**15.45**	**1.10**	**18.59**	**1.22**	**19.31**	**1.20**
Losses on loans and guarantees	1.97	0.16	3.62	0.27	6.66	0.47	6.89	0.45	1.25	0.08
Pre-tax operating profit	**16.50**	**1.38**	**12.88**	**0.98**	**8.92**	**0.64**	**12.02**	**0.79**	**19.78**	**1.23**
Profit after taxes	12.87	1.08	11.54	0.87	6.26	0.45	9.41	0.62	14.79	0.92
Capital adequacy (%)	12.12		12.59		12.15		12.36		12.16	
Tier 1 capital ratio (%)	9.13		9.69		9.60		9.72		9.76	

1) All Norwegian commercial and savings banks.

Source: Norges Bank

Table 5 Banks losses on loans to various industries in sectors as percentages of lending to the respective industries and sectors [1)]

Industry / sector	1997	1998	1999	2000	2001	2002	2003	2004
Agriculture, forestry, fishing	-0.06	0.19	0.29	0.26	0.21	2.73	6.05	1.51
Fish-farming, hatcheries	0.40	-0.14	1.25	0.12	0.16	8.05	22.37	3.90
Extraction of crude petroleum and natural gas	-1.29	-0.08	0.06	0.40	0.08	1.84	1.83	-1.13
Manufacturing and mining	0.56	0.54	0.64	0.60	0.97	1.65	1.69	0.51
Electricity and water supply, construction	-0.13	0.15	0.41	0.69	0.21	0.46	1.66	0.50
Construction	-0.23	0.18	0.68	1.13	0.42	0.50	2.35	0.56
Retail trade, hotels and restaurants	0.13	0.26	0.56	0.61	0.80	0.90	0.96	0.44
Wholesaling and agency business	0.11	0.27	0.36	0.27	1.05	0.71	0.65	0.28
Retail trade	0.08	0.27	0.82	1.39	1.05	0.50	0.96	0.22
Hotels and restaurants	0.02	0.23	0.60	0.50	0.74	0.55	1.07	0.89
Shipping and pipeline transport	0.44	0.31	0.22	0.76	1.43	0.76	0.48	-0.04
Shipping	0.48	0.26	0.19	0.26	0.18	0.68	0.39	-0.09
Other transport and communications	-0.16	0.19	0.39	0.37	1.13	1.23	0.72	0.59
Commercial services and property management	-0.16	0.07	0.09	0.08	0.37	1.51	0.53	0.04
Property management	-0.15	0.04	0.08	0.02	0.12	0.68	0.23	0.08
Other service industries	-0.10	0.07	0.02	0.81	0.54	1.22	1.58	0.34
Total corporate sector	**0.02**	**0.19**	**0.27**	**0.41**	**0.61**	**1.44**	**1.50**	**0.35**
Wage earners, pensioners, social security recipients and students	**-0.06**	**-0.01**	**-0.01**	**0.00**	**0.06**	**0.12**	**0.06**	**0.05**
Others[2)]	**0.04**	**0.67**	**0.02**	**0.21**	**0.30**	**0.26**	**0.15**	**0.26**
Total lending	**-0.02**	**0.16**	**0.11**	**0.19**	**0.31**	**0.63**	**0.57**	**0.17**

[1)] Norwegian commercial and savings banks and branches of foreign banks in Norway. In 2001, the selection comprised all commercial banks and the 35 largest savings banks, and branches of foreign banks. Recorded losses excluding changes in unspecified loss provisions

[2)] Financial institutions, central government and national insurance administration, municipal sector and foreign sector

Source: Norges Bank

Table 6 Nordic financial groups' rating by Moody's, total assets, capital adequacy and return on equity.[1] 2005 Q1

