

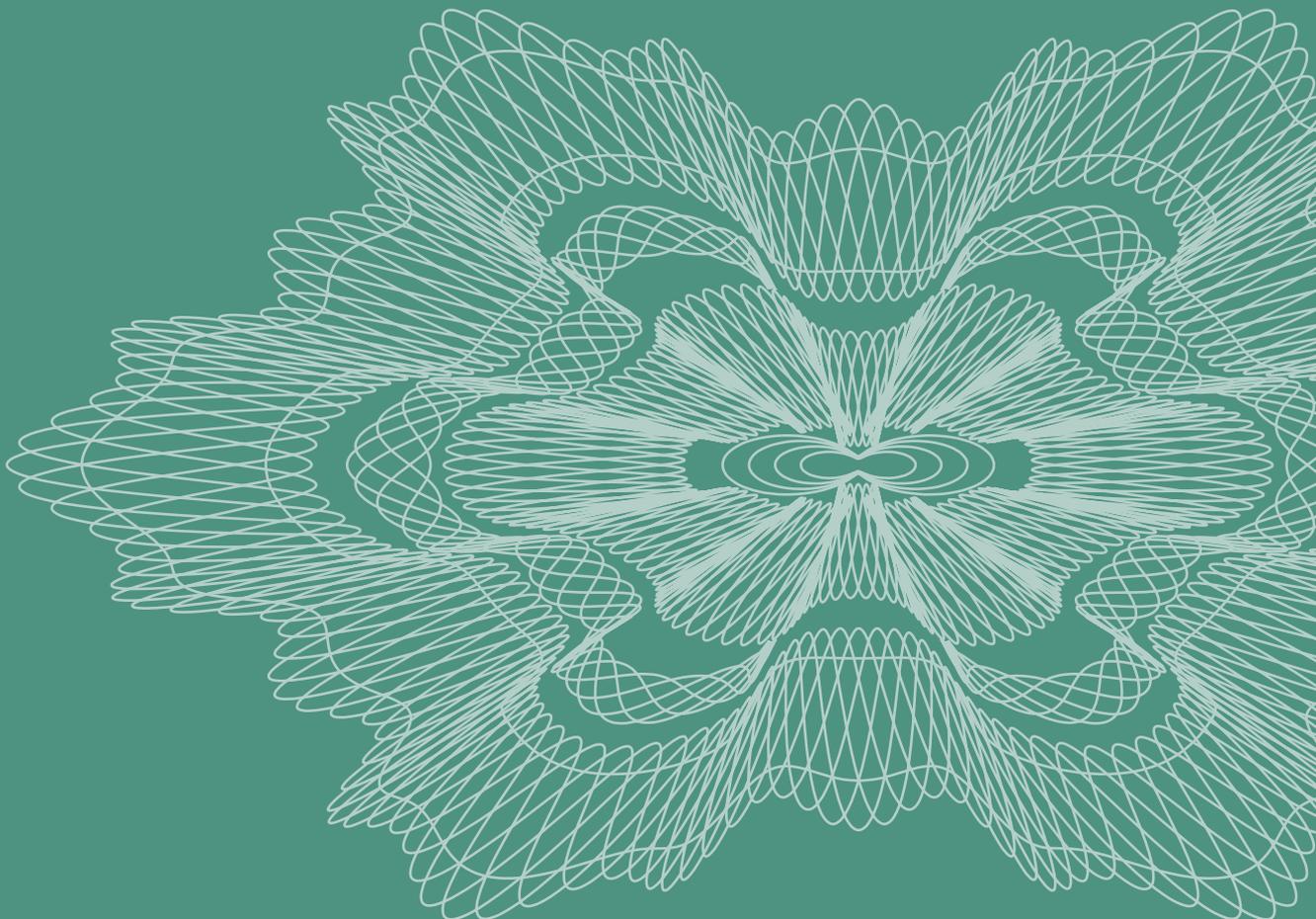
Reports from the Central Bank of Norway
No. 2/2006



Financial Stability

1
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June



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

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

Financial Stability 1/2006

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The cut-off date for this report was 31 May 2006

Editorial

Unknown terrain?

Favourable cyclical developments internationally and high prices for Norway's export goods have contributed to strong growth in the Norwegian economy. Enterprises are recording high profits and household income is growing. The upturn in the Norwegian economy has contributed to very low loan losses and strong performance among banks. The auspicious outlook for the Norwegian economy also implies low loan losses for banks in the near term. There appears to be little risk of a crisis in Norway's financial system in the next few years.

The longer-term risks to financial stability in Norway have increased, however. Household debt and house prices have increased markedly over many years to historically high levels. Since the beginning of the year, house prices have moved up more than expected. Interrupted by a fall in May, equity prices have advanced appreciably since the beginning of the year. Equity prices have been bolstered by high oil prices and expectations of high corporate earnings. There is considerable optimism in the commercial property market. Business investment and growth in borrowing has also increased. The ratio of total mainland debt to GDP has never been higher. In this respect, economic agents have moved into less familiar terrain.

The long period of strong debt growth and asset price inflation may be a source of subsequent instability in the economy and in banks' losses and results. During an upturn such as the current one, it is therefore important to show vigilance and provide a cushion for weaker cyclical conditions and higher interest rates. Within the framework of Basel II, banks that shift to internal risk models based on historical losses for measuring capital requirements should take into account that loan losses have been unusually low in recent years.

Banks are vying for market shares. Competition is fostering more cost-effective banks, better and more flexible borrowing terms and a broader product range. This is to the benefit of customers. At the same time, it is important that banks price risk correctly. This enhances capital efficiency and promotes financial stability.

Jarle Bergo

Summary

Solid global growth

Growth in the world economy remains solid. At the same time, both short-term and long-term interest rates are still low in many countries. Because of high growth and low interest rates, debt-servicing capacity in the household and enterprise sectors is strong at the moment, resulting in low loan losses and solid financial strength for banks. Equity prices in Europe, the US and Japan are broadly unchanged since the beginning of the year, despite a fall in May.

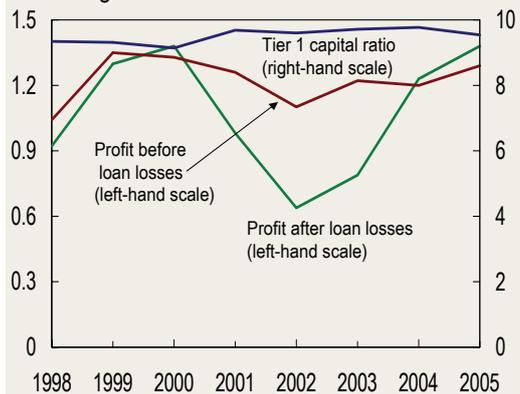
There are nevertheless a number of risk factors with respect to global financial stability. House prices and household debt continue to rise in many countries, making households more vulnerable to cyclical swings and interest rate changes. Global trade imbalances are historically high and increasing. The sharp rise in prices for oil and other commodities may push up inflation and lead to weaker growth in the global economy.

Robust performance in the Norwegian banking sector

Banks have achieved solid results over the past two years, mainly as a result of very low loan losses and reduced costs. Low losses are a reflection of low interest rates and solid income growth in the enterprise and household sectors. Banks' return on equity improved from 2004 to 2005. Banks' capital adequacy has been fairly stable over the past two years. The outlook for the Norwegian economy implies continued low loan losses and solid results for banks in the near term. In the longer term, a normalisation of interest rates or weaker economic developments may lead to higher loan losses. With solid results and earnings, banks are probably well positioned to cope with such a situation.

Intensified competition has contributed to lower interest margins and exerted downward pressure on net interest income. Strong growth in bank lending in the past two years, however, has held up interest income. Growth in loans to both the household and enterprise sector is strong. Loans secured on property have increased more quickly than loans in general in recent years. Banks have therefore been more exposed to fluctuations in property prices. After many years of high lending growth, total credit to mainland Norway is high in relation to GDP. With a rising level of credit, the potential for loan losses increases, making it more important to monitor credit risk when assessing financial stability.

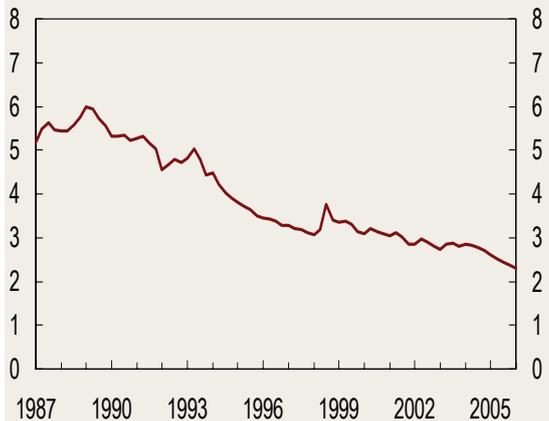
Chart 1 Banks' Tier 1 capital ratio and pre-tax profit as a percentage of average total assets¹⁾. Annual figures. 1998 – 2005



¹⁾ Excluding branches of foreign banks in Norway

Source: Norges Bank

Chart 2 Banks' interest margin. Percentage points. Quarterly figures. 87 Q1 – 06 Q1



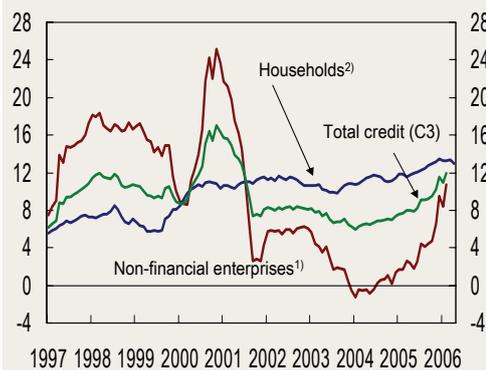
Source: Norges Bank

Chart 3 Credit to mainland Norway. In percentage of mainland GDP. Quarterly figures. 87 Q1 – 05 Q4



Sources: Statistics Norway and Norges Bank

Chart 4 Credit to mainland Norway. 12-month growth in per cent. Monthly figures. Jan 97 – Apr 06

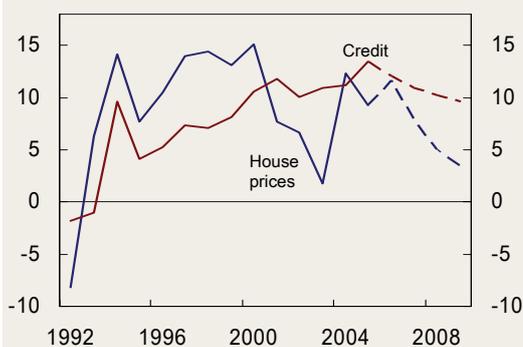


¹⁾ All foreign credit to mainland Norway assumed given to enterprises

²⁾ Household domestic debt

Source: Norges Bank

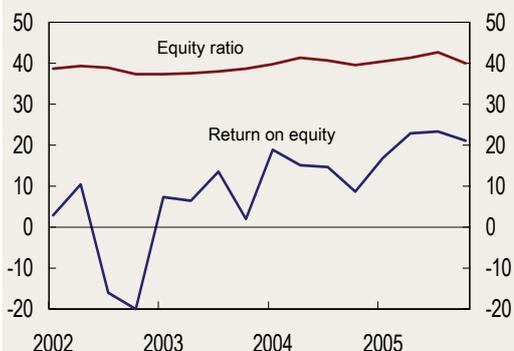
Chart 5 House prices (annual rise) and credit to households (C2, change in stock at the end of the year). Per cent. Annual figures. 1992 – 2009¹⁾



¹⁾ Projections for 2006 – 2009

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

Chart 6 Equity ratio and pre-tax return on equity for companies listed on Oslo Stock Exchange¹⁾. Per cent. Quarterly figures. 04 Q1 – 05 Q4



¹⁾ Companies registered in Norway with the exception of banks, insurance companies, Statoil and Hydro

Sources: Statistics Norway, Statoil, Hydro and Norges Bank

Households continue to increase their debt

On the whole, households' financial position is strong. Interest rates are still low and income is increasing. Housing wealth and financial assets have continued to rise. Unemployment has declined and is now lower than projected six months ago. Household debt growth is still strong, and the debt-to-income ratio is high. Debt growth must be viewed in the context of the sharp rise in house prices and low interest rates. Structural developments have also had an impact. Banks are offering new products that facilitate home equity withdrawal. Housing wealth has thereby become more liquid. Borrowers have more choice with regard to loan repayment profiles. In addition, any expectations of lower real interest rates over time may have boosted asset prices and debt.

House prices have risen considerably in recent years and may now seem somewhat high in relation to developments in income, interest rates, unemployment and housing construction. Experience shows that developments in the housing market have considerable influence on lending growth and that the effects are long-lasting. Growth in household debt may therefore remain high for several years, even if the rise in house prices should taper off. If so, the debt burden will continue to increase. Most households have floating-rate loans, and are thus exposed to interest rate changes in the short term. Because of continued low interest rates, the interest burden is now low, but will increase as the interest rate reaches a more normal level. A larger number of households may then find it difficult to service their debt.

Solid corporate profitability

Enterprises' financial position is solid. The profitability of listed companies was high in 2005. The market still has expectations of high future earnings in these companies, although the fall in equity prices in May might reflect somewhat more uncertainty. Earnings are driven by high oil prices, higher demand, moderate wage growth and low interest rates. The number of bankruptcies among Norwegian enterprises has continued to fall. Growth in corporate debt has increased substantially over the past year. Borrowing growth must be seen in the context of higher fixed investment. Fixed investment in the petroleum sector has risen sharply and contributed to higher demand for goods and services from mainland firms.

Low long-term interest rates have made commercial property more attractive as an investment vehicle. Growth in borrowing in the commercial property market is high, reflecting a high level of activity and rising property prices. Returns in the property market are vulnerable to interest rate changes and fluctuations in the economic activity.

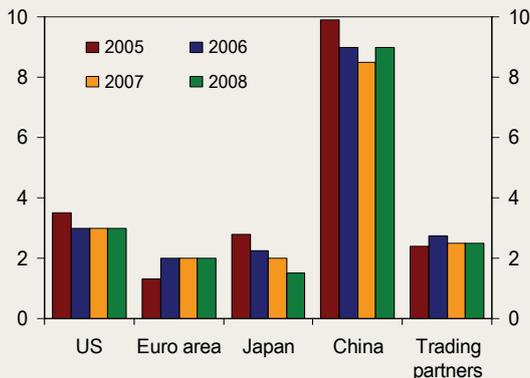
In the longer term, factors such as deterioration in competitiveness may reduce enterprises' profitability and their capacity to service debt. In addition, lower prices for oil and other export goods may weaken earnings in many industries. Lower global growth will also have an adverse impact on Norwegian enterprises.

General outlook for financial stability is satisfactory

The credit risk associated with loans to households and enterprises is still considered to be relatively low. Banks' exposure to both liquidity risk and market risk is also assessed as relatively low. There seems to be little risk of a crisis in Norway's financial system in the next few years. Because of the sharp rise in asset prices and debt, however, uncertainty as to the outlook for financial stability in the longer term is somewhat greater than it was six months ago. On the whole, however, the outlook for financial stability in Norway is considered satisfactory.

1 | International developments

Chart 1.1 Forecasts for GDP growth abroad¹⁾. Increase on previous year in per cent



1) Forecasts in Inflation Report 1/06. Updated projections will be published in IR 2/06.

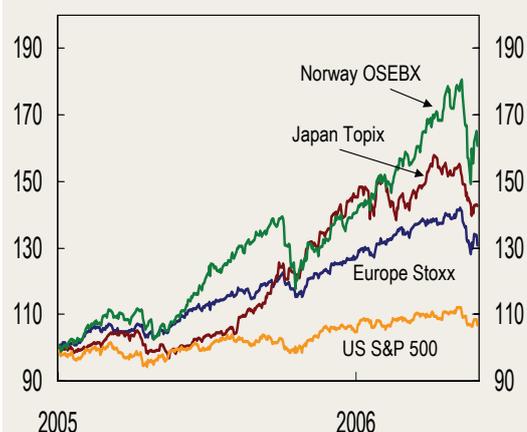
Sources: IMF, EU Commission, Consensus Forecasts and Norges Bank

Chart 1.2 International equity indices. 1 Jan 05 = 100. Daily figures. 3 Jan 00 – 30 May 06



Source: Reuters EcoWin

Chart 1.3 International equity indices. 1 Jan 05 = 100. Daily figures. 3 Jan 05 – 30 May 06



Source: Reuters EcoWin

Favourable economic conditions, increased globalisation and financial innovation have strengthened the stability of the international financial system in recent years. High global growth and low borrowing costs have strengthened the debt-servicing capacity of enterprises and households. The result has been low loan losses and solid financial strength for banks.

There are nevertheless a number of risk factors with respect to global financial stability. House prices and household debt continue to rise in many countries, making households more vulnerable to cyclical swings and interest rate changes. Global trade imbalances are historically high and increasing. So far, financial markets have efficiently channelled capital from surplus to deficit countries, but should the preferences of investors change, however, the impact on financial markets could be considerable. High prices for oil and other commodities may lead to weaker growth and higher inflation globally, although up to the present the effects have been minor. There has also been uncertainty as to how financial markets would react to increases in US policy rates. However, the increases since 2004 have not triggered any major disruptions in financial markets.

Solid economic growth

Growth in the world economy remains buoyant, although it slowed somewhat from 2004 to 2005. Global economic growth is expected to remain solid in the years ahead (see Chart 1.1), particularly in China and the US. Growth in Europe is expected to pick up this year, and then to remain stable. Growth among Norway's trading partners is expected to be somewhat stronger in 2006 than in 2005.

Financially strong enterprises, but signs of rising debt-to-equity ratio

The cyclical upturn has contributed to high earnings in banks and enterprises in most OECD countries in recent years. At the same time, enterprises' fixed investment has been fairly low. This has boosted their equity, making them more robust to economic disturbances. The premium on corporate bonds over the risk-free rate is historically low. This may indicate that investors consider the probability of default to be low.

There are now signs that the strengthening of enterprises' financial position has come to a halt. Debt-financed investment, dividend payments, share buybacks, mergers and acquisitions are on the rise. At the same time, key rates have been raised in many countries. In the longer term, higher

corporate debt-to-equity ratios and debt-servicing costs may lead to increased debt default, higher risk premia and greater volatility in financial markets. However, at present the financial situation of enterprises is healthy.

High current earnings and expectations of higher earnings among listed companies have contributed to a rise in share prices internationally over the past three years (see Chart 1.2). Since the turn of the year, stock markets in the US and Europe have advanced by 2% and 3% respectively, while the stock market in Japan has fallen by 2%. In May share prices dropped sharply in many countries, particularly in markets with a large share of commodity and energy companies (see Chart 1.3). The decline partly reflected a fall in the dollar exchange rate and fears of rising inflation and further interest rate increases in the US. A lower appetite for risk on the part of investors may also have contributed to the price fall. Still, at end-May, share prices in the US and Europe had advanced by 66% and 112% respectively, since the upturn started in March 2003. Measured by traditional valuation indicators, such as historical and forward-looking price/earnings ratios (P/E), shares are fairly normally priced (see Chart 1.4 and box on page 44).

Continued rise in debt and house prices, but signs of cooling in the US housing market?

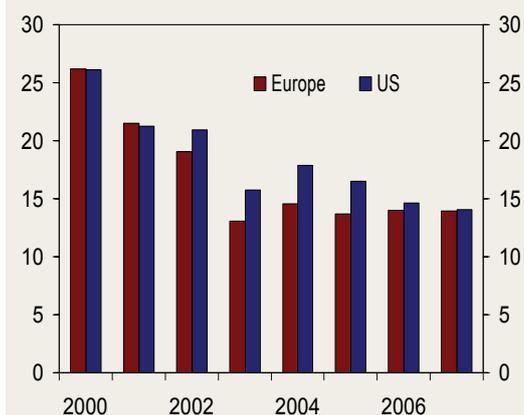
In many countries, the household debt burden is now historically high and rising (see Chart 1.5). Low interest rates and a strong and persistent rise in house prices have contributed to the accumulation of debt. New loan products and more liberal credit practices have increased opportunities for households to finance house purchases and other investments. Low-income groups have also increased their borrowing. A higher debt burden has made households more vulnerable to fluctuations in cyclical conditions, interest rates and house prices.

House prices are still rising sharply in many countries (see Chart 1.6). In the UK, higher interest rates have contributed to a slower rise in house prices. Following a surge in prices in 2005, indicators of housing market activity in the US are now showing a weaker trend (see Chart 1.7). The rise in house prices has been an important driving force behind private consumption and economic growth in the US. Future developments in US house prices are therefore important for developments in the global economy and financial markets.

