

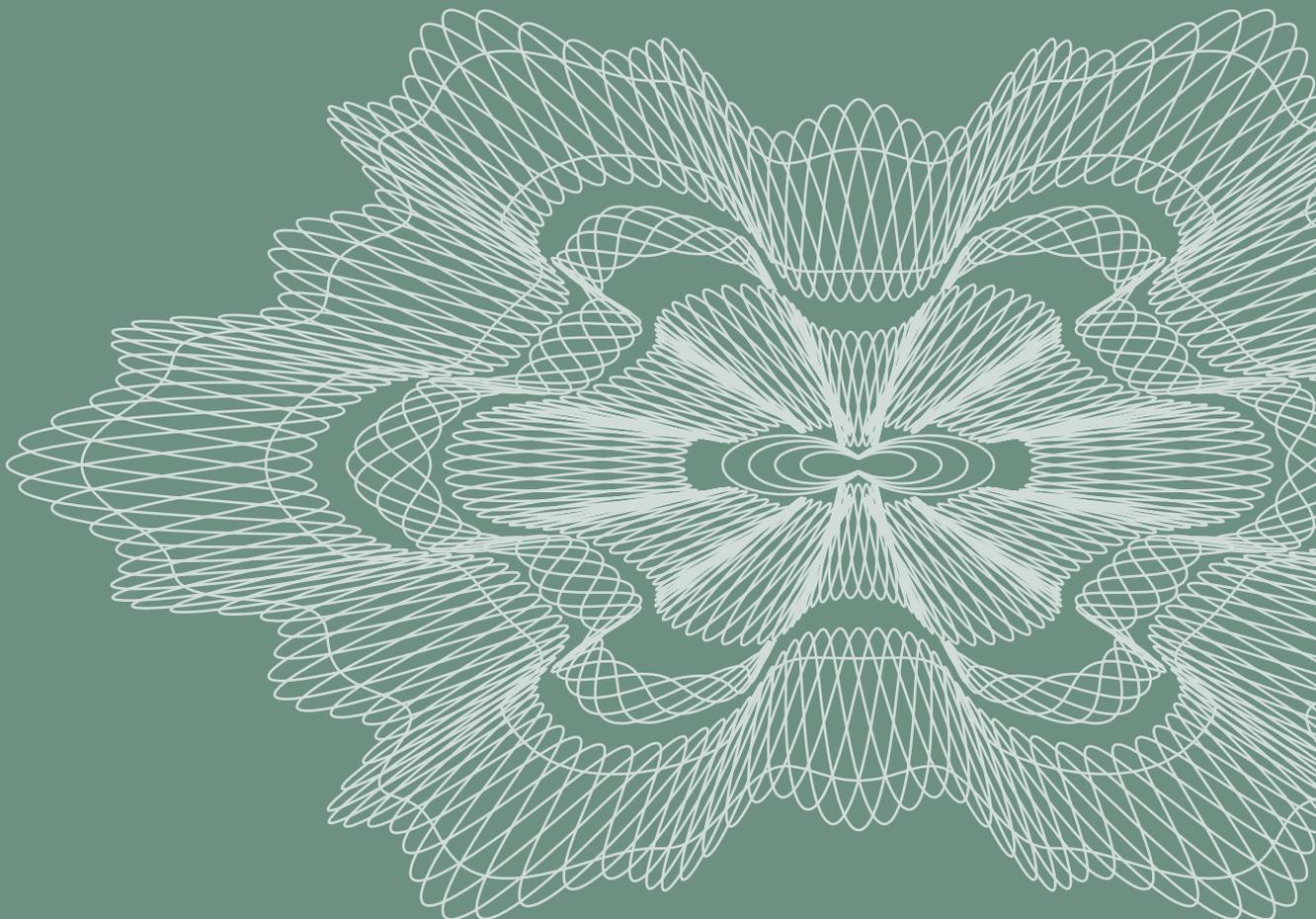
Reports from the Central Bank of Norway  
No. 5/2004



# Financial Stability

2  
04

November



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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 2/2004

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The cut-off date for this report was 23 November 2004



# Low loan losses result in solid bank profits

1

Economic developments this past year have been favourable for the financial sector. An unusual combination of sound economic growth and very low interest rates have strengthened the ability of households and enterprises to service their debt.

The earnings of Norwegian enterprises are currently solid. Investment is gathering pace. Debt is increasing after a period of slow and to some extent negative growth. The credit risk associated with banks' lending to enterprises is assessed as relatively low.

Household debt is continuing to increase at the same pace as previously. House prices are also rising rapidly. As a result of strong growth in financial assets, low interest rates and a cyclical upturn, the credit risk associated with banks' lending to households is assessed as relatively low in the short term.

Households' persistently high borrowing is an element of uncertainty a few years ahead. Households' financial situation appears sound, because their housing wealth and financial assets have increased more than their debt since the early 1990s. But there is a risk that house prices and prices for financial assets may fall. Moreover, the increase in debt and assets is unevenly distributed among income and age classes. Those with lower income have increased their debt burden most since the end of the 1980s, and have also reduced their financial reserves.

2

The financial system is now more robust than it has been for a long time. Banks' loan losses have fallen to a very low level, and earnings are more solid than they have been for several years. Banks have a better understanding of the risks they take, and their risk management has improved substantially since the most recent banking crisis. With a monetary policy regime of flexible inflation targeting and more stable inflation expectations there is less risk of real interest rates and unemployment being high at the same time. The risk of a crisis in our financial system now appears to be limited.

Nevertheless, the authorities should be prepared for the possibility that new crises may arise. Norges Bank's most important instrument in a financial crisis is its ability to supply extraordinary liquidity to an individual bank, or the banking system as a whole. If, and how, this instrument will be used, will depend on the specific crisis. However, some general principles for extraordinary liquidity support should be in place. It is important that these principles are generally known to prevent banks from basing their risk-taking on the assumption that the central bank will provide support when banks encounter liquidity problems.

The principles for the supply of extraordinary liquidity outlined by Norges Bank's Executive Board are presented in a box in this report. A *necessary* assumption for such extraordinary supply of liquidity is that the functioning of the financial system itself is threatened.

Svein Gjedrem

# Summary

## *Strong global growth has strengthened the financial system*

Stronger economic growth, low inflation and very low interest rates have strengthened global financial stability since *Financial Stability 1/2004*. The economic upturn in most regions has reduced losses and increased earnings in banks and among other financial sector participants. The ability of the financial sector to absorb economic shocks has been strengthened. Households and enterprises are benefiting from higher income and low interest rates.

It is uncertain how long this strong economic growth will continue. Equity prices in the largest markets have not risen over the past half year, despite higher economic growth. The decline in long-term interest rates in recent months may indicate that growth expectations ahead are more subdued. In the longer term, the strong growth in house prices and household debt in many countries may represent an element of uncertainty regarding economic developments.

## *Sharp fall in Norwegian banks' loan losses*

Results in Norwegian banks are better than they have been for several years. This is attributable to the very low level of interest rates and a marked pick-up in economic growth. Loan losses have dropped sharply. Increased income from securities trading and other services and lower operating costs have also contributed to improved results.

## *Persistently high household credit growth*

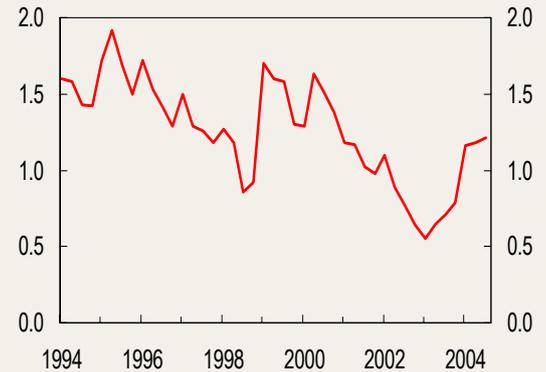
Household debt is still growing rapidly, and more rapidly than household income. Debt in relation to disposable income is now approximately as high as it was in the early 1990s. However, low interest rates are contributing to a very low debt burden. Households' wealth has increased more than their debt in the past year, so that household net wealth has increased. This marks a distinction from developments in the period prior to the most recent banking crisis, when strong debt growth partially financed consumption, and savings fell.

Debt and wealth are unevenly divided between income classes. Those with lower income have increased their debt most in relation to income since the late 1980s. At the same time, their financial reserves (assets in relation to debt) have declined.

## *Improved corporate profitability*

More moderate wage growth, strong productivity growth, low interest rates and a marked economic upturn are improving corporate profitability. The number of bankruptcies is continuing to fall. Low investments and a sound ability to finance investments with their own capital have resulted in very low and at times negative growth in enterprise sector debt over the past year. In

**Chart 1** Banks<sup>1)</sup> pre-tax operating profit/loss on ordinary activities as a percentage of average total assets (ATA)<sup>2)</sup>

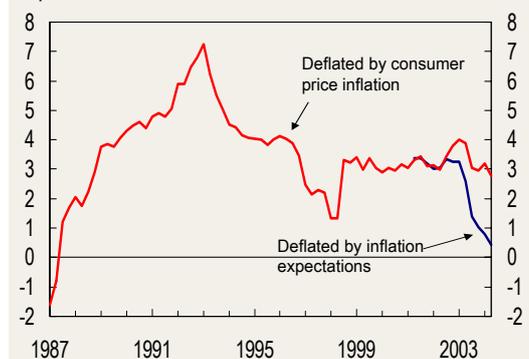


<sup>1)</sup> Parent bank, excluding foreign branches

<sup>2)</sup> Quarterly figures. Annualised

Source: Norges Bank

**Chart 2** Household borrowing rate after tax deflated by consumer price inflation<sup>1)</sup> and inflation expectations. Per cent

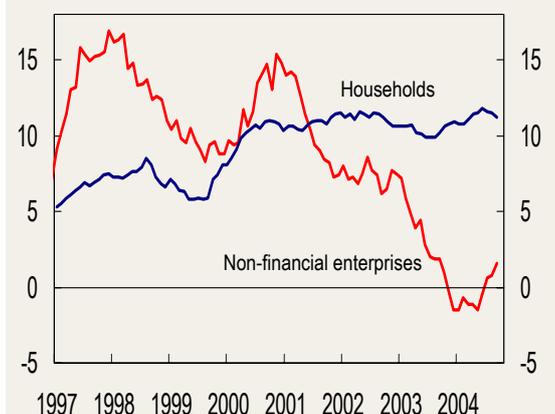


<sup>1)</sup> CPI excluding energy products until 1995, Norges Bank's calculations for CPI adjusted for taxes changes and excluding energy products until 2000 Q2, after that CPI-ATE

<sup>2)</sup> Set equal to the inflation target of 2.5 per cent

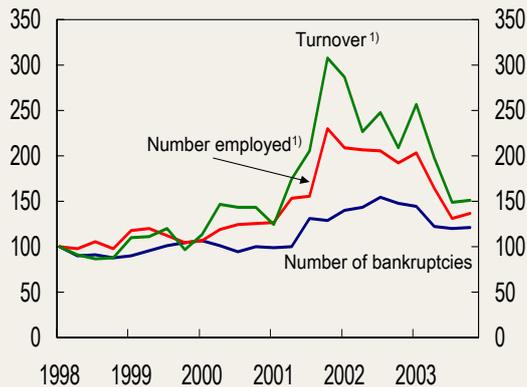
Sources: Statistics Norway and Norges Bank

**Chart 3** Credit to mainland non-financial enterprises. 12-month growth. Per cent



Source: Norges Bank

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



<sup>1)</sup>Turnover and employment in last normal operating year for bankrupt entities

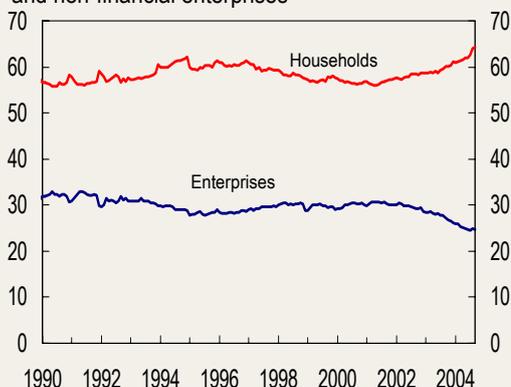
Sources: Statistics Norway and Norges Bank

**Chart 5** Prices for commercial properties.  
Index, 2000 = 100



Source: Statistics Norway

**Chart 6** Bank lending to households and enterprises.<sup>1)</sup>  
Per cent of gross lending to households, municipalities  
and non-financial enterprises



<sup>1)</sup> Excluding branches of foreign banks. Monthly figures

Source: Norges Bank

recent months debt has increased again. Predicted bankruptcy probabilities fell from 2002 to 2003. The improvement was most pronounced in commercial services and property management, both of them industries with substantial bank loans.

The commercial property market has improved. Rental prices for office buildings appear to have levelled off, while the increase in vacant space has come to a halt. Sales prices for office and commercial premises have also increased further.

### *Banks more vulnerable to developments in households*

Banks' lending to households as a share of total lending has increased sharply in recent years, while the share of lending to enterprises has fallen correspondingly. This is largely due to cyclical developments. Adaptation to new capital adequacy rules (Basel II), with greater differentiation on the basis of risk than is the case today, may also have played a part. Under the new regulations, mortgage-backed loans will have a lower risk weight. This may be a reason why banks want more of this type of lending. Loans to small and medium-sized enterprises will also have a lower risk weight under the new capital adequacy rules. This change can hardly be attributed to the actual uncertainty associated with these loans (cf. analyses of the historical risk associated with loans to small and medium-sized enterprises, see box on page 30).

### *Liquidity risk remains relatively low*

Banks' financing has changed little since *Financial Stability 1/2004*. Despite a low interest rate level, deposits from households and enterprises constitute a relatively stable share of gross lending. Savings banks (excluding DnB NOR) have increased their bonds, and thereby their stable funding. Liquidity risk is still assessed as being relatively low.

### *In the short term, banks face lower overall risk*

The solid profits achieved are enabling banks to increase their financial strength. As a result of the low interest rate, households have a low interest burden despite high debt growth. The risk of higher losses on loans to households is therefore considered to be relatively low in the short term. As a result of sound developments in the enterprise sector, the credit risk associated with loans to enterprises is assessed as relatively low, and somewhat lower than half a year ago. The market risk and liquidity risk facing banks is also assessed as unchanged and relatively low. Overall, this means favourable prospects for banks in the period ahead. Against this background, the short-term outlook for financial stability is regarded as satisfactory and somewhat improved compared with the situation six months ago.

Households' persistently high borrowing represents an element of uncertainty regarding economic developments a few years ahead. It may prove to be particularly challenging for borrowers to assess their debt-servicing capacity over time at a time when the interest rate is as abnormally low as it is now. Such a low interest rate also places particular demands on banks in assessing the creditworthiness of the borrowers.

# 1 | International developments and Norwegian securities markets

## 1.1 International developments

Global financial stability has strengthened since *Financial Stability 1/2004*. Growth in the world economy in 2004 is expected to be the highest for several decades. Households and enterprises are benefiting from higher income and low interest rates. The international banking industry is posting solid results and can strengthen its financial position.

It is uncertain how long the strong pace of economic growth will continue. High prices for oil and other commodities and falling investment and growth in China could have a dampening impact on growth. A further depreciation of the US dollar may have an impact on capital flows and the geographical distribution of economic growth, and lead to considerable price movements in securities markets.

The sharp rise in house prices and household debt in many countries constitutes a risk to economic developments in the longer term. Household demand was high through the entire cyclical trough in 2001-2002. Business investment fell in the same period, and has shown signs of picking up in some countries only in recent months. This is reflected in the persistently high credit growth rates for households and lower rates for enterprises (see Chart 1.1). The fairly high household debt burden in many countries could mean that future growth is more dependent on a pick-up in business investment.

## 1.2 International banking industry

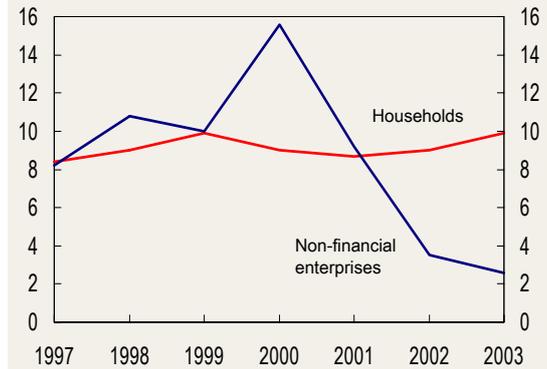
### *Low loan losses and solid bank earnings*

Strong economic growth, solid corporate earnings and low interest rates contributed to a fall in banks' loan losses in many countries in 2003 and the first six months of 2004. Banks' return on equity has also increased markedly in many countries.

Banks' loan losses normally fluctuate with the business cycle. However, the global downturn around 2001-2002 only had limited impact on loan losses (see Chart 1.2). Improved risk management at banks, low exposure to highly loss-exposed sectors and low interest rates are probably the main reasons. Prospects of relatively solid economic growth and continued low interest rates would suggest that banks' loan losses will remain low for a period ahead.

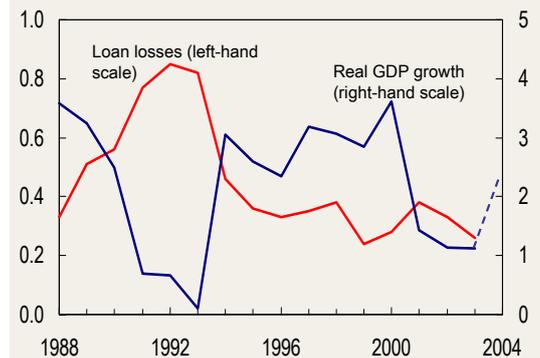
Among foreign banks, the banks in other Nordic countries are of particular importance for the financial sector in Norway.<sup>1</sup> The largest Nordic banks have very low loan losses and solid earnings (see Section 3).

**Chart 1.1** Average growth<sup>1)</sup> in credit to households and non-financial enterprises. Per cent



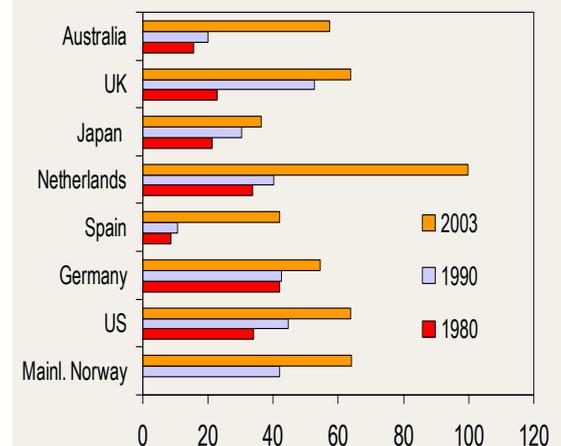
<sup>1)</sup> Non-weighted average of data for Germany, Australia, the Netherlands, the UK, the US, Sweden and Denmark. Annual growth in loans and other securities from domestic and foreign sources  
Sources: OECD, national statistics offices and central banks, Norges Bank

**Chart 1.2** Average GDP growth<sup>1)</sup>, and banks' loan losses<sup>1)</sup> as a percentage of total assets



<sup>1)</sup> Non-weighted average of data for Germany, France, the UK, Italy, Spain, the Netherlands, Norway, Sweden, Denmark, Finland and Switzerland. OECD's forecasts for 2004  
<sup>2)</sup> Selection of the largest banks. The figures for Norway cover all banks  
Sources: Bankscope, OECD, Statistics Norway and Norges Bank

**Chart 1.3** Outstanding mortgages as a percentage of GDP



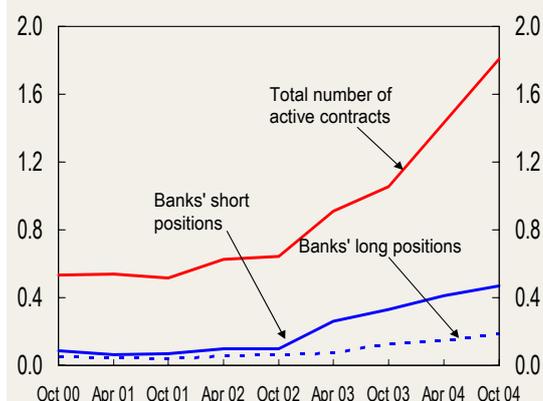
Sources: IMF and Norges Bank

<sup>1</sup> Branches and subsidiaries of banks in other Nordic countries account for close to 30% of total assets in the Norwegian banking sector.