	Financial strength	Short term	Long term	Total assets (NOK bn)	Tier 1 capital ratio (%)	Capital adequacy (%)	Return on equity 2003	Return on equity 2004	Return on equity 2005 Q1
Danske Bank	A-	P1	Aa1	2 497.2	6.8	9.7	15.2	17.4	17.8
Nordea Bank AB	B	P1	Aa3	2 327.1	6.8	8.9	12.3	15.7	15.7
SEB	B	P1	Aa3	1 518.2	8.2	10.0	12.3	13.2	15.5
Svenska Handelsbanken	A-	P1	Aa1	1 229.9	7.2	10.2	14.9	15.8	15.6
FöreningsSparbanken (Swedbank)	B	P1	Aa3	980.2	6.7	10.5	15.9	20.5	19.0
Nordea Bank Norway	B-	P1	Aa3	280.1	7.3	8.8	3.0	12.7	13.0
Fokus Bank[2]	C	P1	Aa2	79.3	7.6	9.5	6.9	10.0	17.0
DnB NOR	B	P1	Aa3	959.8	7.6	10.6	12.7	16.1	15.3
Sparebank 1 SR-Bank	C+	P1	A2	60.7	9.1	13.3	15.2	19.5	20.1
Sparebanken Vest	C	P2	A3	49.0	9.2	11.4	11.8	12.0	14.2
Sparebank 1 Midt-Norge	C	P2	A3	47.5	7.0	10.7	10.2	18.7	20.0
Sparebank 1 Nord-Norge	C	P2	A3	42.6	9.2	11.9	9.0	14.6	18.9

[1] It varies to what extent the banks include the result of 2005 Q1 in the capital base when computing capital adequacy. Return on capital in 2005 Q1 is not for all banks strictly comparable to the figures for 2003 and 2004 because of changes in accounting standards (IFRS). Moody's scale of rating: Financial strength: A+, A, A-, B+, B, B-, C+, C, C-,... Short term: P1, P2,... Long term: Aaa, Aa1, Aa2, Aa3, A1, A2,…

[2] Fokus Bank's figures for Tier 1 capital ratio, capital adequacy and total assets are from the bank's annual report 2004, not 2005 Q1

Sources: Moody's and banks' websites

Table 7 Balance sheet structure of Norwegian banks[1)]. Percentage distribution

	2004	2004 Q1	2005 Q1
Cash and deposits	3.8	4.4	4.7
Securities (trading book)	9.5	9.0	9.3
Gross lending to households, municipalities and non-financial enterprises	75.7	73.4	74.0
Other lending	8.3	10.3	9.0
- Total loan loss provisions	-1.1	-1.3	-0.9
Fixed and other assets	3.8	4.2	3.9
Total assets	**100.0**	**100.0**	**100.0**
Customer deposits	49.0	47.7	47.2
Deposits/loans from domestic financial institutions	3.6	4.0	4.4
Deposits/loans from foreign financial institutions	7.9	9.3	9.5
Deposits/loans from Norges Bank	0.1	0.2	0.2
Other deposits/loans	2.5	2.4	2.6
Notes and short-term paper	4.6	4.4	4.9
Bond debt	18.7	18.6	18.2
Other liabilities	3.9	4.2	4.0
Subordinated loan capital	2.4	2.5	2.4
Equity	7.3	6.7	6.6
Total equity and liabilities	**100.0**	**100.0**	**100.0**
Memorandum:			
Total assets (NOK bn)	1 632.8	1 579.7	1 719.2

[1)] Parent banks. Excluding branches of foreign banks

Source: Norges Bank

Table 8 Balance sheet structure and profit/loss of mortgage companies

	2004	2004 Q1	2005 Q1
Balance sheet. Percentage distribution			
Cash and deposits	0.6	1.0	1.8
Securities (trading book)	16.4	18.4	16.9
Gross lending:			
Repayment loans	81.4	78.7	79.6
- Loan loss provisions	-0.1	-0.1	-0.1
Fixed and other assets	1.6	2.0	1.8
Total assets	**100.0**	**100.0**	**100.0**
Notes and short-term paper	2.0	9.7	0.8
Bond debt	58.8	52.1	61.1
Loans	32.7	31.8	32.0
Other liabilities	1.5	1.9	1.9
Subordinated loan capital	1.4	1.0	1.1
Equity	3.6	3.7	3.4
Total equity and liabilities	**100.0**	**100.0**	**100.0**
Profit/loss. Percentage of ATA. (Annualised)			
Net interest income	0.54	0.56	0.49
Operating expenses	0.12	0.12	0.13
Losses on loans and guarantees	0.00	0.00	-0.01
Pre-tax operating profit	0.43	0.47	0.38
Memorandum:			
Total assets (NOK bn)	354.3	332.6	372.1