Rising US current account deficit

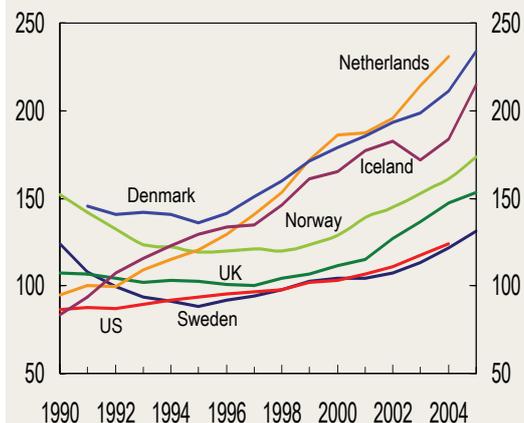
Global imbalances in trade and capital flows are steadily increasing. The US current account deficit is large and growing (see Chart 1.8). Up to now, other countries have

Chart 1.4 Forward-looking P/E¹⁾ for equity indices in Europe and the US. Yearly figures. 2000 - 2007



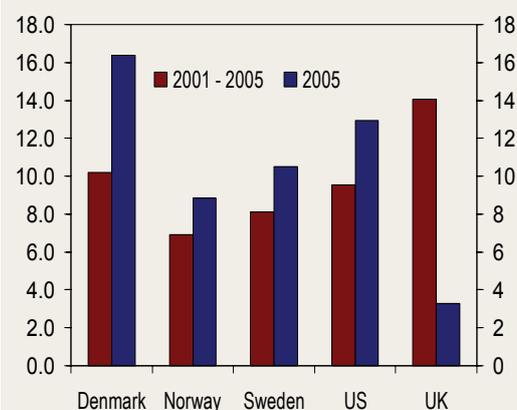
1) Based on expected earnings at the beginning of the year
Source: Reuters EcoWin

Chart 1.5 Household debt burden as percentage of disposable income. Annual figures. 1990 - 2004/2005



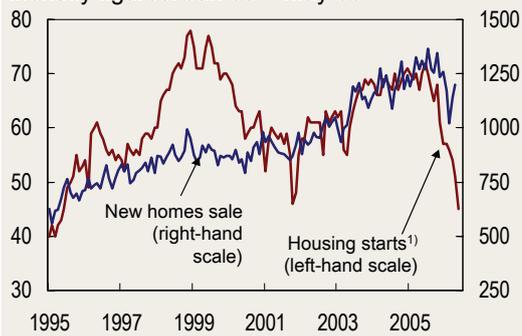
Sources: OECD, BIS, Bank of England, Sveriges Riksbank, Danmarks Nationalbank, Sedlabanki Island and Norges Bank

Chart 1.6 Rise in house prices in selected countries. Annual average rise in per cent. 2001-2005



Source: Reuters EcoWin

Chart 1.7 Indicator for housing starts and annual sale of new homes in the US in thousands. Monthly figures. Jan 95 – May 06



¹⁾ Sentiment indicator from National Association of Home Builders (NAHB). Higher values correspond to higher expectations. 50 corresponds to neutral sentiments.

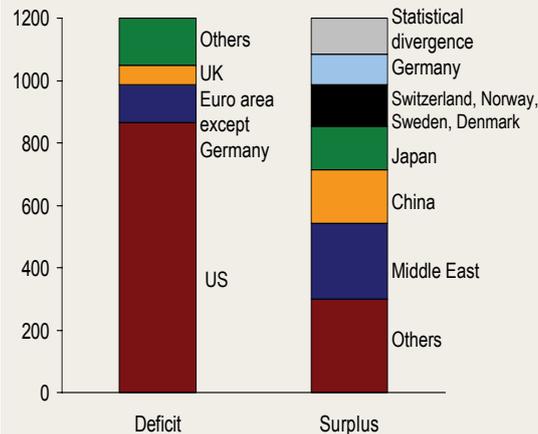
Source: Reuters EcoWin

been willing to finance the US deficit without demanding a higher risk premium. This is partly because US financial markets are well developed, the dollar is an important reserve currency and economic growth has been stronger in the US than in Europe and Japan. In recent years, however, the return on equities and bonds has been lower in the US than in Europe and Japan. If this influences investors' expectations regarding future returns, it may become more difficult for the US to finance its trade deficit. In the event, the consequences for financial stability will depend on how quickly invested demand for US assets will change. A combination of a weaker US dollar, higher interest rates and weaker equity markets could undermine the financial position of financial institutions. A lower appetite for risk among financial market participants may amplify such a tendency.

Low long-term interest rates

In a global perspective, long-term interest rates have edged up since *Financial Stability 2/05*, but in many countries they are still low from a historical perspective. Chart 1.9 shows developments in implied 5-year government bond yields 5 years ahead in selected countries. Cyclical developments can be assumed to have little impact on these yields. Low long-term interest rates may reflect a number of factors, including expectations of lower inflation and less uncertainty about inflation developments over time. Lower maturity premia, which among other things may reflect a preference among pension funds for longer maturities for their assets, may also be a factor behind lower long-term interest rates (see box on page 16).¹ If long-term real interest rates remain at a persistently lower level, this will in isolation contribute to higher equilibrium prices for assets.

Chart 1.8 Balance of payments on current account. Projections 2006. Billions of USD

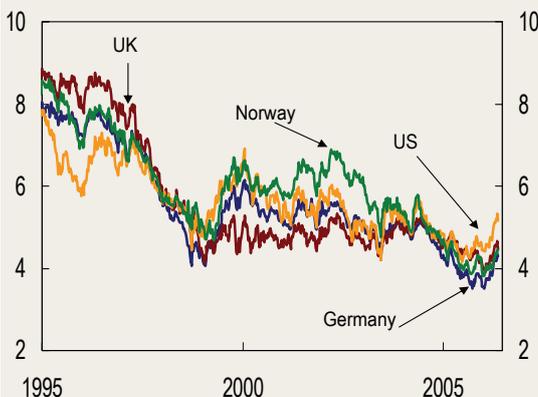


Source: IMF

High prices for oil and other commodities and metals

Prices for oil and the most traded metals globally have risen by 70% and 94% respectively, since the beginning of 2005 (see Chart 1.10). The gold price has increased by 49% in the same period. The rise in metal prices in recent years partly reflects strong growth in industrial production in many countries and extensive construction activity in China and the US. Prices for sugar, rubber and some other agricultural products have also increased. The rise in commodity prices constitutes a risk to inflation and economic growth. Financial investors increasingly use the markets for metals and other commodities to spread risk and as a means of benefiting from growth in commodity-intensive economies such as China. Commodities markets are also used to some extent to hedge against a possible rise in inflation and weakening of the US dollar.

Chart 1.9 Implicit 5-year government bonds in 5 years. Weekly figures. Per cent. 1 Jan 95 – 26 May 06



Sources: Reuters EcoWin and Norges Bank

¹ See box "The yield curve and economic outlook in the US" in *Inflation Report 1/06*, Norges Bank.

Increased range of complex credit instruments

The emergence of new credit instruments is important with regard to how risk is priced and distributed among various agents. The market for credit derivatives and structured credit instruments like CDOs² has grown substantially in recent years. At end-2005, the value of global credit derivative contracts outstanding was over USD 17 000bn. This value has risen four-fold since 2003. Measured by value outstanding, the credit derivatives market is larger than the corporate bond market. However, the market for CDOs has increased steadily, and its value outstanding came to USD 270bn in 2005 (see Chart 1.11). The range of underlying securities in these markets is constantly increasing, and now also includes debt issued by emerging economies, insurance contracts and other structured products. The emergence of credit instruments contributes to more complete markets and offers investors greater opportunities to achieve the desired return and risk profile. This can promote financial stability.

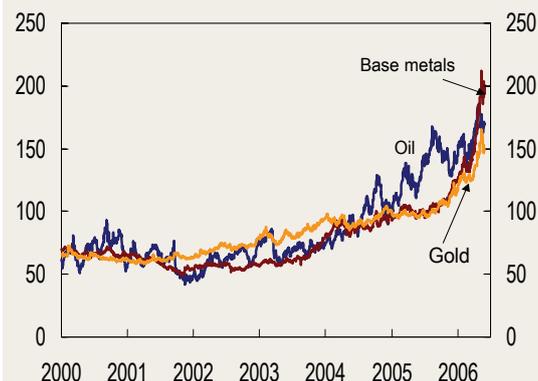
The new credit instruments are complex, and their properties and the associated risks are probably not fully understood by all market participants. The complexity of the instruments leads to high operational and legal risk. The development of infrastructure for confirmation, clearing and settlement routines has not kept pace with rapid market growth. Confirmation routines have improved as a result of initiatives on the part of the Federal Reserve Bank of New York and the UK supervisory authorities. There is work in progress on infrastructure for credit derivatives trading under the auspices of ISDA (International Securities Dealers' Association) to further reduce operational risk. It is uncertain how markets will function if they are exposed to major disturbances in the form of macroeconomic shocks or substantial movements in prices for underlying instruments. Strong growth in the market for credit derivatives may increase the risk that financial turbulence in one sector or market spills over to other sectors and markets.

The situation in Iceland

In recent years, Iceland has experienced a sharp rise in asset prices and debt, and a large current account deficit. In February the Icelandic króna depreciated sharply, and share prices fell. The conclusion of the Icelandic central bank's (Sedlabanki Islands) *Financial Stability* report, published in May, is that the state of the country's financial system remains broadly sound, but that challenges lie ahead. The central bank has increased its key rate markedly since 2004

² A CDO (collateralised debt obligation) is a debt instrument with collateral in a portfolio of one or more different types of securities or loans. The portfolio often consists of less homogenous securities than is the case with ordinary collateralised securities.

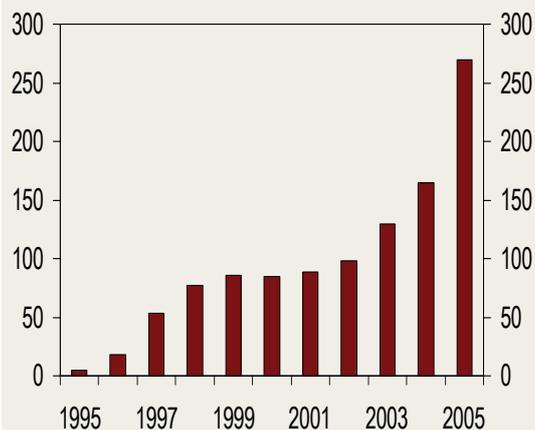
Chart 1.10 Prices for gold, base metals¹⁾ and oil (Brent Blend). 1 Jan 05 = 100. Daily figures. 1 Jan 00 – 30 May 06



1) LME. Index based on the prices of six base metals

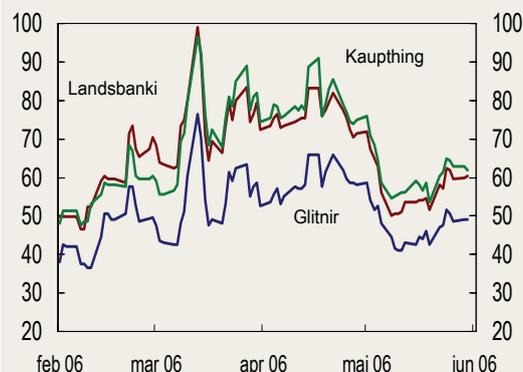
Source: Reuters EcoWin

Chart 1.11 Issuance of CDOs. Billions of USD. Yearly figures. 1995 - 2005



Source: IMF

Chart 1.12 Price¹⁾ for hedging against credit events related to loans issued by Icelandic banks. Basis points. Daily figures. 1 Feb 06 – 30 May 06



¹⁾ Based on the premium in CDS-contracts on 5-year bonds

Source: Thomson Datastream

to curb inflationary pressures. Commercial banks' international funding conditions have deteriorated. Over the past year, banks have expanded rapidly by raising capital in international markets. Chart 1.12 indicates that the risk premium on Icelandic banks' long-term funding increased substantially in February and March, but declined again in May.

In 2004 and 2005, the Icelandic bank Glitnir acquired Kredittbanken and BNbank. The two banks' total assets are equivalent to 2% of the combined total assets of the Norwegian banking sector. The market pricing of BNbank's bonds following the onset of the financial turbulence in Iceland indicates that the bank is assessed on an independent basis, and that confidence in the bank has not weakened.

Avian influenza

Bird flu has spread to a number of countries. If the virus evolves into a form that can be transmitted between humans, there is risk of a pandemic. The authorities in many countries are working on contingency plans to prepare themselves for a possible pandemic. The outbreak of a pandemic could result in lower production and economic growth. In addition, the manner in which financial markets function could be disrupted as a result of the absence of key personnel and increased demand for liquidity. Systems for payments, communication, trading and settlement of securities could be disrupted in periods. A serious pandemic might also trigger an increase in risk aversion in financial markets. This might lead to a flight to safe and liquid assets such as government securities and cash, and to a fall in asset prices and higher risk premia.

Implications of changes in pension fund regulations for the bond market

Long-term interest rates are still relatively low from a historical perspective in many countries. Rates are low despite the international economic expansion and substantial policy rate increases in the US. There may be several reasons for this.¹ One factor that has probably contributed is increased demand for bonds by pension funds that manage defined benefit pension schemes. Pension funds are among the largest participants in financial markets in many countries. Convergence of pension fund rules across different countries contributes to a situation where the funds' investment behaviour has clear common features.

The difference between the net present value of pension funds' assets and obligations determines the solvency position of pension funds. Valuation of assets is to a high degree market-based.² In many countries, a fixed discount rate decided by the authorities is applied to determine the value of obligations. The value of the obligations has therefore co-varied with market rates to a lesser degree than the value of the assets. As a result of these rules, most pension funds have shorter durations³ for assets than for obligations. The short duration of the assets that are valued at market value has contributed to reducing the impact of changes in market rates on pension funds' solvency positions.

New accounting and solvency rules, where the discount rate reflects changes in market rates, are now being introduced in a number of countries. According to the international accounting standard IFRS, market principles shall be applied in the valuation of all balance sheet items, including obligations. The new EU solvency rules "Solvency II" are scheduled for implementation in 2010-11. The details of the new solvency rules are not known as yet, but they will be in accordance with the IFRS principles.

The transition to IFRS and Solvency II gives pension funds incentives to increase the duration of their assets in order to achieve a better balance between the duration of assets and obligations. The longer the duration, the more the value will change in the event of a change in interest rates. Smaller differences in duration between assets and obligations therefore reduce interest rate risk. There is a widespread perception among market participants that changes in the solvency rules will prompt a shift in pension fund investments from equities to long-term bonds. This is because the maturity profile of the obligations is considered to be more similar to that of bonds.

In the UK, Denmark, the Netherlands and Sweden, the introduction of market-based valuation is at a relatively advanced stage. The publication of information regarding changes in the rules has had an impact on fixed income markets. Most of the effect will come gradually, however, as companies adapt to the new rules. Anecdotal information indicates that the changes in rules in Denmark (2001) and in the Netherlands (with effect from 2007) have had an impact on long-term interest rates in the euro area. In the UK, the yield curve at the long end of the bond market has been declining for several years, partly due to pension funds' demand for bonds with long durations.

When interest rates are low, the transition to market-based valuation of pension obligations can have a negative impact on companies' solvency position. This is because in this environment the value of obligations may rise to a greater extent than the value of assets. The low interest rate level itself may therefore have pushed up demand for long-term bonds.

Furthermore, market-based valuation and risk-based solvency rules have yet to be implemented in many countries. Pension funds' demand for long-term bonds may therefore remain high in the years ahead. This will contribute to keeping long-term interest rates low.

Norway is also obligated to implement Solvency II. Kredittilsynet (the Norwegian Financial Supervisory Authority) has proposed rules that may apply during a transitional phase until the implementation of Solvency II. The proposal was followed by a decline in long-term bond yields in Norway. Because of the limited size of the fixed income market in Norway, changes in the rules may have a considerable impact on long-term interest rates in Norway.

¹ See boxes in *Inflation Report* 1/05 "Why are long-term interest rates so low?" and 1/06 "The yield curve and economic outlook in the US", Norges Bank, and Hoddevik and Snippen: "Risikostyring i norsk livs- og pensjonsforsikring – endringer i europeisk solvensregelverk for forsikring", (Risk management in Norwegian life and pension insurance – change in the European solvency rules for insurance) *Praktisk økonomi og finans* no. 3/2005.

² In Norway, around 1/3 of the total assets of life insurance companies consists of loans, bonds and bills which are valued at cost. The share of these assets held by pension funds is substantially lower.

³ Duration is defined as the present value-weighted average residual maturity.

2 | Macroeconomic developments, households and enterprises

Table 2.1 Macroeconomic aggregates. Percentage change on previous year (unless otherwise stated)

Projections Inflation Report 1/06				
	2006	2007	2008	2009
Private consumption	3¼	3	2½	2¼
Public consumption	2½	1¾	3	3
Mainland gross investment	6	4½	2¼	1¾
Traditional exports	6	5	3¾	3½
Mainland GDP	3½	2¾	2½	2¼
Sight deposit rate (level)	2¾	3½	4	4¾
Registered unemployment (rate)	2¾	2¾	2¾	2¾
CPI-ATE ¹⁾	1¼	1¾	2¼	2½
Annual wage growth ²⁾	4	4½	4¾	4¾

¹⁾ CPI-ATE: CPI adjusted for tax changes and excluding energy products

²⁾ Includes costs related to the introduction of compulsory occupational pensions

Sources: Statistics Norway, Directorate of Labour, Technical Reporting Committee on Income Settlements and Norges Bank

2.1 Developments in the Norwegian economy

Economic growth in Norway has been strong since summer 2003. The upturn has gradually broadened. Low interest rates have contributed to a relatively sharp rise in household demand throughout the upturn. At the same time, solid global growth has led to increased demand for many Norwegian export goods and high export prices. High oil prices in particular have improved our terms of trade. Fixed investment in the petroleum sector has increased sharply, leading to higher demand for goods and services supplied by mainland enterprises. Mainland fixed investment has also picked up gradually. Capacity utilisation measured by Norges Bank's estimate of the output gap is now slightly above the normal level.

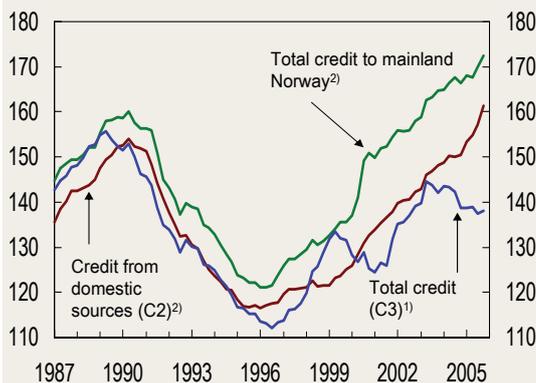
Norges Bank's key rate has been raised by 0.5 percentage point to 2.75% since the previous *Financial Stability* report in December. Underlying inflation in the Norwegian economy is still low. The effective krone exchange rate (I-44) has appreciated by 3% since the beginning of December.

Registered unemployment has fallen in recent months, to 2.8% in April, and is expected to remain low in the next few years. Employment has increased. It appears that wage growth will be somewhat higher in 2006 than in 2005.

Overall credit to mainland Norway as a percentage of mainland GDP is at a historically high level (see Chart 2.1). Debt growth is high in both the household and enterprise sectors.

Several of the driving forces behind the past few years' economic expansion will continue to boost economic growth for a period ahead. Interest rates are still low, and demand for retail goods and services is expected to remain high. Growth in the international economy is projected to remain buoyant. This will result in strong demand for our traditional export goods and high prices. High investment in the petroleum sector is likely to contribute to a high level of activity until 2009. Fiscal policy in 2008 and 2009 may also contribute to sustained growth. However, higher interest rates will gradually lead to somewhat slower economic growth. In the last years of the projection period, mainland GDP growth is projected to be close to growth in potential output.

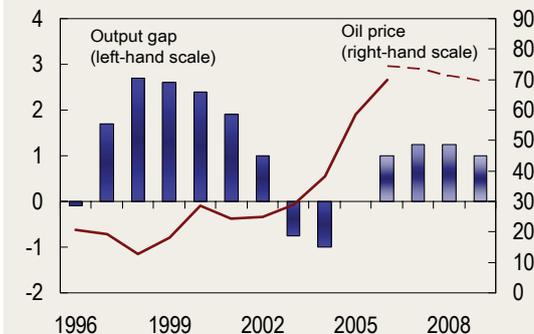
Chart 2.1 Credit as a percentage of GDP. Quarterly figures. 87 Q1 – 05 Q4



¹⁾ Percentage of GDP
²⁾ Percentage of mainland GDP

Source: Norges Bank

Chart 2.2 Output gap¹⁾ and oil price²⁾. Annual figures. 1996 - 2009



¹⁾ Difference between actual and potential mainland GDP. Deviation in per cent. Projections 2006 – 2009 from Inflation Report 1/06

²⁾ Brent Blend crude oil in USD. Spot price. Figures for 2006 – 2009 are forward prices on light crude oil as of 30 May 2006

Sources: Statistics Norway, Reuters Ecwin and Norges Bank

2.2 Households

Housing market remains buoyant

Activity in the housing market remains high. The rise in resale home prices has been strong since 2003 (see Chart 2.3). Solid growth in household income and low interest rates have been important driving forces.

House prices have risen in tandem with a high and increasing supply of new housing in recent years. In the 12 months to March, housing starts came to a little more than 30 000 compared with an average of some 20 000 in the period 1990-2005. Housing turnover is high and the turnover time is short. The turnover time for new housing in Eastern Norway increased somewhat in 2005 and the beginning of 2006, but decreased again in April.

House prices deflated by consumer prices, building costs and house rents are historically high (see Chart 2.4). A considerable portion of the increase in the ratio of house prices to net rentals in the past 10 years may be due to an adaptation to expectations of lower real interest rates over time (see box on page 23). However, in relation to household income growth, the rise in house prices has been moderate in the past 10 years.

Technical calculations using an empirical model for house prices indicate that house prices in the fourth quarter of 2005 were about 10% higher than developments in fundamentals such as income, interest rates, unemployment and housing starts might imply.¹ However, there is considerable uncertainty associated with such calculations.