## High growth in mortgage lending

House prices have been rising at a fast pace in many countries for a long time. Low mortgage rates and expectations of rising house values have probably been important driving forces.<sup>2</sup> Higher house prices have increased homebuyers' borrowing needs. At the same time, existing mortgage customers have increased their loans on the basis of higher values for their dwellings. This means that higher house prices have not necessarily increased banks' collateral margins, i.e. the difference between the mortgage value and the loan amount. As a share of GDP, outstanding mortgages have increased sharply in several countries (see Chart 1.3). Moreover, surveys in the euro area and the US show that a steadily rising share of banks are softening their lending criteria vis-à-vis households.<sup>3</sup> This may increase the vulnerability of banks to a fall in house prices and a weakening of households' financial situation. There have recently been signs of moderating house price inflation in several countries, and in the UK and Australia, among other countries, house prices have declined in recent months.

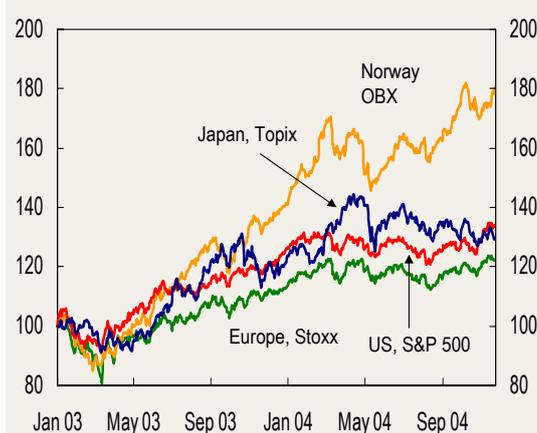
**Chart 1.4** Contract volume in the futures markets for oil and gas.<sup>1)</sup> In millions of contracts



<sup>1)</sup> Selected US stock exchanges. First Tuesday in April and October

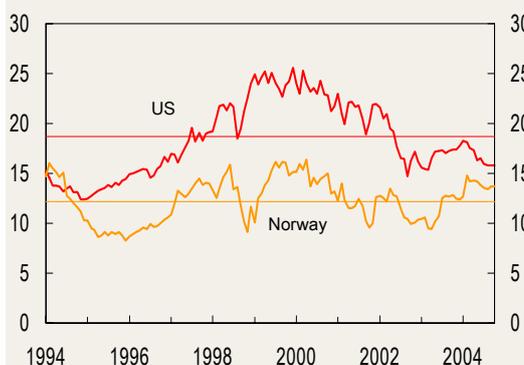
Source: Commodity Futures Trading Commission

**Chart 1.5** International equity indices. Indexed, 01.01.03 = 100



Source: EcoWin

**Chart 1.6** The ratio between share price and expected earnings<sup>1)</sup> (P/E) for listed companies. Monthly figures and 10-year average



<sup>1)</sup> Based on earnings estimates one year ahead for companies in the S&P 500 index and most companies on the Oslo Stock Exchange

Sources: EcoWin and I/B/E/S Datastream

## Banks more active in commodity derivatives

The turnover in energy derivatives has increased over the past year. Increased price volatility for many commodities and low returns on financial assets have been the main driving forces, but high commodity prices may also have contributed. In addition, energy market deregulation has led to strong growth in energy derivatives markets. According to the IMF, energy-related contracts, including contracts based on energy sources such as oil and gas, now constitute the largest derivatives market after financial instruments such as interest rate and foreign exchange derivatives<sup>4</sup>. Banks have recently become more active in energy derivatives markets (see Chart 1.4). Developments in these markets have thus become more important for stability in the financial sector.

## 1.3 International securities markets

### Small price changes in the largest equity markets

Equity prices in the largest markets are now at about the same level as six months earlier when the previous report was published (see Chart 1.5). In the US and Europe, prices declined somewhat through the summer. The rise in oil prices and warnings from companies of weaker profits in the second half of 2004 have contributed to this. Equity prices have risen again this autumn. In the US, 62% of the companies in the S&P 500 Index reported higher third-quarter profits than analysts had expected. The relationship between equity prices and expected earnings (P/E ratio) in the US has fallen somewhat since *Financial Stability* 1/2004 and is lower than the 10-year historical average (see Chart 1.6). In the US market, uncertainty surrounding price developments, as measured by implied volatility using options, has fallen further since the previous report.

<sup>2</sup> See *World Economic Outlook*, September 2004, IMF

<sup>3</sup> See *US Senior Loan Officer Opinion Survey on Bank Lending Practices*, July 2004, Federal Reserve Board, and *Euro Area Bank Lending Survey*, October 2004, ECB.

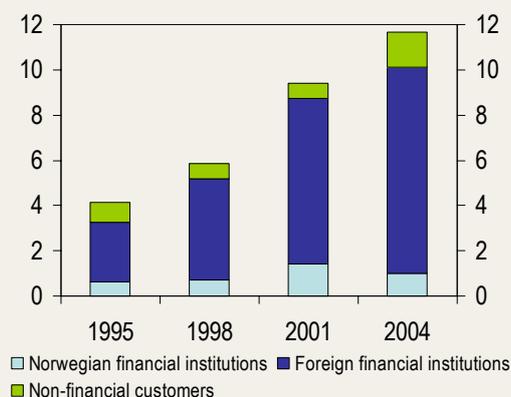
<sup>4</sup> See *Global Financial Stability Report*, September 2004, IMF.

# Derivatives markets are expanding

The Bank for International Settlement (BIS) conducts a triennial survey of global foreign exchange and interest rate derivatives markets. Norges Bank conducts the survey of Norwegian markets.

Since the previous collection of data in April 2001, the global foreign exchange market has shown strong growth. Daily turnover in spot transactions, forward transactions and foreign exchange swap transactions came to USD 1 900bn in April 2004, or an increase of 36%.<sup>1</sup> Growth in the interest rate derivatives market was even stronger at 77%, with a daily turnover of USD 1 250bn. The bulk of the transactions in these markets takes place between financial dealers, but growth is also strong for transactions with non-financial enterprises. Growth in financial transactions is markedly higher than growth in global trading. The BIS points out that increased interest in foreign exchange as an asset class, more active asset management and active hedge funds are driving forces behind growth.

**Chart 1** Daily turnover in the Norwegian forward exchange market<sup>1)</sup> by counterparty. In billions of USD



<sup>1)</sup> Covers outright forwards and foreign exchange swaps

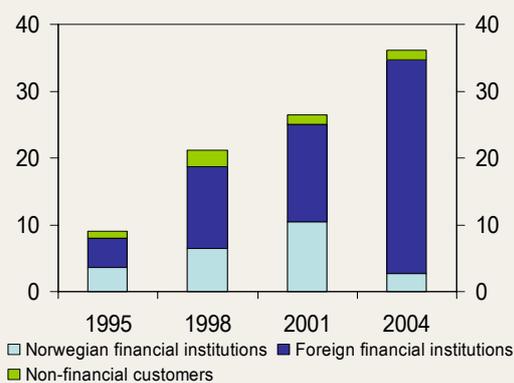
Source: Norges Bank

Daily turnover in the Norwegian foreign exchange market<sup>2</sup> was USD 14bn in April 2004. Contracts involving NOK accounted for 74% of total turnover. Daily spot turnover fell by 20%<sup>3</sup> between 2001 and 2004, while turnover in foreign exchange derivatives increased by 23%. Growth in forward foreign exchange transactions with non-financial enterprises was 130% in the same period and was considerably higher than total growth in forward trading (see Chart 1). This indicates that increased

demand for foreign exchange hedging among Norwegian enterprises is an important driving force behind growth in the Norwegian forward exchange market.

The average maturity for forward foreign exchange contracts has shown a steady decline. In April, the proportion of contracts with a maturity of less than 7 days was 72%, against 57% in April 2001. Contracts with non-financial enterprises generally have longer maturities, but only 1% of turnover in these contracts has a maturity of more than 1 year. This indicates that foreign exchange derivatives are used to a limited extent in long-term foreign exchange hedging. Foreign exchange hedging in Norwegian enterprises is discussed further in a box in Section 2.

**Chart 2** Daily turnover in the Norwegian interest rate derivatives market<sup>1)</sup> by counterparty. In billions of NOK



<sup>1)</sup> Covers FRAs, interest rate swap agreements and interest rate options

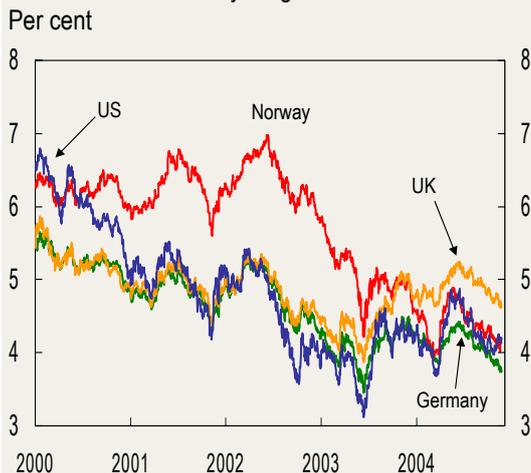
Source: Norges Bank

Interest rate derivatives trading has increased by 36% since the previous survey (see Chart 2). Daily turnover came to NOK 36bn. The increase in transactions with foreign financial institutions was the main contributor to growth. Consolidation in the Norwegian financial industry is an important factor behind the fall in transactions with Norwegian financial counterparties. Contracts involving NOK account for as much as 96% of total turnover.

<sup>1</sup> Measured in USD and adjusted for exchange rate variations between 2001 and 2004.

<sup>2</sup> The Norwegian part of the survey, which covers all transactions involving a Norwegian reporting dealer.

<sup>3</sup> Some of the decline is attributable to extraordinary events in certain institutions in the month the survey was conducted.

**Chart 1.7** Yield on 10-year government bonds.

### Lower long-term interest rates

Central banks in the US, the UK and a number of other countries have increased their key rates somewhat this year. Long-term interest rates are still generally lower now than six months earlier (see Chart 1.7).

Lower long-term interest rates may indicate that bond investors have reduced their growth expectations for the current period, both as regards the duration and intensity of growth. The implications of the depreciation of the dollar and a persistently high oil price for global economic growth are especially uncertain.

### More positive credit assessments of enterprises

The yield differential between corporate bonds and government bonds in the US and Europe has narrowed over the past year. Solid earnings and lower debt ratios have contributed to this. The international credit rating agencies are more positive about companies' financial situation. The number of companies whose ratings are revised upwards now exceeds the number whose ratings are revised downwards. The ratio was 1.13 in the third quarter, compared with 0.85 in the second quarter and 0.52 one year earlier.<sup>5</sup> Improved creditworthiness and low interest rates have increased companies' possibilities for extending debt maturity.

## 1.4 Securities market in Norway

### Large price gains in the Norwegian stock market

At the end of October, the Oslo Stock Exchange benchmark index set a new historical record. The index has advanced by more than 19% since end-May this year and 34% since the beginning of 2004 (see Chart 1.8). Options prices indicate that uncertainty surrounding future price developments on the Oslo Stock Exchange is considered to be relatively low (see Chart 1.9). The banking index has shown even larger gains than the benchmark index over the past six months. As a result of higher bank share prices and low price volatility, the probability that banks will default on their commitments, as estimated by Moody's KMV, is lower now than when *Financial Stability* 1/2004 was published (see Chart 1.10).<sup>6</sup>

Since the previous report, equity prices have advanced considerably more in the Norwegian market than in the large international markets. The high proportion of oil companies on the Oslo Stock Exchange is one reason behind the stronger gains in Norway relative to other countries. At the end of September, the market value of the companies in the energy index, which includes oil companies, accounted for almost 50% of the total market value on the Oslo Stock Exchange. Since the beginning of 2004, the rise in oil prices has coincided with a sharp advance in the energy index both globally and in Norway (see Chart 1.11).

**Chart 1.8** Sub-indices on the Oslo Stock Exchange Indexed, 01.01.03 = 100**Chart 1.9** Implied volatility on the Oslo Stock exchange based on the OBX index. Per cent

<sup>5</sup> See *Credit Market Trends*, 2004 Q3, Standard and Poor's.

<sup>6</sup> See box in *Financial Stability* 2/2003 for a further discussion on this indicator.

Equity prices for companies in the other sub-indices on the Oslo Stock Exchange have also increased since *Financial Stability 1/2004*. In the last quarters, companies in several sectors have posted solid profits, higher than analysts had expected. The solid profits are due to a number of factors (see section 2.3). Companies outside the energy sector are probably also benefiting from high oil prices through higher domestic demand. In addition, the increase in freight rates and other commodity prices have had a favourable impact on share prices for many companies listed on the Oslo Stock Exchange. In other countries, the rise in oil prices has led to lower demand and higher costs for most companies. An analysis of companies in the S&P 500 Index shows that over the past 20 years only returns on companies in the energy sector have shown a positive correlation with oil prices.<sup>7</sup>

### High expected earnings

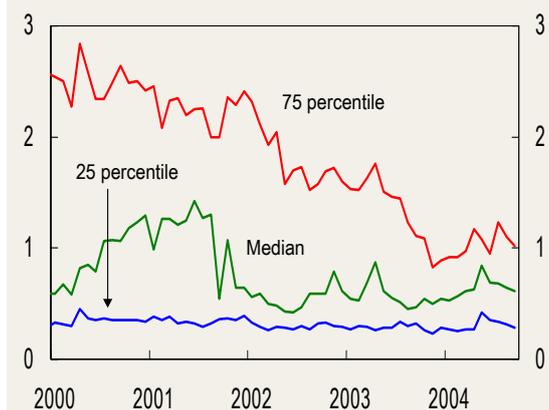
Analysts increased their profit forecasts for 2005 by more than 10% in the period from May to November 2004 for companies on the Oslo Stock Exchange benchmark index. This is in line with price developments so that the P/E ratio in the Norwegian market has shown little change in the same period (see Chart 1.6).

Pricing in the Norwegian stock market may be influenced by changes in interest rate or in uncertainty as measured by the risk premium on shares. Table 1.1 shows the results of calculations of expected future dividends using a model for equity prices based on discounting. The model is applied to a selection of companies on the Oslo Stock Exchange. With an assumed risk premium of 3%, equity prices and the interest rate and dividend level in October 2004 imply an expected annual real increase in dividends of 2%.

Changes in the risk premium have a substantial impact in this model. If the risk premium is assumed to increase from 3% to 5%, the expected real increase in dividends must be 3.9% to justify today's price level. These conclusions are contingent on the model assumptions and should therefore be interpreted with caution.

The same model shows that market participants are pricing in a lower expected dividend increase now than the last time equity prices were at the same level, in September 2000. This is because the dividend level was lower and interest rates were higher at that time. Future growth in dividends will depend on companies' future earnings, which also vary with growth in the overall economy.

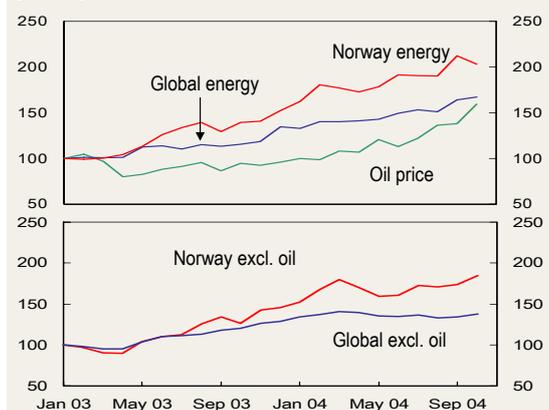
**Chart 1.10** Default probabilities for Norwegian banks.<sup>1)</sup> Per cent



<sup>1)</sup> Probability of default within 3 years

Source: Moody's KMV

**Chart 1.11** Oil prices, energy index and the overall market excluding oil companies. Norway and globally. Indexed, 01.01.03 = 100



Sources: Datastream and EcoWin

**Table 1.1** Implied annual real dividend growth. Per cent

|                | Risk premium |     |     |
|----------------|--------------|-----|-----|
|                | 1%           | 3%  | 5%  |
| October 2004   | 0.0          | 2.0 | 3.9 |
| September 2000 | 2.6          | 4.6 | 6.5 |

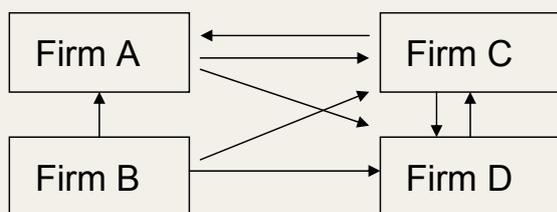
Sources: Norges Bank and Datastream

<sup>7</sup> See *Oil prices and Equity Returns*, Morgan Stanley Equity Research, 27 October 2004.

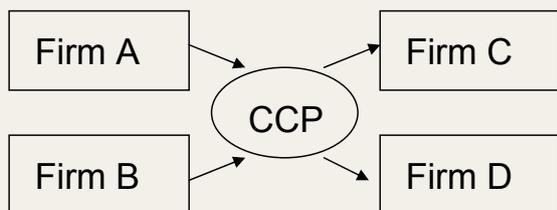
# Use of a central counterparty in the settlement of financial instruments

In connection with transactions in various financial instruments, there is a risk that one party does not meet its obligations. When a central counterparty (CCP) is used in connection with the settlement, the parties' positions in relation to each other are replaced by positions against the central counterparty (see Chart). The CCP also guarantees the execution of the settlement. Internationally, CCPs are used in the settlement of equities, bonds, derivatives and commodities.

## Without a central counterparty



## With a central counterparty



A CCP has various means of reducing the probability of participants' default, reducing the size of potential exposures against participants and ensuring that it has adequate resources to meet obligations. Central counterparties set requirements with regard to participants' credit worthiness and liquidity. A general requirement therefore is that participants make margin payments both when contracts are signed and when contract prices change. This is the central counterparty's first line of defence. In special situations, additional financial resources may also be required. To reduce losses when a participant defaults on its obligations the CCP must have procedures that ensure rapid closing or safeguarding of positions.

Risk is reduced when a CCP of high quality replaces counterparties of variable quality. The existence

of CCPs that operate in accordance with high quality standards is in the interest of securities market participants. Due to the potential centralisation of risk in CCPs, these institutions are subject to government requirements concerning authorisation and supervision. The use of central counterparties may also increase the liquidity in the market concerned as well as reduce the need for liquidity in connection with settlements.

If a central counterparty is unable to fulfil its obligations, its activities will be terminated for a shorter or longer period. The significance of this for financial stability depends on the direct and indirect importance of the market concerned as well as the possibility of clearing and settlement through alternative channels. Another risk is reputational risk, where market participants facing a weak central counterparty question the quality of the other parts of the financial infrastructure. It is, therefore, important to have efficient, safe clearing and settlement systems, including central counterparties that are organised in such a way that risk is limited.

In Norway, two institutions are authorised to act as central counterparties. Both institutions clear derivative products: NOS Clearing (NOS) for financial derivatives and freight derivatives and NordPool Clearing for power derivatives. Due to large price fluctuations and weak liquidity in one of the freight segments where NOS is the central counterparty, one member was unable to settle its positions against NOS this summer. NOS executed the settlement but had to cover the outstanding NOK 58.6 million from their own funds. This incident shows the potential risk of contagion from one market to another when a central counterparty operates in several markets.

To reduce the risk in connection with activities in the freight market, NOS has increased its margin rates and tightened its credit routines since the default. After the event, Kredittilsynet required that NOS increase its capital. The company's board of directors has been authorised to increase the company's share capital. The balance sheet has been further strengthened through the sale of shares in another business.

## 2 Macroeconomic developments, households and enterprises

### 2.1 Developments in the Norwegian economy

Growth in the Norwegian economy is increasing appreciably this year. The low interest rate level, global upturn and high petroleum investment are the primary factors behind this growth. In *Inflation Report 3/2004*, mainland GDP is projected to continue to rise over the next few years, but at a slower pace (see Table 2.1). Employment is expected to increase by 1.25% in both 2005 and 2006. Labour Force Survey unemployment is projected to decline from 4.5% this year to 3.75% in 2007.

Norges Bank's key rate, the sight deposit rate, has remained at 1.75% since March 2004. The level is unusually low and well below what is considered to be normal over time. The krone has appreciated slightly since *Financial Stability 1/2004*. Inflation in the Norwegian economy is still low.

Private consumption is expanding sharply, fuelled by low interest rates and strong real wage growth. In the first half of 2004, consumption was 5% higher than in the same period last year. The rate of growth in private consumption is projected to fall gradually over the next few years. TNS Gallup's consumer confidence survey shows that households have a positive view of the future. Consumer confidence with regard to personal finances is now at the highest level since the survey began in 1992 (see Chart 2.1), even though the improvement in the labour market has been limited. Growth in credit to households remains high.

The average oil price was USD 37.6 per barrel in the period January-October this year. This is a sharp increase on the average price for 2003, which was USD 28.9 per barrel. The high growth in petroleum investment in 2003 is expected to continue in 2004 and 2005.

Mainland investment fell in 2002 and 2003, but there are now signs of rising investment in a number of industries. In *Inflation Report 3/2004*, mainland gross capital formation is projected to show an annual rise of 5.75% in 2004. The investment growth is ascribable to improved corporate profitability, rising capacity utilisation and continued export growth. Corporate borrowing has increased and is now showing positive growth. Statistics Norway's business tendency survey for 2004 Q3 shows that Norwegian industrial leaders generally consider the outlook to be positive (see Chart 2.2). There are, however, considerable differences across industries.