Source: Norges Bank

Table 9 Balance sheet structure and profit/loss of finance companies

	2004	2004 Q1	2005 Q1
Balance sheet. Percentage distribution			
Cash and deposits	2.2	2.3	1.9
Securities (trading book)	0.1	0.2	0.2
Gross lending:			
Discount credit, bank overdraft facility, operating credit, user credit	15.5	21.0	13.7
Other building loans	0.1	0.1	0.0
Repayment loans	39.5	35.0	40.1
Loan financing	41.5	39.9	42.0
- Loan loss provisions	-1.6	-1.9	-1.4
Fixed and other assets	2.9	3.5	3.4
Total assets	**100.0**	**100.0**	**100.0**
Notes and short-term paper	-	-	-
Bond debt	0.6	0.5	0.1
Loans	83.8	83.9	83.7
Other liabilities	5.4	6.0	6.0
Subordinated loan capital	1.2	1.0	1.2
Equity	9.0	8.5	8.9
Total equity and liabilities	**100.0**	**100.0**	**100.0**
Profit/loss. Percentage of ATA. (Annualised)			
Net interest income	4.29	4.89	4.18
Operating expenses	3.08	3.32	3.74
Losses on loans and guarantees	0.59	0.88	0.45
Pre-tax operating profit	2.04	2.30	1.86
Memorandum:			
Total assets (NOK bn)	108.3	103.3	109.5

Source: Norges Bank

Table 10 Balance sheet structure and profit of life insurance companies[1)]

	2004	2004 Q1	2005 Q1
Balance sheet. Selected assets as a percentage of total assets			
Buildings and real property	9.9	9.3	9.8
Investment in permanent ownership etc.	36.8	41.4	35.6
- of which equities and units	0.5	0.5	0.5
- of which bonds held until maturity	32.5	36.6	31.5
- of which lending	3.7	4.4	3.5
Other financial assets	48.2	45.0	51.4
- of which equities and units	15.7	13.5	15.9
- of which bonds	24.0	23.2	24.5
- of which short-term paper	6.7	5.7	7.2
Profit/loss. Percentage of ATA. (Annualised)			
Premium income	11.77	15.34	14.99
Net income from financial assets	6.64	8.86	5.46
Result before allocations to customers and tax	2.45	2.71	2.69
Value-adjusted result before allocations to customers and tax	3.17	5.03	2.06
Memorandum:			
Buffer capital (percentage of total assets)	6.4	5.7	6.0
Total assets (NOK bn)	509.3	476.2	525.2

[1)] Excluding life insurance companies offering unit-linked products

Source: Kredittilsynet (The Financial Supervisory Authority of Norway)

Table 11 Total assets in Norwegian financial groups by line of business as at 31 March 2005.[1)] Per cent

	Banks	Finance companies	Mortgage companies	Life insurance	Total group
DnB NOR (including Nordlandsbanken)	78.6	2.0	1.7	17.6	100.0
Nordea Norway	83.3	1.9	6.3	8.4	100.0
Sparebank 1 alliance[2)]	93.1	1.4	0.0	5.5	100.0
Storebrand	16.0	0.0	0.0	84.0	100.0
Terra alliance[3)]	99.6	0.4	0.0	0.0	100.0
Fokus Bank/Danske Bank branch	71.3	0.0	28.7	0.0	100.0

1) "Total group" is equivalent to the combined total assets in the various lines of business in the table. The table does not show an exhaustive list of the activities of Norwegian financial groups. For example, unit-linked insurance, securities funds and asset management have been excluded

2) The Sparebank 1 alliance comprises Sparebank 1 Gruppen AS and the 18 Norwegian banks that own the group (including Romsdals Fellesbank)

3) The Terra alliance comprises Terra Gruppen AS and the 81 banks that own the group

Source: Norges Bank

Table 12 Norwegian financial groups' market shares in various lines of business as at 31 March 2005.[1)] Per cent

	Banks	Finance companies	Mortgage companies	Life insurance	Total group
DnB NOR (including Nordlandsbanken)	38.5	17.9	4.4	32.5	32.2
Nordea Norway	14.1	5.7	5.4	5.2	11.0
Sparebank 1 alliance[2)]	11.8	3.2	0.0	2.5	8.3
Storebrand	1.4	0.0	0.0	26.7	5.7
Terra alliance[3)]	6.2	0.5	0.0	0.0	4.0
Fokus Bank/Danske Bank branch	4.4	0.0	8.9	0.0	4.0
Total financial groups	76.4	27.3	18.8	66.9	65.3

1) Market shares are based on the total assets in the various lines of business. "Total financial groups" is equivalent to the combined total assets of the various lines of business in the table. The table does not show an exhaustive list of the activities of Norwegian financial groups. For example, unit-linked insurance, securities funds and asset management have been excluded

2) The Sparebank 1 alliance comprises Sparebank 1 Gruppen AS and the 18 Norwegian banks that own the group (including Romsdals Fellesbank)

3) The Terra alliance comprises Terra Gruppen AS and the 81 banks that own the group

Source: Norges Bank

Annex 2: Other published material on financial stability at Norges Bank

The following are short summaries of articles dealing with financial stability issues written by researchers and employees at Norges Bank. The conclusions and viewpoints presented in signed articles are those of the authors and do not represent the views of Norges Bank.