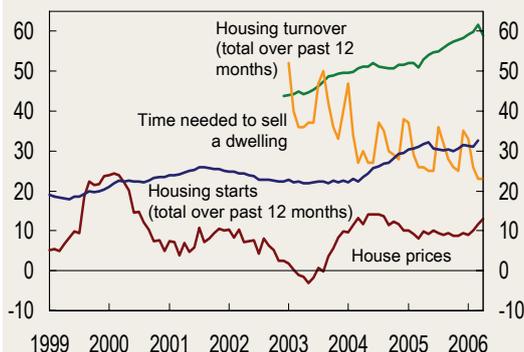
High debt growth

Developments in the housing market and low interest rates since 2003 have contributed to strong growth in household debt. Household debt is still growing at a faster pace than household income. During the past year, 12-month growth in household debt has varied between 11.7% and 13.4% (see Chart 2.5).

Normally, growth in mortgage loans has been somewhat higher than growth in other loans, but in 2005 growth in other loans increased markedly. Unsecured consumer loans and repayment loans that are secured using other types of assets such as cars, boats or financial instruments account for most of the growth in other loans.

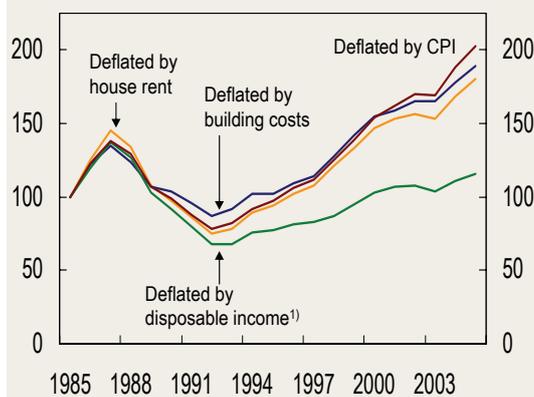
¹ See box "Developments in house prices" in *Financial Stability 2/05*, Norges Bank.

Chart 2.3 Housing turnover and housing starts in thousands. 12-month rise in house prices in per cent. Time needed to sell a dwelling measured in number of days. Monthly figures. Jan 99 – Apr 06



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

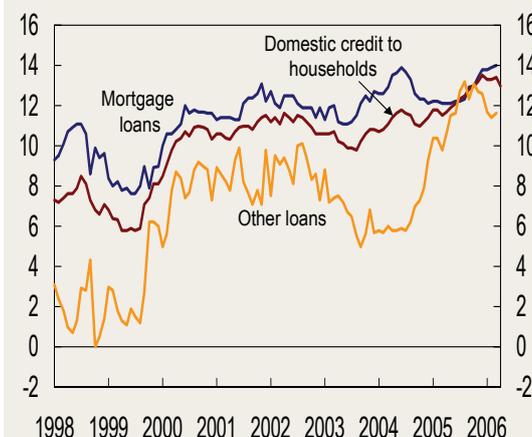
Chart 2.4 Deflated house prices. Indexed, 1985=100. Annual figures. 1985-2005



¹ Disposable income less estimated reinvested dividends from 2000

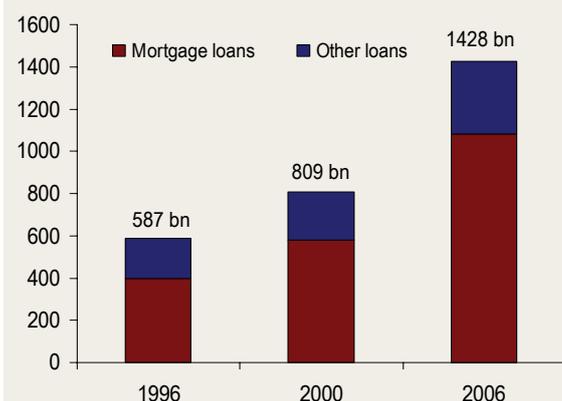
Sources: Statistics Norway, NEF, EFF, ECON and FINN.no

Chart 2.5 Credit to households. 12-month growth in per cent. Jan 98 – Apr 06



Source: Norges Bank

Chart 2.6 Household debt by type of loan. Billions of NOK. 1996, 2000 and 2006¹⁾



¹⁾ By the end of March 2006

Source: Norges Bank

Table 2.2 Explanatory factors behind households' growing debt burden 1986-2003

	1986	2003	1986-2003
Total debt. Billion NOK	372	675	81%
Number of households. 1000	1,708	2,137	25%
Share of indebted households. Per cent	74.1	80.4	8%
Average debt in indebted households. In thousands, 1986-NOK	294	392	34%

Sources: Statistics Norway and Norges Bank

An annual survey conducted by Kredittilsynet shows that loans that are collateralised by financial instruments increased considerably in 2005. Total lending collateralised by financial instruments increased from NOK 31.3bn to NOK 46.8bn from the third quarter of 2004 to the third quarter of 2005. Loans to households account for a considerable portion.

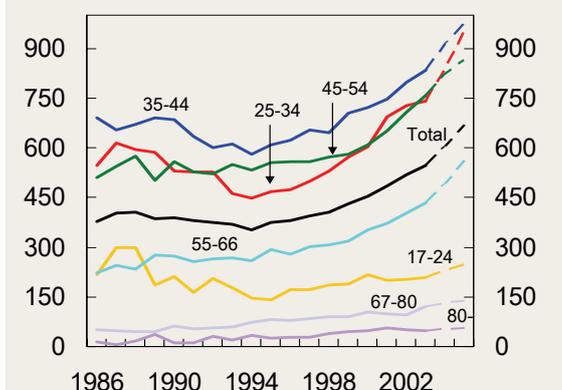
Structural changes – new loan products and more flexible credit markets

There has been a pronounced increase in household debt in the past 10 years (see Chart 2.6). As a result of the sharp increase in house prices during this period, mortgage loans account for the largest share of the increase. The share of mortgage loans has increased by almost 10 percentage points in the past 10 years, to 75% of total household borrowing.

In the period 1986 to 2003, average household debt increased by 34% (see Table 2.2). In the same period, the number of households increased by 25% and the share of indebted households rose by 8%. The age groups with the highest average debt have been stable or increased as a share of the total population in recent years.² This also contributes to higher debt in the household sector as a whole.

Average debt increased markedly for most age groups from the end of the 1990s until 2003 (see Chart 2.7). Projections indicate that this development continued until the end of 2005. The increase has been most pronounced in the age groups with the highest average debt. The sharp rise in house prices may be an important explanatory factor for debt growth, particularly for young first-time homebuyers.

Chart 2.7 Average debt per household in indebted households by age group. In thousands of 2005-NOK. 1986-2005¹⁾



¹⁾ Estimates for 2004 and 2005

Sources: Statistics Norway and Norges Bank

Increased debt among the age groups between young first-time homebuyers and retirement (45-54 and 55-66) may also reflect a change in attitude to debt. A survey conducted by the Norwegian Savings Banks Association shows that 60% of those interviewed responded that they could envisage drawing on their home equity after retirement, compared with 50% one year ago and only 10% in 1991.

Increased housing wealth (see box on page 24), combined with improved opportunities to realise capital gains for other purposes, has contributed to higher household debt. In recent years, banks have launched new loan products that facilitate mortgage equity withdrawal including credit lines secured on dwellings. The number of banks offering such loans has increased markedly in the past year. The entire

² See "Developments in household debt. An analysis of micro data for the period 1986-2003" by M.D. Riiser and B.H. Vatne, in *Economic Bulletin* 2/06.

loan may either be disbursed as a lump sum or as monthly payments. The repayment schedule is largely determined by the individual customer, who only pays interest on the credit amount drawn.

Kredittilsynet's mortgage loan survey in autumn 2005 showed that the average life of new loans has increased and interest-only periods have become more widespread. In 2005, one of every eight new loans covered by the mortgage loan survey featured an interest-only period. The average interest-only period is four to five years. Longer loan periods, more loans with interest-only periods and low interest rates have made it easier for households to service larger mortgages.

Financial assets

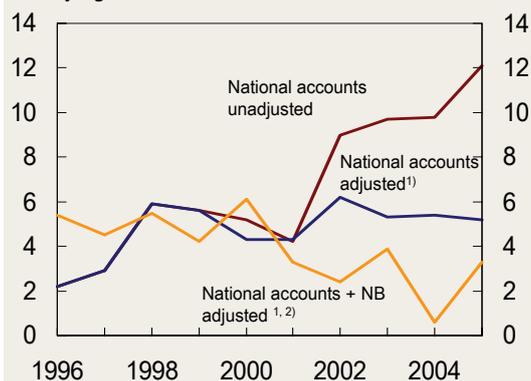
Household financial investments are still on the rise. Adjusted for estimated reinvested dividends,³ the increase in household debt nevertheless exceeded financial investment in 2005 for the second consecutive year. However, Norges Bank's figures and the national accounts figures for financial investments differ substantially. This illustrates that there is uncertainty with regard to the level of total household saving (see Chart 2.8).

The value of household financial assets increased by NOK 257bn in 2005 to NOK 2 034bn at the end of the year (see Chart 2.9). Financial investments accounted for NOK 210bn and valuation changes for NOK 47bn. Insurance reserves account for approximately 1/3 of total household financial assets. Insurance reserves consist primarily of group insurance reserves which differ from other assets in that these funds are generally unavailable in the short and medium-term. Insurance reserves have increased sharply since 2002. This is partly related to an increase in the share of the population that is approaching retirement age. The introduction of mandatory occupational pensions as from 2006 may result in even stronger growth in insurance reserves in the period ahead. Notes and coins and bank deposits are the most liquid portion of household assets. These assets accounted for roughly 30% of financial assets at the end of 2005. This portion of financial assets has diminished in the past 10 years.

During the past 10 years, an increased share of household financial assets has been invested in securities. Household financial wealth has thus become more vulnerable to price fluctuations. Negative valuation changes contributed to falling net financial assets in the period 2000-2002 (see Chart 2.10).

³ Norges Bank's estimates for reinvested share dividends for 2002, 2003, 2004 and 2005 are NOK 21.5bn, NOK 36.5bn, NOK 38.7bn and NOK 64.5bn respectively.

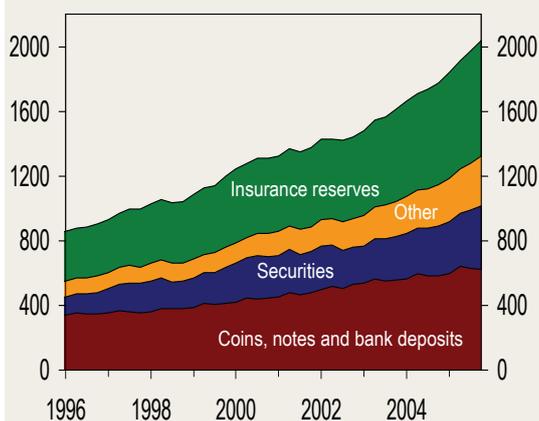
Chart 2.8 Household saving ratio. Per cent. Yearly figures. 1996 – 2005



¹⁾ Adjusted for estimated reinvested dividends from 2000
²⁾ Norges Bank's figures on net financial investments combined with Statistics Norway's figures on fixed investments

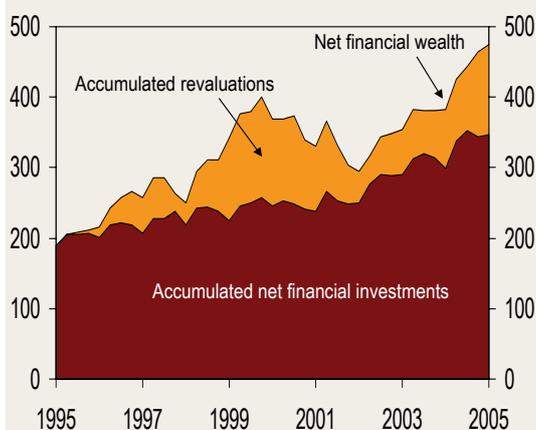
Sources: Statistics Norway and Norges Bank

Chart 2.9 Household financial assets by financial instrument. Billions of NOK. Quarterly figures. 95 Q4 – 05 Q4



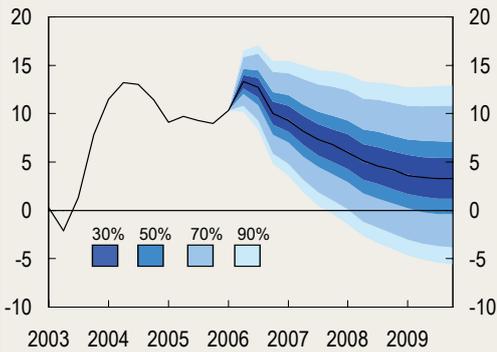
Source: Norges Bank

Chart 2.10 Household net financial wealth. Billions of NOK. Quarterly figures. 95 Q4 – 05 Q4



Source: Norges Bank

Chart 2.11 Model projections and uncertainty for house prices.¹⁾ 4-quarter rise. Per cent. 03 Q1 – 09 Q4



¹⁾ The bands in the fan chart indicate different probabilities for developments in house prices. The probabilities are computed based on factors such as the deviations between estimated and actual developments in house prices during the period 90 Q2 – 05 Q4

Sources: NEF, EFF, FINN.no, ECON and Norges Bank

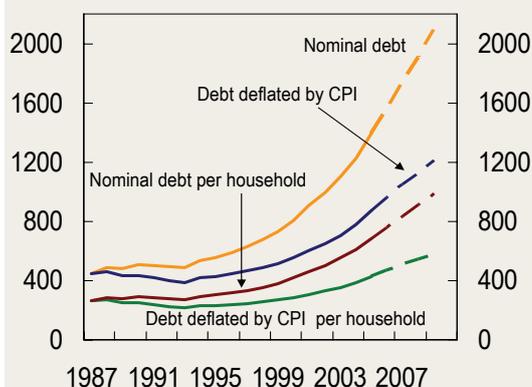
Chart 2.12 Household debt burden¹⁾. Per cent. Quarterly figures. 87 Q1 – 09 Q4



¹⁾ Loan debt as a percentage of liquid disposable income less estimated reinvested dividends

Source: Norges Bank

Chart 2.13 Household nominal and real debt. Total (in billions) and per household (in thousands). 1987-NOK. Yearly figures. 1987 - 2009¹⁾



¹⁾ Projections for 2006-2009

Sources: Statistics Norway and Norges Bank

In recent years, the market for structured savings products has grown sharply. For most of these products, returns are linked to changes in the value of portfolios or indices that consist of financial or non-financial assets. A large portion of the products are guaranteed products, i.e. the provider guarantees the investor the return of the entire amount or a predetermined portion of the nominal investment at maturity. Investments in structured products can reduce potential losses associated with investments in securities markets. However, assets that are invested in structured products feature a limited degree of liquidity since the guarantee only applies if the product is redeemed at maturity. In 2005, investments in structured products rose by 27% to NOK 47.5bn at year-end.

Developments ahead

There is considerable uncertainty regarding developments in house prices in the period ahead (see Chart 2.11). On the one hand, continued solid growth in income and declining unemployment point to a continued rise in prices. On the other hand, higher interest rates and an increased supply of new housing are expected to curb growth. Experience indicates that the rise in house prices is the most important driving force behind household debt growth and that the effects are long-lasting. The marked rise in house prices we have observed may thus contribute to an increase in the household debt burden from an already record-high level in the next few years, even if the rise in house prices should taper off

Since 1999, debt growth has been higher than growth in disposable income. The debt burden was 180% at end-2005 (see Chart 2.12). According to the projections for the household debt burden in the baseline scenario in *Inflation Report 1/06* and estimated relationships for house prices and household debt, the debt burden is estimated to exceed 220% at the end of 2009.

Household debt has trebled since 1987 (see Chart 2.13). However, adjusted for general inflation and the increase in the number of households in the same period, debt growth is more moderate. Projections for debt accumulation, inflation and the number of households show that the development in debt adjusted for inflation and the number of households may continue until the end of 2009.

The household interest burden is still low as a result of the low interest rate level (see Chart 2.14). Projections show that the interest burden will increase in pace with a normalisation of the interest rate and that in 2009 it will be at its highest level since 1993. Even with a higher interest rate in the baseline scenario and strong debt growth in the projection period, the household interest burden will still be relatively low compared with the high level at the end of the 1980s.

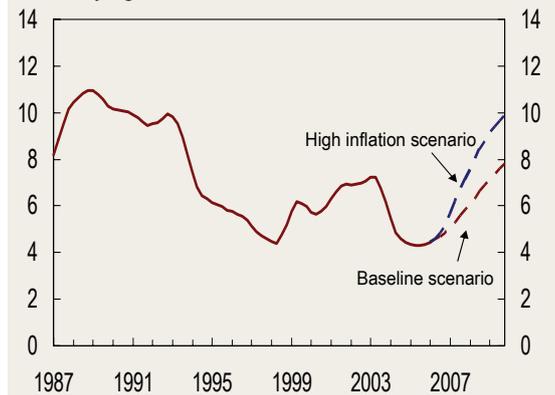
As an illustration, we have also projected the household interest burden in a scenario where it is assumed that there will be considerably stronger growth in output and inflation in the period ahead than previously assumed. Under these projections, monetary policy is tightened considerably in order to curb output and inflation. Even though this interest rate path is substantially different from the path in the baseline scenario, it still lies within a broad uncertainty interval (see Chart 2.15). In such a scenario, debt growth is restrained but household interest expenses increase markedly. Strong growth in output results in high capacity utilisation in the economy and stronger growth in household wage income. Higher income thus curbs the increase in the interest burden. Nevertheless, the interest burden in such a scenario increases to about the same level as at the end of the 1980s.

Experience shows that there is often financial unrest when longer periods of strong debt growth, high asset price inflation and marked growth in investment are followed by weaker cyclical developments. A deterioration in the financial position of households and financial stability will probably not occur unless a period of strong economic expansion is followed by a downturn without a decline in inflation expectations. In such a situation, the interest rate may be kept at a higher level than implied by developments in capacity utilisation alone. This will contribute to high interest expenses coupled with lower income and employment.

A rough indicator shows that household interest and principal payments accounted for about 13% of disposable income at the end of 2005 (see Chart 2.16). Projections show that at the end of 2009, interest and principal payments combined will be approximately as high as at the end of the 1980s. However, more flexible credit markets, with longer loan and interest-only periods, mean that it is easier to reduce the repayment burden than in the 1980s. Higher interest rates in the coming years may nevertheless contribute to an increase in the share of households with debt-servicing problems (see box on page 25).

Even though the overall financial situation of households is solid, financial vulnerability has increased in recent years. The share of households with high debt is increasing. At the same time, there are increasingly fewer households that choose fixed-rate loans. When the interest rate gradually normalises, the interest burden will be higher. There is uncertainty as to how this will affect household saving. Increased saving and lower consumption may weaken enterprises' profitability and debt servicing capacity and gradually result in somewhat higher loan losses for financial institutions.

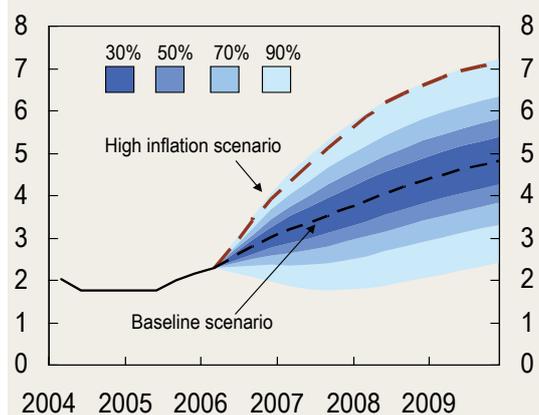
Chart 2.14 Household interest burden¹⁾. Per cent. Quarterly figures. 87 Q1 – 09 Q4



¹⁾ Interest expenses after tax as a percentage of liquid disposable income less estimated reinvested dividends plus interest expenses

Source: Norges Bank

Chart 2.15 The sight deposit rate in the baseline scenario with fan chart. Per cent. Quarterly figures. 04 Q1 – 09 Q4



Source: Norges Bank

Chart 2.16 Household debt-servicing as percentage of income¹⁾. Quarterly figures. 87 Q1 – 09 Q4



¹⁾ Estimated repayment and interest expenses as a percentage of liquid disposable income less estimated reinvested dividends plus interest expenses. Part payments defined as 1/20 of remaining debt per year

Source: Norges Bank

Long-term real interest rates and house prices

Housing costs have considerable impact on demand for both owned dwellings and rented housing. When a dwelling is owned, housing costs may be defined, in somewhat simplified terms, as the sum of interest expenses and depreciation minus the expected rise in the value of the dwelling. Interest expenses include both interest expenses on loans and interest income foregone on the owner's equity in the dwelling. In equilibrium, the cost of owning a dwelling must be equal to the cost of renting. Equilibrium may be illustrated by the following equation:

$$(1) \quad H/P = B/P [i (1-\tau) - \pi^e + \delta - \pi^e_B]$$

The left-hand side of the equation shows annual real rent, where H is nominal rent and P is the general price level. The right-hand side of the equation shows the annual real cost of owning. B indicates nominal house prices, i is the nominal interest rate, τ is the tax rate on capital income and expenditure, π^e is expected inflation, δ is the annual depreciation rate and π^e_B shows the expected real rise in the value of the dwelling over one year. The equation may be rewritten as follows:

$$(2) \quad B/H = 1/[i (1-\tau) - \pi^e + \delta - \pi^e_B]$$

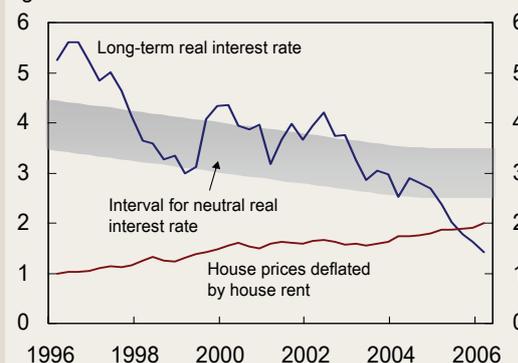
The left-hand side of equation (2) shows the relationship between house prices and house rents. The equation shows that the price to rent ratio, even if equilibrium should be achieved at all times, will vary considerably through the business cycles since real interest rates and expected house prices will vary with fluctuations in economic activity.

