

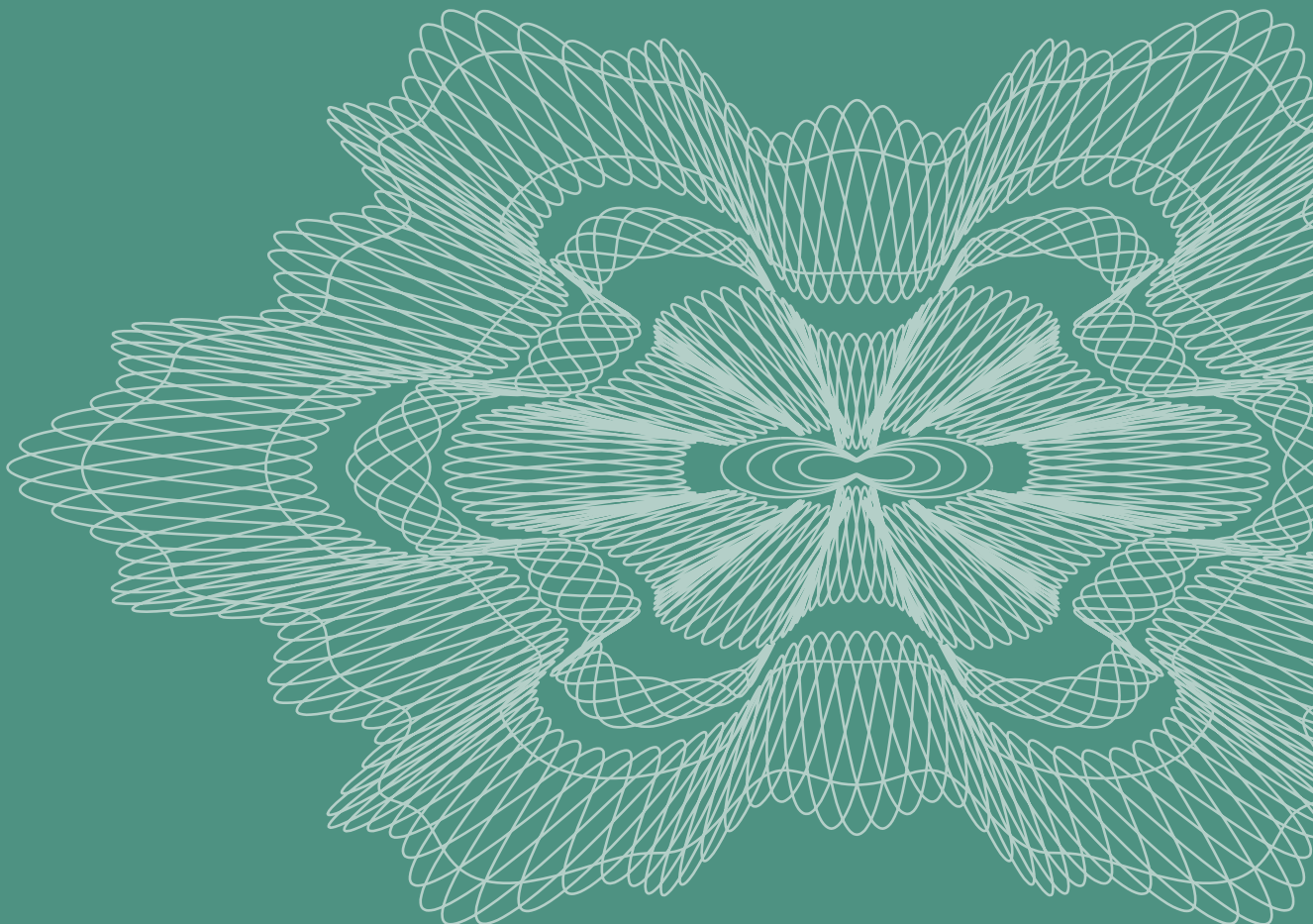
Reports from the Central Bank of Norway  
No. 2/2007



# Financial Stability

1  
07

June



# Norges Bank's reports on financial stability

**Financial stability** means that the financial system is robust to disturbances to 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**. 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. An important purpose of the report is to increase awareness and contribute to a debate on factors that have a bearing on financial stability. Norges Bank's annual *Report on Payment Systems* provides a broader overview of developments in the Norwegian payment system.

*Financial Stability* and the *Monetary Policy Report* together comprise Norges Bank's report series. **The report is also available on Norges Bank's website:**

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This report is based on information  
in the period to 31 May 2007



# Editorial

## *Considerable demands on risk management*

The long upturn in the Norwegian economy has contributed to strong growth in corporate and household income and unusually low loan losses at banks. The cyclical upturn is in a mature phase. Unemployment has shown a further decline and is now on a par with levels recorded in earlier cyclical peaks. Limited available resources in the Norwegian economy, higher interest rates and lower growth internationally may dampen growth in the Norwegian economy ahead. The period without losses on bank loans will eventually come to an end.

The introduction of new loan products may have provided additional impetus to lending growth. The development of broader and deeper loan markets is fundamentally positive, but places demands on lenders' and borrowers' understanding of risk and other characteristics of the new loan products. It is only after a period of weak economic developments that we can ascertain whether banks' risk management and borrowers' assessment of their debt-servicing capacity have been sound.

The new capital adequacy rules that have recently been introduced (Basel II) will contribute to improving risk management. Differences in estimated risk of individual loans trigger different capital requirements. Consequently, the level of capital at financial institutions will to a further extent reflect the risk associated with financial institutions' activities. This is a favourable development from a financial stability viewpoint.

However, given the asset composition at Norwegian banks, the new capital adequacy rules will result in a considerable reduction in the minimum capital requirements for most banks in the coming years. As provided for in the transitional rules, the reduction will occur gradually in the period to 2010. Lower minimum requirements free up capital at banks and may contribute to sustaining lending growth.

In the light of the new capital adequacy rules and new loan products, it is important that banks exercise sound judgement in risk management and credit provision so that the banks are well poised to meet a weakening in economic developments and unforeseen events further ahead.

*Jarle Bergho*

# Summary

## Satisfactory outlook for financial stability

The overall outlook for the financial system in Norway is considered satisfactory. Given the solid financial position of banks and most borrowers, the Norwegian financial system seems to be robust to economic disturbances. Banks' liquidity risk, market risk and credit risk are still considered to be relatively low in the short term.

Norwegian banks' performance remains solid, partly reflecting the absence of loan losses. Interest margins have continued to decline as a result of strong competition, new capital adequacy rules and low credit risk. This has reduced banks' net interest income measured as a percentage of total assets in recent years. High lending growth has partly offset the impact of the fall in interest margins on profits. Capital adequacy remains satisfactory.

The overall financial position of the household sector is solid. So far, there are no signs of an increase in debt-servicing problems. Unemployment is very low. The bulk of banks' loans to the household sector is mortgage-secured. House prices and household debt have risen sharply in recent years. In the period ahead, higher interest rates and a high level of residential construction are expected to dampen the rise in house prices and debt.

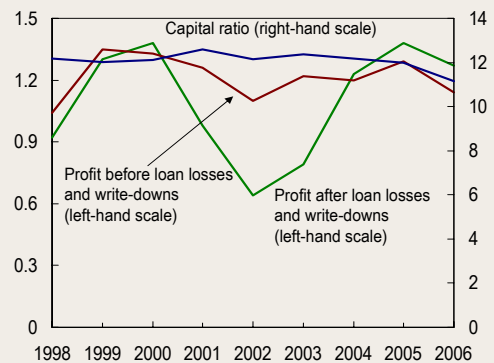
Enterprises posted very solid results in 2006. Equity ratios are high. Estimated bankruptcy and default probabilities are very low. Growth in loans to enterprises has increased sharply over the past two years. Debt-servicing capacity is solid, however. Market participants expect strong earnings in the enterprise sector ahead, which is reflected in high equity prices.

## Risks

Even if the main picture is positive, it is important to be aware of certain developments:

There are several downside risks to the favourable prospects for global growth. In the US, mortgage default frequency has increased, and house prices have fallen. So far, the decline has not had any major knock-on effects, but there is considerable uncertainty surrounding developments ahead. There is still a risk that imbalances in payment flows between the major economies will lead to financial market volatility with ripple effects on growth in the world economy. Weaker global growth will dampen growth in Norway and weaken earnings of Norwegian borrowers.

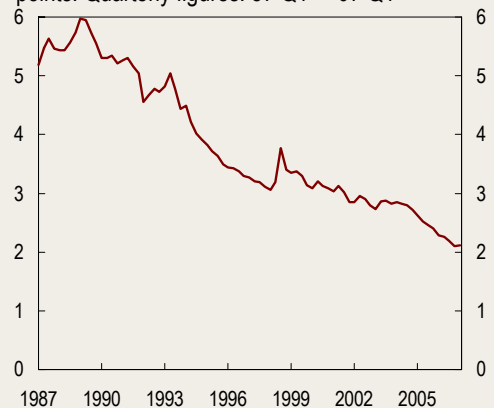
**Chart 1** Banks' capital ratio and pre-tax profit as a percentage of average total assets.<sup>1)</sup> Annual figures. 1998 – 2006



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

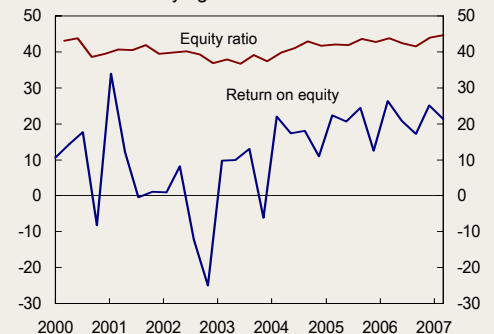
Source: Norges Bank

**Chart 2** Banks' interest margin. Percentage points. Quarterly figures. 87 Q1 – 07 Q1



Source: Norges Bank

**Chart 3** Equity ratio and pre-tax return on equity for selected companies listed on Oslo Stock Exchange.<sup>1)</sup> Per cent. Quarterly figures. 00 Q1 – 07 Q1

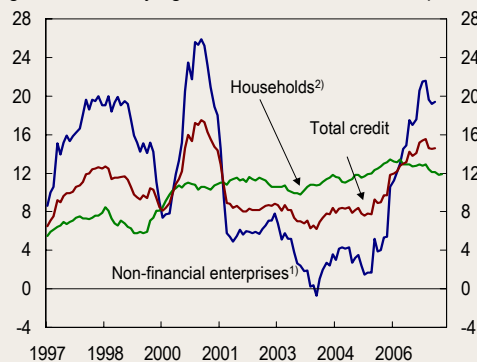


<sup>1)</sup> The selection does not include financial enterprises, Statoil and Hydro

Sources: Quarterly reports of listed companies (corporate) and Norges Bank



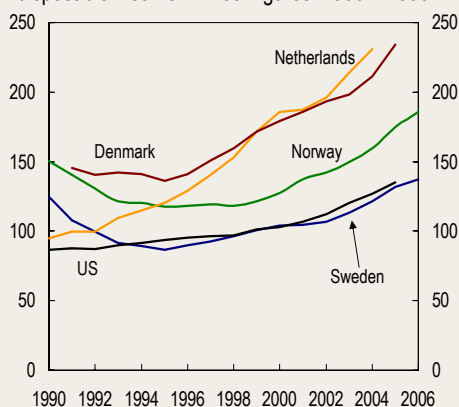
**Chart 4** Credit to mainland Norway. 12-month growth. Monthly figures. Per cent. Jan 97 — Apr 07



<sup>1)</sup> All foreign credit to mainland Norway is assumed granted to enterprises  
<sup>2)</sup> Household domestic credit

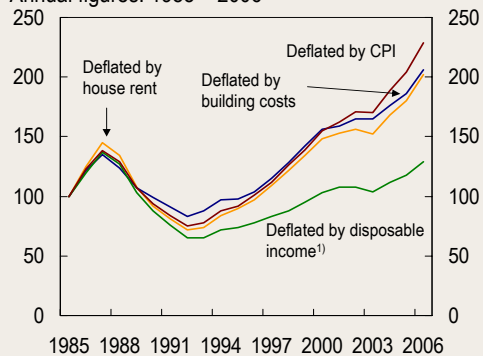
Source: Norges Bank

**Chart 5** Household debt as a percentage of disposable income. Annual figures. 1990 – 2006



Sources: OECD, Sveriges Riksbank, Danmarks Nationalbank, BIS and Norges Bank

**Chart 6** Real house prices. Indices, 1985 = 100. Annual figures. 1985 – 2006



<sup>1)</sup> Disposable income less estimated reinvested dividend payments for the period 2000-2005

Sources: Association of Norwegian Real Estate Agents, ECON, Finn.no, Association of Real Estate Agency Firms, Statistics Norway and Norges Bank

Risk premia in financial markets have declined in recent years. To the extent that today's low risk premia do not reflect underlying risk, there is a risk of a pronounced correction in securities markets. This may increase funding costs for Norwegian enterprises and banks.

The debt-to-income ratio of Norwegian households has never been higher, and is still rising rapidly. Almost all loans are floating-rate loans. Many new borrowers have a high loan-to-collateral value ratio. A rising number of households are opting for interest-only loans. The possibility of choosing interest-only loans can serve as a buffer when it becomes demanding to service debt. These developments have increased the vulnerability of some households.

Mortgage loans account for the bulk of household debt. There is considerable uncertainty surrounding house price developments ahead. The high and virtually continuous rise in house prices since the beginning of the 1990s may have generated expectations that house prices will only continue to rise. Calculations using a simple estimated model show that house prices are somewhat high in relation to developments in interest rates, income, residential construction and unemployment. On the other hand, the model does not capture the upward pressure on house prices that may have been engendered by the high level of inward labour migration, rural-urban migration, possible expectations of low interest rates in the long term and new and more flexible loan products.

Commercial property prices have also risen rapidly over the past year. Low long-term interest rates have made commercial property investments more attractive. The market is characterised by a high degree of optimism and expectations of a strong rise in rental prices ahead. Commercial property prices tend to show wide fluctuations in pace with capacity utilisation in the economy. If economic developments prove to be weaker than expected, the return on many property investments may fall to a low level. Bank loans to property companies account for a considerable share of total loans.

The strong growth in loans is not likely to continue over time. If pressures on interest margins persist, banks will have to increase income from sources other than net interest income or reduce costs to maintain profitability.

Under the new capital adequacy rules, the level of capital at financial institutions will to a greater extent reflect the risk exposure of their activities. However, the rules will lead to a gradual decline in minimum capital requirements at most banks in the next years. This may lead to further growth

in loans. The transition to the new capital adequacy rules entails some degree of risk that banks will reduce capital to the extent that the buffers for meeting unforeseen events become smaller than desirable.

### *Conditions that may mitigate the risk of financial instability*

Stress tests show that weaker macroeconomic developments can lead to a considerable increase in banks' loan losses. Combined with continued strong competition and pressure on bank earnings, this may result in a deterioration in profitability and the financial position of banks. However, there are conditions that can contribute to mitigating the risk of a marked weakening of profitability and financial strength in the coming years:

New loan products place considerable demands on credit assessments and customer advice. Good information from lenders about the consequences of interest rate increases and principal payment deferrals will alleviate the risk of increased payment problems in the future. By restraining the increase in the loan-to-collateral value ratio, banks' collateral will be less vulnerable to a fall in house prices and borrowers will be in a better position to meet their debt obligations. Households also have a responsibility for assessing their debt-servicing capacity. For example, households that prefer a higher degree of predictability with regard to interest expenses can consider the option of a fixed-rate loan.

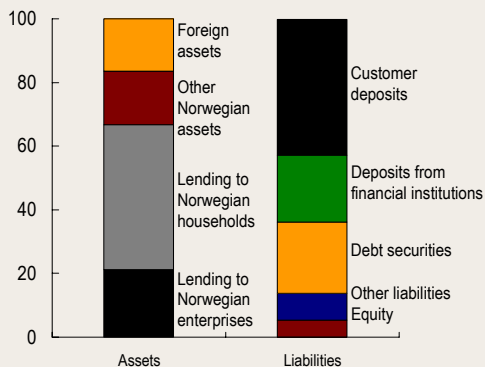
Banks that have margins that reflect loan administration costs, expected losses and a reasonable return on equity are in a stronger position to meet weaker cyclical developments.

The transition to new capital adequacy rules in a period of strong competition for loan customers is a challenge to banks. It is important that banks' risk models take account of the unusually low level of losses in recent years.



# 1 | Financial institutions

**Chart 1.1** Banks<sup>1)</sup> assets and liabilities. Per cent. 31 March 2007



<sup>1)</sup> All banks in Norway. Norwegian banks' foreign subsidiaries and branches abroad are not included in the statistical basis

Sources: Statistics Norway and Norges Bank

Norges Bank monitors financial institutions, securities markets and payment systems in order to identify any trends that may weaken financial stability. Among the largest financial conglomerates in Norway, banking activities are dominant. Banks play a central part in providing credit and executing payments. In addition, banks differ from other financial institutions by largely financing their activities through customer deposits. In our analysis of financial stability, we therefore place the greatest emphasis on developments in the banking sector.

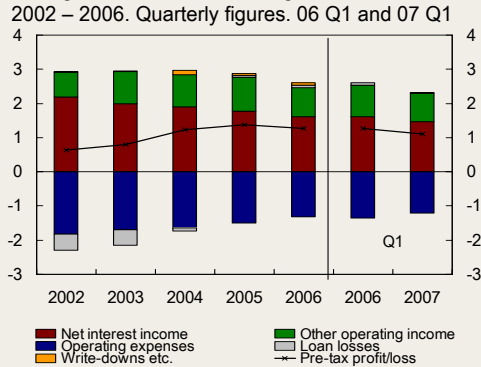
## 1.1 Banks

### *Continued solid results and solid financial strength*

Chart 1.1 summarises banks' assets and liabilities. Loans to Norwegian households and enterprises account for approximately  $\frac{2}{3}$  of banks' assets. In addition, loans to foreign households and enterprises account for 3% of assets. Developments in credit risk are therefore of central importance for banks' earnings and financial stability.

Banks' results for 2006 and 2007 Q1 were solid, see Chart 1.2. Transition to new international accounting standards (IFRS) for many larger banks' solo accounts makes Q1 figures less comparable with previous periods. Solid results are largely due to very low loan losses. Lower interest margins have contributed to lower net interest income measured as a percentage of total assets.

**Chart 1.2** Banks<sup>1)</sup> profit/loss as a percentage of average total assets. Annual figures. 2002 – 2006. Quarterly figures. 06 Q1 and 07 Q1



<sup>1)</sup> All banks excluding branches of foreign banks in Norway. Figures for Q1 2007 are affected by transition of solo accounts to IFRS at nine larger banks

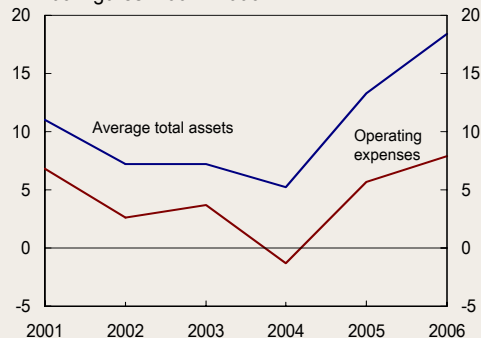
Source: Norges Bank

Reversals of previous write-downs on loans combined with few new write-downs resulted in accounts showing negative loan losses both in 2005 and 2006. The low level of write-downs in the past two years may also be attributable to the adaptation of loan valuation rules IFRS. Write-downs may hereafter only be carried out if there is objective evidence of a fall in value (loss events). Banks' remaining holdings of write-downs for loan losses are now at a very low level. This limits the possibility of further reversals of losses.

Banks' total pre-tax profits, measured as a share of total assets, fell somewhat from 2005 to 2006 (see Chart 1.2). This is because the sum of net interest income and other operating income fell more than operating expenses.

Banks' operating expenses, measured in NOK, have risen markedly over the past two years, but total assets have increased more (see Chart 1.3). Costs in DnB NOR are influenced by the merger in 2004. DnB NOR has thus been excluded in the chart.

**Chart 1.3** Banks<sup>1)</sup> annual growth in operating expenses and average total assets<sup>2)</sup>. Per cent. Annual figures. 2001– 2006



<sup>1)</sup> All banks except DnB NOR and foreign branches in Norway  
<sup>2)</sup> Average total assets for each year are based on total assets at the end of each month

Source: Norges Bank

Banks' results depend on cyclical developments. During the banking crisis, large loan losses led to weak results for banks as a whole. Reduced income also contributed somewhat. Chart 1.4 indicates that the main items of banks' income (measured by total assets) have varied little with business cycles since the banking crisis. Commissions from management and trading in securities have increased sharply in recent years, reflecting favourable developments on the Oslo Stock Exchange. However, these revenues are still of minimal importance for banks' total income.

The return on equity in the largest Norwegian banks is solid compared with other Nordic financial conglomerates (see Chart 1.5 and Annex 3 Table 5). In the course of 2006, market analysts' expectations concerning banks' earnings in 2007 were revised up. So far this year, earnings expectations for 2007 have increased for savings banks, while they remain virtually unchanged for DnB NOR. Since year-end, the Oslo Stock Exchange's bank index and the primary capital certificate index have fallen by 4% and 2% respectively.