All in all, the outlook for the Norwegian economy has improved over the last six months. Expectations of continued relatively low interest rates, lower unemployment and high demand are contributing to optimism among households and enterprises.

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

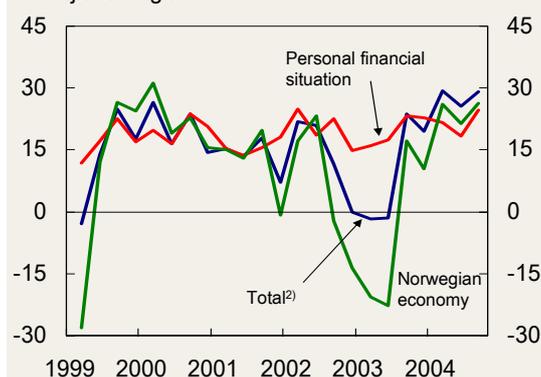
|                                    | Projections Inflation Report 3/2004 <sup>1)</sup> |        |         |         |
|------------------------------------|---|--------|---------|---------|
|                                    | 2004  | 2005   | 2006    | 2007    |
| Private consumption                | 5 (-¼)  | 4½ (½) | 3¾ (1)  | 2½ (-¼) |
| Public consumption                 | 2 (0)   | 1¾ (¼) | 1½ (0)  | 1½ (0)  |
| Gross investment                   |   |        |         |         |
| Mainland Norway                    | 5¾ (2)  | 5 (1)  | 5 (1)   | 2¾ (-¾) |
| Traditional exports                | 4 (-1¼)   | 4½ (1) | 3 (0)   | 3 (0)   |
| Imports                            | 8½ (1)  | 6 (2¼) | 4 (1½)  | 1¾ (¼)  |
| Mainland GDP                       | 3¾ (¼)  | 3¾ (½) | 2¾ (¼)  | 2 (-¾)  |
| GDP trading partners <sup>2)</sup> | 2¾ (¼)  | 2½ (0) | 2½ (0)  | 2½ (0)  |
| LFS unemployment (rate)            | 4½ (¼)  | 4 (0)  | 3¾ (-¼) | 3¾ (-¼) |

<sup>1)</sup> Figures in brackets indicate changes in percentage points relative to the projection in Inflation Report 2/2004. Estimates with forward interest rate and forward exchange rate

<sup>2)</sup> Weighted total with Norwegian exports used as weighting factor

Sources: Statistics Norway and Norges Bank

**Chart 2.1** Consumer confidence indicator.<sup>1)</sup> Unadjusted figures

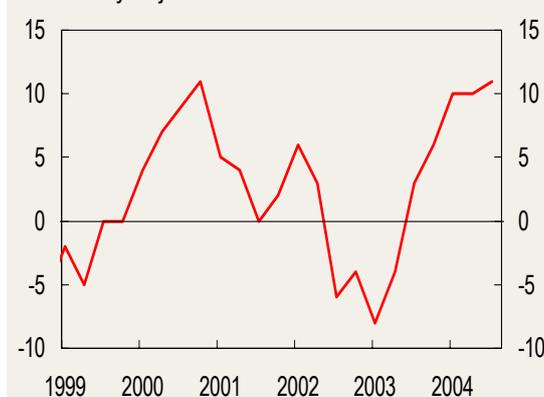


<sup>1)</sup> Indicates the share with a positive assessment of the current situation and outlook for the future less the share with a negative assessment

<sup>2)</sup> Includes expectations of major procurements

Source: TNS Gallup

**Chart 2.2** Business climate index. Seasonally adjusted diffusion index<sup>1)</sup>



<sup>1)</sup> A value of less than 0 implies that the majority of industrial leaders expect a weaker outlook in the next quarter

Source: Statistics Norway

## 2.2 Households

### *Both debt and assets rising sharply*

Household debt is still rising sharply. Debt increased by NOK 124bn between 2003 Q2 and 2004 Q2. Growth in debt is considerably higher than growth in household disposable income. The household debt burden (debt as a percentage of liquid disposable income) is thus increasing and is projected to be about 160% at the end of 2004 Q3. This is a historically high level and high compared with other countries.

Households' gross financial assets have increased more than debt over the past year (measured in NOK). Financial assets rose by NOK 167bn between 2003 Q2 and 2004 Q2 (see Table 2.2). Of this amount, NOK 33bn is ascribable to valuation changes as a result of the rise in prices for equities and bonds.

Households' financial assets are now 35% higher than their debt (see Chart 2.3). In spite of a decline in the past few years, this is appreciably higher than was the case at the end of the 1980s. Housing wealth as a percentage of debt is approximately as high today as it was at that time.

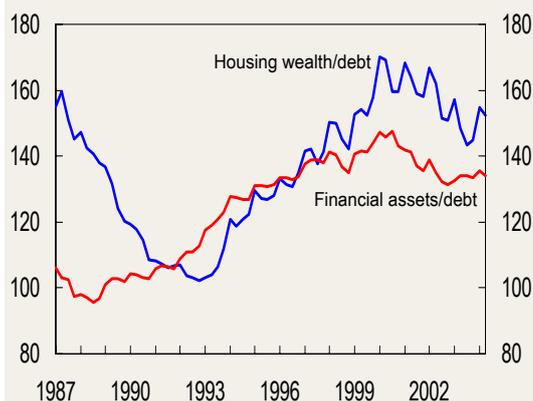
**Table 2.2** Wealth and debt of households. In billions of NOK

|   | June 03     | June 04     |
|---|-------------|-------------|
| Bonds and short-term paper                | 25          | 30          |
| Equities and primary capital certificates | 186         | 232         |
| Mutual funds                              | 71          | 92          |
| Insurance claims                          | 529         | 584         |
| Bank deposits                             | 531         | 561         |
| Other                                     | 210         | 223         |
| <b>Gross financial assets</b>             | <b>1553</b> | <b>1720</b> |
| - Gross debt                              | 1158        | 1282        |
| <b>Net financial assets</b>               | <b>395</b>  | <b>438</b>  |
| + Housing wealth <sup>1)</sup>            | 1720        | 1953        |
| <b>Total net assets</b>                   | <b>2115</b> | <b>2390</b> |

*Memorandum:*  
Gross financial assets excl. insurance claims 1024 1136

<sup>1)</sup> There is substantial uncertainty related to the housing wealth estimates  
Source: Norges Bank

**Chart 2.3** Household financial assets<sup>1)</sup> and housing wealth<sup>2)</sup> as a percentage of debt

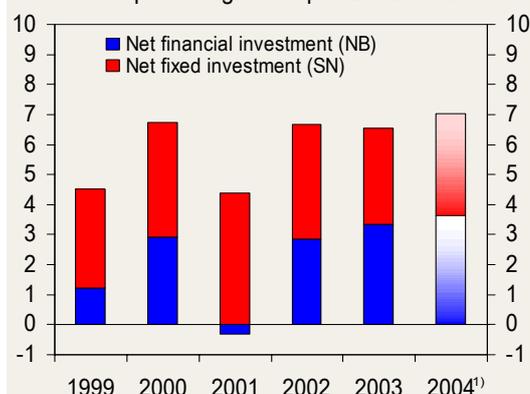


<sup>1)</sup> Break in the statistics for 1995 Q4

<sup>2)</sup> Projections for housing wealth for 2004 Q1 and Q2

Source: Norges Bank

**Chart 2.4** Household net investment in financial assets (net lending) and net investment in fixed assets as a percentage of disposable income



<sup>1)</sup> Projections for 2004 based on figures for 2004 Q1 and Q2

Sources: Statistics Norway and Norges Bank

### *Strong growth in housing investment*

In addition to investing in financial assets, households can invest in fixed assets, primarily new dwellings. Housing investment has risen sharply in 2004, partly as a result of the rise in resale home prices. In the first eight months of 2004, housing starts were 32% higher than in the same period last year and 20% higher than the average for January-August in the last five years.

Households' net investments in financial assets (investments in financial assets less new debt in the same period) and net investments in fixed assets together constitute household saving<sup>8</sup> (see Chart 2.4). Saving has remained relatively high. A high saving ratio functions as a buffer in that households can choose to reduce saving in order to maintain consumption if they experience a decline in income or are faced with higher interest expenses.

In other words, the strong debt growth of recent years has not led to reduced saving, in strong contrast to the situation in the 1980s. Debt growth was also high then, but then debt growth financed consumption and not investment, and overall saving dropped sharply.

### *Strong pressures in the housing market*

House prices have risen markedly over the past year after falling somewhat in the first half of 2003. At end-September 2004, resale home prices were 13% higher than one year earlier. An increase in the supply of new dwellings will in isolation contribute to curbing the rise in prices in the housing market. Pressures in the housing market have been strong. Housing turnover has been high in relation to the number of dwellings for sale. In general, the time it takes to sell a dwelling is shorter this year than was the case in the previous two years.

<sup>8</sup> We have used figures on net investments in financial assets from financial accounts from Norges Bank and not Statistics Norway's national accounts figures. The sum of net investments in financial assets and net investments in fixed assets will therefore deviate somewhat from household saving as defined in the national accounts.

Over the past 10 years, house prices have risen at a far stronger pace than rental prices (see Chart 2.5). This means that returns on an investment in a dwelling, measured by house rents in relation to house prices, have declined considerably in this period. A lower return on alternative investments has contributed to pushing up demand for dwellings as an investment vehicle and hence to higher house prices. Expectations of lower taxes on dwellings may also have had an impact.

### *Differences in financial reserves across income groups*

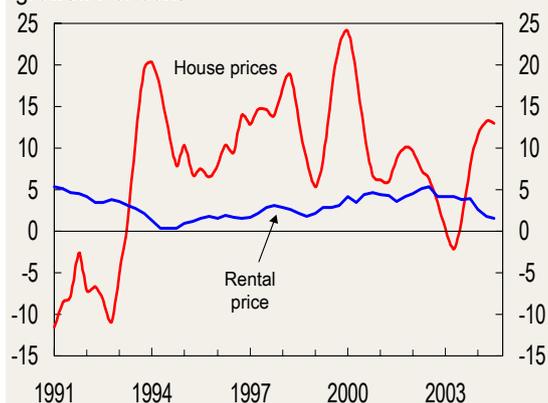
Assets and debt are unequally distributed among different groups of households. In *Financial Stability 1/2004*, it was pointed out that low- and middle-income households (deciles 1-6) have increased their debt most in relation to income over the past 10-15 years. However, low- and middle-income households (deciles 1-6) have relatively high financial reserves (gross financial assets in relation to debt) (see Chart 2.6). But these reserves are markedly lower than at the end of the 1980s. As a result of high debt, financial reserves are low in the higher income groups (deciles 7-9). The households with the highest income (decile 10) have increased their reserves considerably since the 1980s.

There are considerable differences between employees, the self-employed and people receiving pensions/benefits. The group comprising employees, which accounts for about 60% of households, has lower financial reserves than households as a whole (see Chart 2.7). This applies to all income groups, but low- and middle-income employees (deciles 1-6) in particular have low reserves compared with all households in this income group. This is because a large number of pensioners and some self-employed persons with considerable assets in relation to debt are registered in this income group.

Moreover, employees as a group have a higher debt burden (debt as a percentage of disposable income) than households as a whole (see Chart 2.8). Once again, this particularly applies to low- and middle-income employees. The debt burden is also markedly higher in younger age groups than in older age groups (see discussion in *Financial Stability 1/2004*).

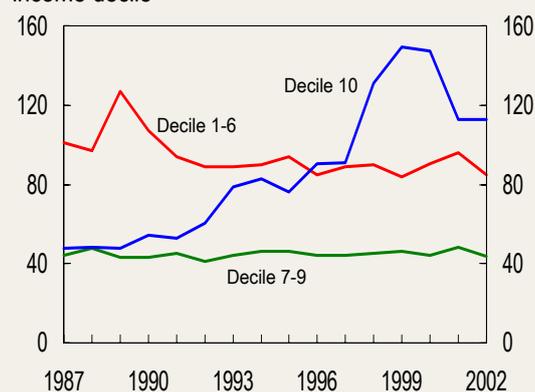
With a low income, a high debt burden and low financial reserves, it may quickly become more difficult to service debt. From 2002 to 2003, the number of instituted proceedings under the Debt Settlement Act rose by 22%, from 1640 to 2002. Of these, 481 cases were rejected, while 1521 debt settlement arrangements were approved (both voluntary and compulsory). From 1993, when the Debt Settlement Act entered into force, until the end of 2003, the rates for living expenses under the arrangement increased by close to 60%. The rise in prices in the same period was about 24%. With effect from 1 July 2004, the rates were increased further to an amount equivalent to 85% of the minimum pension. The new rates are nearly twice as high as the central government's

**Chart 2.5** House prices and rental prices. 4-quarter growth. Per cent



Sources: Norwegian Association of Real Estate Agents (NEF), Association of Real Estate Agency Firms (EF), Finn.no, Norges Bank and Statistics Norway

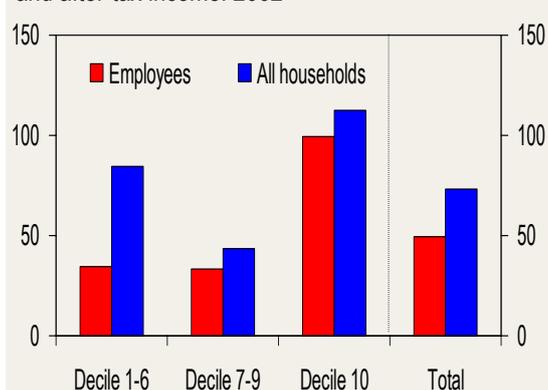
**Chart 2.6** Gross financial capital as a percentage of household debt (financial reserves) by after-tax income decile



<sup>1)</sup> Excluding insurance claims

Sources: Statistics Norway and Norges Bank

**Chart 2.7** Gross financial capital<sup>1)</sup> as a percentage of debt (financial reserves) by socioeconomic status and after-tax income. 2002



<sup>1)</sup> Excluding insurance claims

Sources: Statistics Norway and Norges Bank

# Is there a connection between house prices and banking crises?

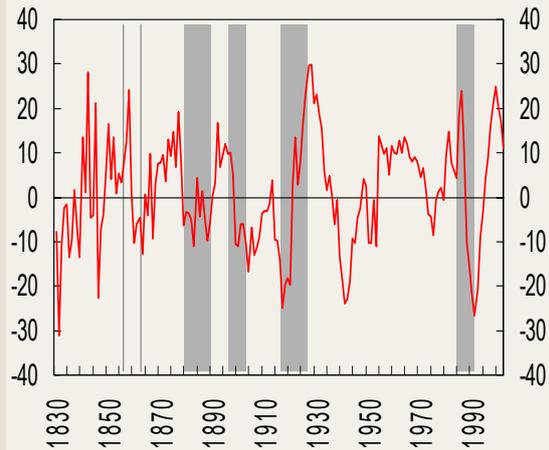
House prices fluctuate widely. Using data from the historical monetary statistics project<sup>1</sup>, we have examined some features of historical fluctuations dating back to 1819 to see whether there is any connection with the banking crises that have occurred in the period.<sup>2</sup> One hypothesis, for example, is that a period with a strong rise in house prices will be characterised by great optimism and strong debt growth. When the optimism declines, house prices may fall, and households may have difficulty in servicing their debt. The value of banks' collateral will fall, and losses may occur.

In the analysis we have calculated the trend in real house prices with the aid of a Hodrick-Prescott filter based on data up to the individual year.<sup>3</sup> The gap between the actual observation and trend is used as the starting point for the analysis (see Chart 1).

In the chart, the banking crises in 1857, 1864, 1880-1890, 1899-1905, 1920-1928 and 1988-1992 are marked grey. The data indicate that the house price gap increased prior to the banking crises. In most cases, it achieved its highest value from one to five years before the banking crisis arose, and was decreasing at the beginning of the banking crisis. The gap has mainly been negative during the banking crises, with the lowest negative peak at or near the end of the crises.

The crisis in 1920-1928 represents an exception. When it was triggered, house prices were well below trend. Developments in house prices had been weak since the previous banking crisis. A high number of housing starts at the end of the 18th century, extensive emigration from Norway in the early 1900s, and hence a large number of empty dwellings may have

Chart 1 The house price gap. 1831-2003



Sources: Statistics Norway and Norges Bank

contributed to this. Moreover, the house price gap changed from negative to positive values during the crisis and reached a maximum when the crisis came to an end. The increase in real house prices is due to the general price level dropping more than nominal house prices during this period. In other words, developments in the house price gap do not always signal the possibility of an imminent banking crisis.

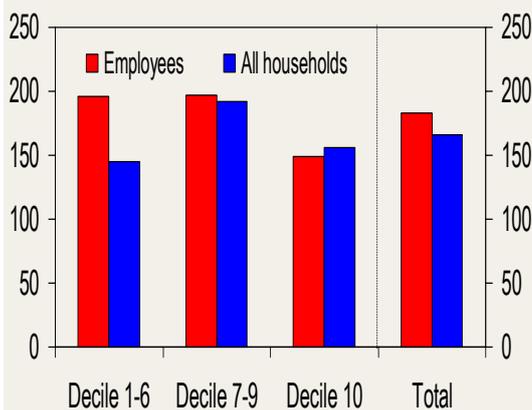
History has shown that it is often particularly when several economic variables at the same time develop more strongly than the historical trend that financial turbulence may arise. It may therefore be useful to use several gap indicators in the analysis.

<sup>1</sup> Norges Bank (2004): "Historical Monetary Statistics for Norway 1819-2003", *Norges Bank Occasional Papers* No. 35

<sup>2</sup> See Gerdrup, K. (2003): "Three episodes of financial fragility in Norway since the 1890s", *BIS Working Papers* No. 142

<sup>3</sup> See Borio, C. And P. Lowe (2002): "Asset prices, financial and monetary stability: exploring the nexus", *BIS Working Papers* No. 114

Chart 2.8 Debt as a percentage of disposable income (debt burden) by socioeconomic status and after-tax income. 2002



Sources: Statistics Norway and Norges Bank

recommended rates for social assistance. The increase in the rates for living expenses under the arrangement, combined with a higher debt burden among those with the lowest income, may have contributed to the increase in new cases under the Debt Settlement Act.

## High and rising debt burden, but low interest burden

As a result of the persistently high growth in household debt, the debt burden keeps rising. It is estimated that the debt burden increased by slightly more than 10 percentage points, to just over 160%, from 2003 Q3 to 2004 Q3 (see Chart 2.9).

In spite of the strong growth in debt, the household interest burden fell markedly last year (see Chart 2.10). This must be seen in connection with the sharp fall in interest rates through

2003. The share of fixed-interest mortgages in households (mortgages with a fixed rate for more than three months) has remained broadly unchanged, at 15%, from 2004 Q1 to 2004 Q2. The low percentage of fixed-interest mortgages makes households vulnerable to an increase in interest rates.

In earlier projections of the debt and interest burden, it was assumed that growth in household debt would slow to the same level as growth in disposable income at the end of the projection period. The projections are now based on the estimated relationships for developments in house prices and household debt that were presented in *Financial Stability 1/2004* and *Economic Bulletin 3/2004*. The projections are otherwise based on the assumptions in the baseline scenario from *Inflation Report 3/2004*. In this scenario, the interest rate rises from 1.7% at end-2004 to 4.0% at end-2007.

The estimated relationship for house prices indicates that house price inflation will slow to 2.5% in 2007, primarily as a result of higher interest rates. Household debt adapts to house prices with a lag. Annual growth falls from 12% in 2004 to 7% in 2007. Growth in household debt is thus higher than growth in disposable income throughout the projection period. As a result, the household debt burden rises sharply and in 2007 exceeds the level prevailing in the late 1980s (see Chart 2.9).

In the baseline scenario, households' after-tax borrowing rate will still be at a historically low level at end-2007. This will curb the effect of strong debt growth on the household interest burden. The interest burden falls through 2004 before increasing towards 2007 (see Chart 2.10). At the end of the projection period, the interest burden is approximately the same as in 2001/2002. This is lower than it was at the end of the 1980s.

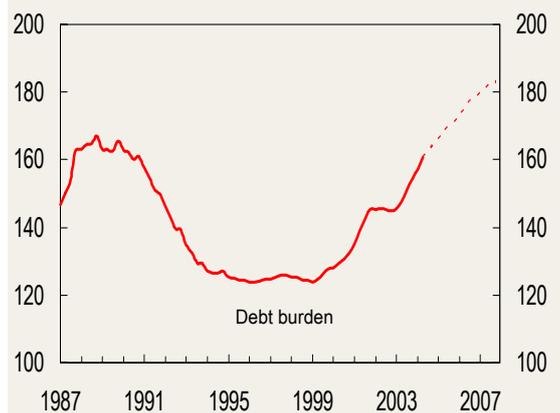
### Uncertain outlook

According to these calculations, the debt burden will in the course of a few years be far higher than it was prior to the banking crisis. Some countries, including Denmark and the Netherlands, currently have a debt burden that is at this level or higher. It is difficult to determine critical values for the debt burden, i.e. levels that are not compatible with financial stability in the long term.