To make a clear distinction between cyclical and structural driving forces in the relationship between house prices and house rents, we will estimate long-term equilibrium housing costs. Changes in expected annual housing costs in the long term will only reflect structural changes in the economy.

The neutral real interest rate is the level of the real interest rate that is consistent with stable inflation and normal capacity utilisation in the economy. Analyses seem to indicate that the neutral real interest rate has fallen over the past ten years, and that it is now close to 2½%, i.e. at the lower end of the interval shown in Chart 1. The long-term equilibrium interest rate is used when calculating the long-term equilibrium price to rent ratio.¹ The long-term equilibrium interest rate is not observable, however. Over time, the neutral interest rate will coincide with the long-term neutral interest

rate.² If the long-term equilibrium real interest rate has fallen in pace with our estimates of the neutral real interest rate, this will result in a lasting change in the long-term relationship between house prices and house rents.

Chart 1 Long-term real interest rate¹⁾ and neutral real interest rate. Per cent. House prices deflated by house rent index in the CPI. Indexed, 96 Q1 = 1. Quarterly figures. 96 Q1 – 06 Q1



1) Implicit yield on 5-year government bonds in 5 years less long-term inflation expectations

Sources: NEF, EFF, FINN.no, ECON and Norges Bank

We assume that wear and tear on a dwelling is equal to the depreciation rate for home equity as this is measured in the national accounts, and that the expected long-term rise in real house prices over the past ten years has been equal to the long-term rise in household real income. In addition, we assume that long-term inflation expectations were 2% from 1996 up to 2001, and 2½% from 2001. When our estimates are based on the assumption that the long-term equilibrium real interest rate has fallen by 1½-2 percentage points over the past ten years, the long-term equilibrium relationship between house prices and rents will increase by about 50-75% over the same period. Since the actual relationship between house prices and rents has increased by 100% since the first quarter of 1996, the analysis indicates that approximately half to three-quarters of this increase is the result of an adaptation to expectations of lower long-term real interest rates.³

¹ We also add a (constant) lending margin, equal to the average over the past decade of the difference between banks' lending rates on repayment loans secured on dwellings and three-month money market rates.

² For more detail, see for example Bernhardsen, Tom (2005): "The neutral interest rate", Staff Memo 1/2005, Norges Bank

³ The calculation does *not* imply that the relationship between house prices and house rents has been overestimated by 25-50%. The short-term equilibrium relationship between house prices and house rents is expected to have increased more than the long-term equilibrium relationship.

Household housing wealth and financial assets

In order to analyse developments in total household debt and wealth, we need information on the level of housing wealth. Housing wealth is not directly observable, and must therefore be estimated. Our calculation of housing wealth is based on figures for the total housing stock measured in square metres and the average price per square metre.

Statistics Norway publishes figures on the number of dwellings in Norway. Since the last available observation for the number of dwellings is from January 2005, we add the number of dwellings completed last year. We do not have the figures on dwellings that have been demolished or on commercial premises converted to dwellings. However, these two variables have different effects on the housing stock, and the net impact is probably small compared with the construction of new dwellings. Statistics Norway's surveys of living conditions provide information on developments in average floor area per dwelling.¹ Total floor area is calculated by combining figures showing the number of dwellings and average floor area.

In order to calculate the value of the total housing stock measured in square metres, we employ an average price per square metre. The associations of Norwegian real estate agents publish price indices for detached houses, multi-dwelling houses and flats. By weighting these sub-indices together, where the weights are each housing type's share of the total housing stock, we arrive at an average price per square metre for housing.² Since we want to calculate *household* housing wealth, we also need to estimate the share of the housing stock

that is owned by households. Based on the share of households that own their own homes and an estimate of the share of households that own more than one dwelling, we estimate that households own 83% of the total housing stock.

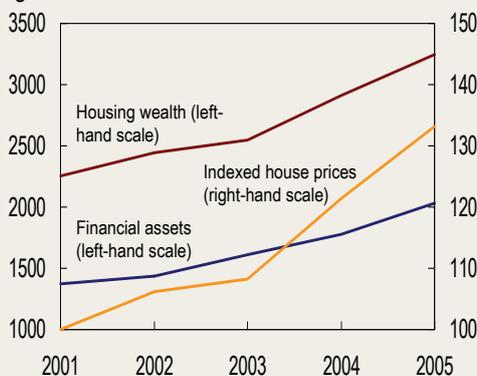
On the basis of the number of dwellings, average floor space, price per square metre and percentage of household ownership, household housing wealth is calculated at approximately NOK 3 250bn in 2005. This is an increase of 44% since 2001. The increase largely reflects the sharp rise in house prices (see Chart 1). The high level of housing starts over the past two years has also pushed up the level of housing wealth.

Households also have substantial financial assets. Household financial assets increased from NOK 1 375bn in 2001 to NOK 2 034bn by end-2005, or by 48% (see Chart 2). More than 1/3 of household financial assets are insurance reserves, which represent an illiquid portion of household financial wealth. Household debt from domestic sources grew in the same period by 54% to NOK 1 394bn by end-2005.

¹ For analyses of Statistics Norway's surveys of living conditions, see for example Nordvik, Viggo (2006): "Boligstandard (Housing standards)", Chapter 2 in Gulbrandsen (ed.): *Bolig og levekår i Norge 2004* (Housing and living conditions in Norway 2004), NOVA (Norwegian Social Research institute) Report 3/06.

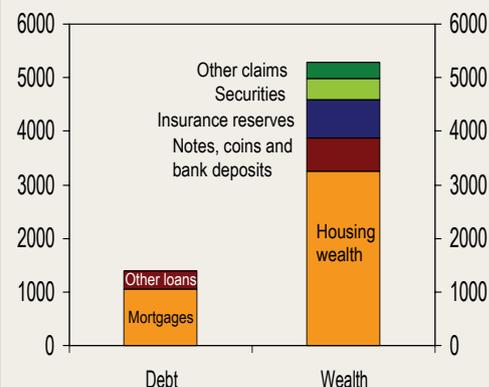
² For more information on housing types' share of the housing stock, see Gulbrandsen, Lars (2003). "Norway", Chapter 3 in N Gallent, M. Shucksmith and M. Tewdr-Jones (ed.): *Housing in the European Countryside: Rural Pressure and Policy in Western Europe*, Routledge, London.

Chart 1 Housing wealth and financial assets in billions of NOK. Indexed house prices, 2001 = 100. Annual figures. 2001 - 2005



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

Chart 2 Household debt and wealth by categories. Billions of NOK. 2005



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

Household margins

It is important to follow developments in household debt for two reasons. First, an overall increase in the debt burden will increase the risk of defaults and losses on bank lending. Second, with high household debt economic disturbances can have a considerable impact on demand for goods and services. This in turn affects enterprises' earnings and debt-servicing capacity. An analysis of financial margins using micro data can shed light on both of these relationships. Financial margins are defined as household income net of interest and principal payments and ordinary living expenses. Banks consider margins when they assess household loan applications. Margin levels provide an indication of how vulnerable households are to a reduction in income or an increase in expenses, e.g. higher borrowing rates. The total value of positive margins can be interpreted as households' total funds available for consumption and saving after borrowing costs and living expenses.

Data

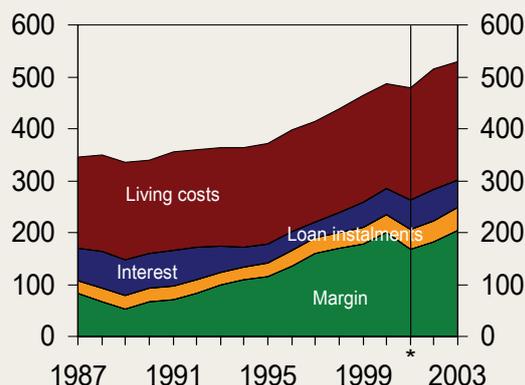
The data are based on micro data for the period 1987 to 2003 from Statistics Norway's Income and Property Statistics for Households.¹ The analysis is limited to households with wage income as the most importance source of income (employees), which account for about 60% of households. At the beginning of the period, there are more than 2 000 observations in the data set, while at the end of the period there are more than 10 000 observations. The statistics include information about household composition, income after tax, interest expenses and total debt. Ordinary living expenses are estimated on the basis of household composition and a standard budget from the National Institute for Consumer Research.² Expenses related to principal payments are calculated on the basis of the observed debt level by assuming that all loans have a 20-year linear repayment schedule. Expenses related to principal payments may therefore be overestimated.

Total margins have increased

In Chart 1, households' total income is expressed in 2003-NOK and broken down into living expenses, interest and principal payments. The green area shows total financial margins. The margins have more than doubled in the period from 1993 to 2003 due to nearly 50% growth in income. In addition,

the proportion of total income used to pay for ordinary living expenses has declined from 52% to 43%, while the share of income used to pay interest and principal has fallen from about 21% to 18%. The total effect of these changes is that households have increased their margins as a share of net income from about 27% to 39% during the period.

Chart 1 Household income after tax by use. Billions of 2003-NOK. Annual figures. 1987-2003



* Revision of SIFO's standard budget in 2001

Sources: Statistics Norway, SIFO (National Institute for Consumer Research) and Norges Bank

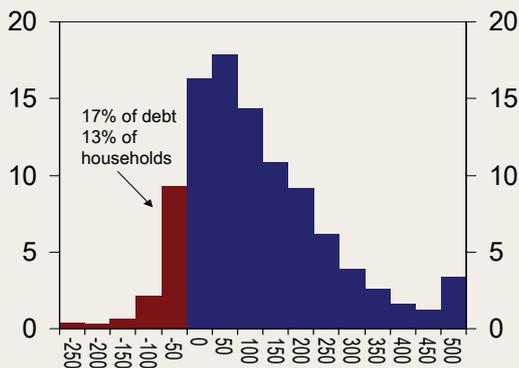
Households with no margin account for one-sixth of the debt

Chart 2 shows the share of households by margins in 2003. The spread is wide. Roughly 13% of households have negative margins. These households account for 17% of the group's total debt. More than half of the households have margins in excess of NOK 100 000. Low- and middle-income households and the age group 25-34 were over-represented among households with no margin in 2003. Households with no margin must either reduce their living expenses or reduce their borrowing costs by establishing an interest-only loan or by extending the loan period. They can also draw on their financial assets. Therefore, negative margins do not necessarily entail a direct risk of default. If we disregard principal payments, households without sufficient income to cover ordinary living expenses and interest expenses account for 6% of total debt.

The share of total debt held by households with negative margins fell in the 10 years to 2003 (see Chart

3). The margins are also more unevenly distributed than earlier. A larger share of households has higher margins. Households in low-income groups have increased their share of exposed debt during this period. Households with primary income earners in the age group 35-44 have reduced their share of the debt. Older and younger households have increased their share of exposed debt.

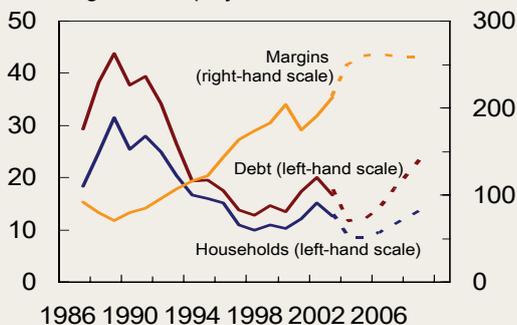
Chart 2 Share of households by margins¹.
In per cent and in thousands of NOK. 2003



¹ Margins = Income after tax – standard living costs – debt servicing

Sources: Statistics Norway, SIFO (National Institute for Consumer Research) and Norges Bank

Chart 3 Total household margins in billions of NOK.¹
Share of households with negative margins and corresponding share of total debt in per cent.²
Annual figures and projections 1986-2009



¹ Margins = Income after tax – standard living costs – debt servicing

² Demography and financial situation of households as of 2003

Sources: Statistics Norway, SIFO (National Institute for Consumer Research) and Norges Bank

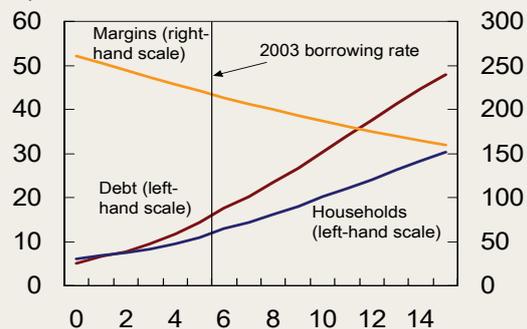
Effects of higher interest rates

The effect of an interest rate increase on household margins depends on the fixed-interest period of loans. The majority of loans feature variable interest rates. For these loans, a change in the interest rate will have a more or less immediate effect, whereas

a fixed-interest rate loan will not be affected until it is renegotiated. Banks' lending rates for household loans vary and are primarily based on the quality of the collateral. In this part of the analysis, we look at the effect of an interest rate change if all borrowers are immediately exposed to the same new interest rate. The calculated effect thus exaggerates the actual effect.

Bank lending rates were approximately 6% in 2003. Chart 4 shows the calculated effects of different interest rate levels given that household income and debt remain the same as in 2003. If the interest rate is increased by 2 percentage points, the share of households with negative margins will increase from 13% to 16%. The share of debt held by households with negative margins will increase from 18% to 23%. The margins will be reduced from 214 to 200 billion 2003-NOK. The interest rate increase will have the largest impact on low-income groups and the age group 25-34.

Chart 4 Effects of borrowing rates on margins¹.
Share of households with negative margins and corresponding share of total debt².
In per cent and billions of NOK



¹ Margins = Income after tax – standard living costs – debt servicing

² Demography and financial situation of households as of 2003

Sources: Statistics Norway, SIFO (National Institute for Consumer Research) and Norges Bank

Projections

When making projections, we use households' financial situation in 2003 as a point of departure and change income, debt and the interest rate level in line with actual developments up to 2005 and in line with Norges Bank's baseline scenario in *Inflation Report 1/06* up to 2009. Under these projections, lending rates fall to 4% in 2005 and then increase to about 6% in 2009, and debt growth is stronger than income growth. The rate of growth is assumed to be the same for all households. The dot-

ted line in Chart 3 shows the results of the projections. The chart shows that growth in total margins slows and is reversed towards the end of the period. The share of debt held by households with a negative margin increases to about 25%.

Overall assessment

Households' financial margins increased markedly in the 10 years to 2003, reflecting solid growth in income and a situation where a lower proportion of income was used to cover living expenses and borrowing costs. Nevertheless, households with no margin accounted for a considerable share of the debt. Projections in line with Norges Bank's baseline scenario in *Inflation Report 1/06* suggest a movement in total margins towards historically high levels, but gradually slower growth. The projections also show that the share of households with no margin increases somewhat and that these households' average debt rises.

¹ NOS D310 (2004): "Income and property statistics for households 2002". Norway's official statistics D310. Statistics Norway, Oslo-Kongsvinger.

² SIFO (1987-2003): "Standard budget for consumer expenses", www.sifo.no.

2.3 Enterprises

Improved profitability and financial strength

Enterprise profitability and financial strength have improved substantially since 2003 in all industries. Debt as a percentage of earnings is historically low. The profitability of listed companies improved considerably in 2005. A small sample of annual reports delivered early by unlisted limited companies also shows that return on equity and total return was high in 2005 (see Chart 2.17). Low interest rates have contributed to a sharp rise in domestic demand during the upturn. High global economic growth has resulted in increased demand and high prices for Norwegian export goods. This, combined with a moderate rise in costs, has contributed to improved profitability.

Lower risk of bankruptcy

The probability that enterprises will default on their liabilities has declined according to the Moody's KMV model¹ (see Chart 2.18). Developments in equity markets and improved financial strength have contributed to the decline. Risk premia on bonds issued by Norwegian enterprises remain historically low. This indicates that investors regard the risk of default as low. The number of bankruptcies has dropped to a historically low level (see Chart 2.19). Projections using a macroeconomic model for bankruptcy developments indicate that the bankruptcy rate will remain low for the next few years. However, a large number of new enterprises in 2005, combined with assumptions of somewhat weaker competitive strength and future increases in interest expenses, will result in a moderate rise.

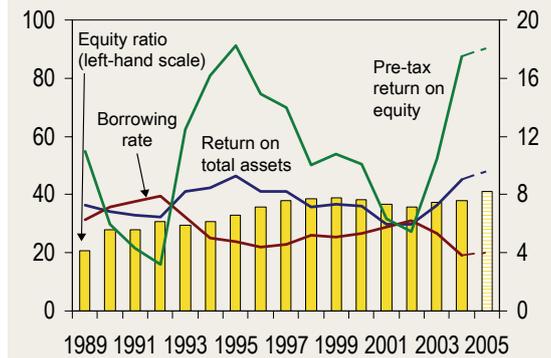
Rising credit growth and investment

Strong growth in petroleum investment has contributed to high demand for capital goods and resulted in a favourable order situation for shipyards and suppliers to the petroleum industry.

As a result of strong growth in investment in the Norwegian economy, growth in credit to mainland enterprises has risen substantially since 2004 (see Chart 2.20). Growth in credit from foreign sources is still negative, while credit from domestic sources is growing strongly. The shift may be due to the interest rate in Norway, which has been low compared with other countries since 2004. At the same time, growth in borrowing among enterprises in sheltered industries such as property management, services and construction in particular

¹ The model estimates the probability that the value of enterprise equity will fall below a critical level in relation to its liabilities within a specific time horizon.

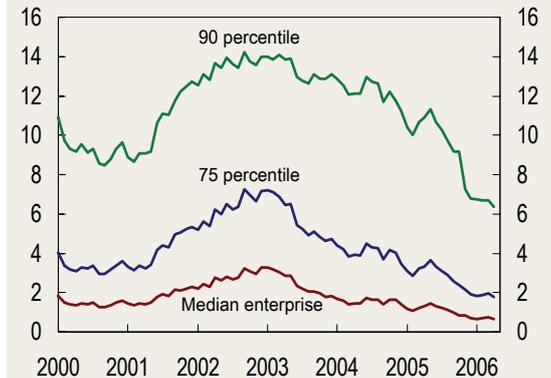
Chart 2.17 Key figures for enterprise sector¹. Annual figures. Per cent. 1989 – 2005²



¹ Limited companies excluding enterprises in the oil and gas industry, financial sector and holding companies
² Figure for 2005 estimated on the basis of already submitted annual accounts from 9200 firms

Source: Norges Bank

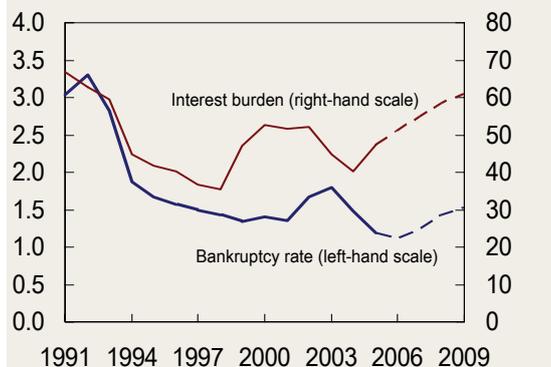
Chart 2.18 Probability of default for large enterprises¹. Per cent. Monthly figures. Jan 00 – Apr 06



¹ Non-financial enterprises with annual turnover exceeding NOK 70 m. Probability of default within a year

Source: Moody's KMV

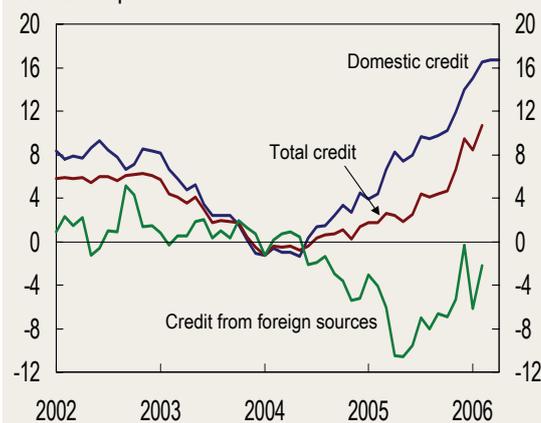
Chart 2.19 Bankruptcy rate and interest burden¹ in non-financial enterprises². Annual figures. 1991-2009³



¹ Interest expenses in percentage of cash surplus. Cash surplus = gross product – labour costs + net financial income
² Off-shore activities and international shipping excluded
³ Projections for 2006 - 2009

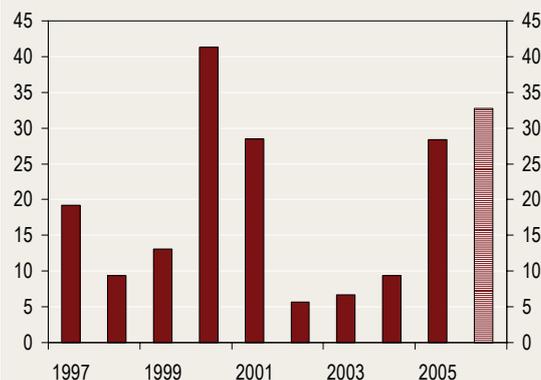
Sources: Statistics Norway and Norges Bank

Chart 2.20 Growth in credit to mainland enterprises. 12-month growth. Per cent. Monthly figures. Jan 02 – Apr 06



Source: Norges Bank

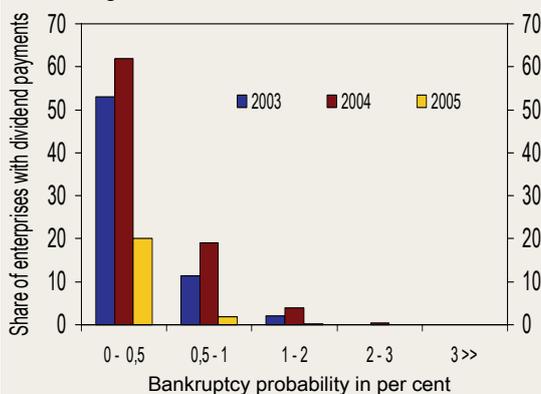
Chart 2.21 Emission of shares on the Oslo Stock Exchange. Billions of NOK. Yearly figures. 1997 – 2006¹⁾



¹⁾ In 2006, January - April

Source: Oslo Stock Exchange

Chart 2.22 Share of enterprises with dividend payments by probability of bankruptcy. Per cent. Annual figures. 2003 – 2005¹⁾



¹⁾ Estimate for 2005 based on a sample of already submitted annual accounts from 9200 firms

Source: Norges Bank

has accelerated (see Chart 3.7). These industries have less need to borrow in foreign currency in order to hedge against exchange rate fluctuations than many manufacturing companies.