The financial strength of Norwegian banks is solid. Capital adequacy for Norwegian banks as a whole was 11.2% at end-2006. This is 0.7 percentage point lower than at the same time in 2005 (see Annex 3 Table 4). In isolation, high lending growth, 18% in 2006, contributes to a weakening of capital adequacy. Chart 1.6 shows that banks with high lending growth tend to have lower capital adequacy.

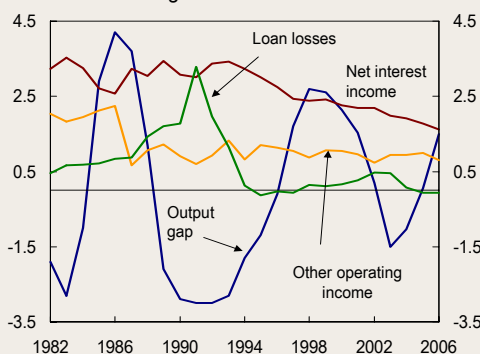
The new capital adequacy framework under Basel II reduces banks' minimum capital requirements (see Box in *Financial Stability 2/06*). All banks must report according to Basel II by 2008 Q1. In 2007, most banks in Norway are using a transitional arrangement that allows them to calculate capital requirements under Basel I. The five largest Norwegian-owned banks are reporting under Basel II as of 2007 Q1, and use an internal-ratings based approach to calculate capital requirements for credit risk. Three other banks are using the standardised approach under Basel II from the same date.

### Lower interest margins

Banks' interest margins<sup>1</sup> have narrowed considerably in recent years (see Chart 1.7). Deposit margins have increased since 2004 owing to the rise in money market rates, but lending margins have declined more. Nevertheless, banks' net interest income measured in NOK has increased somewhat due to high lending growth.

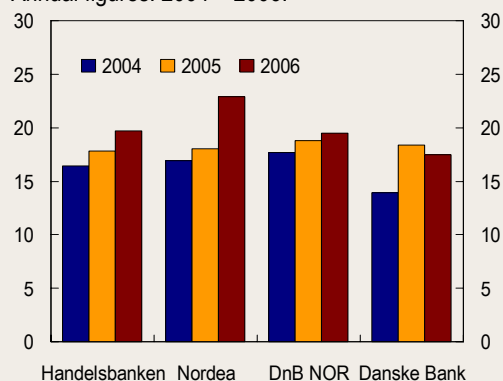
<sup>1</sup> The interest margin is defined as the average lending rate minus the average deposit rate. The interest margin shows what banks earn from lending when loans are financed by deposits. The 3-month money market rate (NIBOR) is used to divide the interest margin into the lending margin and the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

**Chart 1.4** Banks<sup>1)</sup> profit / loss components as a percentage of average total assets. Output gap for the Norwegian economy in per cent of GDP. Annual figures. 1982 – 2006



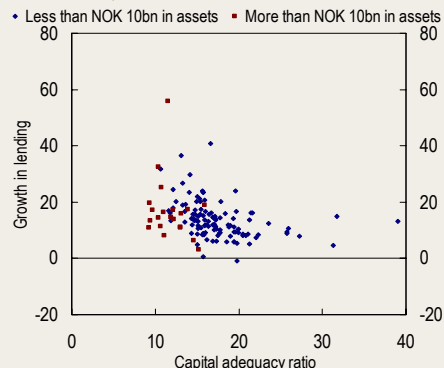
<sup>1)</sup> All banks except branches of foreign banks in Norway  
Source: Norges Bank

**Chart 1.5** Annual return on equity in four big Nordic financial conglomerates. Per cent. Annual figures. 2004 – 2006.



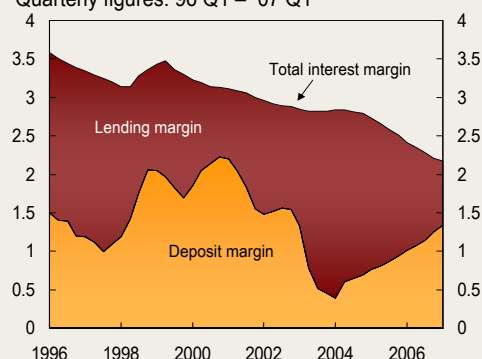
Sources: Financial conglomerates' annual financial statements

**Chart 1.6** Norwegian banks<sup>1)</sup> capital adequacy ratio and 12-month lending growth at end-2006 Q4. Per cent



<sup>1)</sup> Banks excluding foreign branches in Norway  
Source: Norges Bank

**Chart 1.7** Banks<sup>1)</sup> total interest rate margin divided by deposit and lending margin<sup>2)</sup>. Percentage points. Quarterly figures. 96 Q1 – 07 Q1

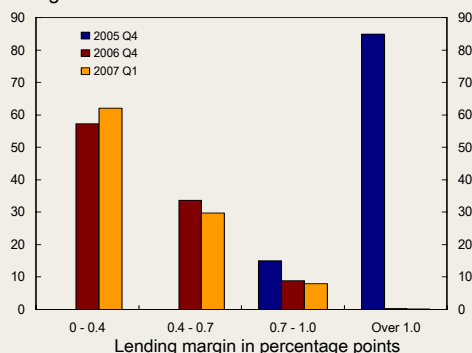


<sup>1)</sup> All banks in Norway

<sup>2)</sup> Moving average over the past four quarters

Sources: Statistics Norway and Norges Bank

**Chart 1.8** Banks<sup>1)</sup> mortgage loans<sup>2)</sup>, by lending margin. Per cent



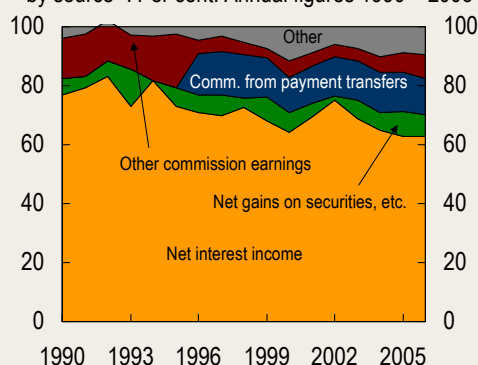
<sup>1)</sup> All banks in Norway

<sup>2)</sup> Credit lines secured on dwellings are not included

<sup>3)</sup> Lending margins defined as lending rate on stock of loans at end of quarter minus 3-month money market rate

Sources: Statistics Norway and Norges Bank

**Chart 1.9** Banks<sup>1)</sup> total income divided by source<sup>2)</sup>. Per cent. Annual figures 1990 – 2006



<sup>1)</sup> All banks in Norway

<sup>2)</sup> Commission earnings from payment transfers are included in "other commission earnings" before 1996

Source: Norges Bank

The increases in Norges Bank's key policy rate since July 2005 have not fully fed through to interest rates charged on loans to households and enterprises. There are several reasons for this. Lenders are vying for market shares. In addition, banks are adapting to the new capital adequacy rules (Basel II). Loan losses are also low due to favourable economic conditions, resulting in lower credit risk premiums in lending rates. Furthermore, the 6-week notification deadline for interest rate increases on loans to the retail market delays banks' adaptation to higher short-term interest rates.

Banks' average lending margin for loans secured on residential property, excluding home equity lines of credit, was 0.4 percentage point at end-Q1 2007. The lending margin for home equity lines of credit was even lower. These lending margins were nearly unchanged from end-Q4 2006. Calculations presented in *Financial Stability 2/06* indicate that banks under Basel II should have a minimum lending margin for highly secured mortgage loans of 0.4-0.8 percentage point. At end-Q1, many banks had a lending margin below this interval (see Chart 1.8). The figures for lending margins for the last two quarters may reflect that, due to the notification deadline, banks had not yet adjusted lending rates after the policy rate increases on 13 December and 15 March. Part of the reduction in lending margins since 2005 is therefore probably only temporary.<sup>2</sup>

In recent years, the fall in net interest income as a share of average total assets has been offset by declining costs. Continued pressure on interest margins may lead to cost reductions or increased income from other sources if profitability is to be maintained. The composition of banks' income has been fairly stable in the past ten years, even though net interest income has become less important since 2002 (see Chart 1.9). Commission earnings from services other than payment services are increasing.

### *Continued strong lending growth*

Banks' and mortgage companies' lending growth has been high for several years.<sup>3</sup> Year-on-year lending growth was 16% in April 2007 (see Chart 1.10).

The potential for future loan losses has increased due to strong lending growth. Developments in enterprise and household finances will be crucial for banks' losses and results ahead. Non-performing loans as a share of total lending have declined markedly since 2003 Q2 due to favourable developments in household and corporate finances. The share is at a very low level for both enterprises and households (see Chart 1.11).

<sup>2</sup> One way of adjusting lending margins for the notification deadline is to use lending rates at the end of the quarter and deduct the money market rate which applied six weeks earlier. The lending margin will then be 0.2-0.3 percentage point higher in Q4 2006 and Q1 2007.

<sup>3</sup> Banks and mortgage companies within the same financial conglomerate are grouped together in the analysis of lending growth.

The share of lending to the retail market has risen markedly since 2000, but has stabilised at around 55% after 2004. About 80% of loans to the retail market are mortgage loans. The risk of default is considered to be relatively low for mortgage loans. Therefore, the shift towards loans to the retail market has in isolation reduced banks' credit risk. On the other hand, the sharp rise in lending volume has increased credit risk.

Since mortgage loans represent a large portion of banks' loan portfolios, the value of collateral will vary with fluctuations in house prices. More than 90% of banks' loans secured on residential property are within 80% of a sound valuation. The share of highly secured loans has been stable over the past years. However, Kredittilsynet's (Financial Supervisory Authority of Norway) mortgage survey in autumn 2006 shows that the share of new loans with a high loan-to-collateral-value ratio is increasing substantially.

Growth in bank and mortgage company lending to the corporate market is high. Growth in lending to the property management and commercial services sectors has picked up sharply over the past year (see Chart 1.12). Growth in lending to manufacturing enterprises has also risen. Growth in lending to the construction and utilities (electricity and water) sectors has slowed, with utilities probably making the main contribution. Property management and commercial services sectors account for the highest share of banks' loans. These loans accounted for 19% of banks' and mortgage companies total loans at end-2006. Large banks have a higher share of loans to property companies than small banks (see Chart 1.13).

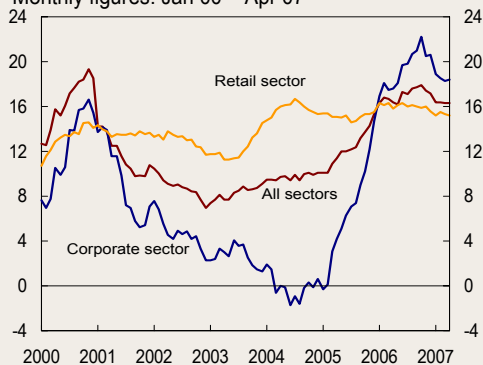
### *Low liquidity risk and market risk*

Banks' liquidity risk (see margin on page 13) is related to the execution of payment settlements and to financing their own activities.

The deposit-to-loan ratio has shown little change in recent years (see Chart 1.14). Deposits from the retail market have declined, while deposits from the corporate market have increased. Banks' bond market funding has increased over the past three years, possibly reflecting a narrowing of yield differentials between bank and government bonds.

Customer deposits are considered to be a stable form of funding, whereas other financing may be more expensive and more exposed to changing market conditions. Banks' short-term debt (excluding customer deposits) as a share of total debt has been stable in recent years. With the exception of DnB NOR, short-term foreign debt accounts for a small portion of Norwegian banks' funding (see Chart 1.15). The liquidity

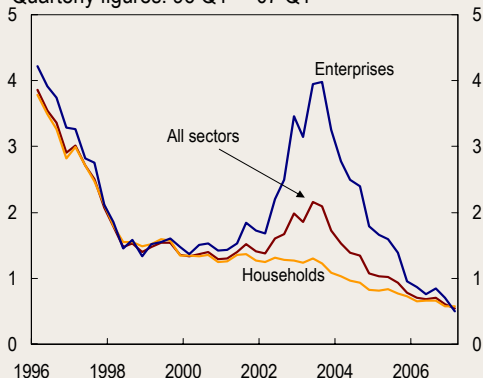
**Chart 1.10** Growth in banks' and mortgage companies<sup>1)</sup> lending, 12-month growth. Per cent. Monthly figures. Jan 00 – Apr 07



<sup>1)</sup> All banks and mortgage companies in Norway

Source: Norges Bank

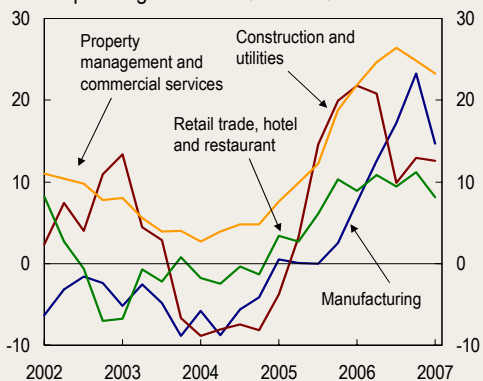
**Chart 1.11** Banks<sup>1)</sup> gross stock of non-performing loans. Percentage of gross lending to sector. Quarterly figures. 96 Q1 – 07 Q1



<sup>1)</sup> All banks in Norway

Source: Norges Bank

**Chart 1.12** Banks' and mortgage companies<sup>1)</sup> lending to selected industries. Per cent. Four-quarter growth. 02 Q1 – 07 Q1

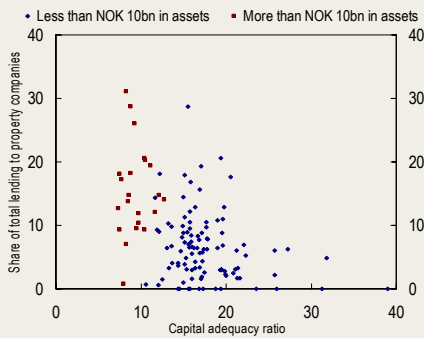


<sup>1)</sup> All banks and mortgage companies in Norway

Source: Norges Bank



**Chart 1.13** Lending to property companies as a percentage of individual banks<sup>1)</sup> total lending. Capital adequacy ratio. Per cent. 06 Q4



<sup>1)</sup> All banks excluding branches of foreign banks in Norway

Sources: Norges Bank and Kredittilsynet (Financial Supervisory Authority of Norway)

## Main types of risk

**Credit risk:** the risk of losses due to the failure 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 faulty internal processes and systems, human error or external events.

indicator<sup>4</sup> shows that over the past two years there has been a favourable balance between stable funding sources and illiquid assets at DnB NOR and small banks (see Chart 1.16). The indicator shows that developments have been particularly favourable for DnB NOR Bank, partly as a result of the bank's gradual transfer of parts of their mortgage loan portfolio to DnB NOR Boligkreditt. The liquidity indicator for medium-sized banks has improved markedly in recent years and is now at the same level as for small banks. Liquidity risk for the banking industry as a whole is now regarded as relatively low.

Each year, Kredittilsynet and Norges Bank examine the largest Norwegian banks' counterparty exposures. Few of the exposures are so large that the banks would have serious problems with financial strength if a major counterparty could not meet its obligations. Following the inclusion of NOK in the international settlement system CLS (Continuous Linked Settlement) in 2003, most of the credit risk associated with settlement of foreign exchange has been eliminated and liquidity risk has been reduced.

Norwegian banks' market risk is regarded as relatively low because a relatively small portion of their assets is directly exposed to market fluctuations. Equities held as current assets account for 0.4% of banks' total assets. Market risk may still be of importance to banks that are part of a conglomerate with life insurance companies. Life insurance companies have large investments in the form of securities (see Section 1.2).

### *Operational risk*

Operational risk in banks can increase in connection with mergers, reorganisations and major changes in ICT systems (Information and Communication Technology). The same applies in connection with adaptation to new rules, such as Basel II and IFRS (International Financial Reporting Standards). 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. The new requirement will be an incentive for banks to increase their focus on operational risk.

Norges Bank monitors risk in key payment and settlement systems. In the *Annual Report on Payment Systems* for 2006, Norges Bank has assessed the most important interbank systems in Norway in relation to international recommendations. According to Norges Bank, the systems satisfy international recommendations, with only minor exceptions.

<sup>4</sup> 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 regarded as stable financing. Banks' drawing facilities are not taken into account. Illiquid assets include gross lending to households, non-financial enterprises and municipalities, other claims, assets acquired by recovery of claims and fixed assets.

Each year, financial institutions' use of ICT is assessed by Kredittilsynet in a risk and vulnerability survey. The survey conducted in 2006 shows that there have been major changes in the area of ICT in key financial institutions. Financial institutions have increasingly been outsourcing ICT services. Over time, it may be a challenge to ensure adequate ICT competence when the organisation's own ICT activities are being scaled back. Kredittilsynet's experience is that it may be difficult for financial institutions to handle agreements with ICT suppliers.

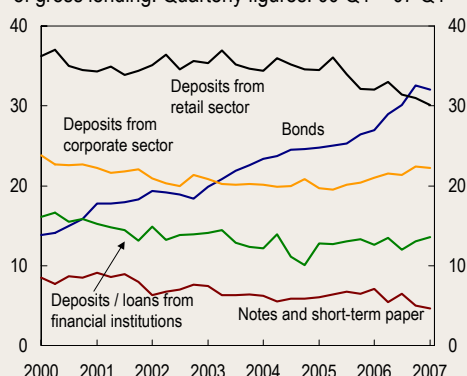
## 1.2 Other financial institutions

### *Financial conglomerates*

Some banks are part of conglomerates with life insurance companies (see Annex 3 Table 2). However, among financial conglomerates in Norway that include major banks, DnB NOR is the only one that has any significant insurance activities. Chart 1.17 shows the share of DnB NOR's annual results for 2006 that is derived from activities other than traditional banking activities, as compared with three other large Nordic financial conglomerates. One feature they share is that investment banking, life insurance and investment management combined account for around 30% of total pre-tax profits. The last two areas are organised in separate legal entities. As a rule, the investment banking sections are operational areas within the conglomerates' banking sections. However, banking is the most important area of activity, generating approximately 70% of earnings. Net interest income accounts for more than 2/3 of total income within the area of banking activities. Therefore, developments in net interest income and loan losses will be very important for the conglomerates' results.

Financial conglomerates are exposed to a broader range of risk factors than banks. The organisation of a financial conglomerate as a holding company enables the conglomerate to petition for the winding-up of crisis-hit subsidiaries. In this way the bank of a conglomerate may, in theory, be sheltered from problems in other parts of the conglomerate. In practice, the situation will often be far more complicated. There will be a reputation risk for the bank associated with a petition for winding-up other parts of the financial conglomerate. Due to internal obligations between companies in the conglomerate, in the form of loans and derivatives contracts, the direct losses related to a winding-up will often be far higher than the share capital invested in the subsidiary. In addition, loss of future income in other parts of the conglomerate must be expected, as the bank in the conglomerate often has extensive transactions with other companies within the same conglomerate.