Endogenous product differentiation in credit markets: What do borrowers pay for?

Journal of Banking and Finance 29 (2005) pp. 681 – 699
Authors: Moshe Kim (University of Haifa), Eirik Gaard Kristiansen (Norwegian School of Economics and Business Administration and Norges Bank) and Bent Vale (Norges Bank)

This paper studies strategies pursued by banks in order to differentiate their services and soften competition. More specifically it is analyzed whether bank's ability to avoid losses, its capital ratio, or bank size can be used as strategic variables to make banks different and increase the interest rates banks can charge their borrowers in equilibrium. Using a panel of data covering Norwegian banks between 1993 and 1998 the authors find empirical support that the ability to avoid losses, measured by the ratio of loss provisions, may act as such a strategic variable. A likely interpretation is that borrowers use high-quality low-loss banks to signal their creditworthiness to other stakeholders. This supports the hypothesis that high-quality banks serve as certifiers for their borrowers. Furthermore, this suggests that not only lenders and supervisors but also borrowers may discipline banks to avoid losses.

Norway's banking crisis: How Oslo got it right

The Financial Regulator 9 (2004) pp. 26-34
Author: Thorvald Grung Moe

The Norwegian banking crisis started as a small banking crisis, but developed later into a full-blown systemic crisis. At the peak of the crisis more than sixty percent of the banking sector was in trouble. By 1991, the guarantee funds had run out of money. The government became the sole owner of the three largest commercial banks. Once the crisis became systemic, resolution was swift and effective and as a result financial stability was restored within a few years. Thus, the crisis resolution in Norway should be of interest for policymakers even today. The article describes the Norwegian banking crisis and gives an overview of the resolution methods used.

Long-term benchmark rates in the Norwegian bond market

Economic Bulletin December 2004 (No. 4)
Authors: Jesper Bull Hein and Ketil Johan Rakkestad

The difference between yields on government bonds and swap market rates - the swap spread - can provide information about the properties of these markets as reference markets. This article considers factors that may influence variations in the swap spread in Norway. An econometric analysis shows that in the period 1997-2003, the swap spread varied with developments in the spread between short-term money market rates and government bond yields, price developments in equity markets and the issuance of Eurobonds denominated in NOK. The results provide support for the use of the swap market as a benchmark market when pricing corporate bonds.

How accurate are credit risk models in their predictions concerning Norwegian enterprises?

Economic Bulletin December 2004 (No. 4)
Author: Bjørne Dyre H. Syversten

Credit risk associated with loans to enterprises is an important aspect when Norges Bank assesses financial stability. Two different credit risk models are used in the analyses, Norges Bank's SEBRA model and the Moody's KMV Private Firm model. This article compares the quality of predictions made by the two models. The analysis shows that both models are good at selecting bankruptcy candidates among unlisted Norwegian enterprises and that the SEBRA model is somewhat better than the Moody's KMV Private Firm model.

Management of financial crises in cross-border banks

Economic Bulletin December 2004 (No. 4)
Authors: Henrik Borchgrevink and Thorvald Grung Moe

The emergence of large, cross-border banks poses new challenges to the authorities. The management of financial crises in such banks will involve a number of authorities in many countries. Conflicts of interest between the authorities in different countries may hinder effective crisis solutions. This article provides an overview of developments and discusses the challenges facing the authorities.

What drives house prices?

Economic Bulletin 2005 April (No. 1)
Authors: Dag Henning Jacobsen and Bjørn E. Naug

House prices have more than tripled since 1992. The authors analyse factors underlying the pronounced rise in house prices using an empirical model. They find that interest rates, housing construction, unemployment and household income are the most important explanatory factors for house prices. They find no evidence that house prices are overvalued in relation to a fundamental value determined by these explanatory variables.

B-blad/Economique

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