Corporate borrowing has partly taken the form of bond issues. Issues from January to April 2006 were higher than in the same period in any of the last five years. There is no indication that growth in external financing has had an impact on enterprises' financing costs.

Enterprise funding in the form of equity has also increased in recent years (see Chart 2.21). A total of NOK 28.4bn was raised through new share issues on the Oslo Stock Exchange in 2005. This is more than three times the amount in 2004. The high level of new issuance activity has continued in 2006, with more capital raised in the first four months of the year than in 2005 as a whole. Fish-farming and petroleum-related activities account for a particularly large share of new issues.

Lower dividend payments

Enterprises' dividend payments have been unusually high in recent years, also in relation to their favourable earnings performance. The high dividend payments may be partly attributed to the introduction of a tax on dividends from 2006. Some of the dividends are ploughed back into the same enterprise in the form of equity or loans from shareholders. Dividend payments have therefore had a limited effect on companies' financial strength. Annual accounts up to and including the 2004 accounting year indicate that it is largely enterprises with a low risk of bankruptcy that have paid out dividends (see Chart 2.22). Dividends recorded in the accounts for 2005 can be paid out in 2006 at the earliest, and are therefore liable to the new tax on dividends. A sample of accounts for 2005 submitted early indicates that enterprises are increasingly reinvesting earnings.

High activity level in the commercial property market

Property management companies account for nearly 40% of banks' lending to the corporate sector (see Chart 3.8). This is also an industry with high credit growth (see Chart 3.7). A substantial portion of lending to property management probably represents an exposure to other industries. Enterprises in all industries can in principle spin off ownership of their production and office premises into a separate company which falls into the category property management and which leases the premises back to the enterprise. However, banks also have indirect exposure to the commercial property market through loans to other industries because production and office premises are often furnished as collateral for loans.

Activity in the commercial property market reached a very high level in 2005. Sales increased from NOK 22bn in 2004 to NOK 44bn in 2005, and increased for all investor groups. Indirect investment in commercial property via syndication companies and property funds has continued to rise. This development increases market liquidity and admits new investor groups.

Real prices for high-standard, centrally located office premises rose in Oslo and Bergen in 2005, albeit from a historically low level at the end of 2003. The last price quotation is for June 2005 and indicates a real annual rise of a good 8%. Anecdotal information from the market may indicate a somewhat higher price rise for recently built, centrally located buildings in the prestige segment, and that the rise in prices generally may have accelerated somewhat towards the end of 2005. Experience shows that developments in the commercial property market are highly sensitive to cyclical developments. Over the past 25 years, developments in real prices for office premises have shown a strong correlation with employment (see Chart 2.23).

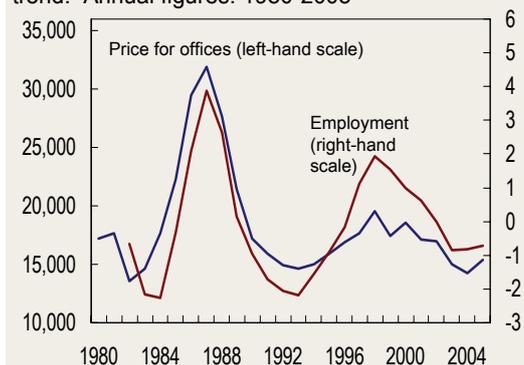
In the course of 2005, office rental prices began to pick up in the largest Norwegian cities, with considerable variation within the various quality and location segments. The prestige segment in central business areas shows the highest rise in prices, while rental prices in some less attractive areas have remained virtually unchanged. The vacancy rate in Oslo has diminished steadily for two consecutive years and stood at 8% in January 2006.

The direct return on investments in property, defined as annual net rental income divided by purchase price, have largely followed interest rates down to historically low levels (see Chart 2.24). The direct return is now lowest in central business areas with short rental contracts. Expectations of a rise in rental prices in the next few years probably explain this. Property with longer rental contracts is also sold at prices that result in a low direct return. Many investments in commercial property have a high loan-to-asset value ratio. When income derives from a long-term rental contract, profitability will be sensitive to changes in funding costs.

Outlook

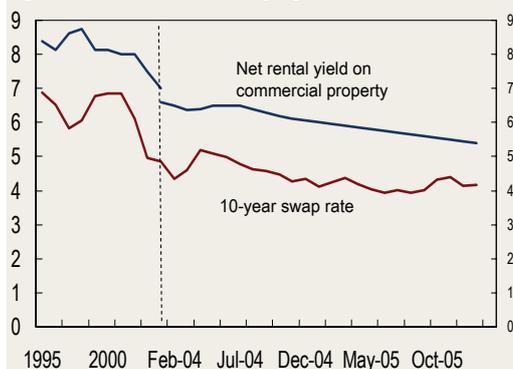
Developments on the Oslo Stock Exchange indicate that market participants are still optimistic about corporate prospects. However, equity prices fell in May after a number of record highs. Equity prices also fell in the largest international stock markets in May. Nevertheless, the Oslo benchmark index has risen 21% since the previous *Financial Stability* report (see Chart 2.25). Share prices for companies in the energy and financial sectors have contributed most to

Chart 2.23 Changes in transaction price for offices in Oslo and employment. Price per square metre in constant 2005-prices and percentage deviation from trend. Annual figures. 1980-2005



Sources: OPAK and Norges Bank

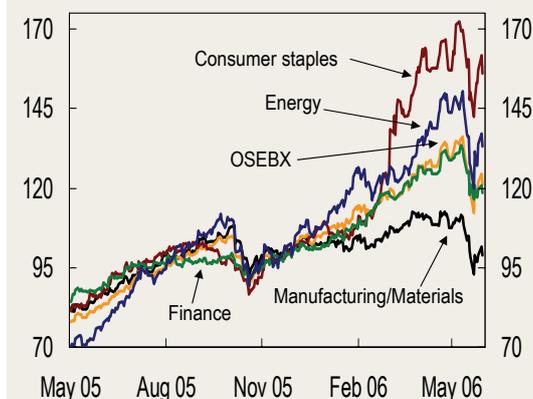
Chart 2.24 Net rental yield on commercial property¹⁾ and 10-year interest rate swap. Per cent. Annual figures 1995-2003. Monthly figures Jan 04 – Jan 06



¹⁾ Net rental yield on investments in the prestige segment according to Akershus Eiendom (prior to Jan 04) and DnB NOR Næringsmegling (from Jan 04)

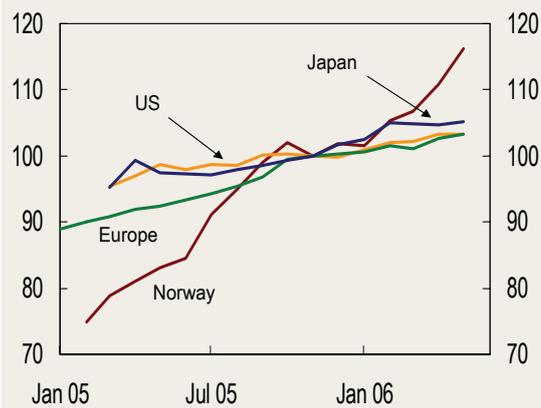
Sources: Reuters EcoWin, Akershus Eiendom and DnB NOR

Chart 2.25 Selected sub-indices on the Oslo Stock Exchange. 30 Nov 05 = 100. Daily figures. 2 May 05 – 30 May 06



Source: Reuters EcoWin

Chart 2.26 Expected earnings in 2007 for listed companies. 30 Nov 05 = 100. Monthly figures. Jan 05 - May 06

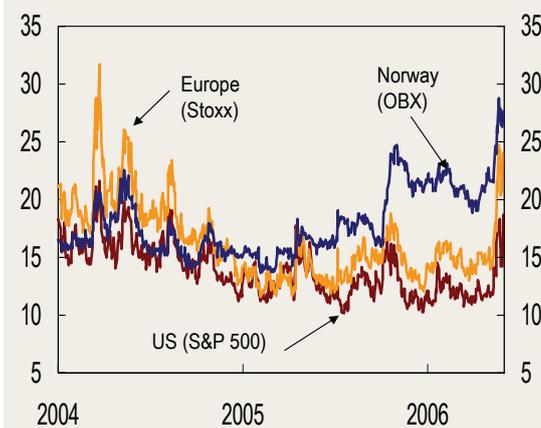


Source: Reuters EcoWin

the increase in the benchmark index. The rise in share prices has been particularly sharp for companies in the consumer goods sector. Most companies' quarterly results have been a positive surprise to market participants. Since *Financial Stability 2/05*, analysts have revised upwards their expectations concerning earnings for Norwegian listed companies in 2007 (see Chart 2.26).

Although expected future earnings have increased, investors have become more uncertain regarding future share price movements. Implied volatility² in equity markets increased when share prices fell in October 2005 and in May 2006 (see Chart 2.27).

Chart 2.27 Implied volatility in various equity markets. Daily figures. 1 Jan 04 – 30 May 06

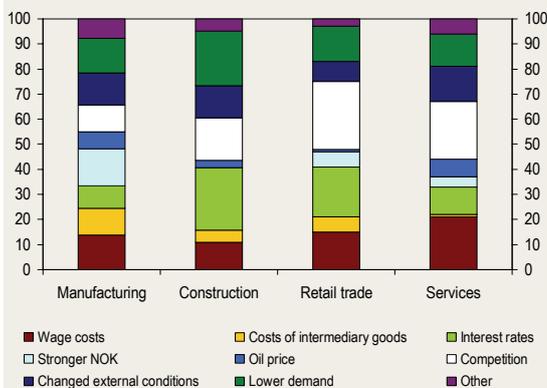


Sources: Reuters EcoWin and Oslo Stock Exchange

According to Norges Bank's regional network, enterprises' own assessment of which factors constitute the greatest risk to future earnings provides a mixed picture (see Chart 2.28). The fact that no individual factors stand out clearly indicates that the framework conditions are now generally regarded as favourable. In the survey, the risk factor "increased competition" is singled out as frequently as "decline in demand", "increased interest expenses" and "increased labour costs". In manufacturing, "stronger krone" is singled out as the most important risk factor for future profitability.

In the longer term, there are a number of risk factors that affect earnings in Norwegian enterprises. These are associated primarily with prices for oil and other Norwegian export goods. On the one hand, a fall in oil prices will reduce oil companies' profits and investment. This will gradually dampen activity and profitability among companies that deliver goods and services to oil companies. On the other hand, lower oil prices could lead to stronger economic growth abroad and hence higher demand in other Norwegian export industries. In isolation, this will improve corporate profitability. The profitability of industries exposed to international competition will also depend on developments in the krone exchange rate and cost developments. A further rise in oil prices or increased use of petroleum revenues may contribute to a stronger krone exchange rate and reduced competitiveness in relation to foreign companies.

Chart 2.28 Enterprises' assessments of the largest risk related to future profitability¹⁾. In per cent



¹⁾ Survey conducted by Norges Bank's regional network in March 2006

Source: Norges Bank

² Implied volatility is derived from the prices for share options that are sold in the market, and reflects expected variation in share prices until the options mature.

3 | Financial institutions

The Norwegian banking market has become more international. Foreign-owned banks have a market share of over 30%, and this share is rising. Over the past few years, banks have become more integrated with other financial institutions. Most financial conglomerates in Norway are mainly engaged in banking activities (see Annex 3, Table 11). This section primarily contains a discussion and analysis of banks. Developments in other financial institutions are discussed in brief.

3.1 Continued solid results and financial strength

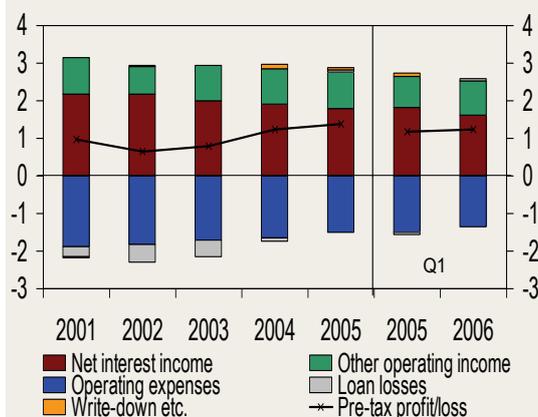
Continued very low loan losses contributed to solid performance among banks in 2005 (see Chart 3.1). Results improved compared with 2004 despite lower net interest income as a percentage of average total assets. This is attributable to a marked decline in operating expenses and an increase in other operating income. Net interest income and operating expenses continued to fall in the first quarter of 2006. Return on equity in the largest Norwegian banks rose markedly in 2005 and is solid compared with other Nordic financial conglomerates (See Annex 3, Table 6). Over the past five years, both the return on savings banks' primary capital certificates and banks' equities has been higher than the average return on the Oslo Stock Exchange (see Chart 3.2). Through May 2006, the fall in prices for bank securities was approximately the same as in the stock market as a whole.

Highly favourable developments in both household and corporate finances have resulted in a marked decline in non-performing loans since the second quarter of 2003, which are now at a very low level for both enterprises and households (see Chart 3.3).

Banks' interest margin has fallen in recent years (see Chart 3.4).¹ High lending growth among banks has compensated for the falling interest margin, resulting in some increase in banks' net interest income measured in NOK. One reason for the decline in the interest margin is intensified competition, regarding both lending and deposits (see box on page 42). On a standard product such as a mortgage loan, the average volume-weighted lending rate in foreign-owned banks is lower than in Norwegian banks (see box on page

¹ The interest margin is defined as the average lending rate minus the average deposit rate. The interest margin shows what banks earn from lending when the loans are financed by deposits. The 3-month money market rate (NIBOR) is used to split the interest margin into lending margin and deposit margin. The lending margin is defined as the lending rate minus the money market rate, whereas the deposit margin is defined as the money market rate minus the deposit rate.

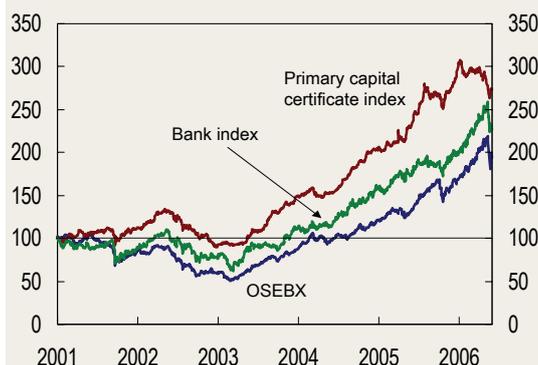
Chart 3.1 Banks¹⁾ profit/loss as percentage of average total assets



¹⁾ Excluding branches of foreign banks in Norway

Source: Norges Bank

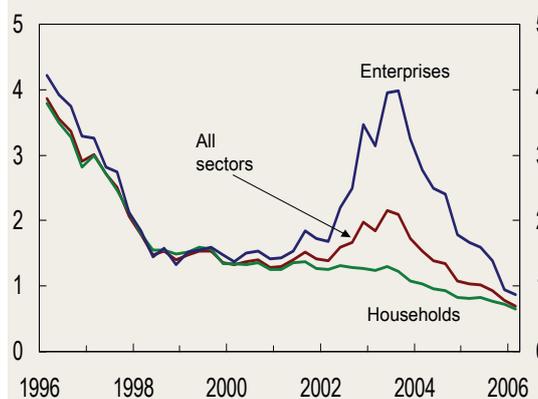
Chart 3.2 OSEBX and sub-indices for banks on the Oslo Stock Exchange¹⁾. 1 Jan 01 = 100. Daily figures. 3 Jan 01 - 30 May 06



¹⁾ Gjensidige NOR was moved from the primary capital certificate index to the bank index and was included in OSEBX from 13 Sept 02

Source: EcoWin Reuters

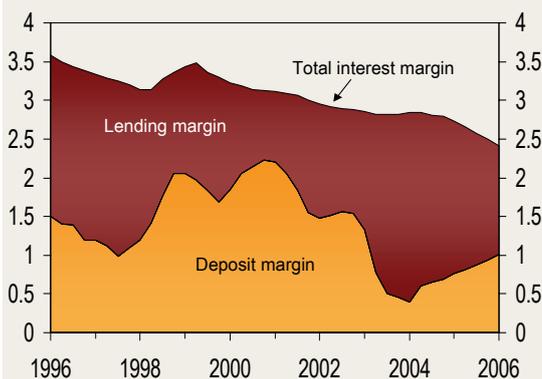
Chart 3.3 Banks¹⁾ gross stock of non-performing loans. Percentage of gross lending to sector. Quarterly figures. 96 Q1 - 06 Q1



¹⁾ All banks in Norway

Source: Norges Bank

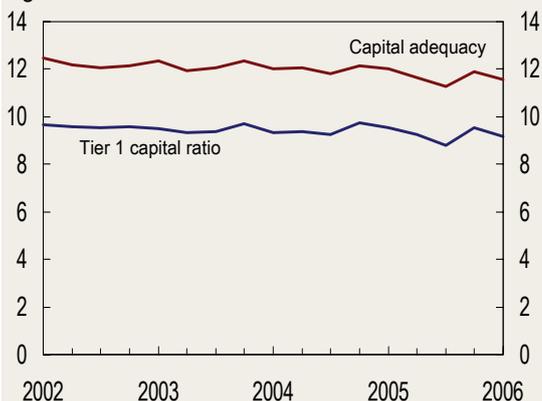
Chart 3.4 Banks¹⁾ total interest margin split into deposit and lending margin²⁾. Percentage points. Quarterly figures. 96 Q1 – 06 Q1



¹⁾ All banks in Norway
²⁾ Moving average over the past four quarters

Source: Norges Bank

Chart 3.5 Norwegian banks¹⁾ capital adequacy and Tier 1 capital ratio. Per cent. Quarterly figures. 02 Q1 – 06 Q1



¹⁾ Excluding branches of foreign banks in Norway

Source: Norges Bank

42, Chart 3). Foreign-owned banks also offer higher average deposit interest rates. The return on equity in foreign-owned banks, however, is still solid (see Annex 3, Table 6).

Increased competition has also exerted downward pressure on banks' income from payment services. Banks' total income from payment services rose by 4% from 2004 to 2005. However, small, Norwegian-owned banks, defined as Norwegian-owned banks with total assets of less than NOK 10bn at end-2005, recorded an income from payment services that was 3% lower in 2005 than in the previous year.

Several of the large banks from the other Nordic countries established activities in neighbouring countries in the Nordic and Baltic regions at an earlier stage than Norwegian banks. As a result, several Norwegian banks have been taken over in the past seven years. Until recently, Norwegian banks have not acquired foreign banks to any great extent and have in the past few years largely engaged in operations abroad through branches. Foreign banks' exposure to the Norwegian banking market is therefore considerably higher than Norwegian banks' exposure to foreign banking markets. At the end of the first quarter of 2006, total assets in subsidiary banks or branches of foreign banks in Norway stood at NOK 747bn, or close to 33% of banks' total assets in Norway.

Norwegian banks' exposure abroad is far lower. DnB NOR, which has both branches and subsidiaries abroad, accounts for virtually all the foreign exposure of Norwegian banks. DnB NOR's activities abroad have been concentrated on services and sectors where DnB NOR considers it has special expertise, such as investment management in the Nordic region and lending to the shipping, energy and fisheries sectors. In 2005, DnB NOR broadened its foreign operations by establishing DnB NORD, with activities in the Baltic area, acquiring Monchebank, a small Russian bank with activities in north-west Russia, and focusing on Sweden as a new domestic market. DnB NORD, which is jointly owned by DnB NOR and the German bank Norddeutsche Landesbank, became operational at the beginning of 2006. The bank has its highest market shares in Lithuania and Latvia.

The financial strength of Norwegian banks is solid. Tier 1 capital ratios for Norwegian banks as a whole declined slightly in 2005 (see Chart 3.5). In isolation, strong growth in lending is weakening the Tier 1 capital ratio. The Basel II rules for banks' capital ratios will be introduced from 2007. The new rules will have a considerable impact on the minimum capital banks will be required to hold in the future (see following page).