Developments that we have seen over the past few years may be part of households' structural adjustment to new and improved credit markets with better opportunities for households to spread consumption over a lifetime.

Given the higher debt burden indicated by the projections, households will be more vulnerable to any decline in employment or an increase in interest rates followed by a fall in house prices. However, flexible inflation targeting in monetary policy reduces the risk that households will be exposed to a dual shock in the form of higher unemployment and higher interest rates, as was the case at the beginning of the 1990s.

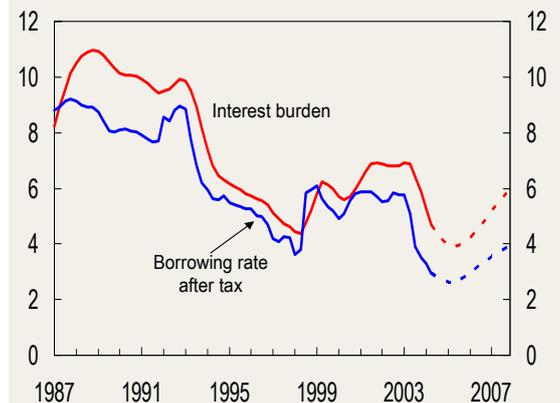
Chart 2.9 Household debt burden<sup>1)</sup>



<sup>1)</sup> Loan debt as a percentage of disposable income less the return on insurance claims (liquidi disposable income)

Sources: Norges Bank

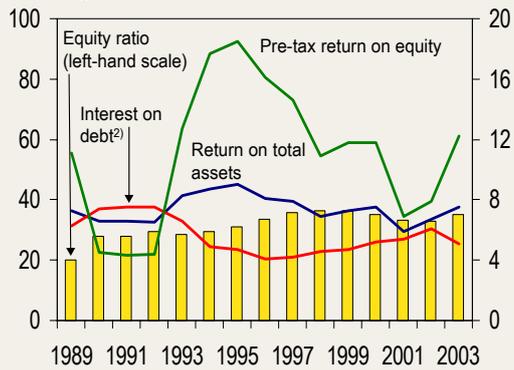
Chart 2.10 Household interest burden<sup>1)</sup> and household borrowing rate after tax



<sup>1)</sup> Interest expenses after tax as a percentage of liquid disposable income plus interest expenses

Source: Norges Bank

**Chart 2.11** Key figures for the enterprise sector.<sup>1)</sup> Annual figures. Per cent



<sup>1)</sup> Limited companies excluding enterprises in the oil and gas industry, financial industry and the public sector

<sup>2)</sup> Interest on debt calculated as the ratio between interest expense and total debt

Source: Norges Bank

## 2.3 Enterprises

### Improved profitability

More moderate wage growth, strong productivity growth in a number of industries, low interest rates and increasing demand have improved the profitability of the enterprise sector. The results of listed companies for the third quarter of 2004 show a continued favourable profitability trend in most industries. Expectations of sound results, partly as a result of high oil prices, contributed to a larger rise in equity prices in Norway than abroad in the third quarter (see section 1.4).

The annual reports of limited companies for 2003<sup>9</sup> confirm that profitability improved from 2002 to 2003. Wider operating margins in key industries such as commercial services and manufacturing contributed to an increase in the operating margin of the enterprise sector as a whole (see Annex Table 2). The operating margin decreased in some industries. Fish-farming was the only industry with a negative operating margin in 2003. Lower interest rates in 2003 resulted in a clear decline in net financial expenses and contributed to a pronounced increase in return on total assets (see Chart 2.11).

Although high dividends were again distributed in 2003, higher earnings and low debt growth contributed to a rise in the equity ratio for the enterprise sector as a whole from 2002 to 2003 (Chart 2.11). Equity ratios rose in most industries (see Annex Table 2). Large enterprises generally have a higher equity ratio than small enterprises.

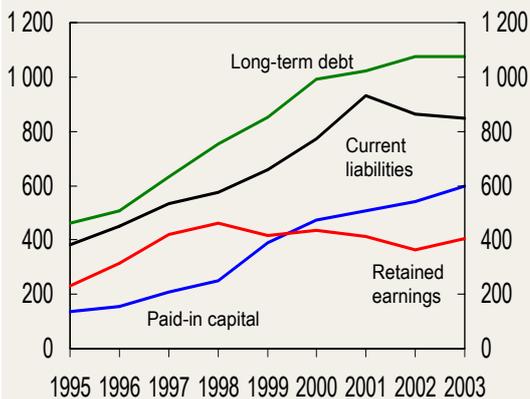
### Increased equity financing

Enterprises have borrowed little in recent years, and in periods growth in borrowing has been negative. Bank loans are traditionally the most important source of debt financing, but bank debt has not increased in recent years. Issuance of bonds and short-term paper, which are mainly confined to large Norwegian enterprises, has increased a little in recent years. The share of foreign borrowing has declined somewhat, and accounted for 39 per cent of total credit from domestic and foreign sources at end-August 2004.

Debt items in enterprise balance sheets can be divided into short-term and long-term debt. Since end-2001, enterprises' short-term debt has declined, while long-term debt has risen somewhat (see Chart 2.12). In addition to traditional debt items such as bank loans and bonds and short-term paper, enterprise sector debt consists of many other types of debt items (see Annex Table 1).

Enterprises also finance their activities through equity. Equity consists of paid-in capital resulting from share issues, and earned equity, which is retained earnings. Holdings of paid-in capital have risen sharply since the mid-90s. The decline in holdings of earned equity since the peak at end-1998 must be viewed in the light of low earnings and high dividends. Dividends have been very high for the last three years as a result of expectations

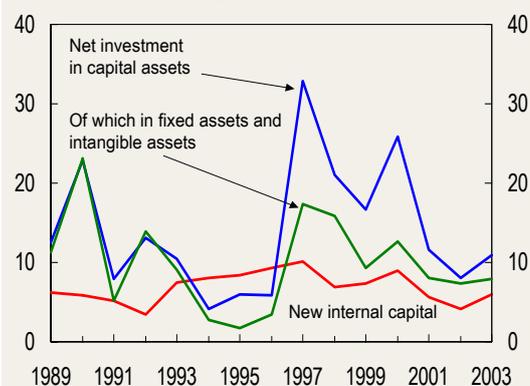
**Chart 2.12** Enterprise debt and equity financing. Holdings. In billions of NOK



<sup>1)</sup> Non-financial enterprises except public sector

Source: Norges Bank

**Chart 2.13** Enterprise<sup>1)</sup> net investment in capital assets and supply of new internal capital from operations. Percentage of mainland GDP



<sup>1)</sup> Non-financial enterprises except enterprises in the oil and gas industry and the public sector

Source: Norges Bank

<sup>9</sup> When the annual accounts figures are delivered to Norges Bank in September of the year following the accounting year, accounts for between 5 and 10 per cent of the enterprises are normally not (yet) available. Enterprises that are late in their deliveries of annual accounts normally have lower profitability than others, and will tend to weaken the accounting ratios.

that tax on dividends will be introduced. The owners of small enterprises in particular often reinvest received dividends in the enterprise in the form of paid-in capital or by extending loans to the enterprise.

Enterprises invest in fixed assets (real capital), financial assets (financial capital) and intangible assets. The need to raise loans to finance these investments depends on holdings of internal capital (gross assets) and the supply of new internal capital from operations (retained cash surplus). Rising corporate profitability contributed to an increased supply of internal capital in the first half of the 1990s (see Chart 2.13). A high level of investment in 1997 led to corporate debt growth gathering pace again. Since 1997, investment has gradually declined. This decline, coupled with a certain increase in the supply of new internal capital allowed enterprises to reduce their debt financing in 2003.

### Lower debt and interest burden

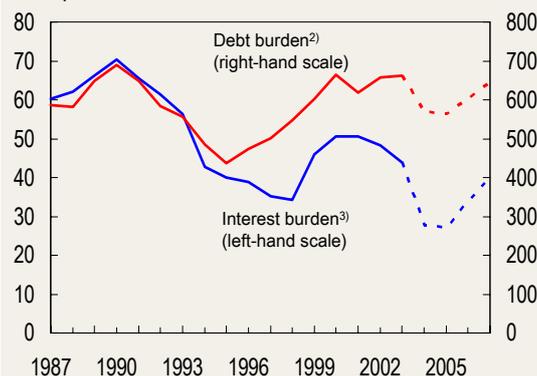
Sound profitability and low investments compared with the supply of internal capital have reduced enterprises' debt burden. The low interest rate level is contributing to pushing down enterprises' interest burden. If developments in the Norwegian economy are in line with the baseline scenario in *Inflation Report 3/2004*, the interest and debt burden of the enterprise sector will fall substantially from 2003 to 2004 (see Chart 2.14). The interest burden will increase again in 2006 and 2007, because the rise in interest rates in the baseline scenario will lead to a rise in interest expenses. Higher debt combined with increased interest expenses which pushes down the cash surplus will lead to the debt burden increasing again in 2006 and 2007.

We have calculated the debt burden in central industries on the basis of enterprises' accounting data. For evident reasons, the debt burden in property management is generally very high. This contributes to raising the debt burden of the enterprise sector as a whole. From 2002 to 2003, lower financial costs contributed to a decline in the debt burden in property management (see Chart 2.15). The debt burden in commercial services dropped substantially from 2002 to 2003 as a result of improved profitability.

### Fewer bankruptcies

The improved corporate profitability has resulted in a marked decline in bankruptcy figures this year. In 2004 Q3 the number of bankruptcies was 21% lower than at the peak in 2003 Q2 (see Chart 4 in the summary). The turnover and number of employees in bankrupt entities show an even sharper decline, of 41% and 33% respectively since 2003 Q4. The turnover of bankrupt enterprises has fallen in all major industries (see Chart 2.16). The decline in 2004 has been largest in manufacturing and in wholesale and retail trade.

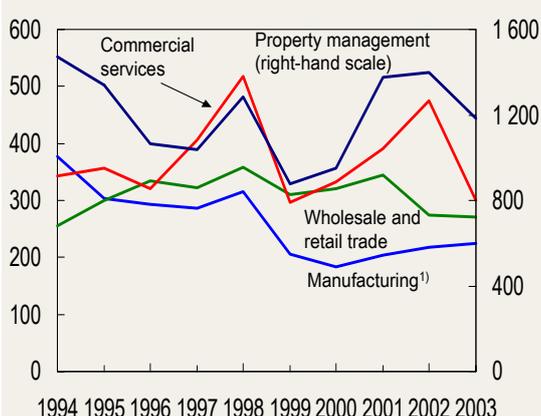
**Chart 2.14** Debt and interest burden in non-financial enterprises.<sup>1)</sup> Per cent



<sup>1)</sup> Except enterprises in the oil and gas industry and shipping  
<sup>2)</sup> Debt as a percentage of cash surplus  
<sup>3)</sup> Interest expense as a percentage of cash surplus + interest expense

Sources: Statistics Norway and Norges Bank

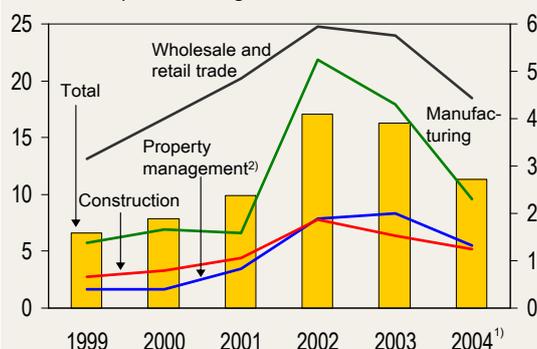
**Chart 2.15** Debt burden in selected industries. Per cent of cash surplus



<sup>2)</sup> Excluding shipbuilding and mining

Source: Norges Bank

**Chart 2.16** Turnover of bankrupt enterprises, total (left-hand scale) and for selected industries (right-hand scale). Annual figures. In billions of NOK



<sup>1)</sup> Annualised figures based on seasonally adjusted figures for the first three quarters of the year

<sup>2)</sup> Property management, commercial services and rental activities

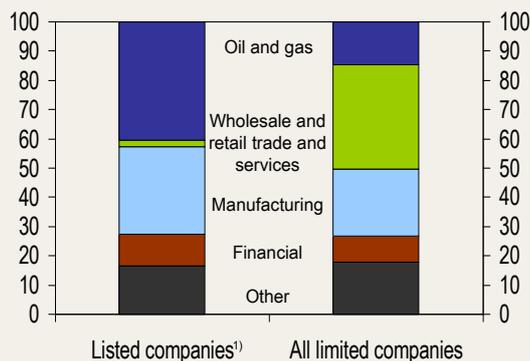
Sources: Statistics Norway and Norges Bank

# Relationship between the results of companies listed on the Oslo Stock Exchange and of the Norwegian enterprise sector as a whole

Listing on the stock exchange is subject to transparency requirements. Listed companies deliver quarterly reports which provide frequently updated information about the company's financial developments. This information is not available for other companies. It is therefore interesting to study whether information about the listed companies can be used to estimate developments in the Norwegian enterprise sector as a whole.

At end-2003, 158 Norwegian companies were listed on the Oslo Stock Exchange, while a total of 153 077 limited companies were registered in Norway. In 2003, listed companies<sup>1</sup> accounted for about 30% of the total operating income and total assets of all limited companies.

**Chart 1** Shares of total operating income in 2002, by industry. Per cent



<sup>1)</sup> Operating income from the groups Norsk Hydro and Aker Kværner is distributed by industry in accordance with the companies' annual reports. Other groups are classified according to the industry code of the parent company

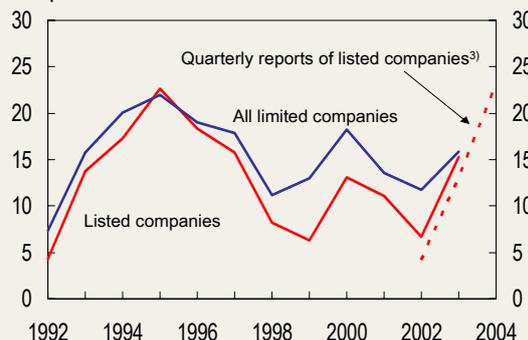
Source: Norges Bank

Developments in the results of listed companies may not necessarily be representative for the whole enterprise sector for several reasons:

- Listed companies are larger and more exposed to developments abroad than other companies.<sup>2</sup>
- The distribution by industry of the Oslo Stock Exchange differs from the distribution in the Norwegian enterprise sector as a whole (see Chart 1). Manufacturing and the oil and gas industry are strongly represented among listed companies. In 2002, Statoil and Norsk Hydro together accounted for 50% of the operating income of the listed companies.

Despite these differences, there has been a relatively close connection, historically, between the profitability trends of listed companies and of limited companies overall. For the past 12 years, trends in the return on equity of listed companies have largely reflected trends in the return on equity of all limited companies (see Chart 2). There is also a close relationship between developments in other key figures, such as net profit margin and operating margin. This can be partly explained by the fact that the various industries are largely influenced by the same economic developments, and that the difference in industrial composition is therefore of less importance.

**Chart 2** Pre-tax<sup>1)</sup> return on equity in Norwegian companies<sup>2)</sup> 1992-2004. Per cent



<sup>1)</sup> Key figures for 2003 have not been adjusted for accounts that are not yet available

<sup>2)</sup> All Norwegian limited companies except banks, insurance and Statoil

<sup>3)</sup> Based on quarterly figures from Statistics Norway, where 2004 is estimated on the basis of the weighted average of Q1 and Q2

Sources: Statistics Norway and Norges Bank

The return on equity of the listed companies increased from 13% in 2003 to 23% in the first half of 2004. In other words, there is reason to expect a substantial strengthening of the profitability of Norwegian limited companies in 2004.

<sup>1</sup> Here "listed company" refers to the entire financial entity, i.e. the group, in those cases where the company delivers consolidated accounts.

<sup>2</sup> See the box "How Norwegian is the Oslo Stock Exchange?" in *Financial Stability* 1/2004.

### Lower predicted bankruptcy probabilities

Norges Bank's bankruptcy prediction model estimates the probability of bankruptcies in non-financial enterprises in the course of the next three accounting years. The predicted bankruptcy probabilities after the 2003 accounting year are a little lower than one year previously. The decline is a little larger for the most exposed enterprises than for the median enterprise (see Chart 2.17).

Risk-weighted debt, defined as bankruptcy probability multiplied by bank debt, is a rough estimate of financial institutions' future losses. Risk-weighted debt as a percentage of bank debt expresses expected loss per krone of debt in the event of bankruptcy and no dividend from the estate in bankruptcy. Lower bankruptcy probabilities contributed to lowering this ratio in several industries from 2002 to 2003 (see Chart 2.18). The improvement was most pronounced in commercial services and property management. However, in fishing and fish-farming risk-weighted debt formed a larger share of bank debt in 2003 than in 2002 (see Annex Table 2).

### Stabilisation in the commercial property market

The commercial property market is important for banks since well over a third of their lending to the enterprise sector is to property management enterprises (Annex Table 2). Lower interest expenses contributed to improved earnings by property enterprises in 2003 than in 2002, but as a result of high dividends, the equity ratio was not strengthened.

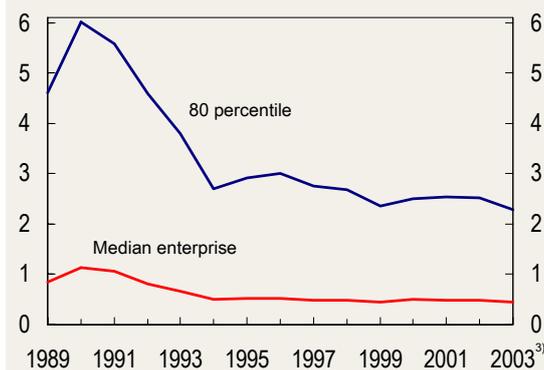
Prices for commercial property have risen over the past year. Lower interest rates have contributed to this increase in prices. From the first half of 2003 to the same period this year, prices for office and commercial property rose by 17% according to figures from Statistics Norway (see Chart 5 in the summary). Their price index is based on registered sales of commercial property.

Of the various sub-markets in the commercial property market, the market for rental of office premises has been weakest. For the past half year, however, there have been signs that rental prices for office premises are stabilising (see Chart 2.19). A reduction in vacant space has contributed to a rise in rental prices in Trondheim. In Bergen the growth in vacant space is levelling off. There is more vacant space in Oslo than in the other large cities, which has led to a further decline in rental prices.

### Improved earnings and favourable prospects

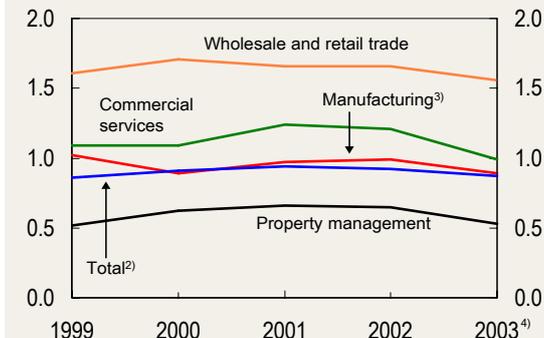
More moderate wage growth, strong productivity growth, low interest rates and increased economic growth have improved the earnings of much of the enterprise sector. However, some industries still have weak earnings. The financial outlook for the enterprise sector as a whole has improved since half a year ago.