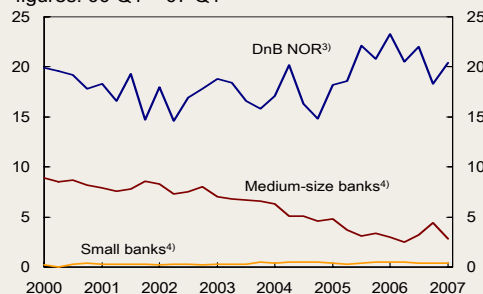
**Chart 1.14** Norwegian banks<sup>1)</sup> financing. Percentage of gross lending. Quarterly figures. 00 Q1 – 07 Q1



<sup>1)</sup> All banks except branches and subsidiaries of foreign banks in Norway

Source: Norges Bank

**Chart 1.15** Norwegian banks<sup>1)</sup> short-term foreign debt<sup>2)</sup>. Percentage of gross lending. Quarterly figures. 00 Q1 – 07 Q1



<sup>1)</sup> All banks except branches and subsidiaries of foreign banks in Norway

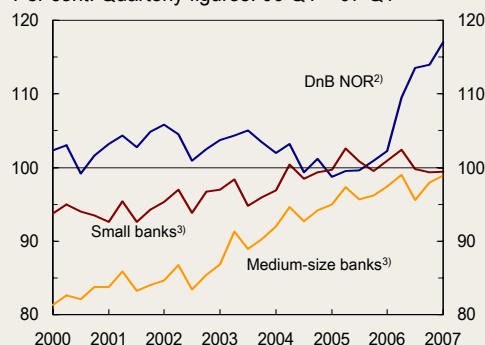
<sup>2)</sup> Short-term paper debt, deposits and loans from other financial institutions

<sup>3)</sup> DnB NOR Bank (excl. branches abroad) and Nordlandsbanken

<sup>4)</sup> The dividing line between small and medium-sized banks is NOK 10bn (measured by total assets) at end-2006

Source: Norges Bank

**Chart 1.16** Norwegian banks<sup>1)</sup> liquidity indicator. Per cent. Quarterly figures. 00 Q1 – 07 Q1



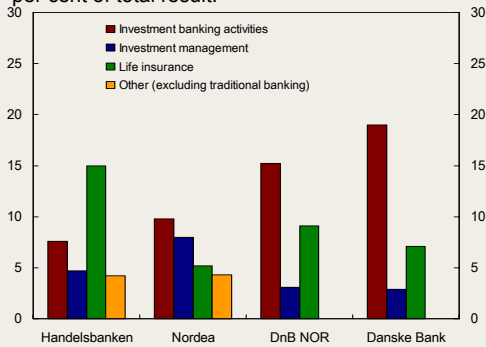
<sup>1)</sup> All banks except branches and subsidiaries of foreign banks in Norway

<sup>2)</sup> DnB NOR Bank (excl. branches abroad) and Nordlandsbanken

<sup>3)</sup> The dividing line between small and medium-sized banks is NOK 10bn (measured by total assets) at end-2006

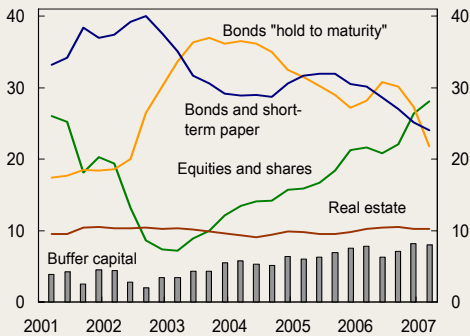
Source: Norges Bank

**Chart 1.17** Distribution of four Nordic financial conglomerates' pre-tax profits into different business areas. Annual result for 2006. Share in per cent of total result.<sup>1)</sup>



<sup>1)</sup> Share of traditional banking activities is not shown  
Sources: Financial conglomerates' annual financial statements and Norges Bank

**Chart 1.18** Life insurance companies' buffer capital<sup>1)</sup> and asset mix. Per cent of total assets. Quarterly figures. 01 Q1 – 07 Q1



<sup>1)</sup> Buffer capital is defined as the sum of the security adjustment reserve, supplementary provisions with an upward limit of one year, and surplus of Tier 1 capital  
Source: Kredittilsynet (Financial Supervisory Authority of Norway)

## Mortgage companies

Mortgage companies provide long-term loans. Profits have declined slightly over several years and showed little change in 2006 and 2007 Q1 compared with the same period in the previous year. Several new bank-owned mortgage companies have been established in the last two years. This must be seen in the light of the new rules that came into force on 1 June 2007 providing for the issuance of covered bonds (see Section 2.5).

## Finance companies

Finance companies constitute a diverse group that serves a number of different markets. At end-March 2007, year-on-year growth in finance company lending to households, non-financial enterprises and municipalities was 12%. Unsecured consumer loans have a high credit risk. Companies charge consumers for the credit risk through high effective interest rates. Consumer loans of this kind account for a very small portion of the financial sector's total lending to households. These loans thus have little effect on financial stability. However, servicing expensive consumer loans may be a problem for individual borrowers.

## Life insurance companies

Life insurance companies' value-adjusted profits in 2006, measured as a share of average total assets, were at the same level as the previous year's results. Value-adjusted profits for 2007 Q1 were lower than in the same period of 2006. Buffer capital increased from 7.5% of total assets at end-2005 to 8.2% at end-2006, and stood at 8.0% in 2007 Q1.

Life insurance companies are more exposed to market risk than banks, since a far higher share of their total assets is invested in equities and bonds. At the end of 2007 Q1, fixed income instruments and equities accounted for 88% of total assets, while property accounted for 10% (see Annex 3 Table 7). 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 portion of equities (see Chart 1.18).

Returns on life insurance companies' holdings of bonds and paper classified as current assets are relatively low due to low market rates. Continued low long-term interest rates may make it difficult for life insurance companies to meet their long-term pension obligations. The portion of bonds classified as "hold to maturity" fell markedly in 2007 Q1 to 22% of total assets. The average yield on the "hold to maturity" bonds is about 5%, which is well above the minimum return which life insurance companies have guaranteed customers. Average minimum return is approximately 3.5%.



## 2 | The macro-financial environment

A large share of banks' assets consists of loans to Norwegian enterprises and households (see Chart 1.1). Developments in these sectors are therefore crucial for banks' losses and results. Global conditions are also important for financial stability in Norway. Global economic growth and movements in interest and exchange rates affect the financial position of Norwegian households and enterprises, and thereby banks' credit risk. Developments in securities markets influence Norwegian financial institutions' market and liquidity risk, and companies' access to financing.

### 2.1 Developments globally and in securities markets

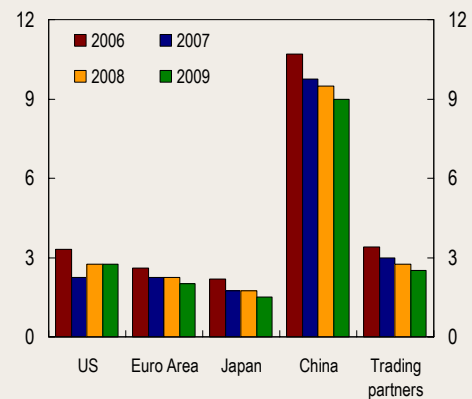
Growth in the global economy remains strong (see Chart 2.1). There is particularly strong growth in China and other parts of Asia, and the euro area is experiencing the strongest upturn since 2000. Growth in the US economy is expected to slow slightly due to a weakening in the housing market, and this may have knock-on effects in other countries. Global growth is expected to slow somewhat in the coming years but to remain solid. Nevertheless, there are uncertainties surrounding economic growth and financial stability globally, see the discussion below.

#### *Problems in the US housing and mortgage markets*

High levels of activity and price increases in the housing market have played an important role in the upswing in the US economy since 2003. However, the housing market has cooled significantly in the last year. Housing starts have fallen, and the year-on-year rise in house prices is now negative (see Chart 2.2). It is uncertain how deep and long-lasting the downturn in the housing market will be, and the degree of impact it will have on the wider economy.

Defaults on US mortgage loans are rising. To date, the problems appear to be associated primarily with high-risk loans, known as sub-prime loans. These are loans to people with low credit worthiness, and the loans are often poorly secured. The sub-prime market has grown rapidly in recent years, from 6% of the overall mortgage market in 2001 to 15% in 2006. It is dominated by loans where interest is fixed at a low rate during the early years before climbing significantly. Many loans have been granted with a view to enabling borrowers to refinance the loans on better terms after a rise in house prices. However, a weaker housing market has made it more difficult to qualify for better loans. At the same time, higher interest rates in general have increased debt-servicing costs.

**Chart 2.1** GDP growth abroad. Increase on previous year in per cent. Forecasts for 2007 – 2009<sup>1)</sup>



<sup>1)</sup> Forecasts in *Monetary Policy Report 1/07*

Sources: IMF and Norges Bank

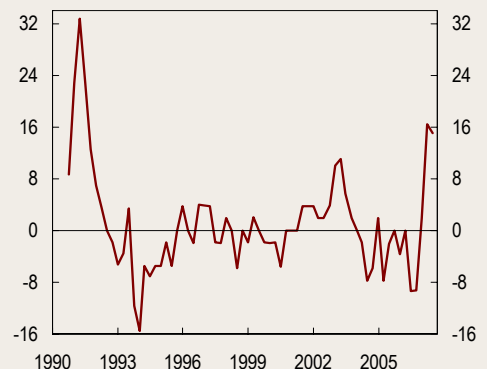
**Chart 2.2** 12-month rise in house prices<sup>1)</sup> and housing starts in the US. Monthly figures. Jan 03 – Apr 07



<sup>1)</sup> Median price in USD. Existing homes

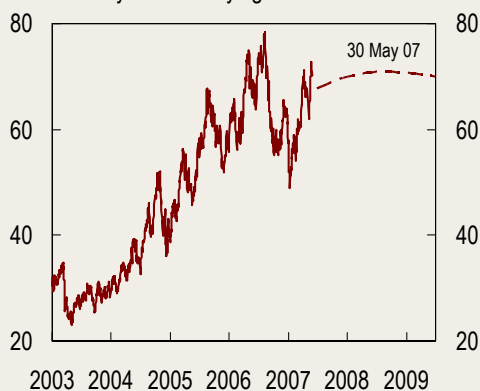
Sources: Reuters (EcoWin)

**Chart 2.3** Net percentage of banks that tightened credit standards for approving applications for mortgage loans. US. Per cent. Quarterly figures. 90 Q1 – 07 Q2



Source: Reuters (EcoWin)

**Chart 2.4** Oil price (Brent Blend) in USD per barrel. Daily figures. 2 Jan 03 – 29 May 07. Futures prices from 30 May 07. Monthly figures. Jul 07 – Jun 09

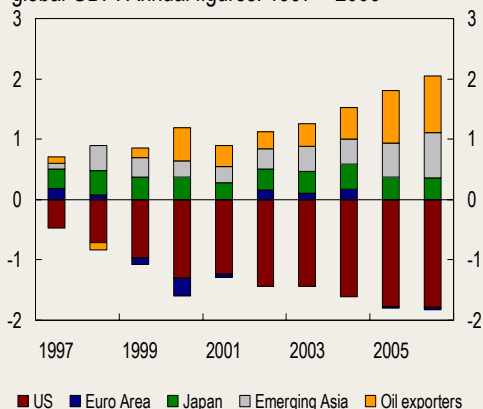


Sources : Telerate, IPE and Norges Bank

Lenders sell on a substantial proportion of the loans they grant to investment banks, which pool the loans and sell securities backed by these pools to investors. These securities are divided into tranches based on quality. Securities backed by sub-prime mortgages account for around 14% of the overall market for mortgage-backed securities.

The credit spread between securities backed by sub-prime mortgages and government bonds has widened considerably. Higher default rates have led to a higher bankruptcy rate among mortgage institutions. This in isolation is unlikely to pose a threat to financial stability in the US. At the same time, there are signs that banks have tightened lending (see Chart 2.3). This may amplify the downturn in the housing market and reduce demand in the US economy. Experience of turn-arounds in the housing market in other countries is discussed in the box on page 43.

**Chart 2.5** Current account balances in per cent of global GDP. Annual figures. 1997 – 2006



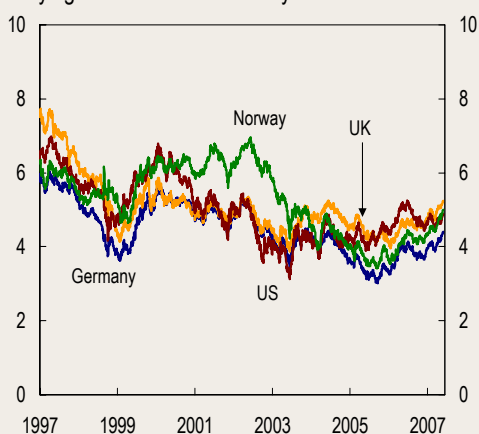
Source: IMF

### High commodity prices

Developments in the US housing market and the US economy are perhaps the most important risk to the global economy. Another risk is higher inflation and markedly higher interest rates. A sharp increase in oil and other commodity prices could trigger a negative supply-side shock of this kind. Brisk demand has led to an upswing in oil prices in recent years (see Chart 2.4). Spot prices are close to record levels, and futures prices indicate continued high oil prices ahead.

A strong upswing in oil prices driven by supply-side factors could undermine global economic growth and thereby exports from Norwegian enterprises.

**Chart 2.6** 10-year government bond yield. Per cent. Daily figures. 2 Jan 97 – 30 May 07



Source: Reuters (EcoWin)

### Global imbalances

The US current account deficit is historically high, while many oil exporters and Asian countries are running substantial surpluses (see Chart 2.5). Strong growth in regions outside the US has helped to curb global imbalances, but they are still considerable. Many Asian countries have linked their currencies to the US dollar and are buying dollars to avoid appreciation of their own currencies. These increased US dollar reserves are being invested in US securities, contributing to a rapid inflow of capital into the US and relatively low government bond yields both in the US and globally (see Chart 2.6). If this inflow of capital were to slow, this could cause the US dollar to slide and US bond yields to rise. This could lead to higher long-term yields globally, including in Norway. The appreciation of the krone against the US dollar could also affect some Norwegian enterprises' earnings, although the impact would be softened by hedging.

### Strong growth in corporate and household debt

Enterprises globally are continuing to report solid earnings and financial strength. Nevertheless, corporate debt has increased rapidly in recent years. The prevalence of leveraged buyouts is growing. While such acquisitions were once restricted largely to the US, there is now also considerable activity in Europe and Asia. The acquired enterprises are highly geared and vulnerable to weaker economic activity and higher interest rates.

Growth in household debt remains strong in many countries, fuelled by higher house prices. This is increasing vulnerability to loss of income, higher interest rates and house price deflation.

### Low risk premiums

Solid corporate earnings and little risk of defaults have led to historically low credit spreads between corporate and government bonds (see Chart 2.7). Other credit premia are also near minimum, and volatility has fallen sharply in most financial markets since 2002. Besides solid fundamentals, this may reflect low risk premia. A risk premium is the expected excess return above the risk-free interest rate that an investor requires as compensation for holding a risky asset.

Several factors may have contributed to a persistent decrease in risk premia, including more stable economic growth and predictable economic policy, better integrated financial markets and greater options for diversifying risk. The decrease in risk premia is probably also linked to cyclical factors. Volatility in financial markets often falls during periods of strong economic growth. At the same time, relatively low government bond yields and ample access to capital may have led to increased demand for relatively risky investments. Ample access to liquidity and a perception of low risk may also have contributed to an increase in carry trades, where investors borrow in low-yielding currencies to invest in high-yielding currencies.

These cyclical factors will eventually reverse, probably leading to higher risk premia. Investors' risk appetite may also change without a turnaround in the economy. Adjustments in the financial markets may be smooth or abrupt. To the extent that current risk premia do not take full account of underlying risks, movements in financial markets could be more extreme than changes in the fundamentals would imply.

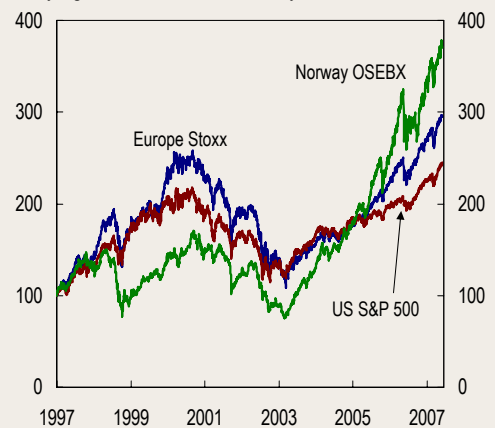
Increased risk premia in bond and equity markets would lead to more expensive and less readily available financing for Norwegian enterprises and financial institutions. In an

**Chart 2.7** Credit spread against government bonds in the US. Percentage points. Daily figures. 1 Jan 02 – 30 May 07



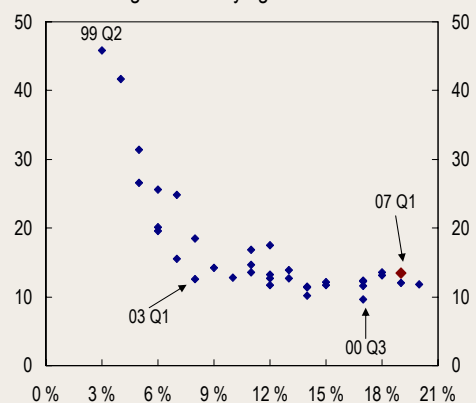
Source: Reuters (EcoWin)

**Chart 2.8** Equity indices. 1 Jan 97 = 100. Daily figures. 3 Jan 97 – 30 May 07



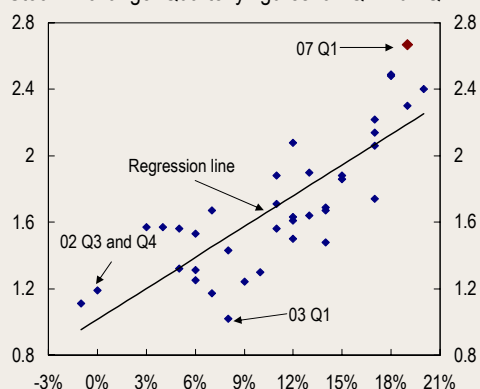
Source: Reuters (EcoWin)

**Chart 2.9** Return on equity (left-hand scale) and the valuation indicator P/E (right-hand scale). Oslo Stock Exchange. Quarterly figures. 97 Q4 – 07 Q1



Sources: Reuters (EcoWin) and Norges Bank

**Chart 2.10** Return on equity (left-hand scale) and the valuation indicator P/B (right-hand scale). Oslo Stock Exchange. Quarterly figures. 97 Q4 – 07 Q1



Sources: Reuters (EcoWin) and Norges Bank

economic downturn, increased risk premia often come on top of higher financing costs due to weaker-than-expected cash flows from securities.

### *Rising equity prices*

Equity prices worldwide have shown strong gains since bottoming out early in 2003 (see Chart 2.8). Equity prices fell in late February and early March this year, as turbulence in the Chinese equity market and fears of the problems in the US housing market spreading reduced investors' risk appetite, but prices have since rebounded. The benchmark index on the Oslo Stock Exchange (OSE) hit several all-time highs during the spring.

Valuation indicators are often used to assess whether growth in equity prices has been stronger than can be explained by fundamentals. This provides an indication of the likelihood of a price correction. The price/earnings (P/E) ratio is a common indicator. The usual interpretation is that a high P/E implies an expensive equity market. However, this does not appear to hold very well in the case of the OSE unless adjustments are made for profitability levels. The P/E ratio has been relatively stable when the return on equity has been high (see Chart 2.9). This means that prices have followed developments in current earnings in periods of high profitability. This can be interpreted to mean that investors expect today's high earnings to be sustained. The P/E ratio is higher now than when prices peaked in 2000, when profitability was roughly the same.

Another common valuation indicator is the price/book (P/B) ratio, which is now at its highest for a decade. The P/B ratio rises when profitability rises. Viewed in relation to today's return on equity, the P/B ratio is unusually high (see Chart 2.10).

The US and European equity markets seem to be quite moderately priced in terms of earnings and book value. This may suggest that equity prices have less far to fall globally than on the OSE in the event of a decline in listed companies' earnings.

## 2.2 The Norwegian economy

Economic activity in Norway has increased markedly since summer 2003. Capacity utilisation is high. At the same time, strong growth in productivity and labour availability has contributed to good growth potential.

The upswing is broad-based. The global upswing of recent years has brought strong growth in export-oriented industries and high prices for many Norwegian export goods. Norway's terms of trade have improved by almost 40% since 2002. Investment in the petroleum sector has risen sharply. Brisk demand growth and solid profitability have gradually also resulted in higher fixed investment at mainland enterprises. Capacity utilisation is now very high in most industries.

Low interest rates and high real income growth have fuelled strong growth in housing investment and household consumption. Higher employment and wage growth are continuing to fuel rapid growth in household demand (see Chart 2.11). The labour market has tightened further in recent months.

*Monetary Policy Report 1/07*, published on 15 March, concluded that the overall outlook and the balance of risks suggest that it would be appropriate to raise the interest rate gradually to about 5% in the course of this year and to a somewhat higher level in the period to summer 2008 (see Chart 2.12). Capacity utilisation in the Norwegian economy is expected to remain at high levels this year before gradually falling in the period to 2010 (see output gap data in Table 2.1).

Interest rates may not follow the projected path if the economic outlook changes, or if changes in interest rates do not impact on output, employment and prices as assumed. The uncertainty surrounding the interest rate forecasts is shown in Chart 2.12. *Monetary Policy Report 1/07* noted, among other things, that pressures in the economy may prove to be stronger than expected and that price and cost inflation may accelerate more rapidly than projected. In isolation, this would warrant a faster increase in interest rates than in the baseline scenario to prevent inflation from overshooting the target by a considerable margin.

The report also noted that we cannot rule out the possibility that inflation may again be surprisingly low or that growth among our trading partners might slow more quickly than assumed. Should there be a marked downturn in the US, the knock-on effects on the global economy may be considerable. Sharp deceleration in global growth could also lead to lower commodity prices and lower consumer price inflation among our trading partners. Norwegian exporters could be adversely affected by reduced demand and lower selling prices, and both inflation and output growth could be dragged down further ahead. In isolation, this suggests lower interest rates than in the baseline scenario.