New capital adequacy rules

New capital adequacy rules for banks (Basel II) will apply as from 1 January 2007. Basel II upholds the current minimum requirements for capital adequacy of 8% and is based on three pillars:

- Pillar 1: Minimum capital requirements
- Pillar 2: Assessment of total minimum capital requirements and supervisory review
- Pillar 3: Requirement to provide information to market participants

Under Pillar 1, minimum capital requirements must be calculated for credit, market and operational risk. Capital requirements for credit risk are to be calculated using the standardised approach or more risk-sensitive internal measurement methods. The standardised approach is largely based on the current rules (Basel I), which employ fixed risk-weighting for different types of loans. The five largest Norwegian-owned banks have applied to Kredittilsynet (Financial Supervisory Authority of Norway) for approval to use internal measurement methods for credit risk. Subsidiaries of foreign banks apply via their parent bank for approval for their internal measurement methods from the supervisory authorities in the parent bank's home country. The capital adequacy rules for market risk are slightly different from the current rules. New minimum capital requirements for operational risk have been introduced.

Pillar 2 complements the general requirements in Pillar 1. Under Pillar 2, banks are required to conduct a process to assess total capital requirements relative to their risk profile and adopt a strategy for maintaining an adequate level of capital. The supervisory authority is to evaluate banks' assessments of their capital needs relative to risk and take any necessary action.

The purpose of Pillar 3 is to contribute to increased market discipline by requiring the disclosure of information which will allow investors, depositors and other interested parties to assess a bank's risk profile and capitalisation, governance and supervision. Pillar 3 specifies which information is to be disclosed.

Loans secured on residential property account for about 62% of banks' gross lending to households, non-financial enterprises and municipalities in Norway. For Norwegian banks, lower risk-weighting of mortgage loans under the Basel II rules will have considerable effect on the minimum capital these banks are required to hold. Under the standard method, which smaller banks will apply, risk-weighting for highly secured mortgage loans is reduced from 50% to 35%. In addition, large banks' internal credit risk measurement models indicate that these banks' required level of capital can be substantially reduced. Transitional arrangements for the years 2007-2009, however, restrict the pace at which this reduction can be implemented. The level of capital may be reduced gradually, although the pace of reduction must ensure that capital is at least equivalent to 80% of the minimum requirement under the current rules at end-2009. Under the new capital adequacy rules, banks will seek to reduce their capital in order to align it more closely with their risk profile and thereby improve capital efficiency. However, if the capital is reduced to a level that is too low, this may adversely affect banks' credit ratings and hence their funding costs. Banks that start to use internal credit risk measurement models to calculate capital adequacy requirements should take account of the unusually low loan losses in recent years.

Main types of risk

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

Liquidity risk: the risk of substantial extra expenses due to loss of financing, i.e. the bank's lenders no longer being able or willing to extend credit to the bank, or to counterparties failing to fulfil their obligations when due.

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

Operational risk: the risk of losses resulting from inadequate or failed internal processes, people and systems or from external events.

3.2 Risk outlook for banks

Banks are exposed to several types of risk (see margin). Norwegian banks' market risk is regarded as relatively low, as only a small portion of their total assets is directly exposed to market fluctuations. Equities held as current assets account for less than 0.3% of banks' total assets. The fall in equity prices in May is thus having little direct effect on banks' results. An analysis follows of the three other types of risk to which banks are exposed: credit risk, liquidity risk and operational risk.

Credit risk

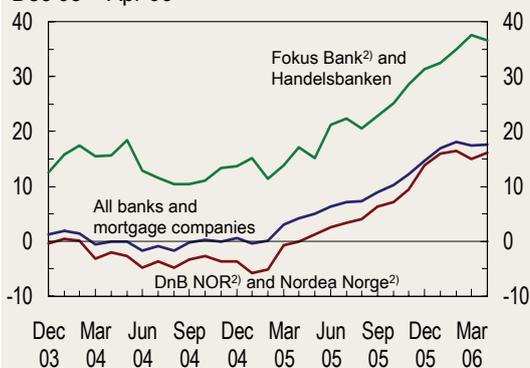
Loans to households, non-financial enterprises and municipalities account for more than three-quarters of banks' total assets. Credit risk is therefore the primary type of risk for banks. After many years of high lending growth, the level of overall credit to mainland Norway is high in relation to GDP. In the analysis of lending growth, banks and mortgage companies within the same financial conglomerate are grouped together. Cyclical developments also have a considerable impact on developments in banks' credit risk. The most important factor, however, is banks' credit assessments of customers in connection with the provision of loans.

Because of the sharp rise in mortgage loans, banks' and mortgage companies' growth in lending to the retail market has been high for several years. Year-on-year growth was 16% in April 2006. The share of lending to the retail market has increased sharply since 2000, although it has levelled off over the past year. The retail market accounts for approximately 60% of banks' and mortgage companies' lending to households, non-financial enterprises and municipalities. Loans to self-employed households are included in the corporate market. The risk of default is considered to be relatively low for mortgage loans. In isolation, therefore, the shift towards a higher share of loans to the retail market has contributed to lower credit risk. On the other hand, the sharp rise in lending volume is pushing up the level of credit risk.

Households' financial position is solid, and there are prospects of continued low unemployment and higher income. Because banks hold a large share of mortgage loans, the value of their collateral is exposed to fluctuations in house prices. Banks' credit risk exposure to the retail market is nevertheless considered to be relatively low.

Growth in bank and mortgage company lending to the corporate market gained considerable momentum in 2005. This trend continued in the beginning of 2006, and growth in lending to the corporate market is now higher than to the retail market. In April, the year-on-year rise in corporate loans was more than 17% (see Chart 3.6). Handelsbanken and Fokus Bank,

Chart 3.6 Growth in banks' and mortgage companies¹⁾ lending to the corporate sector. 12-month growth. Per cent. Monthly figures. Dec 03 – Apr 06



¹⁾ All banks and mortgage companies in Norway

²⁾ Included mortgage companies in the same financial group

Source: Norges Bank

the third and fourth largest banks offering corporate loans in Norway, have recorded by far the highest rise in loans. Growth in corporate lending for the two largest banks, DnB NOR and Nordea, has picked up sharply since the beginning of 2005.

Growth in lending to the construction, property management and commercial services sectors has accelerated sharply over the past year (see Chart 3.7). As a result, lending to the property management sector accounted for almost 40% of banks' stock of corporate loans at end-2005 (see Chart 3.8).

The corporate market is considerably more heterogeneous than the retail market, and credit risk varies substantially across industries. Banks' lending margins on loans to the corporate market have declined markedly in recent years. However, analyses indicate that banks differentiate between different levels of credit risk (see box on page 40).

Profitability is high in the Norwegian enterprise sector (see Section 2.3). Overall, the credit risk associated with corporate loans is still considered to be relatively low.

Liquidity risk

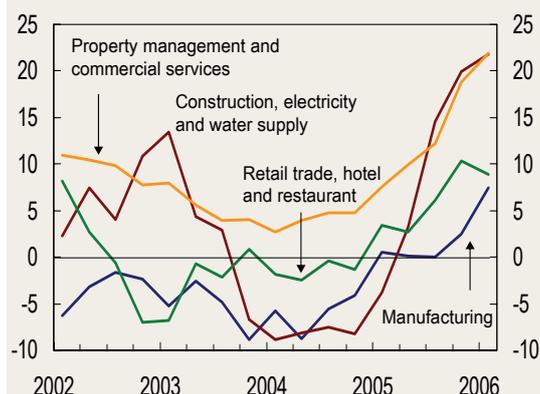
Banks' liquidity risk is related to the execution of payment settlements and to banks' funding.

Banks' deposit-to-loan ratio in the retail market fell somewhat in the second half of 2005 (see Chart 3.9). This was the result of both a decline in deposits from the retail market and high lending growth. Banks' bond market funding has increased in the past three years, partly reflecting improved financing terms due to a narrowing of yield differentials between bonds and interest rate swaps.

The liquidity indicator shows that DnB NOR and small banks have had a good balance between stable funding sources and illiquid assets over the past two years (see Chart 3.10).² The level of the liquidity indicator is lowest for medium-sized banks, although this group of banks has shown a marked improvement in recent years. Liquidity risk for the banking industry as a whole is regarded as relatively low.

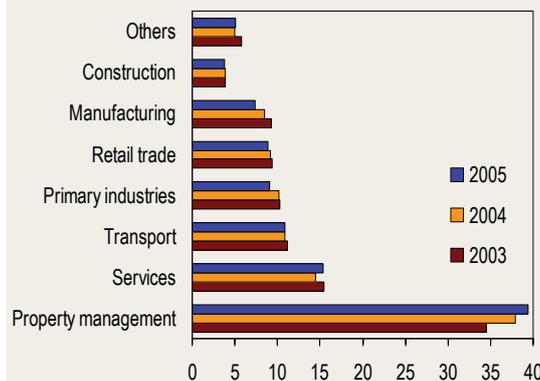
² The liquidity indicator is calculated as the ratio of stable funding sources to illiquid assets. An increase in this ratio indicates a lower risk of liquidity problems. Deposits from households, non-financial enterprises and municipalities, bonds, subordinated loan capital and equity are considered to be stable financing. Banks' drawing facilities are not taken into account. Included in illiquid assets are gross lending to households, non-financial enterprises and municipalities, other claims, assets acquired by recovery of claims, and fixed assets.

Chart 3.7 Banks' and mortgage companies¹⁾ lending to selected industries. Four-quarter-growth. Per cent. 02 Q1 – 06 Q1



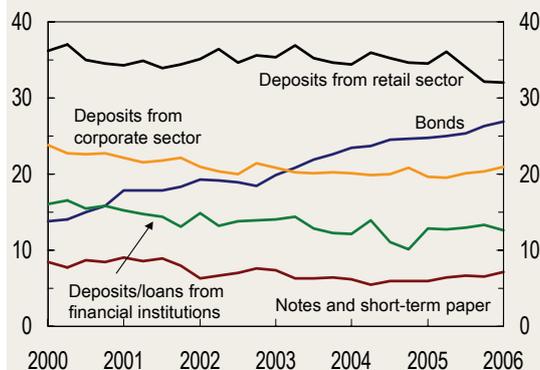
¹⁾ All banks and mortgage companies in Norway
Source: Norges Bank

Chart 3.8 Distribution of banks¹⁾ lending to retail and corporate markets²⁾. Percentage of gross lending. Annual figures. 2003 - 2005



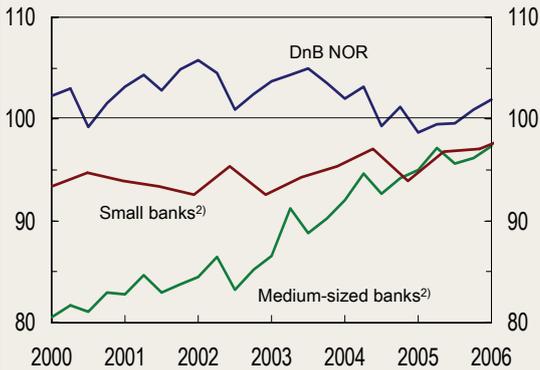
¹⁾ All banks in Norway
²⁾ Includes loans to households involved in one man companies
Source: Norges Bank

Chart 3.9 Norwegian banks' ¹⁾ financing. Percentage of gross lending. Quarterly figures. 00 Q1 – 06 Q1



¹⁾ All banks except branches and subsidiaries of foreign banks in Norway
Source: Norges Bank

Chart 3.10 Developments in Norwegian banks' liquidity indicator. Quarterly figures. 00 Q1 – 06 Q1

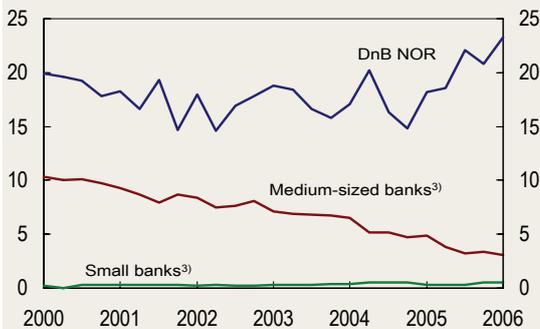


¹⁾ All banks except branches and subsidiaries of foreign banks in Norway
²⁾ The dividing-line between small and medium-sized banks stand at NOK 10bn at end-2005

Source: Norges Bank

There may be a risk that foreign investors will reduce funding to Norwegian banks more quickly and may be more prone to herd behaviour than domestic investors in the event of weak developments in the Norwegian economy and financial sector. Short-term foreign debt is therefore considered to be a somewhat more unstable form of funding. On the other hand, it will be easier for banks to cope with periods of expensive and illiquid funding markets if they have access to several different sources of funding and markets. This means that they must maintain their presence in foreign markets. With the exception of DnB NOR, short-term foreign debt accounts for a small portion of Norwegian banks' funding (see Chart 3.11). At the end of the first quarter of 2006, DnB NOR's foreign debt maturing within the next 12 months accounted for 23% of gross lending. In view of its international activities and size, it is to be expected that DnB NOR holds a higher share of short-term foreign debt than the other Norwegian banks.

Chart 3.11 Norwegian banks' short term foreign debt²⁾. Percentage of gross lending. Quarterly figures. 00 Q1 – 06 Q1



¹⁾ All banks except branches and subsidiaries of foreign banks in Norway
²⁾ Short-term paper debt, deposits and loans from other financial institutions
³⁾ The dividing-line between small and medium-sized banks stand at NOK 10bn at end-2005

Source: Norges Bank

Operational risk

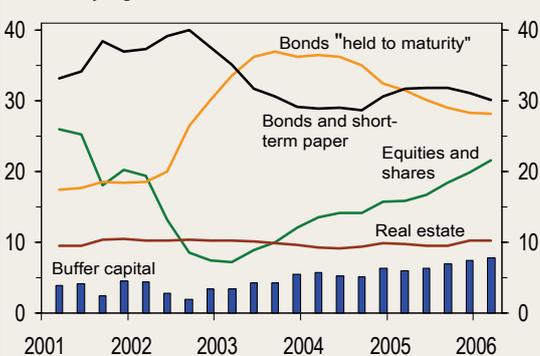
Operational risk in banks can increase in connection with mergers, reorganisations and major changes in ICT systems. Under the new capital adequacy rules (Basel II), capital adequacy requirements will encompass operational risk. This is a new requirement, and the underlying data on bank losses due to operational failure are as yet insufficient. It is therefore difficult to provide a concrete assessment of the level of banks' operational risk.

3.3 Other financial institutions

Mortgage companies provide long-term loans. Their performance has been stable for many years, although results were slightly weaker in 2005 than in 2004. At the end of 2005, mortgage companies within a financial conglomerate with banks accounted for 24% of mortgage companies' total assets. Bank-owned mortgage companies primarily provide loans to the property market. In analyses of lending growth, mortgage companies within a financial conglomerate are grouped with their respective banks.

Finance companies are a diverse group that serves a number of different markets. The main markets are leasing and car financing, card-based loans and consumer loans. Lending from finance companies increased by 18% in 2005. Unsecured consumer loans are the loans with the highest credit risk. The high level of credit risk is reflected in high effective interest rates. Because consumer loans account for a very small portion of financial institutions' total lending to households, this type of loan will have little effect on financial stability. However, servicing a consumer loan can be a problem for some borrowers.

Chart 3.12 Life insurance companies' buffer capital¹⁾ and asset mix. Percentage of total assets. Quarterly figures. 01 Q1 – 06 Q1



¹⁾ Buffer capital is defined as the sum of the Adjustment Fund, supplementary provisions with an upward limit of one year and surplus of Tier 1 capital.

Source: Kredittilsynet (The Financial Supervisory Authority of Norway)

Life insurance companies are more exposed to market risk than banks, as a far higher share of their total assets is invested in shares and bonds. The fall in the stock market in May 2006 thus had a far greater impact on life insurance companies than on banks. At the end of the first quarter of 2006, fixed income instruments and equities accounted for 86% of life insurance companies' total assets, while property accounted for 10% (see Annex 3, Table 10). A sharp rise in prices in the Norwegian and a number of international stock markets in recent years has contributed to a marked increase in the share of equities (see Chart 3.12). At the end of the first quarter of 2006, foreign equities accounted for 64% of equity holdings. For a discussion of equity market valuation, see box on page 44.

Returns on life insurance companies' holdings of bonds and paper classified as current assets are relatively low due to low interest rates. Continued low long-term interest rates may create problems for life insurance companies' ability to meet their long-term obligations to their customers (see box on page 16). The portion of bonds classified as "held to maturity" has decreased over the past few years as bonds have matured. The average yield on the remaining bonds in this category is 5.2%, which is well above the minimum return that life insurance companies have guaranteed their customers.

Value-adjusted profits for life insurance companies in 2005 were the highest since 1999, and performance continued to improve in the first quarter of 2006. This contributed to an increase in buffer capital from 6.4% of total assets at the end of 2004 to 7.8% at the end of the first quarter of 2006.

3.4 Outlook and challenges ahead

Banks have achieved robust results in the past two years. A solid financial situation for households and enterprises has resulted in very low loan losses and strong growth in banks' other income.

Competition in the banking market will continue to exert pressure on interest margins and banks' underlying earnings. Competition is also increasing in other areas, such as payment services. To maintain profitability in the long run, banks must continue to focus on cost efficiency and correct pricing of loans to reflect risk.

Credit risk is the most important risk facing Norwegian banks. It is regarded as relatively low for loans to both households and enterprises. There are prospects of continued low loan losses due to solid income growth in both the corporate and household sectors. If macroeconomic developments are broadly in line with Norges Bank's projections, banks' loan losses and profits are expected to move on a satisfactory path in the two-three years ahead.

However, banks' loan losses must be expected to increase somewhat as the interest rate normalises. Any stronger increase in costs in the corporate sector or a fall in oil prices will also reduce corporate earnings and debt-servicing capacity, resulting in an increase in banks' loan losses. With solid results and satisfactory capital adequacy, however, banks are well positioned to cope with somewhat higher loan losses.

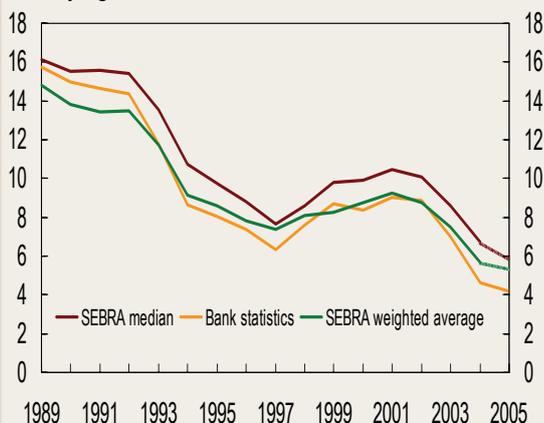
There is considerable uncertainty as to the effects on the real economy of the sharp rise in house prices and strong credit growth. The ratio of household debt to income has reached a historically high level. In the long run, a high level of house price inflation and debt build-up entail a risk of less stable economic developments and higher loan losses for banks.

When the interest rate is gradually brought up towards a more normal level, the rise in house prices and credit is expected to moderate after a period. In isolation, this reduces the risk of wider variations in activity in the Norwegian economy and in banks' loan losses and profits.

Banks' pricing of corporate credit risk

The following is an analysis of banks' pricing of loans to Norwegian enterprises over the past 15 years. As we do not have access to lending rates to individual enterprises, these must be calculated on the basis of information in company annual accounts. The lending rate is calculated as annual interest expenses divided by average bank debt through the year. By excluding extreme observations and weighting according to loan size, we arrive at an average lending rate which is very similar to the corresponding lending rate in Norges Bank's interest rate statistics¹ (see Chart 1). The median and the unweighted average show the same tendency as the interest rate statistics over time, but are somewhat higher. This is because the selection on which the calculation is based is dominated by small and medium-sized enterprises which have a higher borrowing rate on average than large enterprises.

Chart 1 Estimated lending rate for non-financial enterprises. Weighted average in per cent. Yearly figures 1989-2005



Source: Norges Bank

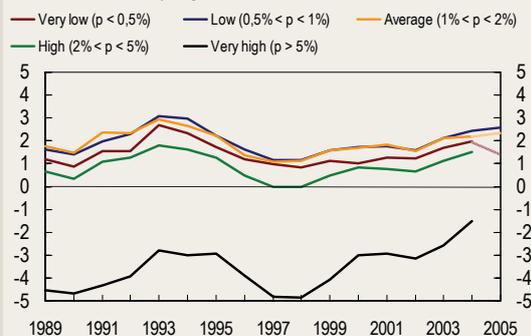
The calculations indicate that banks have differentiated between high and low risk when pricing loans in the period 1989-2005 (not shown in chart). High-risk enterprises have on average paid a higher borrowing rate than enterprises with low risk. This relationship applies to all years during the period and to all risk classes.

An important question is whether the lending rate is sufficient to cover risk and other costs associated with lending activities. In a closer analysis, we have calculated a premium on loans for each

enterprise. The loan premium is estimated as the lending rate less expected losses, loan administration costs and financing costs. The premium must also cover the owners' return on lending activity. We have analysed the premium on loans to the median enterprise within different risk classes. The classification is based on credit risk estimates from Norges Bank's SEBRA model. The sample covers only limited companies registered in the SEBRA base in the year in question. This means that it is different from banks' overall lending portfolio.

The estimated loan premium is positive for all classes except the highest risk class (see Chart 2).² The highest risk class consists of enterprises with a very high bankruptcy probability. In order to be able to cover the total expected loan loss associated with these enterprises, the lending rate must be very high. In many cases it will be unrealistic for banks to charge such a high rate, partly because it could lead to bankruptcy for the enterprise. As it may be costly to remove unsound customers from their portfolios, banks often end up underpricing credit risk for these enterprises.