**Chart 2.17** Predicted bankruptcy probabilities<sup>1)</sup> for non-financial enterprises.<sup>2)</sup> Per cent



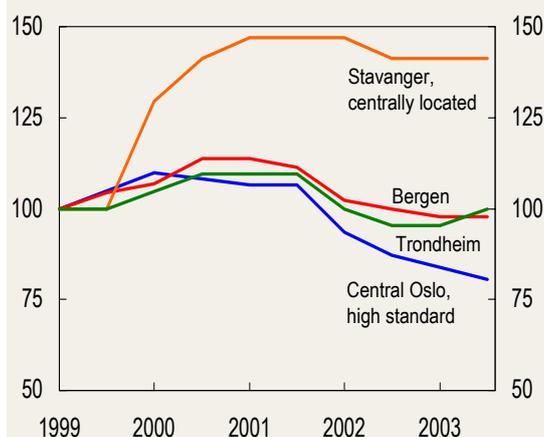
<sup>1)</sup> Probability of bankruptcy within 3 years  
<sup>2)</sup> Except enterprises in the oil and gas industry and public sector  
<sup>3)</sup> The level of bankruptcy probabilities in 2003 has been adjusted for unavailable accounts  
 Source: Norges Bank

**Chart 2.18** Risk-weighted debt<sup>1)</sup> in per cent of bank debt in selected industries and total



<sup>1)</sup> Risk-weighted debt = probability of bankruptcy multiplied by bank debt  
<sup>2)</sup> Non-financial enterprises except enterprises in the oil and gas industry and the public sector  
<sup>3)</sup> Excluding shipbuilding and mining  
<sup>4)</sup> The level in 2003 has been adjusted for unavailable accounts  
 Source: Norges Bank

**Chart 2.19** Rentals for office premises in large Norwegian cities. Index. 2nd half 1999 = 100



Source: Dagens Næringsliv

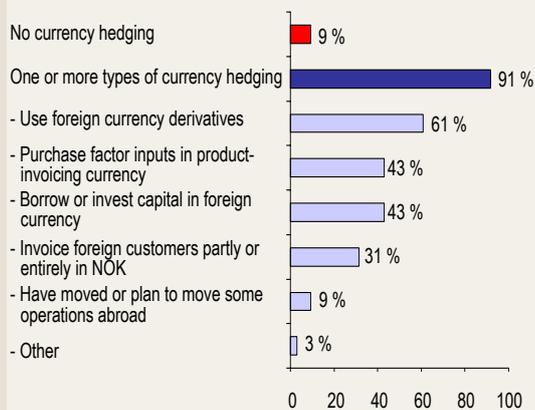
# How do enterprises hedge against exchange rate fluctuations?

Norges Bank has conducted a survey of currency hedging practice among 128 Norwegian enterprises with currency exposure.<sup>1</sup> The selected enterprises have an even distribution among sectors and enterprise sizes. This box presents some of the most important results from the survey.

The majority of the enterprises with currency exposure have a currency strategy that is anchored in the board of directors or the management. This indicates that currency hedging is handled in a well thought-through and systematic manner.

91% of the enterprises state that they use one or more types of currency hedging (see Chart 1). Both foreign currency derivatives and natural hedging techniques are very widely used. One type of natural hedging is to buy input factors in the currency in which the product is invoiced. Another is to raise loans in a currency in which the enterprise has assets. It is common to use several types of currency hedging in parallel. 9% of the enterprises are considering moving some of their operations abroad.<sup>2</sup>

**Chart 1** Types of currency hedging. Share of all enterprises with currency exposure. Per cent

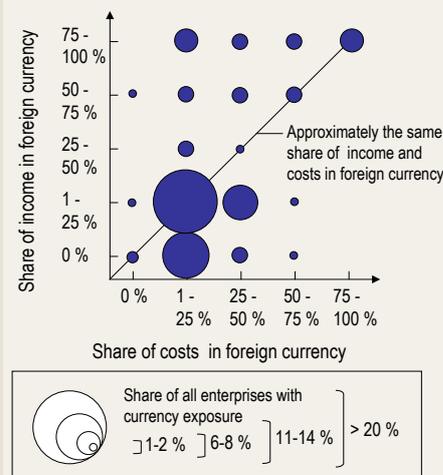


Source: Norges Bank

In the survey, the enterprises were asked to specify what shares of their income and costs are in foreign currency. The difference between income and costs in foreign currency is the enterprise's net currency exposure<sup>3</sup> before any use of foreign currency derivatives. If the enterprise makes extensive use of natural hedging techniques, we can expect foreign currency income and costs to be broadly similar. Chart 2 shows the shares of enterprises with different revenue and cost exposure combinations. Larger

circles indicate a larger share of all the enterprises in the survey. The largest group of enterprises has a relatively low share (1-25%) of both income and costs in foreign currency. The net exposure of these enterprises will be limited compared with their total turnover. Net exposure will generally be limited for all enterprises with approximately the same share of income and costs in foreign currency. This is the situation for over a third of the enterprises in the survey.

**Chart 2** Income and costs in foreign currency. Share of all enterprises with currency exposure. Per cent



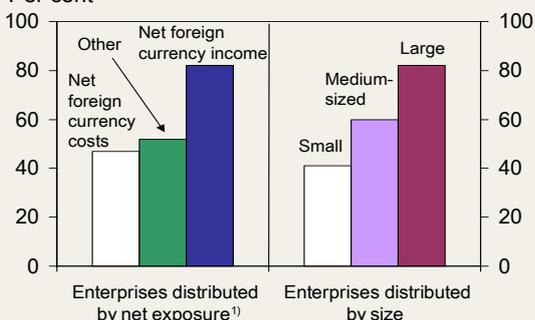
Source: Norges Bank

At the bottom right of the chart are enterprises with a larger share of costs than income in foreign currency (net foreign currency costs). In this category there is a distinct overweight of enterprises that sell consumer goods and enterprises that import capital goods as factor input. Many enterprises have a relatively small share of their costs (1-25%) and no income in foreign currency. For this group, changes in the exchange rate will have a moderate effect on total costs. Few of the enterprises that have no income in foreign currency have a high share of costs in foreign currency. This probably reflects the fact that costs that accrue in Norway, for example wages, rental of premises and distribution costs, account for a substantial share of the overall costs of most of these enterprises.

Most enterprises with high net currency exposure have a higher share of income than costs in foreign currency (net foreign currency income). In this category there is a strong overweight of energy, manufacturing and fishing enterprises. One important reason for this may be that natural hedging techniques are not available to a sufficient extent

to these enterprises, because their operations are based on the use of specifically Norwegian raw materials. In general, enterprises with net foreign currency income use foreign currency derivatives more than others (see Chart 3). For these enterprises, the degree of hedging increases with net exposure. Enterprises with net foreign currency costs use derivatives to a lesser extent. One reason for this may be that competition is less intense in the import markets, so that the effect of exchange rate changes can be passed on to customers to a greater extent.

**Chart 3** Use of derivatives by various enterprise categories. Share of all enterprises with currency exposure in each category that use derivatives. Per cent



<sup>1)</sup> Enterprises with net foreign currency income have a larger share of income than costs in foreign currency. Enterprises with net foreign currency costs have a larger share of costs than income in foreign currency. Other enterprises have approximately equal shares of income and costs in foreign currency

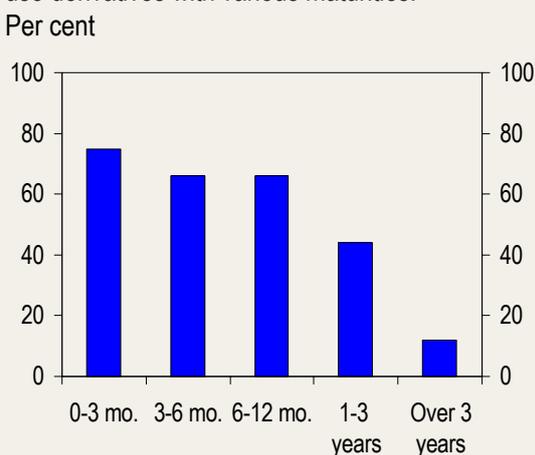
Source: Norges Bank

Size is another factor that influences the use of currency hedging. Over 80% of large enterprises<sup>4</sup> use foreign currency derivatives, compared with about 40% of small enterprises (see Chart 3). This indicates that economies of scale make it relatively easier for large enterprises to use derivatives. Medium-sized and small enterprises appear to compensate for this by invoicing foreign customers in NOK to a greater extent. Overall, large enterprises nevertheless appear to use a greater variety of currency hedging techniques than small ones.

Foreign currency derivatives are used largely for short-term currency hedging (see Chart 4). 12% of the enterprises that use foreign currency derivatives have contracts with a maturity of over 3 years. 44% of derivative users have contracts with a maturity of 1 - 3 years, but for the majority of these enterprises such contracts account for a small part of their total derivative holdings. This means that the total volume of long-term foreign currency derivatives is limited. There is an overweight of shipping companies and energy sector enterprises among users

of long-term derivatives. Short-term contracts with maturities of up to a year are used by the majority, however. For 18% of derivative users, very short-term contracts (with maturities of up to 3 months) account for more than 75% of their total derivative holdings. Among those who place greatest weight on short-term derivatives, there is an overweight of enterprises focused on the consumer segment.

**Chart 4** Share of all derivatives users that use derivatives with various maturities. Per cent



Source: Norges Bank

All the enterprises state that the purpose of using foreign currency derivatives is to reduce their currency exposure. At the same time, one of three enterprises states that their hedging practice also enables them to adopt a stance on which direction exchange rates will move, or whether currencies are over- or undervalued. This indicates that some enterprises use currency hedging not just to reduce risk, but also to make gains based on exchange rate movements.

The Norwegian market for foreign currency derivatives to non-financial enterprises has grown strongly in recent years. This trend is discussed in more depth in a box in Chapter 1.

<sup>1</sup> Currency exposure means that a share of income, costs, assets or debt is in a currency other than NOK.

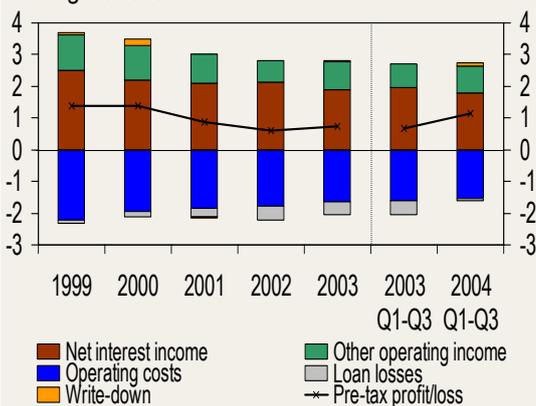
<sup>2</sup> Factors other than currency hedging, such as the Norwegian labour cost level, or a desire for proximity to the market, are also important when an enterprise considers relocating.

<sup>3</sup> Provided that foreign currency income and costs are in the same currency. Net exposure will also be approximately the same for two highly correlated currencies.

<sup>4</sup> Large enterprises are defined here as enterprises with turnover of over NOK 500m. Small enterprises are enterprises with turnover of less than NOK 150m. There are approximately equal numbers of small, medium-sized and large enterprises in the selection.

# 3 | Financial institutions

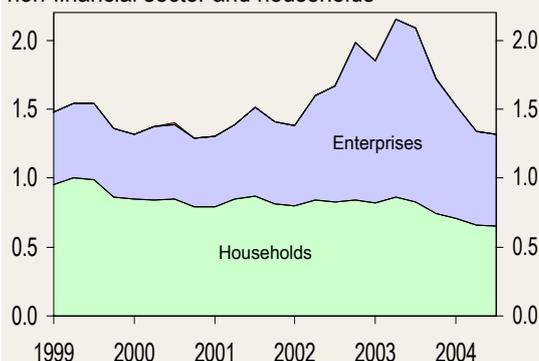
**Chart 3.1** Banks<sup>1)</sup> profit/loss. Percentage of average total assets



<sup>1)</sup> Excluding branches of Norwegian banks abroad. Including branches of foreign banks in Norway

Source: Norges Bank

**Chart 3.2** Banks' holdings of gross non-performing loans to households and enterprises. Percentage of gross lending to municipalities, the non-financial sector and households



<sup>1)</sup> Excluding branches of Norwegian banks abroad. Including branches of foreign banks in Norway

Source: Norges Bank

## 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.

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

**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.

## 3.1 Banks' results and financial strength

Bank's results so far this year are better than they have been for several years due in part to very low interest rates and a pronounced cyclical upturn (see Chart 3.1). Pre-tax profits improved markedly from the first three quarters of 2003 to the same period in 2004 for all bank categories.<sup>10</sup> The improvement is primarily a result of lower loan losses and higher earnings from commissions. The sharp increase in the banking index on the Oslo Stock Exchange (see Chart 1.8) indicates that investors consider the outlook for Norwegian banks to be favourable.

Banks' net interest income continues to decline as a result of the fall in interest rates in 2003 and the beginning of 2004. Banks' total interest margin was 2.78% at end 2004 Q2. This is lower than in 2003 when the average interest margin was 2.92%. The fall is mainly due to reduced lending margins.

Other operating revenues are higher this year than in 2003. This is primarily ascribable to higher earnings from commissions and a turnaround from strongly negative to positive capital gains on derivatives. Price gains on derivatives and securities and exchange gains are normally sensitive to changes in the economy and in the different markets. Banks' cost-effectiveness, measured by operating costs as a percentage of average total assets (ATA), continued to improve in 2004 (see Chart 3.1).

In all bank categories, recorded loan losses have fallen sharply. Low interest rates, cost reductions and debt consolidation in enterprises contributed to reducing losses on loans to corporate customers. Low interest rates have also contributed to keeping loan losses low in the retail market. The improvement in the quality of credit through 2004 is also reflected in a pronounced decline in gross non-performing loans to both the household sector and non-financial enterprises (see Chart 3.2).

The Tier 1 capital ratio for all banks fell from 9.7% at end-2003 to 9.3% at end 2004 Q3. The Tier 1 capital ratio is still highest for small and medium-sized banks but is also solid for the largest banks.

## 3.2 Risk outlook for banks

Banks are exposed to a number of types of risk. Loans to households, municipalities and non-financial enterprises account for close to three-quarters of banks' total assets, making credit risk the primary source of risk for banks. Due to sharp growth in loans to the household sector in the last four years<sup>11</sup>, these loans now account for more than two-thirds of banks' total loans to the non-financial sector.

<sup>10</sup> I.e. in the two largest Norwegian banks and in the categories "other commercial banks", "other savings banks" and "branches of foreign banks".

<sup>11</sup> The household sector also includes the self-employed.

### Credit risk associated with loans to households

Banks have been willing to meet households' high demand for loans. A continued rise in house prices and expectations of lower capital requirements for housing loans as a result of new capital adequacy rules may contribute to maintaining the strong growth in loans to households.

Average interest rates on *new* mortgage loans dropped approximately as much as Norges Bank's key rate until mid-2004 (see Chart 3.3). Since the end of June 2004, however, interest rates on new housing loans have increased slightly. This may indicate that banks consider the risk associated with housing loans to be increasing. The average interest rate on *all* mortgage loans, with both fixed and floating rates, fell towards the end of the second quarter. A fall in banks' lending rates that is approximately the same as the fall in the key rate may be interpreted as an indication of active competition between banks in Norway in the area of housing loans.

Historically, banks' losses on loans to households have been low (see Chart 3.4). Banks' holdings of non-performing loans to households have fallen recently (see Chart 3.2). Due in part to low interest rates, the household interest burden is low in spite of high debt growth (see Section 2.2). The risk of higher losses on loans to households is therefore considered to be relatively low in the short term. However, the high debt growth and historically high debt burden make households vulnerable to economic disturbances. A sharp increase in interest rates could make it difficult for parts of the household sector to service their debt.

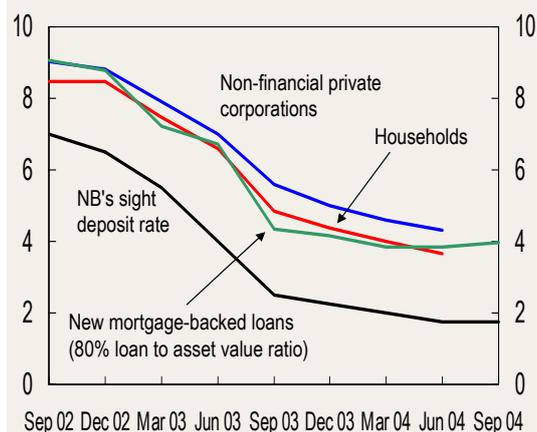
### Credit risk associated with loans to non-financial enterprises

Loans to non-financial enterprises account for more than 30% of banks' gross lending to households, municipalities and non-financial enterprises. Experience shows that the majority of banks' loan losses are related to loans to non-financial enterprises (see Chart 3.4).

The analysis in Section 2 stressed that enterprises are relatively solid with good profitability and a favourable outlook, at least in the short term. This is underpinned by the decline in banks' holdings of non-performing loans to the corporate market. Banks' lending is highest to the property management industry. The share of banks' loans to non-financial enterprises that are property companies rose from 32% at end-2002 to nearly 35% at end-2003. Recorded losses on loans to the property industry have been relatively lower than losses to most other industries in recent years.

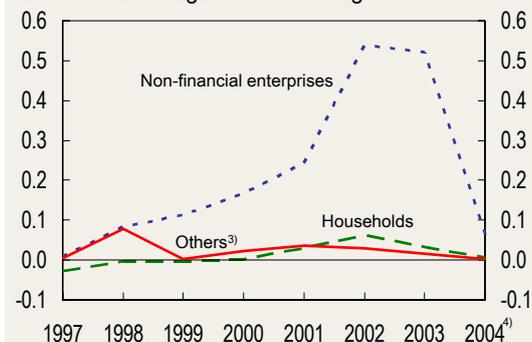
Banks are particularly vulnerable to defaults among large loan customers. Nordlandsbanken's major losses on loans

**Chart 3.3** Development in banks' lending rates and Norges Bank's sight deposit rate. Per cent



Sources: Norges Bank and Cicero

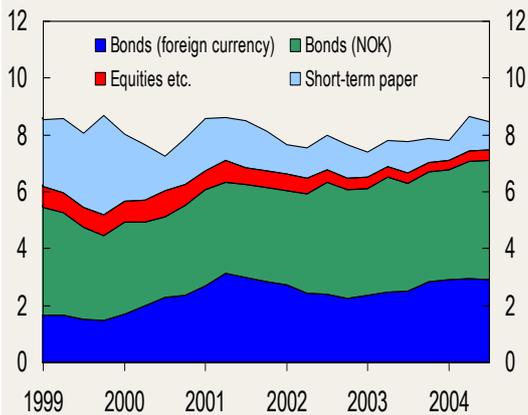
**Chart 3.4** Banks' losses on loans to different sectors. Percentage of total lending



<sup>1)</sup> Norwegian commercial and savings banks and branches of foreign banks in Norway  
<sup>2)</sup> Recorded losses excl. changes in unspecified loss provisions  
<sup>3)</sup> Financial institutions, central government and national insurance administration, municipal sector and foreign  
<sup>4)</sup> At 30 September. Estimate

Source: Norges Bank

**Chart 3.5** Banks' securities holdings current assets by item. Percentage of total assets



<sup>1)</sup> Excluding branches of foreign banks

Source: Norges Bank

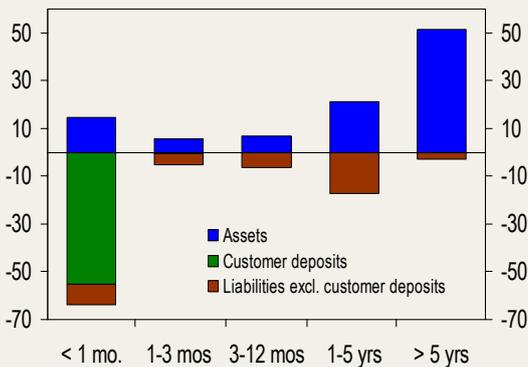
to Finance Credit and Dåfjord Laks are examples of this. Banks' holdings of large loans in relation to total lending increased marginally from the end of the first half of 2003 to the end of the first half of 2004.<sup>12</sup>

Due to positive developments in the enterprise sector, credit risk associated with non-financial enterprises is considered to be relatively low and somewhat lower than in *Financial Stability 1/2004*.

### Market risk

Banks' holdings of securities classified as trading book are low (see Chart 3.5). Norwegian banks engage to only a limited extent in securities trading for their own account. Banks primarily have interest-bearing securities because these may be used as collateral for intraday loans and fixed-deposit loans from Norges Bank. Even if prices in equity and bond markets should fall from today's relatively high level, the negative effect on banks' earnings would be limited. Therefore, banks' market risk is still considered to be relatively low.

**Chart 3.6** Banks' financial assets and liabilities by residual maturity.<sup>1)</sup> September 2004. Percentage of total assets



<sup>1)</sup> Excluding branches of foreign banks. Some assets (equities/units and real capital etc.) and liabilities (equity capital etc.) which do not have a maturity are excluded

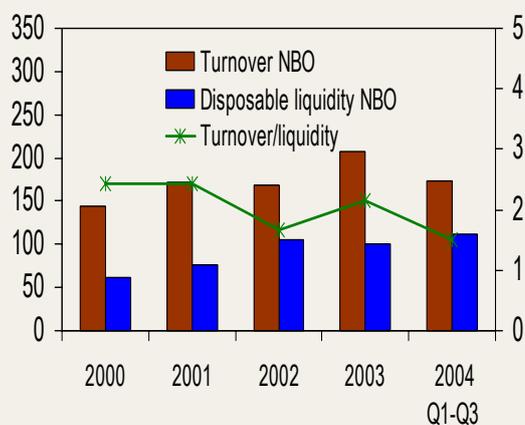
Source: Norges Bank

### Liquidity risk

Banking operations entail liquidity risk in several areas. Below, we will evaluate banks' risk connected with providing payment services and thereafter the risk connected with the financing structure.<sup>13</sup>

Customer deposits accounted for about half of banks' total assets at the end of June 2004. Less than 50% of the deposits from non-financial enterprises have no maturity and may be withdrawn without warning in connection with goods purchases, cash withdrawals, securities trading, foreign exchange trading and tax payments. When deposits have a term to maturity, the term is usually less than one month (see Chart 3.6).