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

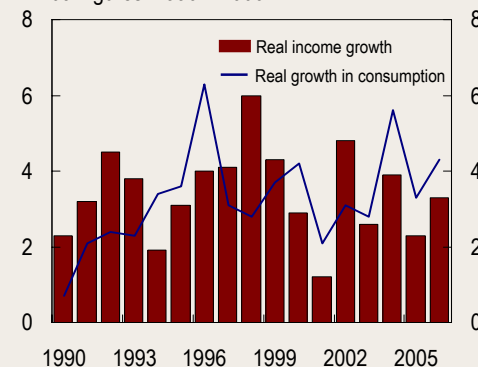
	Projections Monetary Policy Report 1/07			
	2007	2008	2009	2010
Private consumption	4	3	2½	2½
Public consumption	3	3		
Mainland gross investment	5½	1¼		
Traditional exports	7	3½		
Mainland GDP	3½	2¼	2	2
Output gap, mainland Norway	2¼	1¼	1	½
LFS unemployment (rate)	2½	3	3½	3½
CPI-ATE <sup>1)</sup>	1½	2	2½	2½
Annual wage growth <sup>2)</sup>	5¼	5¼	4¾	4¾

<sup>1)</sup> CPI-ATE: CPI adjusted for tax changes and excluding energy products. In addition, it is adjusted to take into account that the reduction in maximum day-care rates pushes down the rise in CPI-ATE by an estimated 0.2 percentage point in 2006

<sup>2)</sup> The projections include estimated costs in 2006 and 2007 related to the introduction of mandatory occupational pensions

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

**Chart 2.11** Household real disposable income<sup>1,2)</sup> and consumption. Annual growth. Per cent. Annual figures. 1990 – 2006

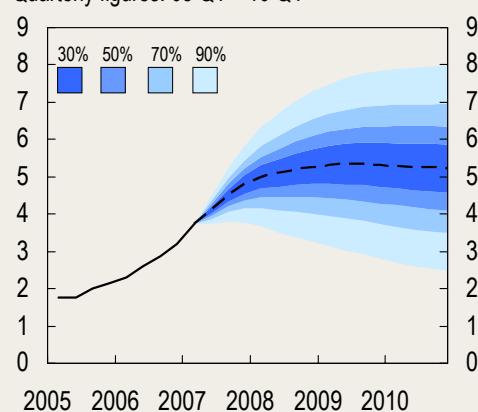


<sup>1)</sup> There is a break in the series between 1998 and 1999

<sup>2)</sup> Adjusted for estimated reinvested share dividends for 2000 – 2005

Sources: Statistics Norway and Norges Bank

**Chart 2.12** Projected key policy rate in the baseline scenario with fan chart. Per cent. Quarterly figures. 05 Q1 – 10 Q4

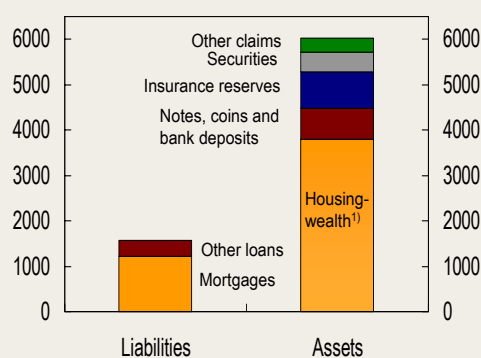


Source: Norges Bank



## 2.3 Households

**Chart 2.13 Household liabilities and assets.**  
Billions of NOK. 2006 Q4



<sup>1)</sup> Projections

Sources: Associations of Norwegian Real Estate Agents, ECON, Finn.no, Association of Real Estate Agency Firms, Statistics Norway and Norges Bank

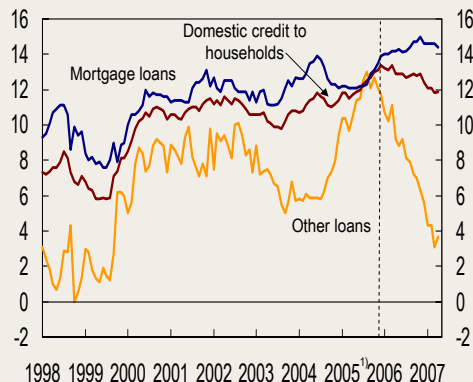
Households' overall financial position is sound. Households' financial assets and housing wealth are estimated at more than NOK 6 000bn at the end of 2006 (see Chart 2.13). As measured here, this is almost four times the value of households' total borrowings.

### *Growth in household debt still strong*

Growth in household debt has been high since 2000. In April 2007, debt was 11.9% higher than a year before (see Chart 2.14). Growth has been fuelled primarily by low interest rates and a sharp rise in house prices and high income growth.

Growth in loans secured against dwellings has been strong and accelerating over the past two years. Mortgage loans now account for 78% of household debt. Meanwhile, growth in other loans has slowed markedly since the end of 2005. Recent years have seen the introduction of loan products that facilitate mortgage equity withdrawal. These loans have grown rapidly in volume and now account for almost 8% of household debt. A survey of a selection of financial institutions undertaken by Kredittilsynet (Financial Supervisory Authority of Norway), shows that growth in unsecured consumer loans has also been strong over the last two years.

**Chart 2.14 Credit to households. 12-month growth in per cent. Monthly figures. Jan 98 – Apr 07**

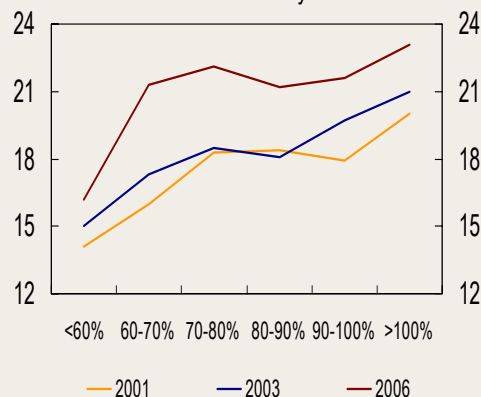


<sup>1)</sup> Break in the series in December 2005

Source : Statistics Norway

Kredittilsynet's mortgage survey for 2006 found that around 17% of new loans from the selected institutions included an initial interest-only period, an increase of 4.5 percentage points from 2005. The survey also shows that the term of new loans has increased: the average term of new loans secured against dwellings was almost three years longer in 2006 than in 2003 (see Chart 2.15). The mortgage survey reported a clear increase in the proportion of loans with a loan-to-value ratio in excess of 80% to 42% in 2006. No fewer than 62% of loans to borrowers below the age of 35 had a high loan-to-value ratio. Developments in the credit market are making it possible to service larger loans and may therefore have contributed to the rapid growth in debt. At the same time, the proportion of household loans with a fixed interest rate is low (see box on page 45).

**Chart 2.15 Terms of new mortgages for different loan-to-value ratios. Number of years**



Source: Kredittilsynet (Financial Supervisory Authority of Norway)

To date, there have been no signs of an increase in debt-servicing problems as a result of the rapid growth in household debt. At the end of the first quarter of 2007, the volume of problem loans, defined as non-performing loans and other particularly doubtful loans, was only 0.7% of banks' lending to the household sector. Kredittilsynet's survey of a selection of financial institutions shows that the proportion of unsecured consumer loans on which borrowers default has fallen over the last three years. The number of cases falling under the debt settlement act increased during the four years to 2005. The increase was due mainly to legislative reforms in 2003 and the upward adjustment of the cost of living allowance rates from the second half of 2004. The number of cases falling under the scheme decreased again in 2006.

## Low saving ratio

Saving helps households to build up a buffer against economic disturbances. The household saving ratio has been in decline since 2002 and is now at a low level (see Chart 2.16). In 2006, households saved 1.3% of their disposable income, and the saving ratio was negative in the second half of the year. Strong growth in housing wealth, low interest rates, a favourable labour market, expectations of a continued strong financial position, and high public saving may have contributed to the low saving ratio (see box on page 48).

Net fixed investment is high, while net lending is negative and relatively low by historical standards. Credit market statistics show that household net lending came to NOK -61bn in 2006. There have previously been considerable differences in the estimated level of net lending between the revenue account in the national accounts and the credit market statistics. Following revisions, the differences have now been significantly reduced.

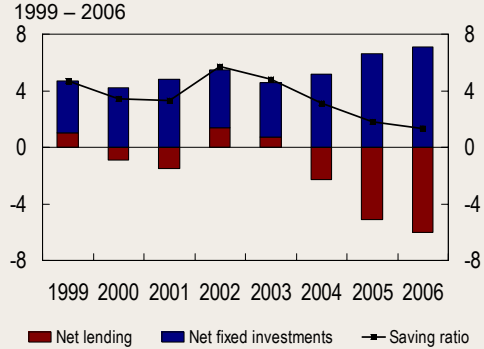
Collective insurance reserves account for a substantial proportion of households' financial assets. These reserves consist primarily of occupational pensions which are compulsory and tied to households' employment. Assets other than collective insurance reserves have been lower than total debt since mid-2002 (see Chart 2.17). The portion of financial wealth that is most liquid and least exposed to price fluctuations fell throughout the period from the end of 1995 to the end of 2006. This means that a smaller proportion of financial wealth is suitable for use as a buffer against increased debt obligations.

## Further high activity in the housing market

Activity in the housing market remains high. In April, house prices were 16.3% higher than a year earlier (see Chart 2.18). The rate of increase in house prices as a three-month moving average has slowed since mid-2006. Resale activity is high, and turnover times short (see Chart 2.19). The supply of new homes has grown and is now at its highest since the early 1980s. Surveys by ECON suggest that the time it takes to sell new homes in southeastern Norway has edged up in the last six months.

There is now high capacity utilisation in the construction industry, and growth in building costs has accelerated sharply in the last six months. The rise in building costs has not been higher since the late 1980s. In isolation, a faster rise in building costs will help to prop up prices for new dwellings. It will also affect prices for existing homes.

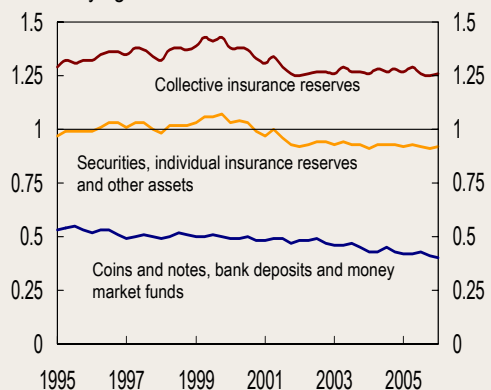
**Chart 2.16** Households' net fixed investments, net lending and savings as a percentage of disposable income.<sup>1)</sup> Annual figures. 1999 – 2006



<sup>1)</sup> Net lending, savings and disposable income are exclusive estimated reinvested dividend payments in the period 2000-2005

Sources : Statistics Norway and Norges Bank

**Chart 2.17** Households' financial assets by financial instrument as a percentage of total debt. Quarterly figures. 95 Q4 – 06 Q4



Source: Statistics Norway

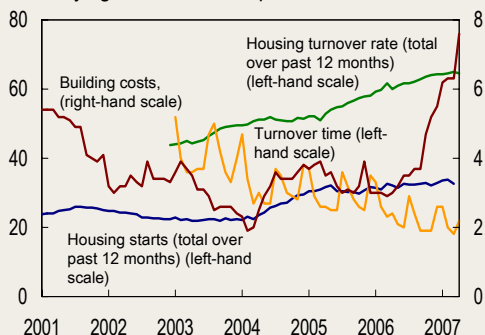
**Chart 2.18** House prices. 12-month growth and annualised growth in 3-month centered moving average in per cent. Monthly figures. Jan 98 – Apr 07



Sources: Association of Real Estate Agents, ECON, Finn.no and Association of Real Estate Agency Firms

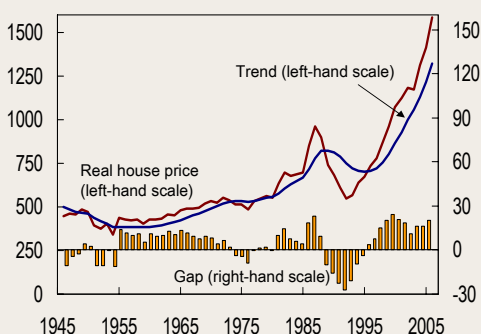


**Chart 2.19** 12-month growth in building costs in per cent, housing starts and housing turnover rate in thousands and turnover time in days. Monthly figures. Jan 01 – Apr 07



Sources : Association of Norwegian Real Estate Agents, ECON, Finn.no, Association of Real Estate Agency Firms and Statistics Norway

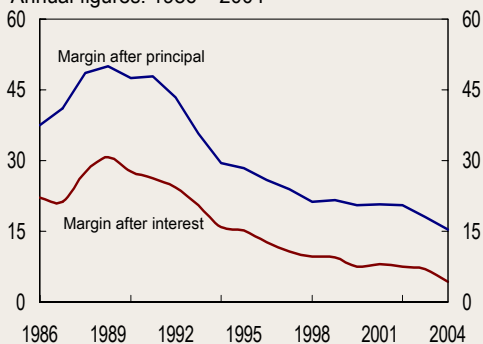
**Chart 2.20** Real house price index<sup>1</sup>, 1819 = 100, trend<sup>2</sup> and real house price gap in per cent. Annual figures. 1946 – 2006



<sup>1</sup> House price index deflated by consumer price index  
<sup>2</sup> The trend is calculated using a Hodrick-Prescott filter and a recursive method on data for the period 1819-2006

Sources : Statistics Norway and Norges Bank

**Chart 2.21** Debt in households with negative margins after principal and after interest. Per cent of total household debt. Annual figures. 1986 – 2004



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

Real house prices (deflated by consumer prices, building costs and rents) are historically high (see Chart 6 in the Summary). However, deflated by disposable income, house price inflation has been moderate over the last decade. Chart 2.20 shows movements in real house prices and a technically calculated trend.<sup>1</sup> The difference between the two is a real house price gap. This gap has been positive since 1996 and is now historically wide.

Technical simulations based on a simple estimated model may indicate that house prices were about 6% higher in the fourth quarter of 2006 than implied in isolation by developments in income, interest rates, unemployment and residential construction. Model-based calculations of this kind are always associated with uncertainty. More flexible loan products, strong population growth, rural-urban migration and expectations of low interest rates in the longer term may have contributed to inflating house prices to a greater extent than the model can explain.

### High margins and high debt burden

Households' financial margin after interest is defined here as income after tax less general living expenses (as calculated by the National Institute for Consumer Research) and interest and housing expenses. Households' financial margin after principal is calculated in the same way but estimated loan repayments are deducted.

Since the early 1990s, the proportion of debt in households with a negative financial margin both after interest and after principal has fallen substantially (see Chart 2.21). Interest-only loans have become more widespread in recent years. Households that experience temporary repayment problems may also be offered interest-only periods. It may therefore be useful to look at the margin after interest when assessing households' financial vulnerability. In 2004, 4% of total household debt was held by households with a negative margin after interest. The rise in interest rates since 2004 and the strong growth in debt in recent years make it reasonable to assume that the proportion of debt held by households with a negative margin has increased since 2004.

Meanwhile, the proportion of debt in households with a high debt burden, defined here as debt of more than 400% of disposable income, has increased since 1998.<sup>2</sup> Thus movements in the proportion of households with a negative margin and the proportion of households with a high debt burden appear to give conflicting signals about developments in credit risk

<sup>1</sup> Trend calculated using a Hodrick-Prescott filter and a recursive method. See the article "House prices, equity prices, investment and credit – what do they tell us about banking crises? A historical analysis based on Norwegian data" by M.D. Riiser in *Economic Bulletin* 3/05.

<sup>2</sup> See the article "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.

from lending to households. One important explanation is that the majority of households with a high debt burden also have a high margin, due partly to low interest rates. The bulk of the increase in debt in households with a high debt burden has been in households with a high margin (more than NOK 100,000 on an annual basis) (see Chart 2.22).

Households' debt burden has grown sharply since the late 1990s and is now historically high (see Chart 2.23). At the same time, growth in general living expenses has been slower than growth in incomes over the last 15 years. If disposable income is adjusted for general living expenses, households' debt burden is now substantially below the high levels seen in the late 1980s.

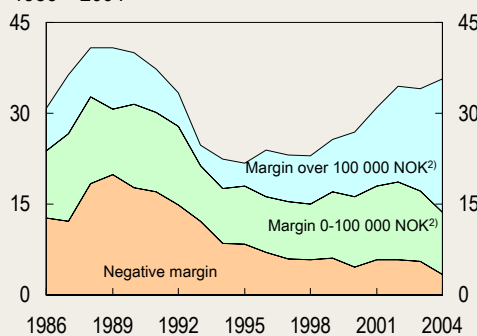
### Outlook

It is likely that higher interest rates and high levels of residential construction will gradually lead to lower house price inflation (see Chart 2.24). Experience shows that house price inflation is the most important driver behind growth in debt. The effect of house prices on debt is long-lasting, because only a small proportion of the overall housing stock changes hands each year. The rapid rise in house prices in recent years may therefore contribute to a sustained higher debt burden over the next few years even if house price inflation slows.

Since 1999, growth in household debt has been higher than income growth, with a marked increase in the debt burden (see Chart 2.25). Projections of the debt burden based on the baseline scenario in *Monetary Policy Report 1/07* suggest that the debt burden will continue to grow, and it is expected to exceed 230% at the end of 2010. The interest burden is set to rise in line with interest rates. At the end of the projection period, the interest burden is estimated to be at its highest since 1993.

An increase in problem loans, defined as non-performing loans and other particularly doubtful loans, normally results in higher loan losses at banks. There has been a sharp decrease in problem loans as a proportion of total lending to households since the early 1990s (see box on page 50). An estimated model suggests that developments in non-performing loans in the household sector are driven by unemployment, real income, real interest rates and real house prices. If developments in the Norwegian economy are in line with the projections presented in *Monetary Policy Report 1/07*, the proportion of problem loans will probably stabilise at a low level. The analysis in the box shows that, in certain circumstances, the proportion of problem loans may increase substantially if interest rates and unemployment climb further than anticipated, and income growth and house price inflation are lower than anticipated.

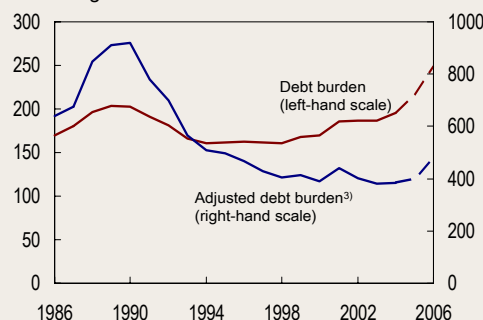
**Chart 2.22** Debt in households with debt burden<sup>1)</sup> over 400 per cent. Divided in margins after interest. Percentage of total household debt. Annual figures. 1986 – 2004



<sup>1)</sup> Debt as a share of disposable income  
<sup>2)</sup> 2004-NOK

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

**Chart 2.23** Debt burden and debt burden adjusted for general living expenses. Households<sup>1)</sup>. Annual figures. 1986 – 2006<sup>2)</sup>



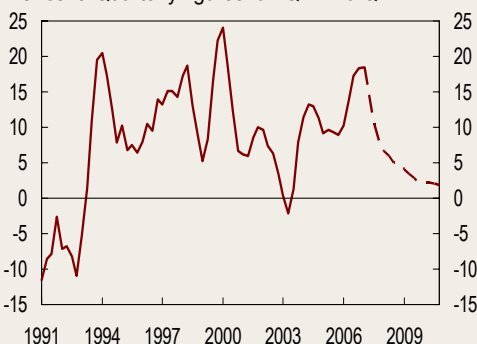
<sup>1)</sup> Households with debt. Self-employed persons and students are excluded

<sup>2)</sup> Projections for 2005 and 2006

<sup>3)</sup> Disposable income is adjusted for general living expenses the way they are calculated by the National Institute for Consumer Research (SIFO)

Sources : Statistics Norway, SIFO and Norges Bank

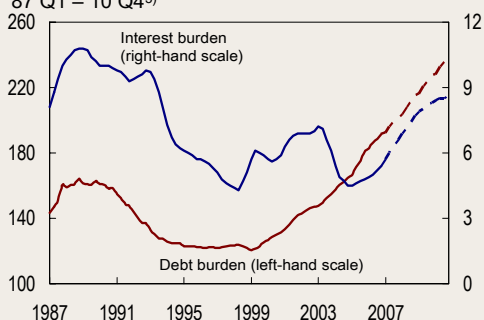
**Chart 2.24** House prices. 4-quarter growth. Per cent. Quarterly figures. 91 Q1 – 10 Q4<sup>1)</sup>



<sup>1)</sup> Projections for 2007 Q2 – 2010 Q4

Sources : Association of Real Estate Agents, ECON, Finn.no, Association of Real Estate Agency Firms, and Norges Bank

**Chart 2.25** Household debt burden<sup>1)</sup> and interest burden<sup>2)</sup>. Per cent. Quarterly figures. 87 Q1 – 10 Q4<sup>3)</sup>



<sup>1)</sup> Loan debt as a percentage of liquid disposable income less estimated reinvested dividend payments

<sup>2)</sup> Interest expenses after tax in percentage of liquid disposable income less estimated reinvested dividend payments plus interest payments

<sup>3)</sup> Projections for 2007 Q1 – 2010 Q4

Sources: Statistics Norway and Norges Bank

## Overall assessment of households and risk factors

- The overall financial situation in the household sector is solid. Credit risk associated with loans to households is expected to remain relatively low overall. Unemployment is unusually low and can be expected to rise slightly in the medium term. Household disposable income is expected to show continued solid growth. The long period of strong growth in debt and rapidly rising house prices has nevertheless increased the vulnerability of households' financial position.
- The increase in financial vulnerability is being amplified by a low proportion of fixed-rate loans. Together with higher debt, this means that higher interest rates will have a greater impact on households' debt-servicing costs than earlier. The proportion of new mortgages with high loan-to-value ratios rose in 2006, as did the number of loans with interest-only periods. The option of interest-only periods can serve as a buffer against downturns, and this buffer is already being used by some households. The saving ratio is also low.
- Long periods of rapidly rising house prices may be followed by a fall in house prices. Real house prices have roughly tripled since 1992. A drop in house prices may lead to an imbalance between assets and liabilities. This would particularly affect households that have to sell their homes in a falling market.