Chart 2 Estimated premium on loans¹⁾ in various categories of risk. By probability of bankruptcy (=p). Per cent. Yearly figures. 1989-2005



¹⁾ Premium on loans = $r - t - a - (1-e)*f$
 r = estimated borrowing rate
 t = estimated loss (likelihood of bankruptcy * bank debt * 0.45)
 a = estimated administrative costs of loans
 e = equity ratio
 f = cost of loan capital (weighted average of deposit rate, money market rate and bond yields)

Source: Norges Bank

The estimates also indicate that the loan premium for the lowest risk class has been somewhat lower than the second and third lowest class throughout the period. One reason may be that banks choose to underprice their best borrowers because they are regarded as a good and stable source of income.

The weighted average of the loan premium was approximately 1.3% in 2004 and 2005 (see Chart 3). This is equivalent to an estimated return on banks' total equity of around 20%. Throughout the period 1989-2005, the estimated return on equity on corporate lending was 9%, while banks' total return on equity was 7% according to banking statistics.

Chart 3 Estimated premium on loans to enterprises. Weighted average in per cent. Yearly figures. 1989-2005



Source: Norges Bank

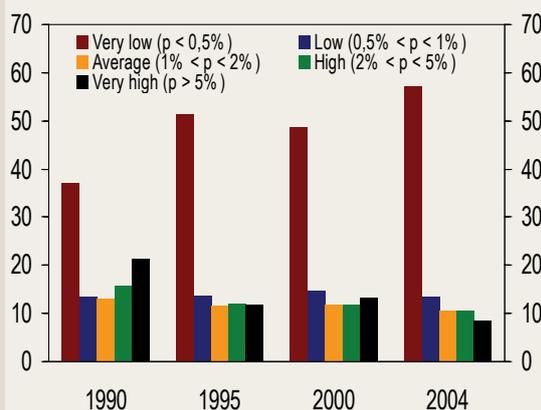
In 1990 and 1991, the loan premium was negative. This is partly because banks failed to price in expected losses on the highest risk customers. During this period there was a shift in borrowers and lending volume from the lower to the higher risk classes. Since it can be difficult to price in the total risk associated with the highest risk customers, and costly to remove these customers from banks' portfolios, banks were left with a large share of lending which was underpriced. This was one of the causes of the banking crisis. Banks' recorded loan losses peaked in 1991, and then fell sharply in 1992 and 1993. The sharp rise in the loan premium in 1993 is partly due to the disappearance from the sample of a relatively large share of high risk enterprises (because of bankruptcies, etc.) which were not replaced by new enterprises (in part as a result of few start-ups).

Banks' credit exposure to high risk enterprises has fallen in recent years (see Chart 4). In 2000, the highest risk class accounted for 13.2% of bank lending, against 8.6% in 2004. The corresponding figure in 1990 was 21.3%.³

Lending to enterprises has picked up sharply in recent months. Increased lending growth is a natural consequence of positive cyclical developments. However, such growth periods may also be the source of future lending problems for banks.

Kredittilsynet's overall risk assessment of the nine largest banks in 2005 indicates that the trend in banks' risk pricing is moving in the right direction, but that there is still some way to go before risk pricing is satisfactory.⁴ Overall, our analysis also indicates that banks' risk pricing has improved somewhat in recent years.

Chart 4 Share of enterprises in various categories of risk. By probability of bankruptcy (=p). Per cent. Yearly figures 1990, 1995, 2000 and 2004



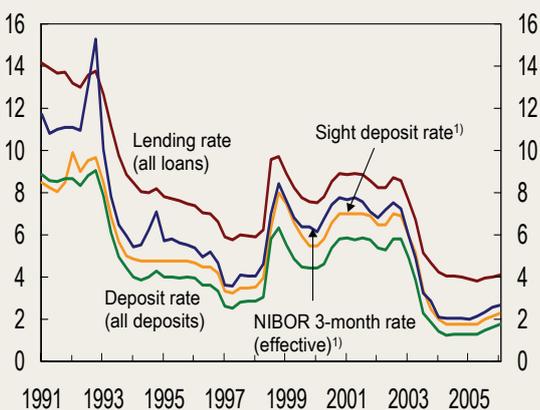
Source: Norges Bank

¹ The interest rate statistics are based on a weighted average of banks' actual lending rates.
² The figures for 2005 are based on a preliminary sample of annual accounts.
³ The chart only includes the enterprises in the sample.
⁴ See *The Financial Market in Norway 2005: Risk Outlook*, Kredittilsynet, February 2006, pp. 39-40.

The importance of Norges Bank's key rate and the competitive climate for banks' interest rates

Banks can both invest and borrow in the short-term money market. Short-term money-market rates therefore represent an alternative return on banks' assets and an alternative price for their funding. Since banks have to price in a certain margin to cover credit risk and administration costs, they set their lending rate at a higher level than short money market rates. Short money market rates therefore form a floor for banks' lending rates. For banks that do not face an extra premium in the money market because their risk is assumed to be high, it would serve no purpose to set deposit rates higher than short-term money market rates. Therefore, short-term money market rates form a ceiling for most banks' deposit rates. The above is illustrated in Chart 1.

Chart 1 Banks' lending rates, the sight deposit rate and 3-month interbank rate (NIBOR). Per cent. 91 Q1– 06 Q1



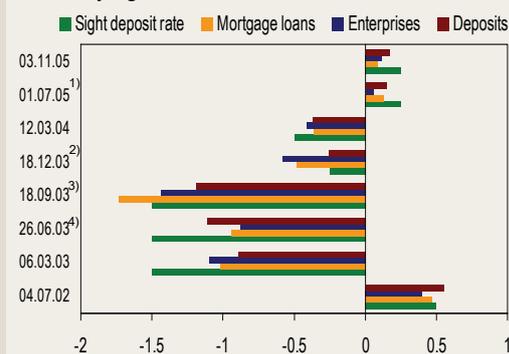
¹⁾ Quarterly average

Source: Norges Bank

Over the past 15 years, short-term money market rates have largely shadowed changes in Norges Bank's key rate (the sight deposit rate). The correlation coefficient between the key rate and 3-month NIBOR is 0.95, and the correlation coefficients between the key rate and the lending rate and the key rate and the deposit rate are 0.92 and 0.97 respectively. However, a given change in the key rate does not automatically result in a corresponding change in banks' interest rates. Bank rates are also influenced by other factors, such as changes in the competitive situation among banks and in credit risk in the enterprise and household sectors.

Chart 2 compares changes in the key rate with changes in banks' lending and deposit rates in the period 2002-2005. Because banks' interest rate statistics are only updated quarterly, it is not possible to make an exact comparison of changes in the key rate and in banks' interest rates. The chart indicates that lending rates only shadowed the increase in the key rate to a limited extent in the second half of 2005. During this period, the key rate increased by 0.50 percentage point, while banks raised the interest rate on mortgage loans by 0.23 percentage point on average, and the interest rate on loans to non-financial private enterprises by 0.18 percentage point. This may be attributable to increased competition for customers.

Chart 2 Changes in the sight deposit rate and banks' lending rates. Percentage points. Quarterly figures. 02 Q2 – 05 Q4



¹⁾ Incl. changes in the sight deposit rate 29.1.04 and 12.3.04

²⁾ Incl. changes in the sight deposit rate 14.8.03 and 18.9.03

³⁾ Incl. changes in the sight deposit rate 1.5.03 and 26.6.03

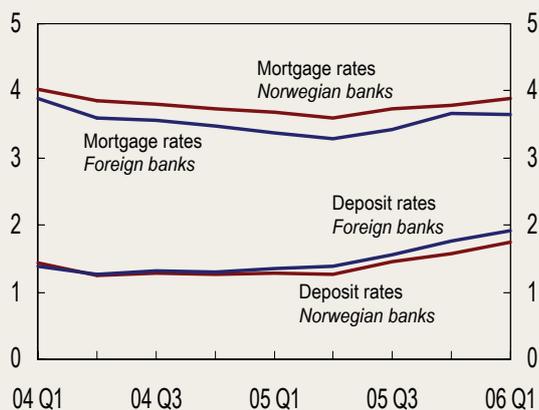
⁴⁾ Incl. changes in the sight dep. rate 12.12.02, 23.01.03 and 6.3.03

Source: Norges Bank

Foreign-owned banks have contributed both to pushing down the average level of lending rates and pushing up the level of deposit rates. At the end of the first quarter of 2006, foreign-owned banks' average mortgage rate was 0.23 percentage point lower than that of Norwegian banks, while the deposit rate was 0.17 percentage point higher (see Chart 3).

New technological developments have improved the efficiency of production of standardised loan and savings products, making it simpler for small banks to compete with large banks. Banking competition has also increased because it has become cheaper

Chart 3 Average mortgage and deposit rates. Norwegian and foreign banks in Norway. Per cent p.a. Quarterly figures. 04 Q1 - 06 Q1



Source: Norges Bank

for customers to change banks. The fee for registering existing loans was reduced from NOK 1935 to NOK 215 with effect from 1 January 2006.

In the period 2002-2005 as a whole, the key rate was reduced by a total of 4.25 percentage points. During the same period, mortgage rates and interest rates on loans to the enterprise sector fell by 4.25 and 4.50 percentage points respectively, while the deposit rate (all deposits) fell by 3.67 percentage points. One reason why deposit rates have fallen more than the key rate is that they reach a floor when the general interest rate level is low, as in the years 2004 and 2005.

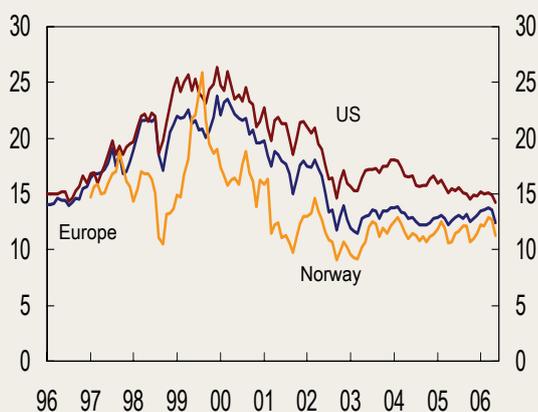
A smaller fall in deposit rates than in lending rates has contributed to a reduction in banks' overall interest margin (see Section 3, Chart 3.4). Despite increased competition and lower interest rate margins, banks have so far succeeded in maintaining a high return on equity. This is partly attributable to lower operating expenses and very low loan losses.

Equity market valuation

Equity prices on the Oslo Stock Exchange have risen sharply and considerably more than global equity prices in recent years (see Section 1, Chart 1.2). Despite the fall in equity prices in May this year, the benchmark index of the Oslo Stock Exchange is now approximately 70% higher than at its peak in 2000. Higher earnings and increased expectations of future earnings for listed companies have been important driving forces. Prices have also risen in global equity markets, and in early May European and US equities were valued at close to the peak levels recorded in 2000. The fall in equity prices in October 2005 and in May 2006 has increased market uncertainty concerning future price developments. Uncertainty among investors, measured by implied volatility, has increased and is now higher on the Oslo Stock Exchange than on international stock markets (see Section 2, Chart 2.27). The sharp rise in prices since 2003 raises the question of whether market pricing is sustainable. This box examines some indicators of price levels in equity markets.

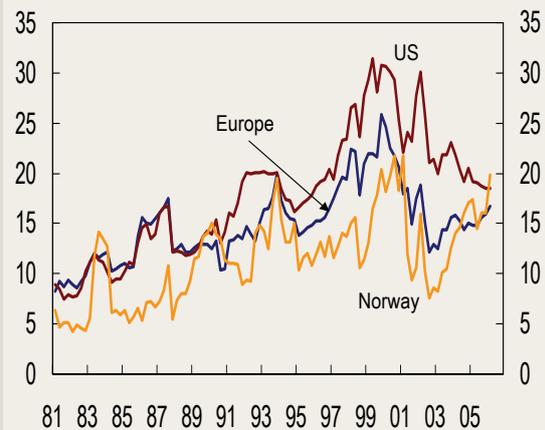
An indicator that is frequently used is the price/earnings ratio (P/E). Equity prices should in principle reflect the value of future cash flows from the share. Calculations of P/E are therefore often based on analysts' estimates of future earnings. The P/E ratio based on expected earnings has been relatively stable for Norwegian equities since mid-2003 (see Chart 1). This is because expectations of future earnings have risen in pace with equity prices. The P/E ratio for Norwegian equities is now lower than the average for the period 1995-2006. European and US equities also seem to be moderately priced according to this indicator.

Chart 1 Forward-looking P/E. Expected earnings next 12 months. Monthly figures. Jan 96 – May 06



Sources: Reuters EcoWin and Norges Bank

Chart 2 Historical P/E. Four-quarter earnings. Quarterly figures. 81 Q1 – 06 Q1

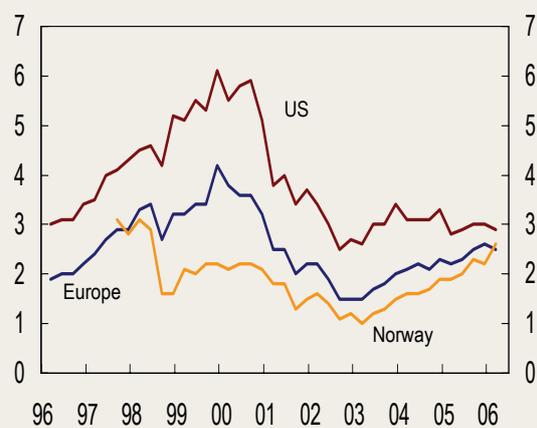


Sources: Thomson Datastream and Norges Bank

It can also be useful to study P/E using historical earnings, partly because expectations with regard to earnings vary considerably over time. The historical P/E ratio for Norwegian equities is now higher than the average for the past 25 years (see Chart 2). Measured in the same way, equities in the US and Europe are fairly normally priced.

The ratio of market to book value of equity (price-to-book ratio) for Norwegian companies has more than doubled since prices started to rise in spring 2003 (see Chart 3), far more than internationally. Even though this indicates that Norwegian equities are priced at a high level, the price-to-book ratio must be viewed in the context of unusually high earnings recorded by companies listed on the Oslo

Chart 3 Price-to-book ratio. Quarterly figures. 96 Q1 – 06 Q1

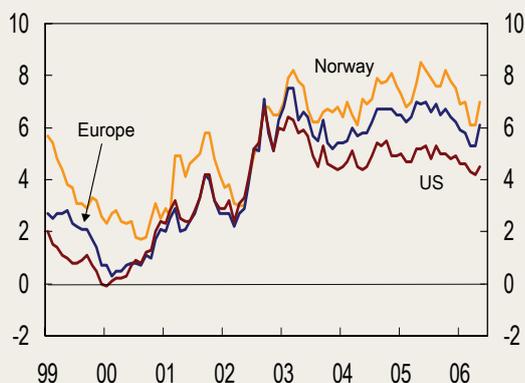


Sources: Reuters EcoWin and Norges Bank

Stock Exchange, not least in the petroleum sector. High earnings contribute to very high returns on book equity. At the same time, it takes time for retained earnings and higher investment to result in increased book equity.

The yield gap is another widely used valuation indicator. The yield gap is the difference between expected annual earnings per share (E/P ratio) and a long-term risk-free real yield. A high yield gap means that investors receive high compensation for the risk associated with equity investment. All else being equal, this may indicate that equities are priced at a low level. Both in Norway and internationally, the yield gap increased from 1999 to 2002 (see Chart 4). Even though the yield gap has narrowed somewhat over the past year, equities still seem to be priced relatively low compared with bonds.

Chart 4 Yield gap¹⁾. Per cent. Monthly figures. Jan 99 – May 06



1) Yield gap defined as E/P less inflation-adjusted interest rate on 5-year government bonds

Sources: Reuters EcoWin, Consensus Forecasts and Norges Bank

On the whole, international equities appear to be fairly normally priced in historical terms, while the indicators present a mixed picture for Norwegian equities. Developments in the historical P/E-ratio and in the price-to-book ratio may indicate that Norwegian equities are being priced at a progressively higher level. At the same time, pricing is moderate measured in terms of forward-looking P/E and compared with long-term yields. Earnings expectations are high and are based on the assumption of solid economic developments.

Annex 1: Boxes 2001-2006

1/2006

Implications of changes in pension fund regulations for the bond market

Long-term real interest rates and house prices

Household housing wealth and financial assets

Household margins

Banks' pricing of corporate credit risk

The importance of Norges Bank's key rate and the competitive climate for banks' interest rates

Equity market valuation

2/2005

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Distribution of household debt, income and financial assets

Macroeconomic gap indicators

Foreign banks in Norway

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Small enterprises more exposed to risk than large enterprises

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Risk associated with loans to various industries

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

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Fixed-interest mortgages

What drives house prices?

Predictions with two credit risk models

Loan loss provision rate and loan losses

A more robust securities settlement system

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Market-based indicators of banks' financial position

Effects of a fall in household consumption on the enterprise sector

Merger of Den norske Bank and Gjensidige NOR – effect on financial stability

Nordic agreement on the handling of financial crisis

Inclusion of the Norwegian krone in CLS

Economic shocks, monetary policy and financial stability

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The effect of fall in share prices on pension schemes

The P/E ratio for the Norwegian stock market

Indicators of the price level in the housing market

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Credit risk in connection with banks' lending to the corporate sector

Banking crisis in Norway have followed periods of high debt growth

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

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Market values and the risk of bankruptcy

Norwegian banks' counterparty exposure

Risk pricing in Norwegian banks

1/2002

Implications of the Enron bankruptcy

Japanese banks increasingly vulnerable

Household debt burden by category of household income

How vulnerable are financial institutions to macro-economic changes?

Counterparty exposure – monitoring systemic risk

The liquidity trend in banks

2/2001

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

Indicators of price levels in the stock market

Enterprise investment and financing

Operational risk

Continuous Linked Settlement (CLS)

Counterparty exposure

Breakdown of loan losses and loss provisioning practices

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

Articles and books dealing with financial stability issues, written by researchers and economists at Norges Bank and published since the previous *Financial Stability* report are presented below in summarised form. The conclusions and views expressed in signed articles are the author's own and are not necessarily those of Norges Bank.

Equity trading by institutional investors. To cross or not to cross?

Journal of Financial Markets 9 (2006) pp. 79 - 99

Authors: Randi Næs og Bernt Arne Ødegaard

The proliferation of market places and trading methods is a striking feature of current equity markets. A stated goal of all the new trading arrangements is to reduce transaction costs. The article investigates costs in one new market place, the crossing network. A crossing network is a satellite trading place: it uses prices derived from a primary market, and merely matches on quantity. Using a data sample from the Norwegian Government Pension Fund - Global, the article provides evidence that low measured costs in crossing networks are offset by substantial costs of trading failures. The costs of trading failures due to adverse selection in the network's order execution are not reflected in standard measures of transaction costs.

What influences the number of bankruptcies?

Economic Bulletin December 2005 (No. 4)

Authors: Dag Henning Jacobsen and Thea Birkeland Kloster

After having remained relatively stable from the mid-1990s, the number of bankruptcies in Norway rose sharply in 2002 and 2003, but then fell again in 2004. Using an empirical model, factors underlying developments in bankruptcies are analysed. Changes in profit margins, competitiveness and real interest rates, as well as cyclical fluctuations in the Norwegian and international economy, have been among the most important driving forces since 2002. The analysis indicates that deteriorating competitiveness in 2002 as a result of a strong krone exchange rate and high wage growth contributed in particular to the marked increase in the number of bankruptcies. The depreciation of the krone exchange rate in 2003 and into 2004, combined with moderate wage growth from 2003, explain a considerable portion of the recent fall in the number of bankruptcies.

The IMF's stress testing of the Norwegian financial sector

Economic Bulletin December 2005 (No. 4)

Authors: Jan Hagen, Arild Lund, Kjell Bjørn Nordal and Emil Steffensen

Following a thorough examination of the Norwegian financial system, the IMF concluded in summer 2005 that the system is sound and well managed. Shorter-term vulnerabilities are low. This conclusion is based partly on the results of stress tests of the financial system that were performed by the IMF in cooperation with Norges Bank and Kredittilsynet. The article provides a more detailed description of these stress tests. The article also discusses stress tests and their use more generally.

Financial stability and monetary policy - theory and practice

Economic Bulletin April 2006 (No. 1)

Authors: Kjersti Haugland and Birger Vikøren

Both price stability and financial stability are important for achieving macroeconomic stability. It is not clearcut, however, what weight should be attached to financial stability and price stability considerations respectively, when making monetary policy decisions. Nevertheless, both central banks' communication and monetary policy decisions indicate that financial stability is in the process of acquiring a more distinct role in monetary policy. This can be ascribed to the recognition that financial stability has consequences for future developments in inflation and output. In Norway, financial stability assessments are incorporated in the monetary policy advisory process, as Norges Bank Financial Stability contributes information, forecasts and recommendations in the process leading to monetary policy decisions.

Collateral for loans from Norges Bank - new rules

Economic Bulletin April 2006 (No. 1)

Authors: Bjørn Bakke and Håkon Tretvoll

Norges Bank extends loans to banks against collateral in the form of securities. These loans are provided in connection with payment settlement and the implementation of monetary policy. Norges Bank has up to now accepted a broad range of securities as collateral, and has thereby accepted a higher level of risk in its lending to banks than a number of other central banks. The article describes Norges Bank's previous rules for collateral for loans, the background for the changes that have been made, the new rules and the consequences the changes might have for banks.