**Chart 3.7** Liquidity at the start of the day and turnover in NBO. Average. In billions of NOK (left-hand scale) and as a ratio (right-hand scale)



Source: Norges Bank

Banks' positions from different transactions are settled through their accounts in Norges Bank. If transactions are to be settled without delay in Norges Bank's Settlement System (NBO), banks must have adequate liquidity when the transactions are received in NBO. Banks' liquidity in NBO consists of a borrowing facility secured by pledged securities and deposits in accounts in Norges Bank. In the first three quarters of 2004, banks had on average NOK 110bn available in the settlement system at the beginning of the day. This included borrowing facilities corresponding to approximately NOK 90bn and deposits of roughly NOK 20bn (see Chart 3.7). The ratio between turnover and available liquidity in NBO provides an indication of how many NOK are settled with NOK 1 in liquidity. The ratio has been lower for the first three quarters of 2004 than for previous years. This may indicate that a higher settlement volume is possible with the

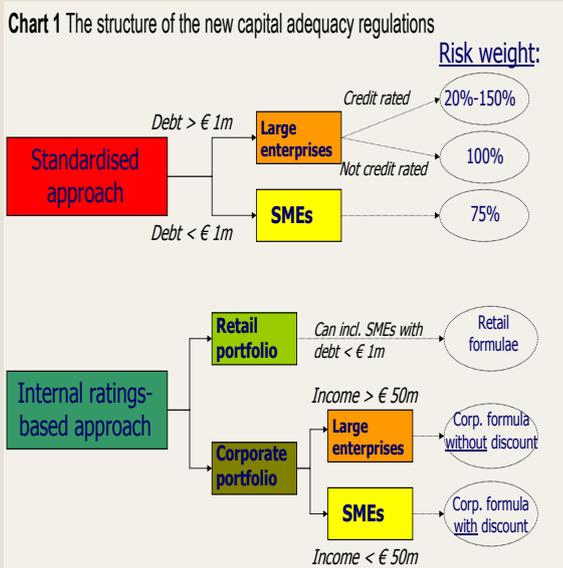
<sup>12</sup> Source: Kredittilsynet (Financial Supervisory Authority). A large loan is defined as an exposure that accounts for more than 10% of owners' capital.

<sup>13</sup> Banks are also exposed to liquidity risk connected with delayed payment of large loans, counterparty exposures or reduced earnings, but this is not discussed in detail in this report.

# Risk associated with loans to small enterprises and the new capital adequacy framework\*

The Basel Committee on Banking Supervision presented new guidelines for estimating banks' capital adequacy (Basel II) on 26 June 2004.<sup>1</sup> The purpose of the new regulations has been to better adapt the rules to banks' risk and encourage banks to improve their risk management.

According to the current regulations, loans to all non-financial enterprises are 100% risk-weighted irrespective of the underlying risk. The new regulations contain three methods for calculating capital requirements for the credit risk of non-financial enterprises: the standardised approach (SA), the internal rating-based foundation approach (IRBF) and the internal rating based advanced approach (IRBA) (see Chart 1).

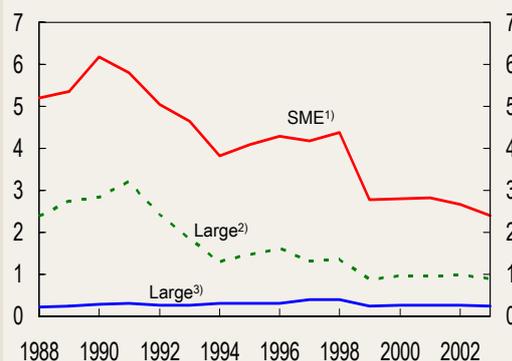


In SA, enterprises with total loans of less than EUR 1m from a single bank are defined as small and medium-sized enterprises (SMEs) and are given a risk weight of 75%. One prerequisite for this is that the enterprise is a part of a well diversified lending portfolio. The risk weight of enterprises with total loans exceeding EUR 1m depends on whether they have a credit rating or not. Enterprises with a credit rating are assigned a risk weight based on this rating, while enterprises without a credit rating are given a risk weight of 100%. In IRBF and IRBA, banks will use their own credit risk models to determine the capital requirements.<sup>2</sup> The model must be approved by the supervisory authorities. Enterprises are classified first according to which portfolio they belong to – the retail or the corporate portfolio. An SME forming part of a bank's corpo-

rate portfolio is given a risk weight discount based on the size of the enterprise's income. SMEs in the retail portfolio are assigned a risk weight calculated using a special retail formula.

Almost half of the non-financial enterprises in Norway have bank debt. Of these enterprises, 88% have debt of less than EUR 1m, while 99.5% have total income that is less than EUR 50m.<sup>3</sup> This means that most non-financial enterprises in Norway would be classified as SMEs. Using Norges Bank's SEBRA database and model, we have calculated bankruptcy probabilities for SMEs in different industries and regions. Historically, bankruptcy probabilities have on average been far higher for SMEs than for large enterprises in periods of economic expansion and contraction alike (see Chart 2). This fact makes it relevant to assess the effect of the more favourable treatment of SMEs under the new regulations, and whether this can be justified with respect to risk.

**Chart 2** Bankruptcy probability for SMEs and large enterprises. Average. Per cent



<sup>1)</sup> SMEs with total bank debt of under EUR 1m and total income of under EUR 50m (the 2 groups have approximately the same average)

<sup>2)</sup> Enterprises with total bank debt of over EUR 1m

<sup>3)</sup> Enterprises with total income of over EUR 50m

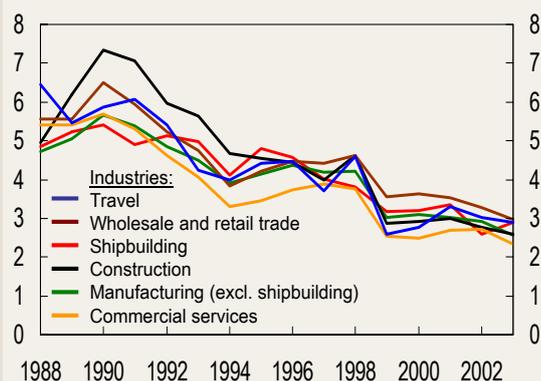
Source: Norges Bank

The more favourable treatment of SMEs under the new regulations rests on the assumption that there is lower correlation between SMEs than there is among large enterprises. The reasoning is that SMEs have a larger amount of *enterprise-specific* risk.<sup>4</sup> However, traditional financial theory indicates that the enterprise-specific diversification gain falls rapidly with the number of enterprises. For example, when the number of enterprises in a lending portfolio is increased from about 30 to 40, the diversification gain will be limited. Some of the *industry- and region-specific* credit risk can be removed by spreading lending across several indus-

\* Some of the figures in Table 1 have been corrected compared with the report published on 30 November. The text on page 31 has been amended accordingly.

tries and regions. Chart 3 shows that developments in average bankruptcy probabilities for SMEs have been approximately the same in most major industries in Norway in the period 1998-2003. The same applies to developments in different regions in Norway. This indicates that spreading the loans across different industries and regions offers limited possibilities of reducing risk associated with loans to SMEs.

**Chart 3** Bankruptcy probability in selected industries. SMEs.<sup>1)</sup> Average. Per cent



<sup>1)</sup> Non-financial limited companies with total bank debt of less than EUR 1m. The total number of enterprises in 2003 is 44 908. The shipbuilding industry has the lowest number of enterprises, at 197  
Source: Norges Bank

On the basis of the bankruptcy probabilities we have calculated the capital adequacy requirement under different assumptions (see Table 1).<sup>5</sup> We have used capital adequacy formulae as defined in the new Basel II Accord.<sup>6</sup> “Basel I” refers to the current capital adequacy regulations.<sup>7</sup>

**Table 1**  
Capital adequacy requirements for SMEs at 31.12.2003. In billions of NOK

| Basel I | Basel II with SME discount |                              | Basel II without SME discount |      |
|---------|----------------------------|------------------------------|-------------------------------|------|
|         | SA <sup>1)</sup>           | IRBF Corporate <sup>2)</sup> | SA                            | IRBF |
| 5.3     | 3.9                        | 3.1                          | 5.3                           | 4.1  |

<sup>1)</sup> Provided that all enterprises with bank debt of less than NOK 8.1m (EUR 1m) have a 75% risk weight

<sup>2)</sup> Provided that all enterprises with total sales of less than NOK 405m (EUR 50m) go to the corporate portfolio

The results indicate that the capital requirement for SME loans could fall with both SA and IRBF compared with the current regulations. The results

also indicate that the SME discount under the new regulations is substantial. The capital requirement for SMEs would be approximately 35% higher with SA and 30% higher with IRBF if the SME discount were removed.

#### Will banks allocate enough capital?

The above results provide grounds for asking whether the banks will have allocated enough capital for the credit risk related to SMEs even if they have complied with the minimum requirement in the new regulations.<sup>8</sup> However, Pillar 2 of the new regulations makes it possible for the supervisory authorities to raise the minimum requirements for capital adequacy. Moreover, the use of ever more advanced risk management systems and the generally sound capital adequacy of Norwegian banks may make gradual and risk-adjusted adaptation possible. Banks’ sources of funding may also “penalise” banks that reduce their capital adequacy disproportionately by increasing the risk premium associated with banks’ funding.<sup>9</sup>

<sup>1</sup> The regulations enter into force in 2006/2007.

<sup>2</sup> When capital requirements are calculated using the internal rating based approaches, only banks’ *unexpected* loan losses are taken into account. In addition, banks must calculate *expected* losses and compare this amount with actual loan losses. Any difference is subtracted from or added to the bank’s capital.

<sup>3</sup> Source: Norges Bank’s SEBRA database

<sup>4</sup> For example, the risk of an enterprise’s management making incorrect decisions which are independent of developments in different industries, regions and economic developments in general.

<sup>5</sup> We consider only credit risk associated with non-financial enterprises (limited companies). Risk-reducing measures are not taken into account. We do not have sufficient information to calculate the capital requirement with IRBA.

<sup>6</sup> The bankruptcy probabilities will be lower than the default probabilities (i.e. PD in the formulae in the new regulations). The IRBF calculation in Table 1 therefore underestimates the capital requirement somewhat. However, it is unlikely that use of default probabilities will alter the general conclusions.

<sup>7</sup> The new regulations have previously been subjected to a number of impact analyses. The analyses indicate that the capital requirement for *credit risk* will be substantially reduced for most banks, both in Norway and in other European countries.

<sup>8</sup> More detailed analyses will be necessary before any clear conclusions can be drawn.

<sup>9</sup> Pillar 3 involves extensive requirements regarding the reporting of information on capital adequacy, risk exposure and other aspects of banks’ activities.

existing liquidity, or that liquidity may be reduced without causing delays in the settlement system.

Payments in NBO fall due for settlement at different times during the day. Banks draw most heavily on their borrowing facility in NBO at mid-day (see Chart 3.8). In the period 2-13 August 2004, mid-day utilisation of borrowing facilities averaged NOK 8bn, whereas the highest observation was NOK 25bn. In this period, therefore, banks had ample liquidity to meet their obligations in payment settlements.

On the whole, banks' financing has been relatively stable since *Financial Stability 1/2004*. At end 2004 Q3, customer deposits and bond debt amounted to 64% and 25% respectively of gross lending to households, municipalities and non-financial enterprises. Since *Financial Stability 1/2004*, customer deposits and bond debt have increased considerably less than gross lending to households, municipalities and non-financial enterprises. This has contributed to a slight fall in the liquidity indicator<sup>14</sup> for all banks as a whole.

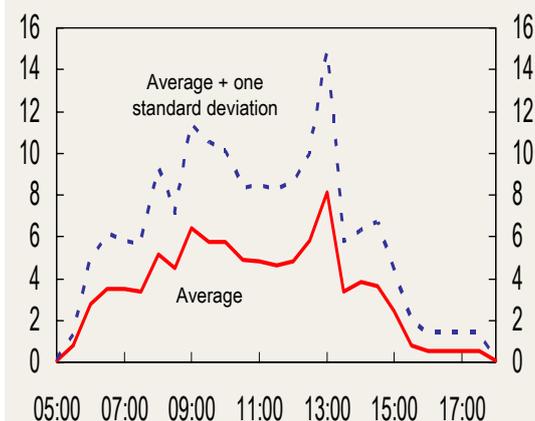
Since *Financial Stability 1/2004*, the category "other savings banks" has continued to increase its stable funding more than its illiquid assets so that the value of the liquidity indicator has increased (see Chart 3.9). The category "other commercial banks" has increased its lending in 2004 for the first time in a number of years. Lending growth has been financed primarily by issuing short-term paper and by interbank debt. This is considered short-term debt and the liquidity indicator has therefore been reduced for this category.

The value of the liquidity indicator for DnB NOR has generally been above 100 for several years. The value has fallen somewhat since *Financial Stability 1/2004*. The bank has also reduced its short-term foreign debt, which is currently at about the same level as in previous years (see Chart 3.10).

Funding from the parent bank to the foreign owned subsidiaries Nordea Bank Norge and Fokus Bank has declined since *Financial Stability 1/2004* (see Chart 3.10). Bond debt has also been reduced. On the other hand, the share of funding in the form of short-term paper in NOK and customer deposits has increased.

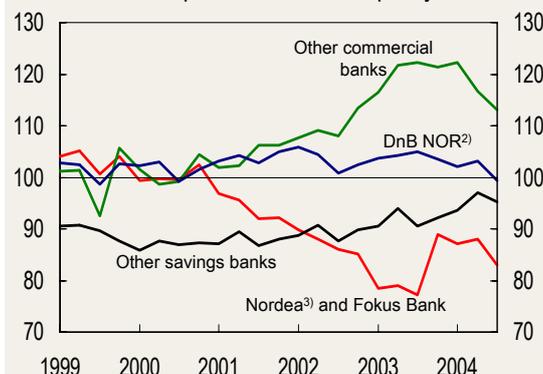
On the whole, liquidity risk is still considered to be relatively low and unchanged compared with six months ago.

**Chart 3.8** Average use of borrowing facility through the day. 2-13 August 2004. In billions of NOK



Source: Norges Bank

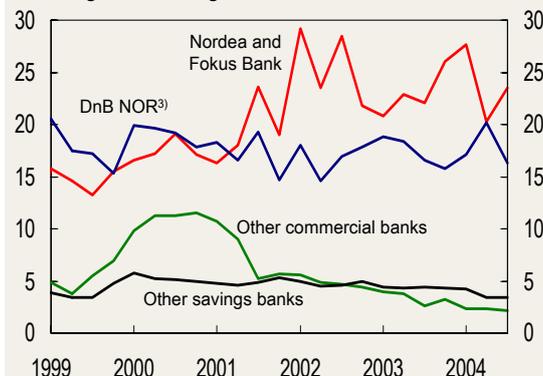
**Chart 3.9** Developments in banks' liquidity indicator



<sup>1)</sup> Excluding branches of foreign banks  
<sup>2)</sup> Postbanken and Nordlandsbanken included  
<sup>3)</sup> The increase in 2003 Q4 is due to changes in Nordea's accounts reporting. The indicator for Nordea is more comparable with that of other banks after the change

Source: Norges Bank

**Chart 3.10** Banks<sup>1)</sup> short-term foreign debt.<sup>2)</sup> Per cent of gross lending



<sup>1)</sup> Excluding branches of foreign banks  
<sup>2)</sup> Deposits and loans from other financial institutions and notes and short-term paper  
<sup>3)</sup> Postbanken and Nordlandsbanken included

Source: Norges Bank

<sup>14</sup> A value of 100 indicates that banks have balanced illiquid assets (loans and fixed assets) with stable sources of funding (customer deposits, equity and bonds). An increase in this ratio indicates a reduction of liquidity risk. Banks' drawing facilities are not taken into account.

### 3.3 Other financial institutions

Norwegian banks have entered into alliances or become part of financial conglomerates that also include other financial institutions (see Annex Tables 12 and 13). Developments in these financial institutions may therefore have an impact on banks' results.

#### *Mortgage companies*

Mortgage companies provide medium- and long-term credit to enterprises, municipalities and to some extent individuals against collateral in the form of real estate or production equipment (secured loans). Mortgage companies finance their activities primarily by issuing notes and bonds.

For the last twelve months to end-September 2004, mortgage companies' lending rose by 13.5%. Mortgage companies' lending growth has not been at such a low level since January 2003. Mortgage companies' pre-tax profits declined in the first three quarters of 2004 compared with the same period of 2003 measured as a per cent of ATA (see Chart 3.11). The Tier 1 capital ratio fell from 10.0% to 9.4% in the same period.

Mortgage companies are part of a number of the large financial conglomerates in Norway. The mortgage company accounts for one-third of total assets in the Fokus Bank Group and was responsible for 54% of group profits in 2003. In DnB NOR and Nordea Bank Norge, the mortgage companies account for a considerably smaller portion of total assets. The mortgage companies in the three above-mentioned financial conglomerates constitute approximately 20% of the mortgage companies in Norway measured by total assets.

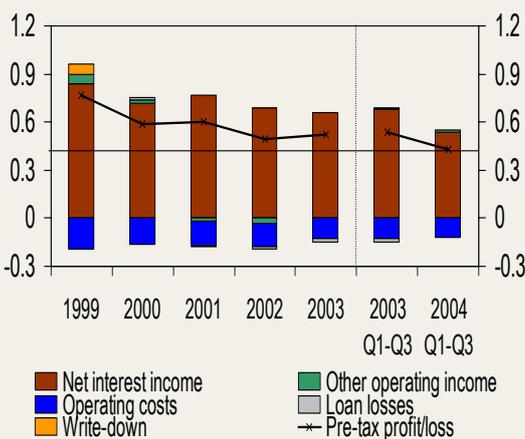
#### *Finance companies*

Finance companies are engaged in different kinds of lending activities. These include leasing, car financing, card-based loans and consumer loans. Finance companies are primarily financed by their owners. In the last twelve months to end-September, finance companies' lending rose by 11.8%. This is the highest lending growth since February 2003. In the last three years, there has been an increase in repayment loans. Leasing declined from 2002 to 2003 but has increased somewhat in the last year (see Annex Table 10).

Finance companies' profits were higher in the first three quarters of 2004 than in the same period of 2003 (see Chart 3.12). Tier 1 capital rose from 8.3% to 9.1% in the same period.

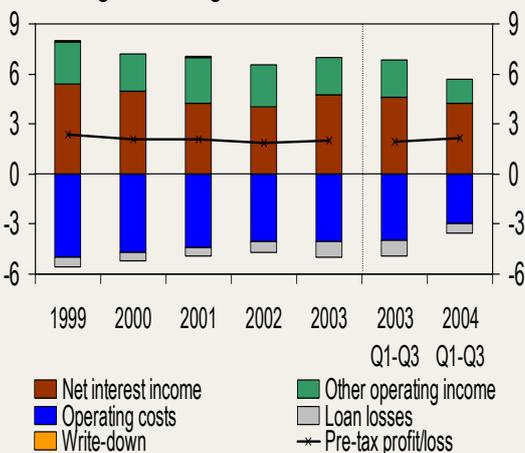
Finance companies account for a small share of total assets in DnB NOR, Nordea Bank Norge and the Sparebank 1 alliance. Together, the finance companies in these conglomerates

**Chart 3.11** Mortgage companies' profit/loss. Percentage of average total assets



Source: Norges Bank

**Chart 3.12** Finance companies' profit/loss. Percentage of average total assets



Source: Norges Bank

ates constitute approximately one-third of the finance companies in Norway measured by total assets. Developments in the finance companies will be of limited importance for banks.

### Life insurance companies

Life insurance companies' equity holdings (trading book) as a share of total assets have increased by 4 percentage points in the last year after a slight decline in 2003. The increase in the last year is probably due to the upswing in equity prices during the period. The equity share at end 2004 Q3 was 14% (see Annex Table 11).

The share of bonds "held until maturity" rose from 27% at end 2002 Q3 to 37% at end 2003 Q3. The share has fallen 2 percentage points in the last year. The share of short-term paper and bonds held as trading book has declined in the last two years.

From 2003 Q3 to 2004 Q3, life insurance companies' pre-tax profits before payments to customers remained unchanged, while value-adjusted profits, which include changes in the adjustment fund, declined (see Chart 3.13). Due to the low equity share and the high share of foreign equities, the strong upswing in the Oslo Stock Exchange since spring 2003 has had little impact on income from financial assets so far this year.