## 2.4 Enterprises

### *Positive earnings growth*

Corporate earnings have been very high in recent years. Profitability at the largest listed companies has improved every year since 2002 (see Chart 2.26). This positive trend is broad-based and is being driven primarily by the favourable economic climate in Norway and abroad. However, there is a broad spread of returns, and some listed companies have reported losses. A selection of financial statements for the first quarter of 2007 may suggest that the strong growth in earnings is now slowing. Half of the companies in the selection reported weaker earnings in the first quarter of 2007 than in the first quarter of 2006. The companies in the selection account for 16% of the total turnover of mainland companies.

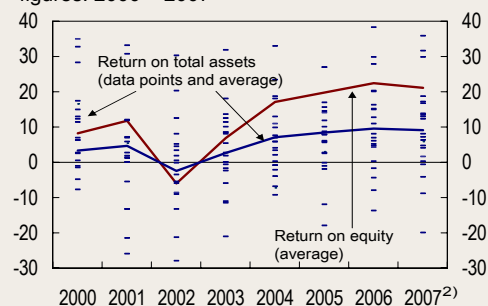
### *Greater uncertainty about value of book equity*

On average, companies have large financial buffers. The average equity ratio for all limited companies in Norway was 40% at the end of 2005 (see Chart 2.27). Borrowings from banks and other credit institutions account for just 19% of companies' financing. Two factors are creating uncertainty about the value of companies' equity. First, there is a large element of cross-ownership: almost 30% of their book assets are investments and shares in other companies. This inflates the value of their book equity to some extent.

Second, intangible assets account for an increasing share of the book assets of listed companies (see Chart 2.28). Intangible assets consist primarily of the book value of goodwill, patents, trademarks, research and development, and deferred tax assets. It is natural for intangible assets to grow in an economic upswing. One reason is that merger and acquisition (M&A) activity increases, leading to higher book goodwill. Furthermore, the estimated value of patents and trademarks, for instance, is often higher when demand is brisk and optimism high. The transition to new International Financial Reporting Standards (IFRS) for consolidated financial statements from 1 January 2005 may explain some of the increase in intangible assets at listed companies, but the trend has been fuelled primarily by strong M&A activity.

Intangible assets have not grown to the same extent at unlisted companies. This is partly because M&A activity is generally lower among these companies and because they apply different accounting rules.

**Chart 2.26** Pre-tax return on total assets and equity for a selection of enterprises listed on the Oslo Stock Exchange.<sup>1)</sup> Per cent. Annual figures. 2000 – 2007<sup>2)</sup>

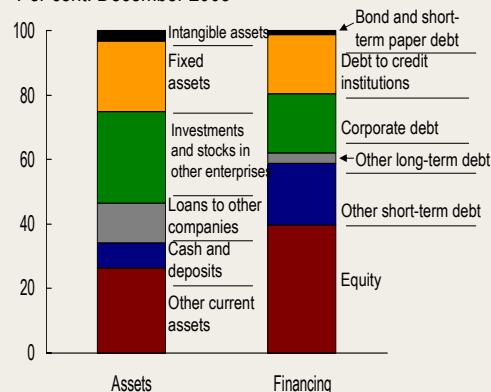


<sup>1)</sup> The selection excludes financial enterprises and Statoil and Hydro

<sup>2)</sup> Accumulated return 2006 Q1 – 2007 Q1

Sources: Quarterly reports of listed companies (consolidated) and Norges Bank

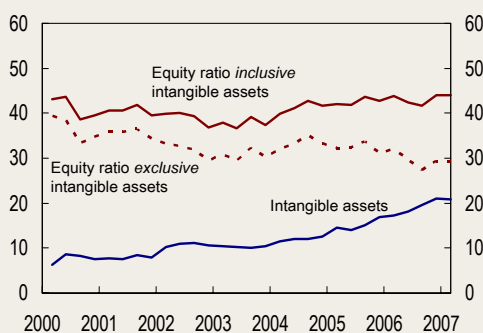
**Chart 2.27** Enterprises<sup>1)</sup> assets and financing. Per cent. December 2005



<sup>1)</sup> Non-financial limited enterprises in mainland Norway

Source: Norges Bank

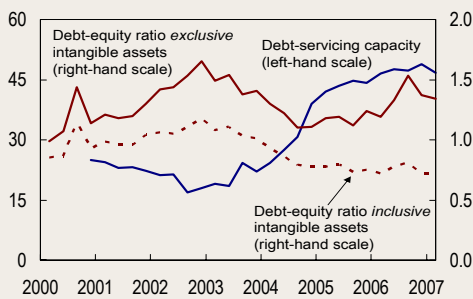
**Chart 2.28** Intangible assets<sup>1)</sup> and equity ratio for a selection of enterprises listed on the Oslo Stock Exchange. Per cent. Quarterly figures. 00 Q1– 07 Q1



<sup>1)</sup> Intangible assets as a percentage of total assets

Sources: Quarterly reports of listed companies and Norges Bank

**Chart 2.29** Debt-servicing capacity<sup>1)</sup> and debt-equity ratio<sup>2)</sup> for a selection of enterprises listed on the Oslo Stock Exchange. Quarterly figures. 00 Q1–07 Q1



<sup>1)</sup> Profits before tax, depreciation and write-downs (sum past four quarters) as a percentage of interest-bearing debt (average past four quarters)

<sup>2)</sup> Interest-bearing debt divided by book equity

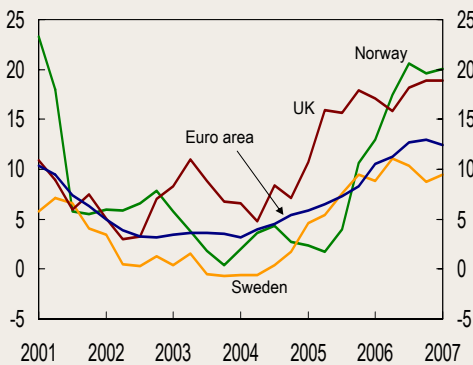
Sources: Quarterly reports of listed companies and Norges Bank

The value of intangible assets can fall relatively quickly in an economic downturn. This is partly because they may have to be written down if there are indications of a diminution in value. M&A activity also normally falls back in an economic downturn. A decrease in the value of intangible assets will reduce the book equity ratio. The equity ratio of listed companies has been stable at high levels in recent years (see Chart 2.28). However, if intangible assets are excluded, the equity ratio is much lower.

### *Solid debt-servicing capacity*

Debt-servicing capacity remains solid. Interest-bearing debt at the listed companies in the selection grew by 9% from the first quarter of 2006 to the first quarter of 2007. Despite this increase, their debt-servicing capacity improved marginally (see Chart 2.29) thanks to buoyant earnings growth. However, debt-servicing capacity fell slightly from the fourth quarter of 2006 to the first quarter of 2007.

**Chart 2.30** Credit to non-financial enterprises in Europe. Annual growth. Per cent. Quarterly figures. 01 Q1–07 Q1



Sources: The European Central Bank, Sveriges Riksbank, Bank of England and Statistics Norway

The listed companies in the selection accounted for 16% of the total increase in debt at mainland companies in 2006. One company accounted for 8% of the increase on its own. The growth in debt at mainland companies as a whole has been higher than at companies in the euro area, Sweden and the UK (see Chart 2.30).

Listed companies' debt-equity ratio, defined as interest-bearing debt divided by book equity, rose in the second and third quarters of 2006 (see Chart 2.29), but has fallen in the last two quarters, due to both an increase in equity and a decrease in interest-bearing debt.

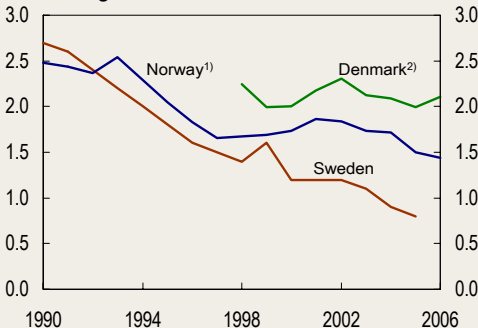
The debt-equity ratio for all limited companies has fallen in recent years (see Chart 2.31). Companies' debt-equity ratio has also fallen in Sweden, but has been more stable in Denmark.

Besides taking out a great deal of debt, Norwegian companies have raised a substantial portion of equity through new issues in the past year. New issue activity has been particularly high in the rig, energy and fish-farming industries.

### *Strong growth in debt and liquid assets*

The growth in debt was broad-based in 2006, but was particularly strong at companies in property and commercial services (Chart 1.12). High growth in fixed investment, including in property and oil-related activities, and broad optimism in the enterprise sector in recent years have contributed to this strong growth in debt. An increase in investment in other enterprises, including acquisitions, has also contributed to this growth. At the beginning of the economic upswing, a

**Chart 2.31** Debt-equity ratio in non-financial enterprises in the Scandinavian countries. Annual figures. 1989 – 2006



<sup>1)</sup> Projections for 2006. Assumes the same change as in the selection of listed companies

<sup>2)</sup> First six months 2006

Sources: Sveriges Riksbank, Danmarks Nationalbank and Norges Bank



large proportion of this investment was self-financed, but many enterprises also needed to increase their debt as investment continued to grow (see Chart 2.32).

We have received financial statements for 2006 from 8 300 limited companies. Analysis of this selection suggests that it was primarily companies with debt that invested in real capital and other enterprises in 2006 (see Chart 2.33). These companies invested NOK 6.5bn in real and financial capital. In addition, their holdings of liquid assets and other current assets increased by NOK 4.6bn. Much of this increase was necessary because the companies' turnover also rose. Higher turnover normally leads to an increase in the need for working capital. Of this total investment of NOK 11.1bn, NOK 7.7bn was financed through retained earnings and injections of equity, and the remainder was debt-financed. Investments in real capital and other enterprises were limited for companies without debt. The increase in working capital was largely self-financed.

Over time, there has been a close correlation between companies' sales turnover and cash holdings (see Chart 2.34). However, it may seem that cash holdings grew more than can be explained by increased turnover in 2006.

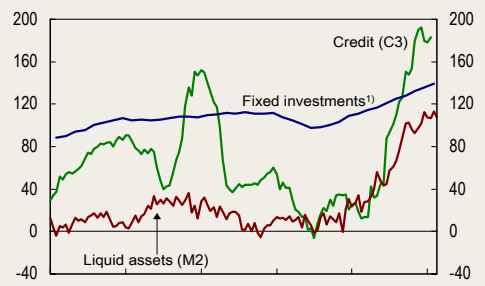
Analyses based on the selection of 8 300 limited companies show that cash holdings grew most at property companies in 2006. Much of the large cash surpluses generated was retained in the companies. A substantial volume of new equity was also injected into the property industry in 2006, into both existing and new companies. It is not unnatural that it takes some time for this capital to find its way into property investments. Capacity limitations in the building and construction industry may have contributed to delaying many projects. In the meantime, much of this capital may have been left in the property companies' bank accounts. The introduction of tax on personal dividends over a set allowance may also have contributed to the accumulation of liquid assets.

### Property industry

Property companies account for more than a third of the banks' total lending to enterprises. Developments in this industry are therefore important for the banks' loan losses.

Revenue from leasing office premises is an important source of revenue for property companies. Office rents increased in all of the big Norwegian cities in 2006 (see Chart 2.35). However, in all cities other than Stavanger, office rents were still lower than in 1987-88 at 2006 prices. In 2006, office rents rose faster in Oslo than in any other major European city. Despite the rapid increase in 2006, office rents in Oslo are still relatively low by both European and historical standards.

**Chart 2.32** Annual growth in credit, liquid assets and level of fixed investments. Enterprises in mainland Norway. Billion current NOK. Monthly figures. Jan 97 – Apr 07

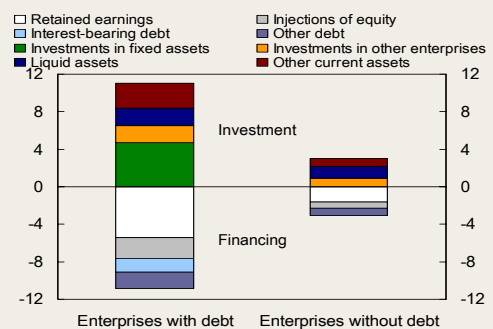


<sup>1)</sup> Gross investments in fixed assets. Mainland Norway excluded dwellings and public administration. Sum past four quarters. 2007 Q1 is last observation

<sup>2)</sup> February 2007 is last observation

Source: Statistics Norway

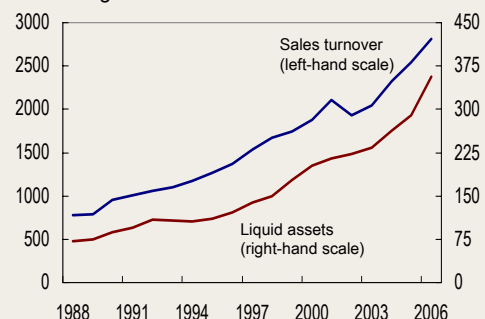
**Chart 2.33** Enterprises' investments and financing in 2006.<sup>1)</sup> Enterprises with and without debt. Billion NOK



<sup>1)</sup> 8 300 enterprises in mainland Norway that had submitted their 2006 financial statement by the end of April 2007. The selection consists of 5% of total limited companies in Norway

Source: Norges Bank

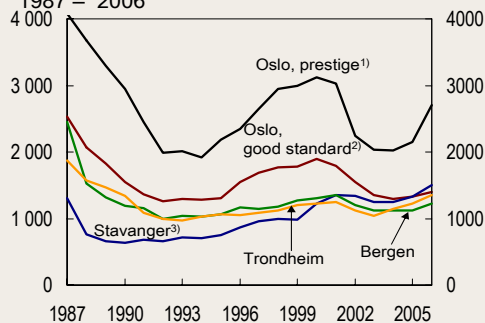
**Chart 2.34** Enterprises' sales turnover and liquid assets. Non-financial limited companies in mainland Norway. In billions of nominal NOK Annual figures. 1988-2006<sup>1)</sup>



<sup>1)</sup> Projections for 2006 are based on a selection of enterprises that had submitted their 2006 financial statement by the end of April 2007

Source: Norges Bank

**Chart 2.35** Office rental prices in the largest Norwegian cities. Annual rent per square meter. Constant 2006-NOK. Annual figures. 1987 – 2006



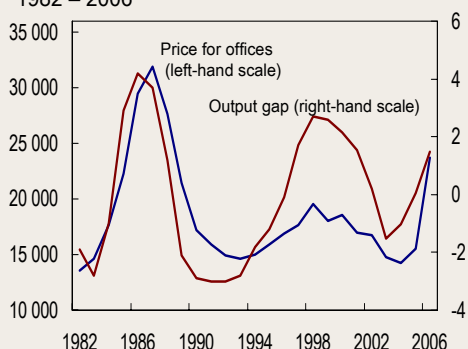
<sup>1)</sup> Offices in the prestige segment in central parts of Oslo  
<sup>2)</sup> Offices with good standard in central parts of Oslo  
<sup>3)</sup> In central parts of Stavanger

Sources: OPAK and Norges Bank

Office vacancy in Oslo is among the lowest in Europe. Vacancy rates have fallen substantially in the big Norwegian cities, which signals continued upward pressure on office rents ahead. The operators in the property market expect office rents to increase further in the period to 2009, after which they expect slightly less favourable macroeconomic conditions and an increase in the completion of new office developments to help to slow or stabilise the rise in prices.

Activity in the property market continued to increase in 2006. The total turnover of commercial property in Norway increased by more than 50% in 2006. The selling prices of offices in Oslo also grew sharply in 2006 (see Chart 2.36). Selling prices have generally followed developments in the output gap since the early 1980s. The value of office premises fluctuates with economic activity, as do office rents.

**Chart 2.36** Changes in transactions price for offices in Oslo<sup>1)</sup> and output gap. Price per square meter in constant 2006-prices. Annual figures. 1982 – 2006



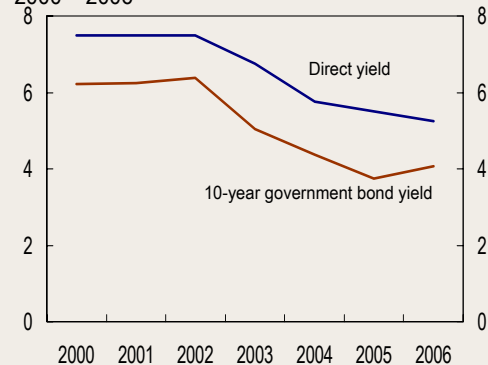
<sup>1)</sup> High standard in central parts of Oslo

Sources: OPAK and Norges Bank

Low long-term interest rates have made investment in property more attractive. The direct yield, defined as annual net rental income divided by purchase price, on office premises of a high standard in Oslo was only 5.25% at the beginning of 2007 (see Chart 2.37). In recent months, there have been examples of yields as low as 3% for office premises in central parts of Oslo.

The financial position of property companies is generally sound. However, several saw their debt-servicing capacity weaken in 2006 (see Chart 2.38). Many property companies have based their investments on a continued rise in rents in the next few years. Stagnating or falling rents would lead to weaker profitability and debt-servicing capacity at these companies. Lower rents could also lead to a drop in selling prices for commercial property, which could further undermine profitability.

**Chart 2.37** Direct yield<sup>1)</sup> and long-term interest rates. Per cent. Annual figures. 2000 – 2006



<sup>1)</sup> Direct yield on buildings with high standard and with a solid tenant on a long contract in Oslo

Sources: OPAK and Norges Bank

Property companies generally have higher levels of debt than companies in other industries. An increase in interest rates to higher-than-expected levels would therefore lead to a larger increase in financing costs at property companies than at other companies. We do not have statistics for the share of property companies' debt that attracts a fixed rate of interest.

### *Optimistic expectations for future earnings*

After a weak end to the first quarter of this year, equity prices on the Oslo Stock Exchange (OSE) have rallied (see Chart 2.8). All of the main sectors have made gains. The OSE's main index has climbed further than indices in Europe and the USA over the last year.

Companies generally anticipate good growth in output, and orders are strong. Market players still have relatively optimistic expectations for earnings at listed companies in 2007 and 2008 (see Chart 2.39).



Although the outlook for the Norwegian economy is bright in the medium term, the climate will gradually change. One key issue for those issuing credit to enterprises is how strong the downturn will be and how well equipped enterprises are to deal with it. Our analyses show that enterprises generally have good debt-servicing capacity and high equity ratios. However, some enterprises will have problems servicing their debt even in a moderate economic downturn.

### Low default probabilities

The Moody's KMV model for default probabilities at large unlisted companies indicates low levels of credit risk (see Chart 2.40). The probabilities in the model are calculated partly on the basis of the individual company's financial statements and movements in equity prices in comparable industries. The increase in default probabilities in March 2007 was due to the slide in equity prices that month.

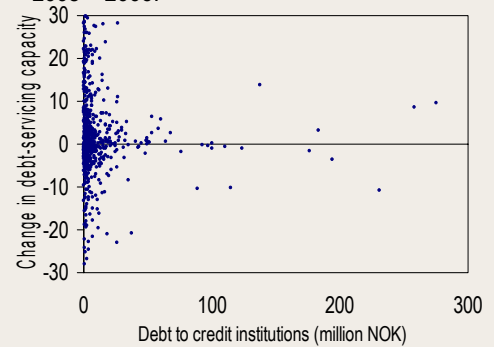
Other factors also suggest low levels of credit risk. The spread between the yield on bonds issued by Norwegian companies and the yield on government bonds is still low by historical standards. Projections also suggest that problem loans to enterprises will hold at a low level in the coming years, but that macroeconomic disturbances could result in an increase in problem loans (see box on page 50). Bankruptcy probabilities calculated using the SEBRA model for non-financial companies are estimated to be historically low. The number of bankruptcies fell by 10% from 2005 to 2006, but increased in the fourth quarter of 2006 and first quarter of 2007. An increased number of business start-ups in recent years has probably led to more bankruptcies.

### Overall assessment of enterprises and risk factors

An overall assessment of developments at enterprises suggests that credit risk is still relatively low. Although enterprises' financial position is sound and the outlook is generally favourable, enterprises face a number of risk factors in the coming years:

- A weaker global economic climate or drop in oil prices could undermine profitability and debt-servicing capacity at many Norwegian enterprises. A large proportion of Norwegian enterprises are suppliers to oil companies. A decrease in household consumption would also erode enterprises' profitability.
- Intangible assets account for a growing share of enterprises' book assets. These assets may have little value in an economic downturn.

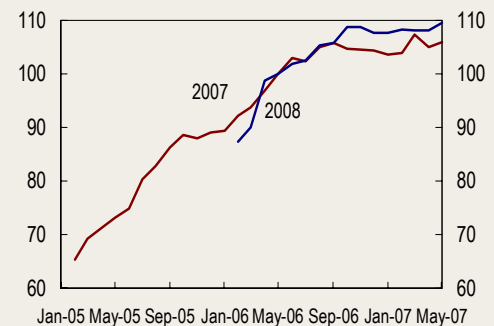
**Chart 2.38** Change in debt-servicing capacity<sup>1)</sup> in property companies.<sup>2)</sup> Percentage points. 2005 – 2006.