Intraday liquidity and the settlement of large-value payments: a simulation-based analysis

Economic Bulletin April 2006 (No. 1)

Authors: Asbjørn Enge and Frode Øverli

Interbank systems are of great importance to the economy and the financial system. Using simulations based on real data from Norges Bank's settlement system, the article illustrates trade-offs between delayed payments and liquidity usage in interbank settlement systems. The simulations demonstrate, for example, that the speed with which payments are settled may be affected by changes in the liquidity available to settlement participants. The effect of optimisation routines in the settlement system is also simulated.

Annex 3: Statistics

Table 1 Household assets and liabilities. In billions of NOK

	Dec 2004	Dec 2005
Bonds and short-term paper	32	37
Equities and primary capital certificates	188	222
Securities funds	86	137
Insurance reserves	633	714
Bank deposits	545	578
Other	292	347
Gross financial assets	1,777	2,034
- Gross debt	1,394	1,558
Net financial assets	383	476
+ Housing wealth ¹⁾	2,914	3,245
Net total assets	3,297	3,721

Memorandum:

Gross financial assets excluding insurance reserves	1,144	1,320
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¹⁾ There is substantial uncertainty related to the housing wealth estimate

Source: Norges Bank

Table 2 Structure of the Norwegian financial industry. As at 31 Mars 2006

	Number	Lending (NOK bn)	Total assets (NOK bn)	Tier 1 capital ratio (%)	Capital adequacy (%)
Banks (excluding branches of foreign banks in Norway)	140	1,506.7	2,014.0	9.2	11.6
Branches of foreign banks	8	111.9	281.5		
Mortgage companies	12	244.2	409.8	9.3	12.0
Finance companies	49	99.3	110.8	9.9	11.2
Life insurance companies (foreign branches excluded) ¹⁾	13	18.9	629.6	8.6	11.2
Branches of foreign life insurance companies		0.0	5.1		
Non-life insurance companies (foreign-owned branches excluded) ²⁾	46	1.2	113.2	38.4	38.1
Branches of foreign non-life insurance companies	16	0.0	25.7		

¹⁾ Of which 6 unit-link companies

²⁾ Also include reports for seamen's insurance associations and fire insurance

Memorandum:

	(NOK billion)
Market value of equities, Oslo Stock Exchange	1,695.0
Outstanding domestic bonds and short-term paper debt ³⁾	727.1
Issued by public sector and state-owned companies	319.2
Issued by banks	244.9
Issued by other financial institutions	70.4
Issued by other private enterprises	57.0
Issued by non-residents	35.7
GDP Norway, 2005	1,906.1
GDP mainland Norway, 2005	1,411.3

³⁾ As at 31 Dec 2005

Sources: Oslo Stock Exchange, Statistics Norway and Norges Bank

Table 3 Results and capital adequacy in Norwegian banks for selected quarters ¹⁾

	2005 Q1		2005 Q2		2005 Q3		2005 Q4		2006 Q1	
	NOK bn	% ATA								
Net interest income	7.68	1.83	7.61	1.74	8.00	1.76	8.47	1.80	8.00	1.62
Other operating income	3.44	0.82	4.26	0.97	4.10	0.90	5.83	1.24	4.54	0.92
commission income	2.20	0.52	2.38	0.54	2.51	0.55	2.64	0.56	2.56	0.52
securities, foreign exchange and derivatives	1.02	0.25	1.60	0.36	1.28	0.28	2.76	0.59	1.67	0.34
Other operating expenses	6.32	1.51	6.47	1.47	6.46	1.42	7.24	1.54	6.65	1.35
personnel expenses	3.46	0.82	3.40	0.77	3.55	0.78	3.84	0.82	3.68	0.74
Operating result before losses	4.79	1.14	5.40	1.23	5.64	1.24	7.05	1.50	5.89	1.19
Losses on loans and guarantees	0.18	0.04	-0.77	-0.18	-0.39	-0.09	-0.10	-0.02	-0.22	-0.05
Pre-tax profit	4.94	1.18	6.21	1.42	6.09	1.34	7.36	1.56	6.19	1.25
Profit after taxes	3.72	0.89	4.65	1.06	4.58	1.01	5.58	1.19	4.66	0.94
Capital adequacy (%)	12.02		11.63		11.27		11.89		11.57	
Tier 1 capital ratio (%)	9.56		9.27		8.80		9.54		9.16	

¹⁾ All banks with the exception of branches of foreign banks in Norway. Results as a percentage of average total assets (ATA) are annualised

Source: Norges Bank

Table 4 Results and capital adequacy in Norwegian banks ¹⁾

	2001		2002		2003		2004		2005	
	NOK bn	% ATA								
Net interest income	28.90	2.19	30.72	0.16	30.14	1.99	30.71	1.91	31.75	1.78
Other operating income	12.70	0.96	10.21	0.07	14.31	0.94	15.16	0.94	17.63	0.99
commission income	7.03	0.53	7.09	0.04	7.63	0.50	8.82	0.55	9.74	0.55
securities, foreign exchange and derivatives	3.93	0.30	1.95	0.02	5.69	0.37	4.86	0.30	6.66	0.37
Other operating expenses	25.02	1.89	25.49	0.14	25.86	1.70	26.56	1.65	26.49	1.49
personnel expenses	13.15	1.00	13.26	0.07	13.81	0.91	13.77	0.86	14.24	0.80
Operating result before losses	16.58	1.26	15.45	0.09	18.59	1.22	19.31	1.20	22.89	1.29
Losses on loans and guarantees	3.62	0.27	6.66	0.02	6.89	0.45	1.25	0.08	-1.08	-0.06
Pre-tax profit	12.88	0.98	8.92	0.07	12.02	0.79	19.78	1.23	24.61	1.38
Profit after taxes	11.54	0.87	6.26	0.06	9.41	0.62	14.79	0.92	18.53	1.04
Capital adequacy (%)	12.59		12.15		12.36		12.16		11.89	
Tier 1 capital ratio (%)	9.69		9.60		9.72		9.76		9.54	

¹⁾ All banks with the exception of branches of foreign banks in Norway

Source: Norges Bank

Table 5 Banks⁽¹⁾ losses on loans to various industries and sectors as a percentage of lending to the respective industries and sectors

Industry / sector	1997	1998	1999	2000	2001	2002	2003	2004	2005
Agriculture, forestry, fishing	-0.06	0.19	0.29	0.26	0.21	2.73	6.06	1.46	-2.02
Fish-farming, hatcheries	0.40	-0.14	1.25	0.12	0.16	8.05	22.37	3.90	-9.68
Extraction of crude oil and natural gas	-1.29	-0.08	0.06	0.40	0.08	1.84	1.83	-1.12	-0.03
Manufacturing and mining	0.56	0.54	0.64	0.60	0.97	1.65	1.68	0.53	0.87
Electricity and water supply; construction	-0.13	0.15	0.41	0.69	0.21	0.46	1.66	0.50	0.26
Construction	-0.23	0.18	0.68	1.13	0.42	0.50	2.33	0.56	0.22
Retail trade, hotels and restaurants	0.13	0.26	0.56	0.61	0.80	0.90	0.95	0.43	0.26
Wholesaling and agency business	0.11	0.27	0.36	0.27	1.05	0.71	0.65	0.27	0.11
Retail trade	0.08	0.27	0.82	1.39	1.05	0.50	0.96	0.27	0.34
Hotels and restaurants	0.02	0.23	0.60	0.50	0.74	0.55	1.06	0.85	0.32
Shipping and pipeline transport	0.44	0.31	0.22	0.76	1.43	0.76	0.64	-0.04	0.06
Shipping	0.48	0.26	0.19	0.26	0.18	0.68	0.38	-0.09	0.06
Other transport and communications	-0.16	0.19	0.39	0.37	1.13	1.23	0.71	0.52	0.05
Commercial services and property management	-0.16	0.07	0.09	0.08	0.37	1.51	0.56	0.04	-0.12
Property management	-0.15	0.04	0.08	0.02	0.12	0.68	0.22	0.08	0.03
Other service industries	-0.10	0.07	0.02	0.81	0.54	1.22	1.57	0.34	0.29
Total industry market	0.02	0.19	0.27	0.41	0.61	1.44	1.50	0.34	-0.10
Retail market excl. self-employed	-0.06	-0.01	-0.01	0.00	0.06	0.12	0.06	0.05	0.02
Others²⁾	0.04	0.67	0.02	0.21	0.30	0.26	0.16	0.25	-0.14
Total lending	-0.02	0.16	0.11	0.19	0.31	0.63	0.57	0.16	-0.03

¹⁾ In 2005, the sample included all banks in Norway with the exception of branches of foreign banks in Norway

²⁾ Financial institutions, central government and social security administration, municipal sector and foreign sector

Source: Norges Bank

Table 6 Rating by Moody's¹⁾, total assets, capital adequacy²⁾ and return on equity for Nordic financial conglomerates, subsidiaries in Norway and Norwegian banks as of 2006 Q1. Consolidated figures.

	Financial strength	Total assets (NOK bn)			Tier 1 capital ratio (%)	Capital adequacy (%)	Return on equity		
		Short term	Long term				2004	2005	2006 Q1
Nordea Bank AB	B	P-1	Aa3	2,560.0	6.5	9.2	16.9	18.0	20.0
Danske Bank	A-	P-1	Aa1	2,553.6	7.0	10.0	13.9	18.5	16.8
SEB	B	P-1	Aa3	1,717.0	7.3	10.4	14.7	15.8	19.6
Handelsbanken	A-	P-1	Aa1	1,515.4	7.0	9.3	16.4	17.8	22.9
DnB NOR	B	P-1	Aa3	1,138.7	7.2	10.2	17.7	18.8	19.2
FöreningsSparbanken	B	P-1	Aa3	1,069.2	6.5	9.7	21.8	24.6	16.6
Glitnir	C+	P-1	A1	170.0	9.2	12.1	44	30	42
Nordea Bank Norway	B-	P-1	Aa3	343.0	6.9	9.2	13.7	18.2	16.9
Fokus Bank ³⁾	C	P-1	Aa2	103.3	7.4	9.0	10	14	15
Sparebank 1 SR-Bank	C+	P-1	A2	69.9	8.4	11.0	20.2	24.7	21.3
Sparebank 1 Midt-Norge	C	P-2	A3	54.1	8.9	11.0	20.0	24.1	24.7
Sparebanken Vest	C	P-2	A3	53.8	9.7	11.0	11.5	15.4	18.4
Sparebank 1 Nord-Norge	C	P-2	A3	48.5	9.7	11.2	16.9	20.5	22.5

¹⁾ Moody's scale of rating: Financial strength: A+, A, A-, B+, B, B-, C+, C, C-,.... Short term: P-1, P-2,.... Long term: Aaa, Aa1, Aa2, Aa3, A1, A2,....

²⁾ Financial conglomerates vary in the extent to which they include the results of 2006 Q1 in the capital base when calculating capital adequacy ratios

³⁾ Return on equity for Fokus Bank includes all of Danske Bank's bank activities in Norway

Sources: Banks' websites and Moody's

Table 7 Balance sheet structure, Norwegian banks. ¹⁾ Percentage distribution

	2005	2005 Q1	2006 Q1
Cash and deposits	4.7	4.7	5.1
Securities (current assets)	8.5	9.3	8.7
Gross lending to households, municipalities and non-financial enterprises	75.4	74.0	74.8
Other lending	8.9	9.1	8.9
Total loan loss provisions	-0.7	-0.9	-0.6
Fixed assets and other assets	3.3	3.9	3.0
Total assets	100.0	100.0	100.0
Customer deposits	45.6	47.2	45.2
Deposits/loans from domestic financial institutions	4.5	4.4	3.9
Deposits/loans from foreign financial institutions	10.9	9.5	12.2
Deposits/loans from Norges Bank	0.7	0.2	0.1
Other deposits/loans	2.9	2.6	2.9
Notes and short-term paper	4.7	4.9	4.9
Bond debt	18.7	18.2	18.9
Other liabilities	3.1	4.1	3.3
Subordinated loan capital	2.4	2.4	2.4
Equity	6.6	6.6	6.3
Total equity and liabilities	100.0	100.0	100.0
<i>Memorandum:</i>			
Total assets (NOK billion)	1,918.5	1,719.2	2,014.0

¹⁾ All banks with the exception of branches of foreign banks in Norway

Source: Norges Bank

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

	2005	2005 Q1	2006 Q1
Balance sheet. Percentage distribution			
Cash and deposits	0.8	1.8	1.0
Securities (current assets)	21.0	16.9	20.7
Gross lending:			
Repayment loans	77.0	79.6	77.4
Loan loss provisions	-0.1	-0.1	0.0
Fixed assets and other assets	1.4	1.8	1.0
Total assets	100.0	100.0	100.0
Notes and short-term paper	2.3	2.4	3.0
Bond debt	64.0	59.0	63.3
Loans	27.3	32.0	26.4
Other liabilities	2.1	1.9	3.0
Subordinated loan capital	1.1	1.3	1.1
Equity	3.2	3.5	3.2
Total equity and liabilities	100.0	100.0	100.0
Profit/loss. Percentage of ATA (annualised)			
Net interest income	0.47	0.49	0.42
Operating expenses	0.14	0.14	0.13
Losses on loans and guarantees	-0.01	-0.01	-0.01
Pre-tax profit	0.36	0.39	0.28
<i>Memorandum:</i>			
Total assets (NOK billion)	404.0	378.8	409.8

Source: Norges Bank

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

	2005	2005 Q1	2006 Q1
Balance sheet. Percentage distribution			
Cash and deposits	2.8	1.9	1.6
Securities (current assets)	0.3	0.2	0.4
Gross lending:			
Discount credit, bank overdraft facility, operating credit, user credit	13.1	13.7	15.6
Other building loans	0.0	0.0	0.0
Repayment loans	39.6	40.1	35.0
Leasing	42.5	41.9	45.1
Loan loss provisions	-1.1	-1.4	-1.2
Fixed assets and other assets	2.8	3.4	3.5
Total assets	100.0	100.0	100.0
Notes and short-term paper	0.1	0.0	0.1
Bond debt	0.2	0.1	0.2
Loans	84.3	83.4	83.5
Other liabilities	5.1	6.4	5.8
Subordinated loan capital	1.1	1.2	1.0
Equity	9.4	8.9	9.5
Total equity and liabilities	100.0	100.0	100.0
Profit/loss. Percentage of ATA (annualised)			
Net interest income	4.35	4.18	4.08
Operating expenses	3.24	3.74	3.18
Losses on loans and guarantees	0.42	0.45	0.34
Pre-tax profit	2.24	1.86	2.07
<i>Memorandum:</i>			
Total assets (NOK billion)	125.7	109.5	110.8

Source: Norges Bank

Table 10 Balance sheet structure and profit, life insurance companies¹⁾

	2005	2005 Q1	2006 Q1
Balance sheet. Selected assets as a percentage of total assets			
Buildings and real estate	10.2	9.8	10.2
Long-term investment	32.0	35.6	31.1
of which equities and units	0.4	0.5	0.5
of which bonds held until maturity	28.3	31.5	28.2
of which lending	3.2	3.5	3.2
Other financial assets	54.8	51.4	54.5
of which equities and units	19.9	15.9	21.6
of which bonds	24.4	24.5	24.4
of which short-term paper	6.7	7.2	5.8
Profit/loss. Percentage of ATA (annualised)			
Premium income	11.27	14.99	14.66
Net income from financial assets	7.85	5.46	9.97
Results before allocations to customers and tax	3.05	2.69	3.08
Value-adjusted results before allocations to customers and tax	4.57	2.06	6.68
<i>Memorandum:</i>			
Buffer capital (percentage of total assets)	7.5	6.0	7.8
Total assets (NOK billion)	573.5	525.2	595.9

¹⁾Excluding life insurance companies offering unit-linked products

Source: Kredittilsynet (The Financial Supervisory Authority of Norway)

Table 11 Total assets in Norwegian financial conglomerates by sector¹⁾ as at 31 March 2006. Per cent

	Banks	Finance companies	Mortgage companies	Life insurance	Total for conglomerate
DnB NOR (including Nordlandsbanken)	77.9	2.0	2.8	17.3	100.0
Nordea Norway	83.7	2.1	5.4	8.8	100.0
Sparebank 1 alliance ²⁾	92.9	1.6	0.0	5.4	100.0
Storebrand	16.3	0.0	0.0	83.7	100.0
Fokus Bank and Danske Bank branch	100.0	0.0	0.0	0.0	100.0
Terra alliance ³⁾	97.2	0.5	2.3	0.0	100.0

¹⁾ "Total for conglomerate" is the combined total assets in the various sectors in the table. The table does not show an exhaustive list of the activities of Norwegian financial conglomerates. For example, unit-linked insurance, securities funds and asset management have been excluded

²⁾ The Sparebank 1 alliance comprises Sparebank 1 Gruppen AS and the 19 Norwegian banks that own the group

³⁾ The Terra alliance comprises Terra Gruppen AS and the 80 banks that own the group

Source: Norges Bank

Table 12 Norwegian financial conglomerates' market shares¹⁾ in various sectors as at 31 March 2006. Per cent

	Banks	Finance companies	Mortgage companies	Life insurance	Total for conglomerate
DnB NOR (including Nordlandsbanken)	37.1	20.9	7.8	33.0	32.4
Nordea Norway	12.9	6.8	4.8	5.3	10.4
Sparebank 1 alliance ²⁾	11.3	4.1	0.0	2.6	8.2
Storebrand	1.4	0.0	0.0	26.8	5.6
Fokus Bank/Danske Bank branch	5.9	0.0	0.0	0.0	4.0
Terra alliance ³⁾	5.5	0.6	0.7	0.0	3.8
Total for financial conglomerates	74.1	32.4	13.3	67.7	64.3

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

²⁾ The Sparebank 1 alliance comprises Sparebank 1 Gruppen AS and the 19 Norwegian banks that own the group

³⁾ The Terra alliance comprises Terra Gruppen AS and the 80 banks that own the group

Source: Norges Bank

Table 13 Key figures and indicators

	Average				Projections		
	1987-1993	1994-2004	2004	2005	2006	2007	2008-2009
Households							
Interest burden ¹⁾	9.9	5.9	4.7	4.3	4.6	5.4	6.5
Debt burden ²⁾	153	135	164	173	185	196	213
Borrowing rate after tax ³⁾	8.3	5.0	3.0	2.8	3.2	3.4	4.1
Real interest rate after tax ⁴⁾	4.0	3.2	2.6	1.8	1.7	1.6	1.6
Net financial wealth to income ratio ⁵⁾	9	49	48	53			
Unemployment (registered)	4.5	3.4	3.9	3.5	2¾	2¾	2¾
Enterprises							
Interest burden ⁶⁾	63	44	40	47	51	55	60
Return on equity ⁷⁾	9	13	16				
Equity-to-assets ratio ⁸⁾	26	36	38				
Securities market							
P/E ⁹⁾	11.5	13.7	15.4	16.0			
Yield gap ¹⁰⁾		5.0	7.2	7.7			
Banks							
Profit/loss ¹¹⁾	-0.1	1.3	1.2	1.4			
Interest margin ¹²⁾	5.7	3.3	2.9	2.5			
Loan losses ¹³⁾	2.1	0.2	0.1	-0.1			
Non-performing loans ¹⁴⁾		2.5	1.3	0.9			
Lending growth ¹⁵⁾	6.1	9.8	8.8	13.5			
Return on equity ¹⁶⁾		14.9	14.4	17.3			
Capital adequacy ¹⁷⁾	8.2	12.2	12.0	11.9			

1) Interest expenses after tax as a percentage of liquid disposable income adjusted for estimated reinvested dividends plus interest expenses

2) Loan debt as a percentage of liquid disposable income adjusted for estimated reinvested dividends

3) Household borrowing rate after tax

4) Household borrowing rate after tax deflated by underlying inflation (CPI-ATE from 2000 Q3)

5) Households' total assets less total debt as a share of disposable income

6) Interest expenses as a percentage of cash surplus for non-financial enterprises excluding oil and gas industry and shipping

7) After-tax profit as a percentage of average equity. Average for the period 1987-1993 is calculated from 1988 Q1 due to insufficient data

8) Equity as a percentage of total capital. Average for the period 1987-1993 is calculated from 1988 Q1 due to insufficient data

9) The value of a sample of companies on the Oslo Stock Exchange divided by estimated earnings in the previous year

10) The E/P ratio for the Oslo Stock Exchange benchmark index less the 5-year government bond rate adjusted for long-term inflation expectations. Average for the period 1994-2004 is calculated from 1998 due to insufficient data

11) Pre-tax profit as a percentage of average total assets. For the period 1987-1989, branches of foreign banks in Norway and branches of Norwegian banks abroad are included. This does not apply for other periods

12) Percentage points. Average lending rate less average deposit rate for all banks in Norway

13) Loan losses as a percentage of gross lending for all Norwegian banks except branches of foreign banks in Norway and branches of Norwegian banks abroad

14) Non-performing loans as a percentage of gross lending to households, non-financial enterprises and municipalities

15) Per cent. Annual growth in lending to the corporate and retail markets from all Norwegian banks in Norway. Average for the period 1987-1993 is calculated from 1988 Q1 due to insufficient data

16) Pre-tax profit as a percentage of average equity for all Norwegian banks except branches of foreign banks in Norway and branches of Norwegian banks abroad. The average for the period 1987-1993 cannot be calculated due to insufficient data on equity

17) Capital as a percentage of the basis of measurement for all Norwegian banks except branches of foreign banks in Norway and branches of Norwegian banks abroad. Projections in *Economic Bulletin 2/89* for the years 1987 and 1988 are used in the calculation of the average for the period 1987-1993

Sources: Statistics Norway, Datastream, Reuters EcoWin, Directorate of Labour and Norges Bank

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