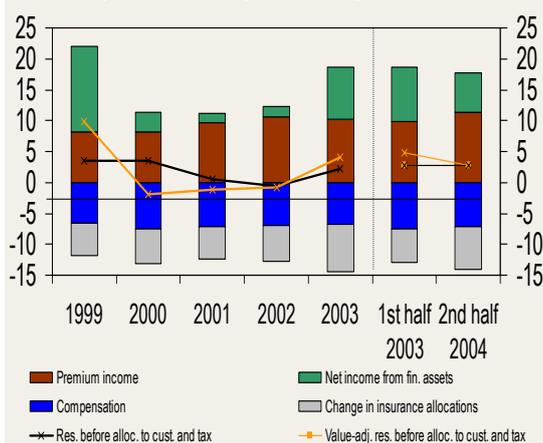
The two Norwegian financial conglomerates DnB NOR and Storebrand have 18% and 84% respectively of their total assets in life insurance. Storebrand's life insurance activities accounted for nearly 90% of Storebrand's group profit in 2003. Vital's contribution to DnB NOR's profits was a little more than 14%. Developments in life insurance are therefore important for these financial conglomerates. Together DnB NOR and Storebrand have nearly 65% of the life insurance market in Norway.

The life insurance companies' buffer capital<sup>15</sup> rose from 4.3% at end 2003 Q3 to 5.1% at end 2004 Q3.

## 3.4 Developments in the largest financial conglomerates

In recent years, the largest Norwegian financial conglomerates'<sup>16</sup> earnings have been weaker and less stable measured by return on equity than the largest Nordic financial conglomerates (see Table 3.1). This is primarily because the Norwegian conglomerates operate with a higher equity ratio and loan losses have been more extensive than in the

**Chart 3.13** Insurance companies' results (annualised percentages). Percentage of average total assets



Source: Norges Bank

**Table 3.1** Return on equity in Nordic financial groups (annualised).<sup>1)</sup> Per cent

|                       | 2002  | 2003 | 2004 Q1-Q3 |
|-----------------------|-------|------|------------|
| Svenska Handelsbanken | 14.6  | 14.9 | 15.8       |
| Danske Bank           | 14.0  | 15.2 | 14.8       |
| Nordea Bank AB        | 7.5   | 12.3 | 16.2       |
| Swedbank              | 11.0  | 15.9 | 21.6       |
| SEB                   | 12.0  | 12.3 | 13.0       |
| DnB NOR               | 8.9   | 12.7 | 15.1       |
| Nordea Bank Norway    | 5.8   | 3.0  | 12.8       |
| Fokus Bank            | 11.2  | 6.9  | 8.3        |
| Sp.b. 1 SR-Bank       | -1.3  | 15.2 | 17.6       |
| Sp.b. 1 Nord-Norge    | 2.8   | 9.0  | 15.5       |
| Sp.b. 1 Midt-Norge    | 0.4   | 10.2 | 15.9       |
| Sparebanken Vest      | 3.1   | 11.8 | 13.5       |
| Storebrand            | -10.5 | 8.4  | 22.5       |

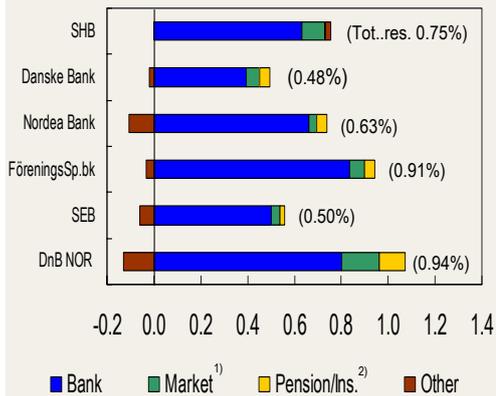
<sup>1)</sup> Includes any gain/loss on sale of activity

Sources: The groups' annual and quarterly reports

<sup>15</sup> Buffer capital is calculated as the sum of Tier 1 capital over and above the minimum requirement, additional provisions with an upper limit of one year's interest rate guarantee and the adjustment fund.

<sup>16</sup> With the exception of Storebrand, activities in these financial conglomerates are primarily focused on traditional banking activities. The Norwegian conglomerates in Table 3.1 account for nearly three-quarters of both the banking market and the life insurance market in Norway.

**Chart 3.14** Nordic financial groups' results. Q1-Q3 (annualised). Percentage of average total assets (ATA)



<sup>1)</sup> Market activities/Asset management

<sup>2)</sup> Incl. Asset management for FöreningsSparbanken

Source: Financial groups' quarterly reports

## The IMF assesses financial stability in Norway

A delegation from the International Monetary Fund (IMF) visited Norwegian authorities and financial market participants in October. The delegation will make a follow-up visit in January 2005. The visits are part of the Financial Sector Assessment Program (FSAP), which is designed to assess the stability of the financial system. The programme is designed to help countries identify and rectify structural weaknesses in the financial sector, and thereby improve their ability to withstand macroeconomic disturbances and ripple effects from financial instability in other countries. Normally, the IMF also assesses whether a country meets internationally recommended standards for various parts of the financial sector. In Norway, the IMF will focus in particular on standards relating to banking supervision, insurance supervision, the payment system as well as measures to combat money laundering and the funding of terrorist operations. The final report is scheduled for completion in the first half of 2005.

other Nordic conglomerates. Improved profits, mainly due to a sharp reduction in loan losses in 2004, have contributed to bringing the largest Norwegian conglomerates' return on equity into line with the ROEs of other Nordic conglomerates.

Financial conglomerates may choose to operate with different equity ratios for different reasons. An alternative return measure is total profits as a per cent of total assets. The largest Nordic financial conglomerates' profits for the first three quarters of 2004 were between 0.5% and 0.9% of total assets (see Chart 3.14).<sup>17</sup> Banking operations clearly make the largest contribution to results. DnB NOR had the highest relative return of all the largest Nordic financial conglomerates.

There have been relatively small changes in the largest financial conglomerates' Tier 1 capital ratio so far in 2004. The lowest Tier 1 capital ratio recorded was 6.9%.

## 3.5 Overall assessment of financial institutions

Banks' results are currently better than they have been in several years due in part to economic growth and low interest rates. Finance companies' results have also improved, while results for mortgage companies and insurance companies are somewhat weaker than in 2003. The results in financial institutions as a whole are considered to be solid.

Positive economic developments and low interest rates have contributed to strengthening borrowers' debt-servicing capacity. Therefore, banks' credit risk associated with loans to the household and enterprise sectors is considered to be relatively low in the short term. Banks' market and liquidity risk is also considered to be relatively low. However, the sharp rise in debt has made households more vulnerable to economic disturbances. A sudden debt consolidation among households could also reduce their demand for goods and services and thus reduce the earnings and debt-servicing capacity of many enterprises. This would lead to increased loan losses and reduce financial institutions' revenues from financial services.

<sup>17</sup> In the chart, Nordea Bank Norge is included in Nordea Bank AB and Fokus Bank is included in Danske Bank.

# Norges Bank's role in the event of liquidity crises in the financial sector

Financial crises can be costly for both government budgets and overall production. The authorities therefore attempt to prevent financial crises from arising. In Norway, the Ministry of Finance has the ultimate responsibility for financial stability, as part of its responsibility for economic policy. Kredittilsynet (the Financial Supervisory Authority) is responsible for supervising institutions, and has broad powers to intervene in the event of crises or potential crises. Central banks have traditionally had the role of lender of last resort, which means that the central bank can supply extraordinary liquidity to the individual bank or banking system when demand for liquidity cannot be met from alternative sources.<sup>1</sup>

Norges Bank's principles and guidelines for supplying extraordinary liquidity have changed over time. During the regulatory regime in the financial sector from after World War II and up to the early 1980s, the interbank and money markets were weakly developed, and Norges Bank relatively often provided loans to banks with liquidity problems. With the deregulation of the financial sector in the 1980s, the efficiency of the interbank and money markets increased, and the central bank attempted to limit its responsibility to mainly providing liquidity to the banking system as a whole. However, the banking crisis led to a sharp increase in the granting of loans on special terms to individual banks (S-loans). No S-loans have been provided since the banking crisis.

At present, the liquidity of the interbank, money and capital markets is sound. Norwegian banks have access throughout the day to liquidity (intraday loans) via standing facilities in Norges Bank's Settlement System (NBO). When a liquidity shortage arises in the banking system as a whole, the central bank normally supplies more liquidity to the system through monetary policy operations (fixed-rate loans or possibly currency swaps). Liquidity is always supplied against collateral in specific interest-bearing securities.

Banks that are sound and have good risk management systems will normally enjoy confidence in the markets, and will therefore also have adequate access to liquidity. However, the failure of banks' own or central payment settlement systems, a drying up of liquidity in international money and

capital markets, loss of confidence in the financial situation of banks or in the economy of the country itself may occur and lead to liquidity problems.

In crisis situations, the question of approving other types of securities (for example equities) as collateral for loans in Norges Bank or departing from the requirement regarding provision of collateral in the general loan schemes will rapidly arise.<sup>2</sup> In the event of liquidity problems in the individual institution, Norges Bank can provide loans on special terms. A basic principle that was stressed during the banking crisis is that Norges Bank shall not provide solvency support.

Central banks must always have a contingency plan for liquidity crises in the financial sector. Most recently in March 2004, the Executive Board of Norges Bank discussed the role of the Bank in connection with liquidity crises in the financial sector, and particularly the criteria for providing S-loans. It was established that *extraordinary provision of liquidity should be restricted to situations where financial stability may be threatened if such support is not provided*. This is in line with the stance Norges Bank has previously expressed in letters and speeches since the banking crisis.<sup>3</sup>

Norges Bank has several lending arrangements at its disposal. The Executive Board discussed the Bank's response to various types of liquidity problems. A distinction was made between liquidity problems that 1) arose suddenly as a result of operational failure of payment systems or failure of financing markets, and 2) resulted from more fundamental problems in individual banks.

1) Acute liquidity problems in individual banks will probably lead to insufficient cover for payment settlements in NBO. Norges Bank may approve other types of collateral, or depart from the requirement regarding provision of collateral for intraday loans in order to ensure the execution of payment settlements. *Such a move would be made in the interests of maintaining the efficiency of and confidence in the payment system.*

An acute shortage of liquidity in the banking system as a whole would probably lead to many banks having insufficient cover for payment settlements in NBO, also at the end of the day, and to

short money market rates rising. Norges Bank may approve another type of collateral or depart from the requirement that collateral must be provided for fixed-rate loans. *Such a move would be aimed at bolstering financial stability and/or avoiding an undesirable increase in short-term money market rates.*

In order to reduce the risk of Norges Bank rewarding high risk-taking by banks and/or incurring losses, extraordinary intraday loans or fixed-rate loans should be reserved for situations where it is *evident that liquidity problems are of a short-term nature and are not due to more fundamental problems.*

2) Liquidity problems in individual banks will often be a symptom of poor risk management and/or a deterioration in profitability and financial strength, which lead to loss of market confidence. Pursuant to the Bank Guarantee Act, Kredittilsynet has broad powers to require the implementation of measures targeting the causes of liquidity problems. The Norwegian Banks' Guarantee Fund can provide various types of support to boost the financial strength and liquidity of a bank undergoing a crisis. Norges Bank may provide S-loans to improve liquidity. A bank that does not have a financial basis for further operations may be placed under public administration (in receivership). In such case, the Norwegian Banks' Guarantee Fund is obligated to disburse the guaranteed deposit (NOK 2m per depositor per bank).

The Executive Board approved the following principles and guidelines for extending S-loans in March 2004:

- *S-loans should be restricted to situations where financial stability may be threatened if such support is not provided.*
- In most cases, a decision about an S-loan will be a matter of special importance that must first be submitted to the Ministry of Finance. Norges Bank will request that Kredittilsynet make an assessment of: the causes of the liquidity problems, the liquidity and solvency situation of the banks in crisis, and measures that may solve the liquidity problems.
- Before an S-loan is provided to banks that have, or are at risk of developing, weak capital adequacy, there should be a plan to recapitalise the bank.
- S-loans should be provided against full provision of collateral or guarantees.
- The interest on the S-loan should be made higher than the market rate applying generally.

<sup>1</sup> For a review of literature on central banks' role as LLR, see Freixas, X., C. Giannini, G. Hoggarth and F. Soussa (1999): "Lender of last resort: a review of the literature", Bank of England, *Financial Stability Review*: November 1999.

<sup>2</sup> Section 3 of the regulation relating to banks' access to loans and deposits in Norges Bank (FOR 2001-04-25 no. 473) reads: "Norges Bank may issue more detailed conditions for accepting or rejecting collateral, and in special cases may approve other collateral or depart from the requirement for collateral."

<sup>3</sup> See for example the submission of 17 December 1999 from Norges Bank to the Ministry of Finance in connection with the follow-up of the Storting's treatment of the Smith Commission's report on the Banking Crisis. The submission states that "Should a situation arise in which the financial system itself is at risk, Norges Bank, in consultation with other authorities, will consider the need for, and if necessary initiate, measures that may help to bolster confidence in the financial system."

# Annex 1: Statistics

**Table 1** Corporate sector<sup>1)</sup> balance sheet

|   | NOK bn       |                    | Per cent of total assets |              |
|---|--------------|--------------------|--------------------------|--------------|
|   | 2002         | 2003 <sup>2)</sup> | 2002                     | 2003         |
| Intangible assets                                     | 101          | 119                | 3.6                      | 4.1          |
| Fixed assets  | 1,040        | 1,077              | 36.6                     | 36.8         |
| Financial fixed assets                                | 736          | 780                | 25.9                     | 26.7         |
| <b>Total fixed assets</b>                             | <b>1,877</b> | <b>1,975</b>       | <b>66.1</b>              | <b>67.5</b>  |
| Inventories   | 151          | 149                | 5.3                      | 5.1          |
| Current receivables                                   | 560          | 537                | 19.7                     | 18.4         |
| Bank deposits, cash and current investments           | 251          | 265                | 8.8                      | 9.1          |
| <b>Total current assets</b>                           | <b>963</b>   | <b>951</b>         | <b>33.9</b>              | <b>32.5</b>  |
| <b>Total assets</b>                                   | <b>2,841</b> | <b>2,926</b>       | <b>100.0</b>             | <b>100.0</b> |
| Paid-in capital                                       | 543          | 599                | 19.1                     | 20.5         |
| Retained earnings                                     | 365          | 405                | 12.8                     | 13.8         |
| <b>Total equity</b>                                   | <b>908</b>   | <b>1,004</b>       | <b>32.0</b>              | <b>34.3</b>  |
| Provisions  | 196          | 228                | 6.9                      | 7.8          |
| Long-term loans in credit institutions and bonds      | 356          | 327                | 12.5                     | 11.2         |
| Other long-term debt                                  | 523          | 519                | 18.4                     | 17.7         |
| <b>Total long-term debt</b>                           | <b>1,075</b> | <b>1,074</b>       | <b>37.8</b>              | <b>36.7</b>  |
| Short-term loans in credit inst. and short-term paper | 68           | 60                 | 2.4                      | 2.1          |
| Accounts payable                                      | 177          | 168                | 6.2                      | 5.7          |
| Tax payable and government taxes due                  | 128          | 128                | 4.5                      | 4.4          |
| Dividend  | 73           | 82                 | 2.6                      | 2.8          |
| Other current liabilities                             | 414          | 410                | 14.6                     | 14.0         |
| <b>Total current liabilities</b>                      | <b>861</b>   | <b>848</b>         | <b>30.3</b>              | <b>29.0</b>  |
| <b>Total equity and liabilities</b>                   | <b>2,841</b> | <b>2,926</b>       | <b>100.0</b>             | <b>100.0</b> |

<sup>1)</sup> Limited companies excluding enterprises in the financial industry and public sector

<sup>2)</sup> Not adjusted for annual accounts not available in 2003

Source: Norges Bank

**Table 2 Key figures for limited companies in selected industries. <sup>1)</sup> Per cent**

|                                   | Share of bank debt <sup>2)</sup> |              | Operating margin <sup>3)</sup> |            | Return on total assets <sup>4)</sup> |            | Equity ratio <sup>5)</sup> |             | Predicted bankruptcy probability <sup>6)</sup> |                             | Risk-weighted debt as a percentage of debt to banks <sup>8)</sup> |            |            |            |
|-----------------------------------|----------------------------------|--------------|--------------------------------|------------|--------------------------------------|------------|----------------------------|-------------|--|-----------------------------|---|------------|------------|------------|
|                                   | 2002                             | 2003         | 2002                           | 2003       | 2002                                 | 2003       | 2002                       | 2003        | Median   | 80-percentile <sup>7)</sup> | 2002  | 2003       |            |            |
| Hunting, agriculture and forestry | 0.2                              | 0.2          | 5.5                            | 3.3        | 9.1                                  | 7.7        | 26.7                       | 25.4        | 0.7  | 0.6                         | 4.1   | 3.8        | 2.2        | 2.1        |
| Fishing                           | 2.3                              | 2.6          | 8.1                            | 5.1        | 8.4                                  | 3.4        | 23.7                       | 21.3        | 1.3  | 1.6                         | 6.1   | 7.7        | 2.0        | 2.3        |
| Fish-farming                      | 2.5                              | 2.4          | -9.1                           | -13.8      | -5.7                                 | -11.0      | 25.1                       | 20.5        | 1.6  | 1.6                         | 5.7   | 6.1        | 2.3        | 2.8        |
| Mining                            | 1.1                              | 1.1          | 10.7                           | 11.8       | 14.7                                 | 11.0       | 32.8                       | 32.9        | 0.4  | 0.4                         | 2.0   | 1.9        | 0.4        | 0.4        |
| Shipbuilding                      | 0.8                              | 0.7          | 2.7                            | 2.2        | 6.4                                  | 5.3        | 40.0                       | 42.5        | 0.7  | 0.6                         | 3.0   | 2.6        | 1.2        | 0.7        |
| Other manufacturing               | 10.9                             | 11.2         | 5.3                            | 5.9        | 8.6                                  | 9.3        | 41.4                       | 40.8        | 0.5  | 0.5                         | 2.5   | 2.4        | 1.0        | 0.9        |
| Utilities                         | 4.4                              | 2.8          | 24.6                           | 20.4       | 6.4                                  | 6.6        | 42.1                       | 47.5        | 0.2  | 0.1                         | 0.9   | 0.5        | 0.1        | 0.2        |
| Construction                      | 3.7                              | 3.5          | 4.1                            | 3.7        | 9.2                                  | 8.7        | 21.1                       | 22.4        | 0.5  | 0.5                         | 2.7   | 2.5        | 1.5        | 1.7        |
| Wholesale and retail trade        | 10.7                             | 10.1         | 2.9                            | 3.1        | 8.9                                  | 9.4        | 27.8                       | 29.0        | 0.6  | 0.6                         | 3.3   | 3.1        | 1.7        | 1.6        |
| Hotels and restaurants            | 1.8                              | 1.8          | 2.0                            | 1.4        | 4.3                                  | 3.6        | 18.1                       | 18.3        | 1.9  | 1.8                         | 11.6  | 10.6       | 3.0        | 2.5        |
| Shipping                          | 15.3                             | 15.2         | 2.1                            | 6.2        | 8.0                                  | 3.9        | 43.6                       | 44.5        | 0.4  | 0.3                         | 1.4   | 1.4        | 0.3        | 0.4        |
| Other transport                   | 3.0                              | 3.2          | 4.5                            | 3.8        | 6.6                                  | 4.4        | 25.0                       | 26.8        | 0.4  | 0.4                         | 1.9   | 1.7        | 0.6        | 0.7        |
| Telecoms                          | 0.8                              | 0.4          | -3.1                           | 16.2       | -1.5                                 | 9.7        | 19.3                       | 28.0        | 1.0  | 0.9                         | 4.2   | 4.4        | 0.6        | 1.1        |
| IT                                | 0.4                              | 0.4          | -2.4                           | 1.0        | -2.0                                 | 3.9        | 36.6                       | 37.1        | 0.7  | 0.6                         | 3.7   | 2.8        | 2.9        | 2.5        |
| Commercial services               | 7.0                              | 6.6          | 1.9                            | 3.3        | 4.6                                  | 7.9        | 26.1                       | 28.9        | 0.4  | 0.4                         | 2.1   | 1.8        | 1.2        | 1.0        |
| Travel and tourism                | 0.4                              | 0.4          | 2.3                            | 2.8        | 7.8                                  | 4.7        | 39.4                       | 33.4        | 0.5  | 0.5                         | 2.6   | 2.2        | 1.4        | 1.5        |
| Property management               | 34.8                             | 37.4         | 31.8                           | 33.1       | 7.4                                  | 7.9        | 27.9                       | 28.0        | 0.3  | 0.2                         | 1.1   | 0.9        | 0.7        | 0.5        |
| <b>Total</b>                      | <b>100.0</b>                     | <b>100.0</b> | <b>4.5</b>                     | <b>5.5</b> | <b>6.7</b>                           | <b>7.2</b> | <b>32.8</b>                | <b>34.4</b> | <b>0.5</b>                                     | <b>0.4</b>                  | <b>2.5</b>  | <b>2.3</b> | <b>0.9</b> | <b>0.9</b> |