<sup>1)</sup> Profits before tax, depreciation and write-downs as a percentage of interest-bearing debt  
<sup>2)</sup> 820 property companies that had submitted their 2006 financial statement by the end of April 2007

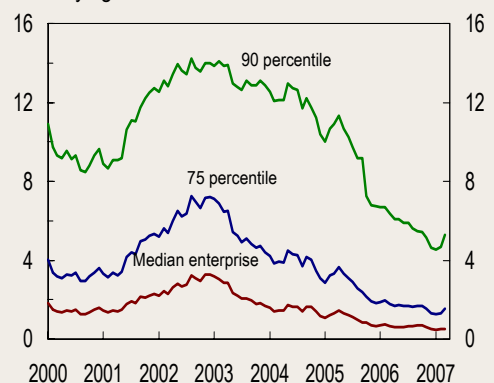
Source: Norges Bank

**Chart 2.39** Expected earnings in 2007 and 2008 for listed companies in Norway. May 2006 = 100. Monthly figures. Jan 05 – May 07



Source: Reuters (EcoWin)

**Chart 2.40** Expected default probability for large enterprises in selected industries. Per cent. Monthly figures. Jan 00 – Mar 07



Source: Moody's KMV

- Companies in several sectors are having problems sourcing labour and other inputs. This may lead to ongoing projects being abandoned before revenue is received. Furthermore, competition for labour and other inputs may lead to a substantial increase in enterprises' costs.
- A drop in prices in the property market could lead to weaker profitability and debt-servicing capacity at many property companies. Such a drop could be triggered by larger increases in interest rates and weaker activity than anticipated in the property market.

## 2.5 Financial infrastructure and regulatory framework

### *Financial infrastructure*

Norges Bank is to promote a robust and efficient financial system. A smoothly functioning financial infrastructure is important for efficient allocation of capital in the economy. One new development since the December 2006 report is the plan to merge the Oslo Stock Exchange (OSE) and the Norwegian Central Securities Depository (VPS). The merger plan will be considered at extraordinary general meetings on 11 June. Licences to operate as a securities exchange and settle securities transactions will be required from Kredittilsynet (Financial Supervisory Authority of Norway), Norges Bank and the Ministry of Finance.

The European Central Bank (ECB) and the Eurosystem are considering setting up a centralised securities settlement system for euro-denominated trades, TARGET2-Securities (T2S). The system is to be owned and operated by the Eurosystem. The plan is for T2S to come into operation in 2013.

### *Regulatory framework*

New rules providing for the issue of covered bonds came into force on 1 June 2007. These bonds will give the holder a preferential right to a specifically defined selection of the mortgage company's assets. These assets might be loans to the public sector or loans secured against housing or other property. This new type of bond is expected to bear a slightly lower rate of interest than ordinary bonds. This will reduce the mortgage companies' funding costs, which may in turn provide a basis for lower lending rates. As only mortgage companies will be able to issue the new bonds, loans will be transferred from banks to mortgage companies.

Changes will be made to key aspects of the rules governing financial markets over the next few years as part of the harmonisation of the European regulatory system. The changes to the capital adequacy rules for credit institutions and securities companies (Basel II), the capital adequacy rules for insurers (Solvency II) and the financial reporting rules for financial institutions (IFRS) will have a major impact on both the capital strength of individual institutions and the stability of the financial system. IFRS and Basel II are already in the process of being implemented, while Solvency II is expected to apply from 2010.

The main aim of these regulatory changes is to strengthen the stability of the financial system through requirements and incentives for better risk management, and through capital requirements that reflect risk to a greater extent than earlier. Greater demands are being placed on institutions'

own assessment of their capital needs, and the supervisory authorities will need to impose additional capital requirements if an institution's risk profile so warrants. In addition, assets and liabilities must increasingly be carried at market or realistic value, which will provide a better basis for assessing institutions' financial position. However, the rules are complex and entail considerable challenges for both the financial institutions and the authorities.

# 3 | Challenges

## 3.1 Risks

On the whole, the financial stability outlook is considered satisfactory. Liquidity risk, market risk and credit risk at banks remain relatively low in the short term. If macroeconomic developments are broadly in line with our projections, banks' loan losses and results should remain satisfactory over the next two to three years. Moreover, satisfactory capital ratios indicate that banks are well poised to meet a situation with higher loan losses.

The analyses in Sections 1 and 3 nevertheless indicate that certain developments may weaken the outlook. We will focus on six conditions in particular:

### *Uncertainty surrounding external economic developments*

The Norwegian business sector is highly dependent on international markets. In recent years, Norwegian business and industry have benefited from buoyant global demand and favourable prices for our export goods. This has contributed to high corporate profitability in Norway and unusually low loan losses at Norwegian banks.

There are a number of conditions that may lead to a weakening of the global economy. Problems in segments of the US housing market may spread to other areas. This may lead to weaker growth in private consumption and lower growth, first in the US and then globally. Furthermore, global trade imbalances may lead to wide swings in exchange rates, interest rates and growth in the world economy. In addition, high prices for oil and other commodities may dampen growth while holding up inflation, which may result in higher global interest rates than implied by capacity utilisation. The recent years' high corporate and household debt accumulation in many countries has probably amplified the effects of interest rate increases on private demand.

An international downturn will weaken earnings in many Norwegian enterprises and eventually lead to higher losses on bank loans to the business sector.

An abrupt correction of global imbalances accompanied by marked exchange rate movements and higher long-term interest rates also have consequences for financial institutions' investment returns and funding costs. Price developments in the Norwegian securities market largely follow international developments. Norwegian financial institutions' credit risk, market risk and liquidity risk may increase as a result of external conditions.

### *Low risk premia*

Risk premia in international financial markets are low from a historical perspective. The yield premium on corporate bonds has been low and there has been a high level of carry trades among foreign exchange market participants. The unrest in financial markets in February and March reduced risk willingness and triggered an unwinding of risky positions. The increase in risk premia was nevertheless modest and short-lived.

A weakening of the global economy or an incident at a major financial institution or company may reduce the willingness to take risk and result in higher risk premia. A marked change in risk pricing may increase enterprises' and financial institutions' funding costs. The value of financial institutions' securities portfolio may then also show a substantial fall.

### *High debt growth and house price inflation in Norway*

The historically high and rising debt burden of Norwegian households has increased their vulnerability to economic disturbances.

Unemployment is unusually low and must be expected to rise in the medium term. Income growth will gradually slow, which may lead to debt-servicing problems in the household sector. Since 1992, real house prices have increased by 175% according to Statistics Norway and by 223% according to the statistics from the real estate industry and ECON. Periods of strong house price increases may be followed by a fall in house prices (see box on page 43). A fall in house prices can result in imbalances between liabilities and assets, with a fall in the value of banks' collateral. A weakening of households' financial position and falling house prices will lead to somewhat higher losses on banks' loans to households. Such a weakening will also lead to lower demand and weaker corporate earnings, with an attendant increase in losses on loans to enterprises.

### *High degree of optimism and rapid increase in commercial property prices*

Bank lending to the property industry is rising at a fast pace. Lending to property companies now account for 13% of total bank loans. The financial position of both property companies and their lessees is solid at present. Commercial property prices have exhibited a considerable increase over the past year. Operators in the market expect prices to continue to rise at a fast pace. Lower demand in the Norwegian economy could result in a slower-than-expected rise in prices. Combined with higher interest rates, this may reduce profitability in the commercial property market, with an attendant increase in

bank losses. Losses on loans to the commercial property market accounted for a large share of banks' loan losses during the banking crisis (1988-1993).

### *Structural challenges to bank earnings*

Competition in the banking market will continue to exert pressure on banks' interest margins and net interest income. The strong rate of increase in bank lending in recent years has counteracted the effect of the fall in interest margins on profits. The high debt burden of households and prospects of higher interest rates will eventually lead to slower lending growth. Because the high level of lending growth is not sustainable over time and pressures on interest margins are not likely to ease, banks must increase income from other sources or reduce costs in order to maintain profitability. Competition may also increase on the deposit side and in other segments such as payment and asset management services.

### *Transition to new capital adequacy rules*

In the interest of financial stability, it is very important for banks to maintain sufficient capital buffers to absorb unexpected loan losses. Banks should ensure that they have sufficient capital to meet a possible economic downturn. The capital adequacy regulation will, through the minimum capital adequacy requirement, contribute to ensuring this. The new capital adequacy rules introduced in 2007 (Basel II) will enhance risk management. The distribution of capital among financial institutions will to a greater extent reflect differences in risk. This promotes financial stability.

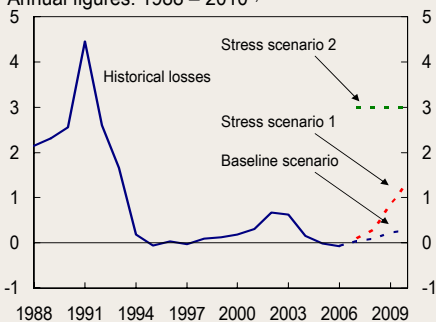
However, Basel II will lead to markedly lower minimum capital requirements at most banks in the years ahead. The transition to the new capital adequacy rules entails some degree of risk that banks will reduce capital to the extent that the buffers for meeting unforeseen events become smaller than what is considered desirable.

## 3.2 Stress testing of banks' results

Banks' prospects and vulnerability can be assessed using forecasts and stress tests. We have looked at possible consequences of higher loan losses on the profits and capital adequacy of Norway's five largest banks. An increase in loan losses may be triggered by a pronounced economic downturn. Such a development is described in the box "Factors behind banks' problem loans" (see page 50). In this scenario, interest rates increase markedly owing to prospects for high inflation, while property prices and economic growth show a pronounced decline.



**Chart 3.1** Banks' losses on lending to households and non-financial enterprises. Baseline scenario<sup>1)</sup> and stress scenarios 2007-2010. Percentage of lending to households and non-financial enterprises. Annual figures. 1988 – 2010<sup>2)</sup>



<sup>1)</sup> Baseline scenario from *Monetary Policy Report 1/07* is used

<sup>2)</sup> Historical losses in the period 1988 - 2006. Projections and stress scenarios in the period 2007 - 2010

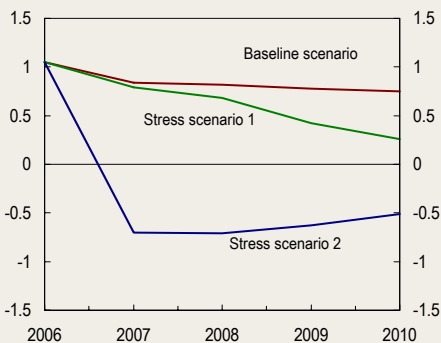
Source: Norges Bank

An economic slowdown with higher loan losses could also occur against the background of a global downturn, triggered by factors described in Section 3.1.

The calculations are based on the following assumptions: For the projection period 2007-2010, three scenarios are assessed; the baseline scenario and two stress alternatives. The baseline scenario for growth in loan volume and loan losses are based on the projections for the economy described in *Monetary Policy Report 1/07* and the analyses in the same report.

In the baseline scenario, loan losses increase from about zero to around ¼% in 2010 (see Chart 3.1). Lending growth for the five banks combined gradually slows to 10% in 2010. It is also assumed that interest margins decline somewhat ahead as a result of slightly lower deposit margins. Other operating expenses are assumed to increase by 4% annually. The strong growth in other operating income recorded in recent years is assumed to show a gradual decline. With a few exceptions, all other profit items are projected to be in line with average growth over the past five years.

**Chart 3.2** Projections of post-tax profit as a percentage of average total assets in Norway's five largest banks<sup>1)</sup>. Annual figures. 2007 – 2010

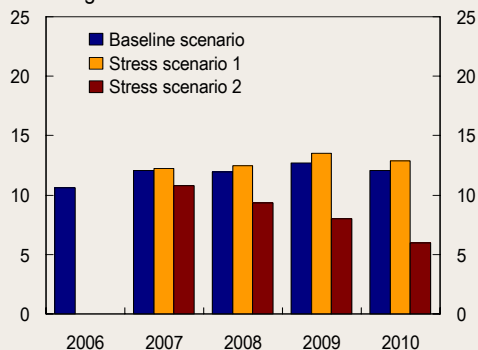


<sup>1)</sup> DnB NOR Bank (excl. branches abroad), SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 Nord-Norge and SpareBank 1 Midt-Norge

Source: Norges Bank

All five banks have been authorised to apply the internal-ratings based approach under Basel II, and report capital adequacy in accordance with this as from 2007. The Basel II framework implies a reduction in the capital requirement for these banks compared with Basel I. The minimum capital adequacy requirement of 8% still applies. The capital requirement is reduced because banks' assets are given on average a lower risk weight, which reduces risk-weighted assets (the denominator in the capital adequacy ratio). The reduction can be taken in full as from 2010. In 2007, risk-weighted assets shall account for no less than 95% of what would have been required under Basel I. In 2008 and 2009, the corresponding floor is 90% and 80%, respectively. In the analysis, it is assumed that the floor is binding and risk-weighted assets in 2010 are still 80% of what would have been required under Basel I.

**Chart 3.3** Projections of capital adequacy in per cent in Norway's five largest banks<sup>1)</sup>. Annual figures. 2007 – 2010



<sup>1)</sup> DnB NOR Bank (excl. branches abroad), SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 Nord-Norge and SpareBank 1 Midt-Norge

Source: Norges Bank

Developments in profits and capital adequacy in the baseline scenario are shown in Charts 3.2 and 3.3. Profits are relatively stable through the projection period, despite the fall in the interest margin, given the assumption of continued high growth in loan volume and other operating income. Moreover, loan losses are virtually unchanged. The capital adequacy ratios for the five banks are approximately unchanged through the projection period and well above the minimum requirement. The transition to Basel II contributes to holding up capital adequacy ratios.

The baseline scenario calculations show that developments in Norway's five largest banks combined remain favourable if developments in the Norwegian economy are broadly in line with projections.

In stress alternative 1, loan losses are assumed to increase gradually to 1.3% in 2010 (see Chart 5 on page 52). Growth in loan volumes slows markedly to 3%. Growth in other operating income also slows to a further extent than in the baseline scenario. Other assumptions remain the same as in the baseline scenario.

Bank profits deteriorate markedly in stress alternative 1, but remain positive through the projection period (see Chart 3.2). As a result of lower retained profits, growth in the banks' capital is lower in the stress alternative. In isolation, this pushes down capital adequacy, but the effect is curbed by our assumption that half of the post-tax profit is used for dividend payments. Lower lending growth results in slower growth in total volume of risk-weighted assets. This pushes up capital adequacy. All in all, capital adequacy therefore shows little change in the stress alternative (see Chart 3.3). If the assumption concerning lending growth had been the same as in the baseline scenario, capital adequacy would have been weaker in the stress alternative than in the baseline scenario.

The level of loan losses in stress alternative 1 is lower than during the banking crisis, when annual losses averaged around 3% in the period 1989-1992. In stress alternative 2, we have therefore assumed that annual losses average 3% through the projection period. The other assumptions are the same as in stress alternative 1. The result is then negative in each year. Capital ratios also show a considerable weakening, and are at the minimum requirement in 2009 before falling well below the minimum requirement in 2010. The analysis thus indicates that the banks are well poised to meet weaker developments, but that an increase in losses on a par with that witnessed during the banking crisis may result in capital ratios that are lower than the regulatory requirement.

There are still conditions that may lead to a more critical situation than illustrated here. Banks that use the internal-ratings based approach estimate the risk weights on the basis of historical data. When loan losses increase, the risk weights and hence the capital requirement will also increase. Our analysis does not take this into account. In addition, loan customers may be granted loan payment deferrals in the event of payment problems. This will result in a higher volume of outstanding loans and a higher calculation basis than assumed. Capital ratios will then be lower than in the stress alternatives.

Under the assumptions concerning economic developments in stress alternative 2, it is unlikely that the banks will be in a position to raise subordinated loan capital and other funding to the same extent as in recent years.

The scenarios are confined to the period up to and including 2010. Under the stress alternatives, it is unlikely that 2011 will be a normal business year. On the other hand, the banks will not remain passive in the face of such a development. In response to large loan losses, banks will probably seek to increase interest margins. Developments in interest margins in such a scenario will depend on competition in the loan market.

### 3.3 Conditions that may mitigate the risk of financial instability

The stress tests show that weaker macroeconomic developments can lead to a considerable increase in these banks' loan losses. Combined with continued strong competition and pressure on bank income, this may result in a deterioration in profitability and the financial position of the banks. However, there are conditions that may contribute to mitigating the risk of a marked weakening of profitability and financial strength in the coming years:

New loan products place considerable demands on credit assessments and customer advice. When interest rates are low, it can be challenging for borrowers to assess their own debt-servicing capacity over time. Good information from lenders about the consequences of interest rate increases and principal payment deferrals will alleviate the risk of increased payment problems in the future.

The strong and almost uninterrupted rise in house prices since the beginning of the 1990s may have fuelled expectations that house prices will only continue to increase, but history shows that this period has been extraordinary. Over a longer time horizon, the average rise in house prices has been clearly lower than over the past 15 years, and there have been periods of sharp declines. If the loan-to-collateral value ratio is kept at a low level, banks' collateral will be less vulnerable to a fall in house prices and borrowers will be in a better position to meet their debt obligations.

A very small portion of Norwegian households have chosen fixed-rate loans. In many other countries, fixed-rate loans are more common. Households that prefer a higher degree of predictability with regard to interest expenses can consider the option of a fixed-rate loan.

Commercial property prices have increased markedly over the past year. The market is characterised by a high degree of optimism about future rental prices. The value of the collateral underlying the loans may decline rapidly in the event of a cyclical downturn. Banks that take this into account in their lending practice are in a better position to meet a weaker property market.

The current high level of lending growth places considerable demand on risk management at banks. Some banks have low lending margins. It is important that margins reflect loan administration costs and expected losses while providing a reasonable return on equity.

A further challenge facing banks is that the transition to new capital adequacy rules comes at a time when the economy is booming with strong competition for market shares. Banks whose risk models take account of the unusually low level of losses in recent years are less vulnerable to the risk that a fall in capital will be too large to meet unforeseen events and higher losses.

Under Pillar 2 of the Basel II framework, banks are required to establish a process for assessing their risk profile and capital needs. Banks' work to design such a process will make a contribution to averting a crisis in individual institutions. The cyclical swings in the capital requirement under Pillar 1 can be counteracted by capital buffer requirements under Pillar 2.

The introduction of a separate capital requirement for operational risk in the Basel II framework makes this type of risk more visible to banks. Operational risk is demanding to quantify and can comprise a broad spectrum of risks from natural disasters to failed confidence in banks' services. If confidence in banks' electronic services should fail, this may prompt customers to use services that are more costly for banks or could lead to a fall in customer use of banking services. Developing and maintaining customer-friendly and reliable services with a high level of public confidence are therefore important for bank profitability.

Liquidity risk has received considerable international attention in recent years. Reduced deposit-financing and growing dependence on professional funding markets, such as the interbank market and securities market, increase the likelihood that in periods of market disturbances it may be more difficult for banks to renew funding. Dependence on foreign funding sources may increase vulnerability. Banks have access to liquidity in Norges Bank against approved collateral, but growing internationalisation also requires liquidity in different currencies and markets. It is therefore important that banks have a diversified funding and maturity structure that is adapted to the bank's business.

Sound risk management at financial institutions is the most important condition for preventing instability in the financial system. Even if this condition is satisfied at most financial institutions, we must be prepared for a situation where financial problems arise in individual financial institutions. Problems may then spread to other financial institutions. It is therefore important that banking regulation is designed to

prevent problems from spreading and intensifying during a crisis. It is particularly important that the regulatory framework for deposit guarantee schemes and public administration provide private operators with incentives to resolve a crisis without government support. The banks' owners, managers and creditors must know that the authorities may rapidly place a crisis bank under public administration if that proves necessary. The banks' guarantee funds have taken a closer look at the practical routines involved in placing a bank under public administration. It is important that these routines are adapted to today's banking structure and payment systems.

The EU has increased its focus on the need for improving the framework for crisis management, particularly for cross-border banks. Good national information routines and a clear division of responsibility are a precondition for dealing with crises at cross-border banks rapidly and effectively.

In Norway, closer cooperation was established in 2006 between the Ministry of Finance, Kredittilsynet (Financial Supervisory Authority of Norway) and Norges Bank in the area of financial stability and crisis management. Furthermore, crisis exercises are carried out on a regular basis, both at national and international level, to test whether the regulations and routines are appropriate at all times.

## Boxes

International experience of turnarounds in the housing market

Low share of fixed-rate loans in the household sector

Low household saving

An analysis of banks' problem loans

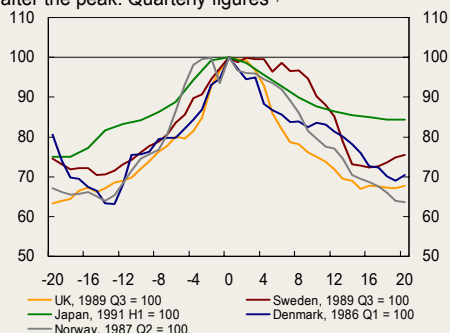


# International experience of turnarounds in the housing market

In most OECD countries, house prices have fluctuated around a rising trend since the 1970s. There have been some episodes of falling house prices and sharp falls in house price inflation. These coincided with economic downturns.

Most sharp house price falls took place in the periods 1980-82 and 1989-92.<sup>1</sup> Chart 1 shows developments in house prices in some of the OECD countries that experienced the widest fluctuations around 1990. The fall in house prices in these countries was relatively pronounced and persistent. In the late 1980s, high house price inflation coincided with strong growth in private consumption and high inflation in a number of countries. Monetary policy was tightened, contributing to lower demand in the economy, higher unemployment and a weaker housing market. Sweden, Finland and Norway experienced banking crises in the early 1990s.

**Chart 1** Upturns and downturns in real house prices<sup>1)</sup> in selected countries. Peak in the period (quarter 0) = 100. Development 5 years before and after the peak. Quarterly figures<sup>2)</sup>



<sup>1)</sup> House prices are deflated by the consumer price index (CPI). In the UK house prices are deflated by the retail price index (RPI)

<sup>2)</sup> Semi-annual figures for Japan

Sources: Reuters (EcoWin), Bank of International Settlements (BIS) and Norges Bank

From the mid-1990s, real house prices rose sharply in many countries. The rise in prices has been slower in several of the countries in recent years. So far, the landing has been fairly soft. Some of the possible factors are discussed below, with focus on the Netherlands, the UK and Australia, which are among the OECD countries with the most pronounced movements in house prices.

An important difference in relation to the house price cycles around 1980 and 1990 is that short-term and long-term interest rates, both nominal and real, are lower. Monetary policy in many countries has been changed from a fixed rate regime to an inflation targeting regime. This may contribute to smaller fluctuations than previously, which in isolation reduces the risk of a sharp fall in house prices.

Low interest rates ease debt-servicing and support house prices. On the other hand, high house prices have contributed to growth in household debt. If the strong debt growth continues, households will be more vulnerable to negative economic disturbances, and the slowdown in the housing market may be more pronounced.

Changes in the unemployment rate are an important factor with respect to the magnitude of both corrections in the housing market and the impact on the real economy.<sup>2</sup> The labour market is a decisive factor for income and expectations regarding future household income. It affects both private consumption and demand in the housing market. In recent years, the labour market has supported house prices. In many countries, unemployment was far higher in the early 1990s.

In the Netherlands, house price inflation has slowed markedly since the peak in 1999. From 2000 to 2003, economic growth was weak, private consumption declined and unemployment rose (see Chart 2). This pushed down housing demand. At the same time, there are physical constraints on residential construction in the Netherlands. This curbs the downside of house prices.

House price inflation in the UK has declined substantially since the peak in 2002-2003 (see Chart 3). Historically, the rise in house prices and growth in private consumption have been strongly correlated in the UK. In the most recent period of rapidly rising house prices, private consumption grew more moderately. This may indicate that the rise in house prices was driven by factors other than expectations relating to future income growth. A weaker relationship between house prices and private consumption

may reduce the spillover effects of the rise in house prices on the wider economy.<sup>3</sup> It also increases the probability of a soft landing in the housing market. Increased labour migration from the new EU countries to the UK in recent years has also led to high housing demand, which may also have contributed to dampening the fall in house price inflation.

In Australia, real house prices increased by almost 70% between 1996 and 2003, but the rise has slowed substantially in recent years (see Chart 4). Housing investment fell and growth in private consumption slowed somewhat. Nonetheless, economic growth remained at a high level. Strong growth internationally, particularly in China, has increased demand for important Australian export goods. Solid profitability in the export industry has supported economic growth, and has reduced the negative interaction between the housing market and the real economy.<sup>4</sup>

Overall, lower interest rates, lower unemployment and more stable economic developments have so far contributed to less pronounced corrections in the housing market in recent years than in the periods around 1980 and 1990. Some factors specific to individual countries have also played a part. At the same time, the household debt burden has increased in many countries. Interest-only loans have eased debt-servicing, but imply depletion of financial buffers. This increases household vulnerability. Hence, the experience of fairly mild slowdowns in housing markets in several countries in recent years does not imply that the risk of a sharp downturn can be dismissed.

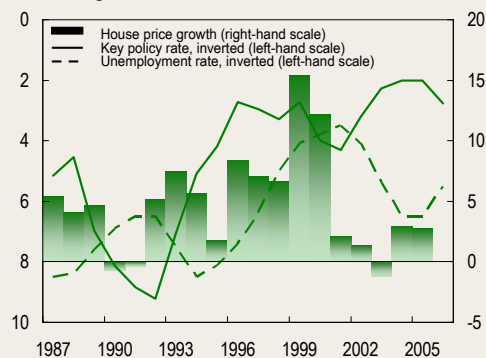
<sup>1</sup> “World Economic Outlook”, April 2003, IMF.

<sup>2</sup> “World Economic Outlook”, April 2007, IMF.

<sup>3</sup> “Inflation Report”, May 2004, Bank of England.

<sup>4</sup> “2006 Article IV consultation with Australia”, IMF.

**Chart 2** Unemployment rate, key policy rate<sup>1)</sup> and real house price inflation<sup>2)</sup>. Netherlands. Annual figures. 1987 – 2006

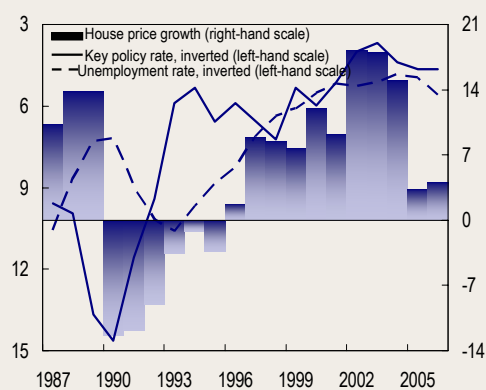


<sup>1)</sup> This series is the old Dutch rate for special loans continued with the ECB Refinancing Tender rate from January 1999

<sup>2)</sup> Deflated by the CPI

Sources: Reuters (EcoWin), IMF and Norges Bank

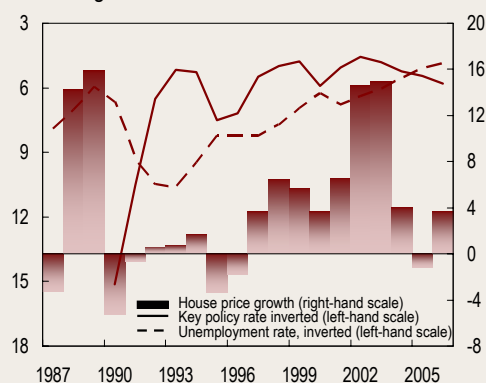
**Chart 3** Unemployment rate, key policy rate and real house price inflation<sup>1)</sup>. UK. Annual figures. 1987 – 2006



<sup>1)</sup> Deflated by the CPI

Sources: Reuters (EcoWin), IMF and Norges Bank

**Chart 4** Unemployment rate, key policy rate and real house price inflation<sup>1)</sup>. Australia. Annual figures. 1987 – 2006



<sup>1)</sup> Deflated by the CPI. Break in the series in 2002

Sources: Reuters (EcoWin), IMF and Norges Bank

# Low share of fixed-rate loans in the household sector

As a result of rapid debt growth and a pronounced increase in net interest-bearing debt, a given interest rate change will have a stronger impact on household interest expenses now than previously. The short-term impact of an interest rate change on household interest expenses also depends on the share of fixed-rate loans in relation to total household debt and fixed-rate periods.

The share of household fixed-rate loans is low in Norway. At the end of the first quarter of 2007, fixed-rate loans accounted for only a little less than 8% of household loans (see Chart 1). Most fixed-rate loans have a residual fixed-rate period of less than five years. The share of fixed-rate loans in Norway is very low compared with other countries, such as Sweden and Denmark (see Chart 2). In Sweden, about 60% of household mortgages are fixed-rate loans. About 65% of these have a residual fixed-rate period of less than five years. In Denmark, long fixed-rate contracts are common. Mortgage rates are often fixed to maturity. At the end of 2006, the share of fixed-rate mortgages in Denmark was 45%. The share of fixed-rate mortgages in Sweden and Denmark has also exhibited a falling trend in recent years.

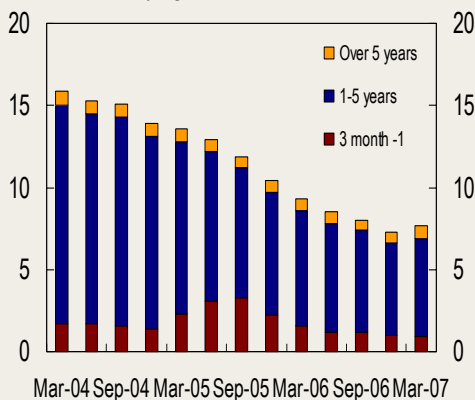
## Why is the share of fixed-rate loans low in the household sector?

There may be various motives behind households' choice of a fixed or a floating interest rate. One

motive for choosing a fixed-rate loan may be predictable expenses. Another may be related to speculation. Borrowers seek to minimise interest expenses over the loan period. The difference in interest rates on loans with fixed and floating rates at the time of entering into the loan contract, and borrowers' interest rate expectations will have a bearing on the choice of fixed or floating rate. A third possibility may be that borrowers have a short-term approach and therefore give most weight to the size of the payments when entering into a loan contract.<sup>1</sup> A fourth possibility may be that households prefer a stable level of consumption over a lifetime. The fixed/floating rate interest structure that stabilises consumption depends partly on the correlation between interest rate changes and income growth.

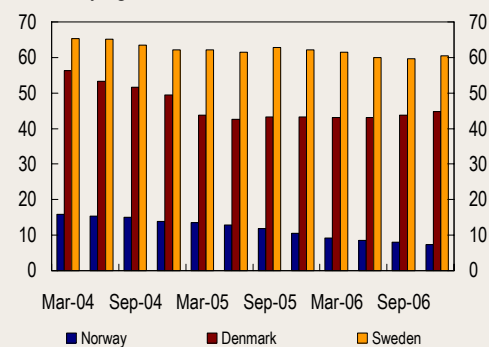
ECON Analyse interviewed a number of banks in Norway about borrowers' priorities when choosing a fixed or floating rate loan. The conclusion of the survey was that households place considerable emphasis on the difference between the interest rate on a fixed and floating rate loan when choosing interest terms.<sup>2</sup> Borrowers' expectations regarding the difference between fixed and floating rates in the future also play a part. One possible reason for the very low share of fixed-rate loans in Norway may be that in the past fixed-rate loans have not been a favourable option. This is because the general interest rate level in Norway has been on a falling trend for the past 20 years (see Chart 3).

**Chart 1** Households' fixed-rate loans after residual fixed-rate period as a share of total household loans. Quarterly figures. 04 Q1 – 07 Q1



Source: Statistics Norway

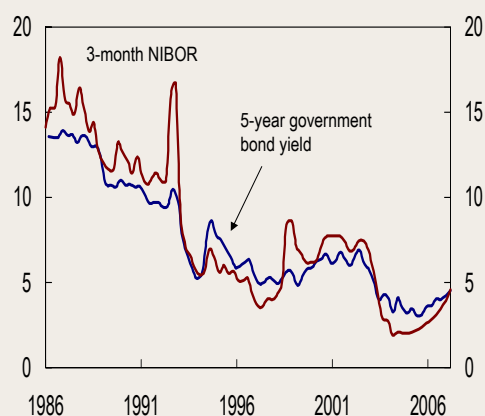
**Chart 2** Fixed-rate loans with as a percentage of households' total loans.<sup>1)</sup> Quarterly figures. 04 Q1 – 06 Q4



<sup>1)</sup> For Denmark and Sweden the share of fixed-rate mortgages is reported as a percentage of total mortgages

Sources: Danmarks Nationalbank, Sveriges Riksbank and Norges Bank

**Chart 3** 5-year government bond yield and 3-month NIBOR. Quarterly figures. 86 Q1 – 07 Q1



Source: Norges Bank

There may also be supply-side factors in the credit market that explain the low share of fixed-rate loans in the household sector in Norway. One possible reason is weaker competition in the market for fixed-rate loans than for floating-rate loans. In Norway it is primarily banks that provide mortgages to households. The share of household fixed-rate loans is often high in countries where mortgage companies are the main source of housing loans. Mortgage companies finance their lending to a greater extent by issuing bonds.

Fixed-rate loans reduce borrowers' flexibility. Borrowers may want to change their loan repayment profiles. If the interest rate falls after entering into a fixed-rate loan contract, the borrower who wants to terminate a fixed-rate loan contract must pay a premium to compensate the lender for being unable to provide a new loan at the interest rate on which the financing is based. In Denmark, borrowers have the possibility of terminating a fixed-rate loan contract without paying a premium. This may be one of the reasons why the share of fixed-rate loans is considerably higher in Denmark than in Norway.

Advice and information provided by financial institutions are probably of considerable importance. A survey conducted by Kredittilsynet (Financial Supervisory Authority of Norway) in 2004 revealed that about half of borrowers had not received information about the effects of a potential rise in interest rates or about banks' fixed-rate loan products.<sup>3</sup> Kredittilsynet's mortgage survey in autumn 2006 shows that 16 of 29 banks always provide information about the consequences of a rise in interest

rates when they grant loans. Banks' marketing of fixed-rate loans appears to have increased in the past half year.

### *Difference in prices for fixed-rate and floating-rate loans*

Whatever the underlying motive for borrower's choice of fixed or floating rate, the difference between the interest rate on fixed and floating rate loans will have an influence. The interest rate offered by a lender in different loan contracts will depend on funding costs and lending margins. Funding fixed-rate loans by borrowing at floating rates will result in different interest rate profiles for lenders' assets and liabilities, and lenders will then be exposed to interest rate risk. To avoid this risk, they may, for example, finance fixed-rate lending by issuing bonds with a maturity as long as the loan term. Another, more common method of reducing interest rate risk, is to enter into interest rate swap agreements where lenders accept the money market rate and pay a fixed interest rate. The interest rates on these interest rate swaps (swap rates) can therefore be used as the banks' funding rate for fixed-rate loans. The difference between short-term rates and long-term rates will have a bearing on the interest rates banks offer borrowers in various loan agreements.

Long-term rates depend to a large extent on expectations concerning developments in short-term rates. If, at a given time, the short-term rate is expected to increase, the long-term rate at that time will be higher than the short-term rate. Long-term rates will also be affected by maturity premia that reflect uncertainty associated with interest rate expectations ahead. The size and sign of the maturity premium depend on the attitude towards interest-rate risk among the participants in the bond market.

If borrowers prioritise interest expenses at the beginning of the loan period, the slope of the yield curve may explain changes in the share of fixed-rate loans. Surveys from other countries indicate that there is a relationship between the slope of the yield curve and the share of households that choose fixed-rate loans. When the slope of the yield curve declines the share of fixed-rate loans increases.<sup>4</sup>

Chart 4 shows that the share of new fixed-rate loans in Norway was higher than normal in 1999 and 2003. In both these years, long-term rates were

lower than short-term rates. Long-term rates were also lower than short-term rates in 2001 and 2002, without an increase in household fixed-rate loans.

Lenders add a lending margin to their funding costs to cover administration costs, return on equity and credit risk premium. Competition in the lending market may affect required return on equity. It is assumed that administration costs are the same on fixed and floating-rate loans. Differences in margins will then reflect differences in credit risk or required return on equity. Data for some of the largest banks back to 2000 may indicate that margins have largely been smallest on floating-rate loans (see

Chart 5). Usually, differences in margins are not large, and there are also periods when margins are smallest on fixed-rate loans.

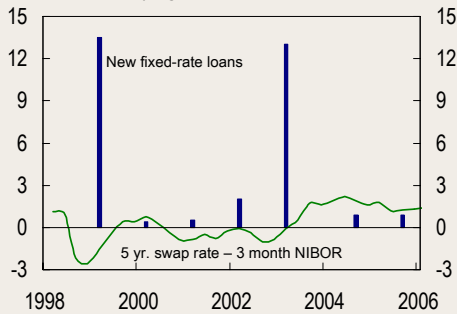
<sup>1</sup> A survey of households in the UK shows that borrowers prefer the loan contract that entails the lowest payments at the time of entering into the contract (see the report “The UK mortgage market: taking a longer term view” by D. Miles, March 2004).

<sup>2</sup> See the report “Rentebinding på boliglån i Norge” (Fixed-rate mortgages in Norway) from ECON Analyse, report 2005-029.

<sup>3</sup> See “The Financial Market in Norway 2004: Risk Outlook”, from Financial Supervisory Authority of Norway, March 2005.

<sup>4</sup> See the report “Rentebinding på boliglån i Norge” (Fixed-rate mortgages in Norway) from ECON Analyse, report 2005-029.

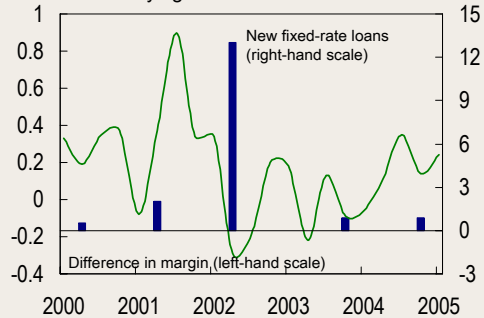
**Chart 4** New fixed-rate loans<sup>1)</sup> as a percentage of total new loans and the difference between 5-year swap rate and 3-month NIBOR in percentage points. Quarterly figures. 98 Q1 – 06 Q4



<sup>1)</sup> Information about new fixed-rate loans is derived from Kredittilsynet's mortgage survey which is based on reported data from a selection of banks for the first 100 paid mortgages after a given time for each bank

Sources: Kredittilsynet (Financial Supervisory Authority of Norway), Reuters (EcoWin) and Norges Bank

**Chart 5** New fixed-rate loans<sup>1)</sup> as a percentage of total new loans and difference in margin between fixed-rate loans over 5 years and floating-rate loans. Quarterly figures. 00 Q4 – 05 Q4



<sup>1)</sup> Information about new fixed-rate loans is derived from Kredittilsynet's mortgage survey which is based on reported data from a selection of banks for the first 100 paid mortgages after a given time for each bank

Sources: Kredittilsynet (Financial Supervisory Authority of Norway), Reuters (EcoWin) and Norges Bank



# Low household saving

In the mid-1980s, the household saving ratio in Norway suddenly dropped to negative values, reducing household buffers against economic disturbances. When the macroeconomic situation deteriorated in the late 1980s, households reduced consumption sharply in order to service their debt. Weaker household demand resulted in lower turnover and reduced debt-servicing capacity in the corporate sector. Bank losses increased. Fluctuations in the saving ratio have therefore had consequences for both the real economy and financial stability. Since 2002, the household saving ratio (adjusted for estimated reinvested share dividends as a result of tax changes) has again declined. Possible factors underlying these developments are discussed in this box, in view of the importance of the saving ratio for household financial vulnerability.

Household saving varies substantially across countries. In France, Italy, Spain, Germany and Austria, household saving as a percentage of disposable income has been high since 1999 (see Chart 1). In Switzerland, the Netherlands, the UK and Sweden, the household saving ratio has been between 5% and 8%. The household saving ratio in Canada, Japan and Norway has been relatively low in recent years. There are also countries where the saving ratio has been negative in some years, such as Denmark, Australia, Finland and the US. In the light of different national statistical definitions and institutional arrangements, caution should be

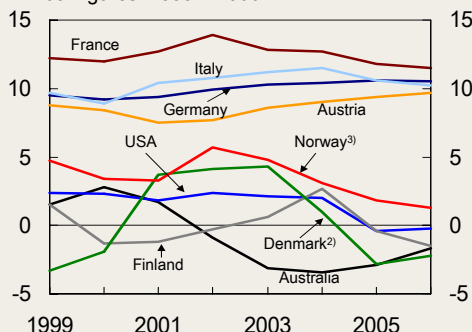
exercised in interpreting differences in saving ratio levels. Income that is used for the same purposes by households may be recorded in different ways.

Household saving ratios have fallen in most countries over the past 10-15 years. In many countries, house prices have risen sharply in the same period, with the result that housing wealth has increased (see Chart 2). A number of analyses show that wealth gains lead to lower private saving.<sup>1</sup>

Interest-only loans have recently become more common, both in Norway and abroad. Loan maturities have increased, with the result that households repay their debt more slowly. These factors have probably contributed to the fall in the household saving ratio. Credit lines secured on dwellings have facilitated mortgage equity withdrawal. If households use the released equity on consumption, household saving might decrease. A tight labour market and expectations of a continued sound financial situation have probably also contributed to a low saving ratio.