<sup>1)</sup> Adjusted for accounts not available in 2003<sup>2)</sup> The industry's share of the total bank debt of the selected industries<sup>3)</sup> Operating results as a percentage of turnover<sup>4)</sup> Total return before tax and interest on debt as a percentage of total assets at year-end<sup>5)</sup> Equity as a percentage of total assets<sup>6)</sup> Predicted bankruptcy probabilities as percentages Norges Bank's bankruptcy prediction model<sup>7)</sup> The 80-percentile represents the enterprise that is positioned such that 20% of enterprises have a higher bankruptcy probability and 80% a lower bankruptcy probability<sup>8)</sup> Risk-weighted debt per industry (bankruptcy probability multiplied by the bank debt of each enterprises totalled for all enterprises in the industry) in per cent of the industry's debt to banks

Source: Norges Bank

**Table 3** Structure of the Norwegian financial industry. As at 30 September 2004

|   | Number | Lending<br>(NOK bn) | Total assets<br>(NOK bn) | Tier 1 capital<br>ratio<br>(%) | Capital<br>adequacy<br>(%) |
|---|--------|---------------------|--------------------------|--------------------------------|----------------------------|
| Banks (excl. branches of foreign banks) | 142    | 1214.1              | 1599.4                   | 9.3                            | 11.8                       |
| Branches of foreign banks               | 8      | 72.6                | 197.3                    |                                |                            |
| Mortgage companies                      | 11     | 225.3               | 352.2                    | 9.4                            | 12.3                       |
| Finance companies                       | 50     | 96.1                | 104.0                    | 9.1                            | 10.9                       |
| Life insurance companies                | 12*    | 18.4                | 523.8                    | 9.9                            | 14.5                       |
| Non-life insurance companies            | 48     | 1.3                 | 104.6                    | 38.5                           | 33.4                       |

\* 6 companies and 6 unit-linked companies

*Memorandum:*

|  |        |
|--|--------|
| Market value of equities, Oslo Stock Exchange        | 874.0  |
| Outstanding domestic bonds and short-term paper debt | 677.0  |
| Issued by public sector and state-owned companies    | 333.1  |
| Issued by banks                                      | 217.8  |
| Issued by other financial institutions               | 65.2   |
| Issued by other private enterprises                  | 37.7   |
| Issued by non-residents                              | 23.2   |
| GDP Norway, 2003                                     | 1563.7 |
| GDP Mainland Norway, 2003                            | 1246.1 |

Sources: Norges Bank, Oslo Stock Exchange and Statistics Norway

**Table 4** Results in Norwegian banks<sup>1)</sup> in selected quarters<sup>2)</sup>

|  | 2003 Q3 |      | 2003 Q4 |      | 2004 Q1 |      | 2004 Q2 |      | 2004 Q3 |      |
|--|---------|------|---------|------|---------|------|---------|------|---------|------|
| Net interest income                          | 8.22    | 1.94 | 7.62    | 1.76 | 7.61    | 1.74 | 8.17    | 1.77 | 8.58    | 1.89 |
| Other operating income                       | 3.24    | 0.76 | 5.32    | 1.23 | 3.77    | 0.86 | 3.93    | 0.85 | 3.63    | 0.80 |
| commission income                            | 2.16    | 0.51 | 2.32    | 0.54 | 2.25    | 0.51 | 2.22    | 0.48 | 2.48    | 0.55 |
| securities, foreign exchange and derivatives | 0.84    | 0.19 | 2.63    | 0.61 | 1.25    | 0.28 | 1.04    | 0.22 | 0.84    | 0.18 |
| Other operating expenses                     | 6.51    | 1.54 | 7.51    | 1.74 | 7.46    | 1.70 | 6.63    | 1.44 | 6.78    | 1.49 |
| personnel expenses                           | 3.50    | 0.83 | 3.91    | 0.91 | 3.67    | 0.84 | 3.51    | 0.76 | 3.55    | 0.78 |
| <b>Operating result before losses</b>        | 4.95    | 1.17 | 5.43    | 1.26 | 3.92    | 0.89 | 5.47    | 1.19 | 5.44    | 1.20 |
| Losses on loans and guarantees               | 1.65    | 0.39 | 1.51    | 0.35 | 0.46    | 0.10 | 0.23    | 0.05 | 0.22    | 0.05 |
| <b>Pre-tax operating profit</b>              | 3.25    | 0.77 | 4.13    | 0.96 | 4.77    | 1.09 | 5.09    | 1.11 | 5.37    | 1.18 |
| Profit after taxes                           | 2.44    | 0.58 | 3.32    | 0.77 | 3.56    | 0.81 | 3.66    | 0.79 | 4.33    | 0.95 |
| Capital adequacy (%)                         | 12.04   |      | 12.36   |      | 12.03   |      | 12.04   |      | 11.81   |      |
| Tier 1 capital ratio (%)                     | 9.38    |      | 9.72    |      | 9.34    |      | 9.38    |      | 9.27    |      |

<sup>1)</sup> All Norwegian commercial and savings banks and branches of foreign banks. Figures for capital adequacy and Tier 1 capital ratio are exclusive of foreign branches, which do not report this type of data

<sup>2)</sup> Result figures as a percentage of ATA are annualised

Source: Norges Bank

**Table 5** Results in Norwegian banks<sup>1)</sup>

|   | 2001         |             | 2002         |             | 2003         |             | 2003 Q1-Q3   |             | 2004 Q1-Q3   |             |
|---|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
|   | NOK bn       | % ATA       |
| Net interest income                     | 29.65        | 2.09        | 32.42        | 2.13        | 31.83        | 1.90        | 24.21        | 1.95        | 24.37        | 1.80        |
| Other operating income                  | 13.46        | 0.95        | 10.30        | 0.68        | 14.69        | 0.88        | 9.37         | 0.76        | 11.34        | 0.84        |
| commission income                       | 7.43         | 0.52        | 7.54         | 0.50        | 8.20         | 0.49        | 5.88         | 0.47        | 6.95         | 0.51        |
| securities, foreign exchange and deriv. | 3.85         | 0.27        | 1.46         | 0.10        | 5.38         | 0.32        | 2.75         | 0.22        | 3.13         | 0.23        |
| Other operating expenses                | 26.32        | 1.86        | 26.92        | 1.77        | 27.31        | 1.63        | 19.80        | 1.60        | 20.88        | 1.54        |
| personnel expenses                      | 13.88        | 0.98        | 14.01        | 0.92        | 14.54        | 0.87        | 10.63        | 0.86        | 10.73        | 0.79        |
| <b>Operating result before losses</b>   | <b>16.79</b> | <b>1.18</b> | <b>15.80</b> | <b>1.04</b> | <b>19.21</b> | <b>1.15</b> | <b>13.79</b> | <b>1.11</b> | <b>14.83</b> | <b>1.10</b> |
| Losses on loans and guarantees          | 4.09         | 0.29        | 6.97         | 0.46        | 7.15         | 0.43        | 5.64         | 0.45        | 0.92         | 0.07        |
| <b>Pre-tax operating profit</b>         | <b>12.62</b> | <b>0.89</b> | <b>8.96</b>  | <b>0.59</b> | <b>12.38</b> | <b>0.74</b> | <b>8.26</b>  | <b>0.67</b> | <b>15.23</b> | <b>1.13</b> |
| Profit after taxes                      | 11.33        | 0.80        | 6.11         | 0.40        | 9.74         | 0.58        | 6.42         | 0.52        | 11.54        | 0.85        |
| Capital adequacy (%)                    | 12.59        |             | 12.15        |             | 12.36        |             | 12.04        |             | 11.81        |             |
| Tier 1 capital ratio (%)                | 9.69         |             | 9.6          |             | 9.72         |             | 9.38         |             | 9.27         |             |

<sup>1)</sup> All Norwegian commercial and savings banks and branches of foreign banks. Figures for capital adequacy and Tier 1 capital ratio are exclusive of foreign branches, which do not report this type of data

Source: Norges Bank

**Table 6** Recorded losses on loans and guarantees in the largest Norwegian banking groups (annualised). Per cent of gross lending

|                    | 2003 | 2003 Q1-Q3 | 2004 Q1-Q3 |
|--------------------|------|------------|------------|
| DnB NOR            | 0.3  | 0.4        | 0.0        |
| Nordea Bank Norway | 1.2  | 1.2        | 0.0        |
| Fokus Bank         | 0.3  | 0.3        | 0.0        |
| Sp.b. 1 SR-Bank    | 0.5  | 0.5        | 0.2        |
| Sp.b. 1 Nord-Norge | 0.9  | 0.7        | 0.5        |
| Sp.b. 1 Midt-Norge | 0.7  | 1.1        | 0.4        |
| Sparebanken Vest   | 0.3  | 0.4        | 0.2        |

Sources: The banks' annual and quarterly reports

**Table 7** Tier 1 capital ratio in the largest Norwegian banking groups. Per cent

|                    | 2003 | 2003 Q3 | 2004 Q3 |
|--------------------|------|---------|---------|
| DnB NOR            | 7.1  | 6.2     | 6.9     |
| Nordea Bank Norway | 8.2  | 8.3     | 8.0     |
| Fokus Bank         | 8.0  | 7.1     | 7.4     |
| Sp.b. 1 SR-Bank    | 7.2  | 8.0     | 8.5     |
| Sp.b. 1 Nord-Norge | 7.9  | 8.5     | 8.7     |
| Sp.b. 1 Midt-Norge | 8.1  | 8.3     | 10.2    |
| Sparebanken Vest   | 8.6  | 7.8     | 8.9     |

Sources: The banks' annual and quarterly reports

**Table 8** Balance sheet structure of Norwegian banks.<sup>1)</sup> Percentage distribution

|  | 2002 Q3      | 2003 Q3      | 2004 Q3      |
|--|--------------|--------------|--------------|
| Cash and deposits  | 4.7          | 4.7          | 3.3          |
| Securities (trading book)                                      | 9.0          | 8.9          | 9.5          |
| Gross lending to households, municip. and non-fin. enterprises | 73.8         | 72.5         | 75.9         |
| Other lending  | 9.3          | 9.8          | 8.4          |
| - Loan loss provisions   | -1.2         | -1.5         | -1.2         |
| Fixed and other assets   | 4.5          | 5.5          | 4.1          |
| <b>Total assets</b>  | <b>100.0</b> | <b>100.0</b> | <b>100.0</b> |
| Customer deposits  | 48.5         | 47.5         | 48.2         |
| Deposits/loans from domestic fin. inst.                        | 3.7          | 4.2          | 3.9          |
| Deposits/loans from foreign fin. inst.                         | 10.4         | 8.6          | 8.1          |
| Deposits/loans from Norges Bank                                | 0.3          | 0.3          | 0.1          |
| Other deposits/loans   | 2.0          | 2.3          | 2.6          |
| Notes and short-term paper                                     | 4.9          | 4.2          | 4.7          |
| Bond debt  | 15.5         | 17.5         | 18.8         |
| Other liabilities  | 5.2          | 6.2          | 4.1          |
| Subordinated loan capital                                      | 2.2          | 2.5          | 2.4          |
| Equity   | 7.3          | 6.8          | 7.2          |
| <b>Total equity and liabilities</b>                            | <b>100.0</b> | <b>100.0</b> | <b>100.0</b> |
| <i>Memorandum:</i>   |              |              |              |
| Total assets (NOK bn)  | 1,419.1      | 1,541.2      | 1,599.4      |

<sup>1)</sup> Parent banks. Excluding branches of foreign banks

Source: Norges Bank

**Table 9** Balance sheet structure of mortgage companies.  
Percentage distribution

|                                     | 2002 Q3      | 2003 Q3      | 2004 Q3      |
|-------------------------------------|--------------|--------------|--------------|
| Cash and deposits                   | 2.1          | 1.2          | 1.3          |
| Securities (trading book)           | 20.6         | 19.3         | 18.5         |
| Gross lending:                      |              |              |              |
| Repayment loans                     | 76.1         | 78.0         | 78.9         |
| - Loan loss provisions              | -0.1         | -0.1         | -0.1         |
| Fixed and other assets              | 1.4          | 1.7          | 1.4          |
| <b>Total assets</b>                 | <b>100.0</b> | <b>100.0</b> | <b>100.0</b> |
| Notes and short-term paper          | 12.4         | 9.1          | 7.6          |
| Bond debt                           | 53.2         | 53.4         | 53.0         |
| Loans                               | 27.1         | 30.7         | 33.0         |
| Other liabilities                   | 1.4          | 1.6          | 1.4          |
| Subordinated loan capital           | 1.4          | 1.2          | 1.3          |
| Equity                              | 4.5          | 4.1          | 3.7          |
| <b>Total equity and liabilities</b> | <b>100.0</b> | <b>100.0</b> | <b>100.0</b> |
| <i>Memorandum:</i>                  |              |              |              |
| Total assets (NOK bn)               | 257.2        | 292.8        | 334.0        |

Source: Norges Bank

**Table 10** Balance sheet structure of finance companies.

## Percentage distribution

|  | 2002 Q3      | 2003 Q3      | 2004 Q3      |
|--|--------------|--------------|--------------|
| Cash and deposits  | 1.6          | 2.6          | 2.1          |
| Securities (trading book)  | 0.2          | 0.1          | 0.2          |
| Gross lending:   |              |              |              |
| Discount credit, bank overdraft facility,<br>operating credit, user credit | 20.7         | 21.6         | 16.6         |
| Other building loans   | 0.1          | 0.1          | 0.2          |
| Repayment loans  | 32.5         | 34.3         | 38.3         |
| Loan financing   | 43.2         | 40.0         | 41.5         |
| - Loan loss provisions   | -1.8         | -2.0         | -1.8         |
| Fixed and other assets   | 3.5          | 3.2          | 3.0          |
| <b>Total assets</b>  | <b>100.0</b> | <b>100.0</b> | <b>100.0</b> |
| Notes and short-term paper   | 0.7          | 0.0          | 0.0          |
| Bond debt  | 0.0          | 0.5          | 0.6          |
| Loans  | 80.5         | 84.2         | 83.4         |
| Other liabilities  | 8.8          | 5.9          | 5.7          |
| Subordinated loan capital  | 1.1          | 1.1          | 1.3          |
| Equity   | 8.7          | 8.6          | 9.0          |
| <b>Total equity and liabilities</b>  | <b>100.0</b> | <b>100.0</b> | <b>100.0</b> |
| <i>Memorandum:</i>   |              |              |              |
| Total assets (NOK bn)  | 89.3         | 94.1         | 103.1        |

Source: Norges Bank

**Table 11** Balance sheet structure of life insurance companies.<sup>1)</sup> Selected assets as a percentage of total assets

|  | 2002 Q3 | 2003 Q3 | 2004 Q3 |
|--|---------|---------|---------|
| Buildings and real property            | 10.4    | 9.9     | 9.4     |
| Investment in permanent ownership etc. | 32.6    | 42.8    | 39.4    |
| - of which equities and units          | 0.2     | 0.4     | 0.6     |
| - of which bonds held until maturity   | 26.5    | 37.0    | 35.0    |
| - of which lending                     | 5.8     | 5.5     | 3.8     |
| Other financial assets                 | 51.2    | 42.7    | 45.5    |
| - of which equities and units          | 8.6     | 10.0    | 14.2    |
| - of which bonds                       | 29.9    | 22.1    | 24.1    |
| - of which short-term paper            | 10.1    | 8.5     | 4.6     |
| <i>Memorandum:</i>                     |         |         |         |
| Total assets (NOK bn)                  | 405.9   | 441.4   | 498.4   |

<sup>1)</sup> Excluding life insurance companies offering unit-linked products

Source: Financial Supervisory Authority

**Table 12** Total assets<sup>1)</sup> in Norwegian financial groups by line of business as at 30 June 2004. Per cent

|                                    | Banks | Finance companies | Mortgage companies | Life insurance | Total group |
|------------------------------------|-------|-------------------|--------------------|----------------|-------------|
| DnB NOR                            | 77.9  | 2.4               | 1.8                | 17.8           | 100.0       |
| Nordea Norge                       | 81.5  | 1.9               | 7.0                | 9.6            | 100.0       |
| Sparebank 1 alliance <sup>2)</sup> | 93.1  | 1.5               | 0.0                | 5.4            | 100.0       |
| Storebrand                         | 16.5  | 0.0               | 0.0                | 83.5           | 100.0       |
| Terra alliance <sup>3)</sup>       | 99.7  | 0.3               | 0.0                | 0.0            | 100.0       |
| Fokus Bank                         | 66.1  | 0.0               | 33.9               | 0.0            | 100.0       |

<sup>1)</sup> '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

<sup>2)</sup> The Sparebank 1 alliance comprises Sparebank 1 Gruppen AS and the 18 Norwegian banks that own the group

<sup>3)</sup> The Terra alliance comprises Terra Gruppen AS and the 85 banks that own the group

Source: Norges Bank

**Table 13** Norwegian financial groups' market shares<sup>1)</sup> in various lines of business as at 30 June 2004. Per cent

|                                    | Banks | Finance companies | Mortgage companies | Life insurance | Total group |
|------------------------------------|-------|-------------------|--------------------|----------------|-------------|
| DnB NOR                            | 42.7  | 23.1              | 5.4                | 36.7           | 36.3        |
| Nordea Norge                       | 14.0  | 5.7               | 6.4                | 6.2            | 11.4        |
| Sparebank 1 alliance <sup>2)</sup> | 12.0  | 3.3               | 0.0                | 2.6            | 8.5         |
| Storebrand                         | 1.5   | 0.0               | 0.0                | 27.8           | 5.9         |
| Terra alliance <sup>3)</sup>       | 7.2   | 0.4               | 0.0                | 0.0            | 4.8         |
| Fokus Bank                         | 3.4   | 0.0               | 9.5                | 0.0            | 3.5         |
| Total financial groups             | 80.8  | 32.4              | 21.4               | 73.3           | 70.3        |

<sup>1)</sup> Market shares are based on 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

<sup>2)</sup> The Sparebank 1 alliance comprises the Sparebank 1 Gruppen AS financial group and the 18 Norwegian banks that own the group

<sup>3)</sup> The Terra alliance comprises Terra Gruppen AS and the 85 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 and books dealing with financial stability issues written by researchers and employees at Norges Bank and published in the Bank's various publications in the course of 2004. The conclusions and viewpoints presented in signed articles are those of the authors and do not represent the views of Norges Bank.

## ***Aggregate bankruptcy probabilities and their role in explaining banks' loan losses***

*Working Paper 2004/2, Norges Bank.*

*Author: Olga Andreeva*

In this paper statistics on loans to Norwegian industries and regions are combined with bankruptcy probabilities for individual corporate borrowers in order to construct a proxy reflecting the risk profile of the banks' loan portfolios. Aggregation within industries and counties provides a bank-level panel of risk indicators, which are used to estimate banks' loan losses during the period 1988 – 2001. Constructed aggregate bankruptcy probabilities prove to be meaningful measures, which explain loan losses if we control for the macroeconomic and bank specific factors.

## ***The Norwegian Banking Crisis***

*Norges Bank Occasional Paper 33*

*Edited by Thorvald G. Moe, Jon A. Solheim and Bent Vale*

It has been ten years since the Norwegian banking crisis ended. This publication provides a comprehensive, but reasonably compact description of the Norwegian banking crisis. It contains six chapters and two appendices, each written by a different author. Each article may be read independently of the others.

## ***Historical Monetary Statistics for Norway 1819 - 2003***

*Norges Bank Occasional Paper 35*

This publication provides detailed documentation of Norges Bank's historical monetary and financial database. A description of historical developments is also given. The data is available in spreadsheets on Norges Bank's website.

## ***Upgrading and outsourcing Norges Bank's settlement system***

*Economic Bulletin June 2004 (No. 2)*

*Authors: Jon A. Solheim and Helge Strømme*

In recent years, Norges Bank has focused more strongly on its core activities as a central bank, and this has also had a bearing on its activities related to the payment system. This article reviews recent years' efforts to evaluate Norges Bank's settlement system in light of the central bank's strategy and primary objectives. Information is also provided on the evaluation of possible models for organising the settlement system and why Norges Bank has chosen to outsource. The risks inherent in such a solution are discussed and the implementation process described.

## ***What influences the growth of household debt?***

*Economic Bulletin October 2004 (No. 3)*

*Authors: Dag Henning Jacobsen and Bjørn E. Naug*

Household debt has increased by 10–11 per cent annually since 2000. In this article, the factors underlying the strong growth in debt are analysed using an empirical model. The debt growth of recent years is found to be related to developments in the housing market and to the decline in interest rates since December 2002. As a result of the sharp rise in house prices from 1998 to 2001, debt growth remained at a high level while house prices declined in the latter half of 2002 and into 2003. This reflects the fact that only a small portion of the housing stock changes hands each year. Even if house prices level off following a rise, there will be a long period during which houses change hands at a higher price than the last time they were sold. An increase in house prices will therefore contribute to debt growth for a long time.



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