Low interest rates make it more attractive to increase consumption and less attractive to save. Households' interest-bearing debt is higher than their interest-bearing assets. Lower interest rates accordingly result in lower net interest expenses and higher disposable income. It is uncertain how increased disposable income influences the saving ratio. If households smoothe their consumption over time,

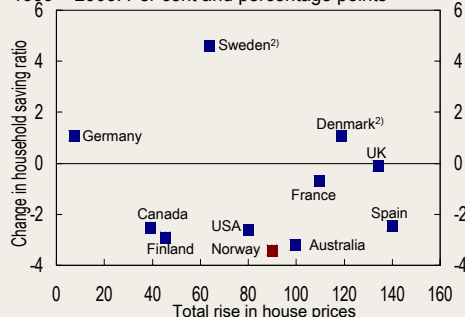
**Chart 1 Household saving ratio<sup>1)</sup>.**  
Percentage of household disposable income.  
Annual figures. 1999 – 2006



<sup>1)</sup> The calculation of household saving is adjusted for private pension benefits less pension contributions  
<sup>2)</sup> Gross savings  
<sup>3)</sup> Estimated reinvested dividends in the period 2000-2005 are excluded

Sources: OECD, Statistics Norway and Norges Bank

**Chart 2 Total rise in house prices and change in household saving ratio<sup>1)</sup> in the period 1999 – 2006.** Per cent and percentage points



<sup>1)</sup> The calculation of household saving is adjusted for private pension benefits less pension contributions. Estimated reinvested dividends in the period 2000-2005 are excluded from the saving ratio in Norway  
<sup>2)</sup> 2000-2006 for Sweden and 1999-2005 for prices on owner-occupied flats in Denmark

Sources: OECD, Reuters (EcoWin), Bank of Finland, Associations of Norwegian Real Estate Agents, ECON, Finn.no, Association of Real Estate Agency Firms and Norges Bank



temporarily increased income may contribute to a rise in the saving ratio.

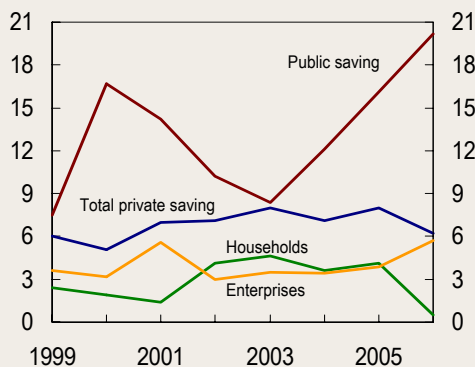
Lower household saving can be seen in the context of higher corporate saving. Households own a considerable share of the corporates, and are the ultimate beneficiaries of their saving. The corporate saving ratio has increased in recent years, and become higher than the household saving ratio in a number of countries, including Norway.<sup>2</sup> At the same time, extraordinary high dividend payments in Norway in the period 2000-2005 changed this underlying trend. The high dividends were motivated by expected changes in dividend taxation. The corporate saving ratio fell, while the household saving ratio increased (see Chart 3). The trend reversed again in 2006, when dividend tax was reintroduced.

Dividend tax may induce enterprises to use methods of profit disbursement to households other than dividend payments, particularly for dividends that exceed the allowance for risk-free market return. Other methods include write-downs of share capital and share buybacks, which appear to have become more widespread recently. In contrast to share dividends, share capital write-downs and share buybacks are not recorded as income in the institutional national accounts for households, and do not affect the household saving ratio as it is calculated in the national accounts. In case households consume some of the money stemming from share write-downs and share sells, the household saving ratio might fall.

Changes in age composition may affect the saving ratio. Incomes are often low when people are young and increase until middle age, before falling again at retirement. Given the household consumption-smoothing preference according to the lifetime hypothesis, household saving will be low at the outset, increase later in life and then decline with age. The share of the elderly in Norway's adult population rose steadily from the 1950s to the 1990s, but has declined from the 1990s up to the present. The share of elderly people is expected to increase sharply in the period to 2060. This may imply a falling saving ratio in the decades ahead. At the same time, microdata research in Norway does not indicate that the saving ratio falls among higher age groups.<sup>3</sup> The inheritance motive may therefore modify the implications of the lifetime hypothesis.

Public saving can also influence overall private saving. The theory of Ricardian equivalence suggests that rational individuals will realise that increased public consumption today must be financed by means of higher taxes in the future. When public saving falls, the private sector will therefore increase saving in order to smooth consumption over time in anticipation of a rise in taxes. Studies carried out by the OECD have supported partial Ricardian equivalence, i.e. that a fall in public saving will be partly offset by increased private saving (see sources from 2004 in footnote 1). Public saving in Norway has increased substantially in recent years, while private saving has been more stable (see Chart 3). At the same time, the changes in public saving have been partly offset by changes in private saving (see Chart

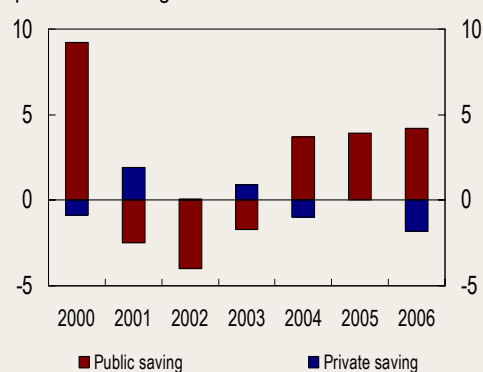
**Chart 3** Private and public saving. Percentage of gross domestic product. Annual figures. 1999 – 2006



<sup>1)</sup> Reinvested dividends in the period 2000-2005 are included in the household saving ratio

Sources: Statistics Norway and Norges Bank

**Chart 4** Private and public saving as a percentage of GDP. Change from previous year. Percentage points. Annual figures. 2000 – 2006



<sup>1)</sup> The change of 0.9 percentage point in private saving in 2005 is not shown in the chart

Sources: Statistics Norway and Norges Bank

4). By estimating a model for 16 countries over the period 1970-2002, the OECD (see sources from 2004 in footnote 1) finds that private saving compensates for 50% of the changes in public saving in the short term when allowance is made for income, interest rate and wealth effects, and about 70% of the changes in the long term.

In addition to the level of public saving, future public obligations will also have implications for private saving. Cutbacks in pension benefits would normally lead to higher household saving.

<sup>1</sup> Brodin, P. and Nymoene, R. (1992): "Wealth Effects and Exogeneity: the Norwegian Consumption Function 1966 (1) – 1989 (4)", *Oxford Bulletin of Economics and Statistics*, 54, 3, p. 431-454, de Mello, L., Kongsrud, P. and Price, R. (2004): "Saving Behaviour and the Effectiveness of Fiscal Policy", OECD, Economics Department Working Papers, No. 397 and Chapter V in OECD (2004): "Economic Outlook" No. 76, December

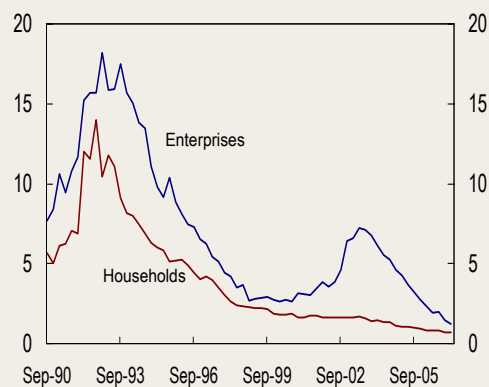
<sup>2</sup> See Chapter IV in IMF (2006): *World Economic Outlook*, April

<sup>3</sup> Halvorsen, Elin (2003): "A Cohort Analysis of Household Saving in Norway", Statistics Norway, Research Department, Discussion Papers No. 354 and Halvorsen, Elin (2003): "Hvorfor sparer de eldre så mye", (Why do the elderly save so much?) Statistics Norway, Samfunnspeilet no. 1, 2003.

## An analysis of banks' problem loans

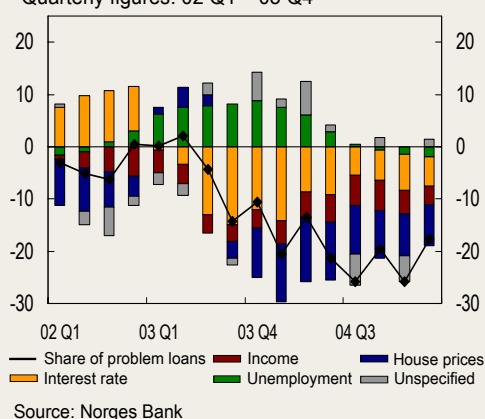
Banks' problem loans consist of non-performing loans and other particularly doubtful loans. There is a close relationship between banks' problem loans and recorded loan losses. Chart 1 shows developments in problem loans as a share of overall lending to households and enterprises, respectively. At present, the share of problem loans is very low. However, the magnitude of problem loans is highly sensitive to cyclical developments and will normally increase during economic downturns. In the following we analyse developments in problem loans using empirical models of banks' problem loans broken down on households and enterprises.<sup>1</sup> The models are estimated using quarterly data for the period 1993-2005 for households and 1992-2005 for enterprises.

**Chart 1** Banks' problem loans to households and enterprises. Percentage of total lending to each sector. Quarterly figures. 90 Q3 – 07 Q1

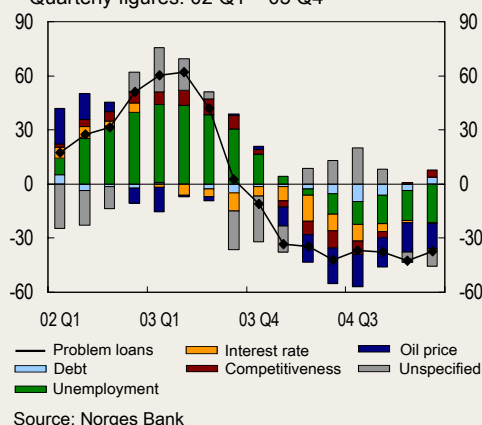


Source: Norges Bank

**Chart 2** Annual percentage change in the share of problem loans and calculated contributions from explanatory variables. Households. Percentage points. Real terms. Quarterly figures. 02 Q1 – 05 Q4



**Chart 3** Annual percentage change in problem loans and calculated contributions from explanatory variables. Enterprises. Percentage points. Real terms. Quarterly figures. 02 Q1 – 05 Q4



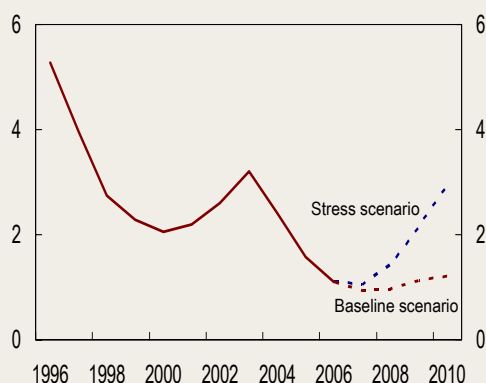
For households, banks' problem loans are modelled as a share of total loans to the sector. The model includes the effects of household real disposable income, real house prices, unemployment, and real interest rates. Chart 2 shows the estimated contributions of the explanatory variables in the model to developments in the share of problem loans in the period 2002 to 2005. Apart from a slight increase in late 2002 and in 2003, the share of problem loans has declined since the early 1990s. The increase was largely due to a rise in real interest rates in 2002, and increasing unemployment in the period 2001-2003. The share of problem loans declined from 2004 as a consequence of lower real interest rates and unemployment. In isolation, higher real income and real house prices have contributed to a reduction in problem loans for virtually the entire period. This effect has to some extent become more pronounced in the past two years.

Banks' problem loans to enterprises are modelled at constant 2003 NOK. The model includes the effects of enterprises' debt to banks at 2003 NOK, unemployment (represents domestic demand), real interest rates, competitiveness and real oil prices. Problem loans associated with enterprises increased sharply through 2002 and 2003. Chart 3 shows that the increase in unemployment, i.e. weaker domestic demand, was the main factor behind this increase, although low oil prices and weakened competitiveness also made a contribution. In the period 2004-2005, problem loans were sharply reduced, largely owing to lower unemployment and a decline in real interest rates. We also see that oil prices have been

an important factor behind the decline in problem loans. Oil prices rose sharply during this period, from about USD 30 per barrel at the beginning of 2004 to USD 60 per barrel at end-2005. The increase in oil prices has had a major impact on the level of activity and investment in the petroleum sector, but has also had spillover effects on suppliers to this industry and has thus had a wide impact on the mainland economy.

We have made projections of banks' problem loans based on an alternative stress scenario to illustrate a less favourable macroeconomic situation. The stress scenario is compared with a baseline scenario for problem loans based on macroeconomic developments as described in *Monetary Policy Report 1/07*. In the stress scenario, the key policy rate increases faster than in the baseline scenario, to about 8% at the end of the projection period. Unemployment increases faster than in the baseline scenario, and accounts for about 4.5% of the labour force in 2010. Growth in household disposable income is markedly lower than in the baseline scenario. In 2009 and 2010, growth in real disposable income is projected at close to zero. House prices fall by about 30% from the current level in the course of 2-3 years. Oil prices are projected to fall by about 25% in the same 2-3 year period. The real exchange rate strengthens slightly. Such a development may occur against the background of a sharp rise in inflation coupled with a pronounced slowdown in growth in both the global and domestic economy. This will lead to a sharp increase banks' problem loans compared with the baseline scenario (see Chart 4).

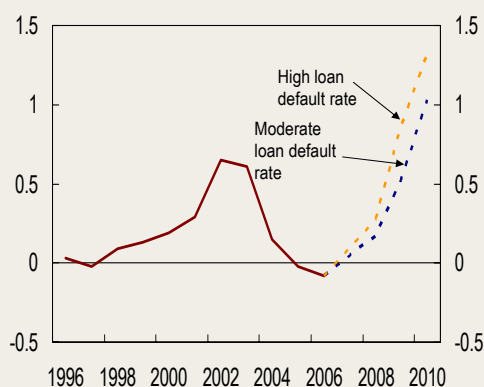
**Chart 4** Banks' problem loans. Percentage of total lending. Annual figures. 1996 – 2010<sup>1)</sup>



<sup>1)</sup> Projections based on baseline scenario and stress scenario respectively for 2007 – 2010

Source: Norges Bank

**Chart 5** Bank losses. Stress scenario. Percentage of total lending. Annual figures. 1996 – 2010<sup>1)</sup>



<sup>1)</sup> Projections based on stress scenario for 2007 – 2010

Source: Norges Bank

The problem loans associated with households will increase from today's very low level. A sharp rise in real interest rates and a fall in house prices make a strong contribution in 2007 and 2008. Somewhat further out in the projection period, higher unemployment and falling household real disposable income also contribute to increasing the share of problem loans. For households, the share of problem loans is estimated to be about 3 times higher in the stress scenario than in the baseline scenario at the end of 2010.

For enterprises, problem loans show a marked increase. In 2007, higher real interest rates, lower oil prices and continued high lending growth will be the primary factors contributing to the increase in problem loans. Lending growth will be rapidly reduced as the economic outlook deteriorates. Rising unemployment will make a negative contribution from 2008. For enterprises, the share of problem loans is estimated to be more than twice as high as in the baseline scenario at the end of 2010.

Weaker macroeconomic developments, as illustrated in this stress scenario, will influence the financial position of both households and enterprises. A number of borrowers will encounter debt-servicing problems. Bank losses will increase. The size of the losses will depend on the loan default rate, i.e. the share of problem loans that become recorded losses. In the stress scenario, house prices and commercial property prices are assumed to show a sharp fall. This will result in a pronounced rise in the loan default rate compared with the baseline scenario. In this stress scenario, we estimate bank losses given two different paths for loan default rates; one where the loan default rate increases moderately to 35% of the problem loans in 2010, and one where the loan default rate increases to a higher level of 45% in 2010. In the scenario with a moderate loan default rate, losses will account for about 1% of total loans in 2010 (see Chart 5). In the case with a high loan default rate, losses will account for 1.3% of total loans.

<sup>1)</sup> A description of the models is provided in *Economic Bulletin* 2/07 (to be published in July): "An analysis of banks' problem loans", by Berge and Boye.

# Annex 1: Boxes 2002-2007

## 1/2007

*International experience of turnarounds in the housing market*  
*Low share of fixed-rate loans in the household sector*  
*Low household saving*  
*An analysis of banks' problem loans*

## 2/2006

*Substantial losses in Amaranth hedge fund*  
*Housing investment and house prices*  
*Higher debt in households in many countries*  
*A fall in household consumption – what is the impact on credit risk in the corporate sector?*  
*Basel II – what is the impact on banks' capital adequacy?*

## 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

*Are equity prices more volatile in Norway than in other countries?*  
*Developments in house prices*  
*Distribution of household debt, income and financial assets*  
*Macroeconomic gap indicators*  
*Foreign banks in Norway*  
*Security for loans from Norges Bank: new guidelines*

## 1/2005

*Risk premiums in the equity market*  
*What influences the number of bankruptcies?*  
*Small enterprises more exposed to risk than large enterprises*  
*Loans to households other than mortgage loans*  
*Risk associated with loans to various industries*  
*Banks' financial position is more robust today than prior to the banking crisis*

## 2/2004

*Derivatives markets are expanding*  
*Use of a central counterparty in the settlement of financial instruments*  
*Is there a connection between house prices and banking crisis?*  
*Relationship between the results of companies listed in the*

*Oslo Stock Exchange and of the Norwegian enterprise sector as a whole*  
*How do enterprises hedge against exchange rate fluctuations?*  
*Risk associated with loans to small enterprises and the new capital adequacy framework*  
*Norges Bank's role in the event of liquidity crisis in the financial sector*

## 1/2004

*How Norwegian is the Oslo Stock Exchange?*  
*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*

## 2/2003

*Global house prices and credit growth*  
*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*

## 1/2003

*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*  
*The Basel committee's work in the field of operational risk*  
*Credit risk in connection with banks' lending to the corporate sector*  
*Banking crisis in Norway have followed periods of high debt growth*

## 2/2002

*Some spillover effects in the financial sector of the fall in equity prices*  
*Commercial property market*  
*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*



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

Articles dealing with financial stability issues, written by researchers and economists at Norges Bank and published since *Financial Stability* 2/06, are presented below.

## ***Developments in the credit market – new types of loans and the volume of fixed rate loans in Norway***

*Economic Bulletin* April 2007 (No. 1)

Authors: Gunnar Almklov, Espen Tørum and Marita Skjæveland

The article describes developments in various types of loans from financial institutions and the volume of loans with a fixed-rate period. In recent years, the credit market has evolved rapidly. The number of loan products is increasing and growth in borrowing has been high. Furthermore, borrowers have more choice with regard to loan repayment profiles.

## ***Housing investment and house prices***

*Economic Bulletin* April 2007 (No. 1)

Authors: Dag Henning Jacobsen, Kristin Solberg-Johansen and Kjersti Haugland

In this article, developments in housing investment and the interaction between demand and supply in the housing market are analysed. The analysis indicates that the pronounced increase in housing investment since 2004 is related to low interest rates and high house prices.

## ***How large are the financial margins of Norwegian households? An analysis of micro data for the period 1987–2004***

*Economic Bulletin* December 2006 (No. 4)

Author: Bjørn Helge Vatne

In this article, financial margins in Norwegian households are calculated using micro data for the period 1987–2004. Financial margins are defined as household liquid assets after borrowing costs and ordinary living expenses. This is an indicator of the resilience of household finances to changes in economic conditions such as an increase in interest rates or a reduction in income.

## ***Benefits from securities markets and reforms in Norwegian securities legislation***

*Economic Bulletin* December 2006 (No. 4)

Author: Gunnvald Grønvik

The article discusses the ways in which efficient securities markets benefit society, how Norwegian securities market legislation is being modernised to be in line with European standards, and in addition issues related to changes in Norwegian securities market infrastructure.

## ***Banks' optimal implementation strategies for a risk sensitive regulatory capital rule: a real options and signalling approach***

*Norges Bank's Working Papers* 12/2006

Author: Kjell Bjørn Nordal

A bank's incentives to implement a risk sensitive regulatory capital rule and to invest in improved risk measurement are evaluated. The decision making is analysed within a real options framework where optimal policies are derived in terms of threshold levels of risk. The framework is used for a numerical evaluation of banks' decision of whether to use internal rating based models for credit risk (the IRB-approach) under the new Basel accord (Basel II).



# Annex 3: Statistics

**Table 1** Structure of the Norwegian financial industry.<sup>1)</sup> As at 31 March 2007

	Number	Lending (NOK bn)	Total assets (NOK bn)	Core capital ratio (%)	Capital ratio (%)
Banks (excluding branches of foreign banks in Norway)	139	1,737.9	2,483.0	8.6	11.2
Branches of foreign banks	9	153.9	337.2		
Mortgage companies	12	274.7	492.1	9.5	12.5
Finance companies	52	111.6	126.0	9.4	10.7
State lending institutions	3	196.3	208.7		
Life insurance companies (foreign branches excluded) <sup>*</sup> )	10	19.9	686.3	8.3	11.5
Branches of foreign life insurance companies	8	0.0	6.5		
Non-life insurance companies (foreign-owned branches excluded) <sup>**)</sup>	44	1.0	118.7	48.7	45.0
Branches of foreign non-life insurance companies	17	0.0	30.3		

<sup>\*)</sup> As at Dec 2006

<sup>\*\*)</sup> Also include reports for seamen's insurance associations and fire insurance

*Memorandum:*

	(NOK billion)
Market value of equities, Oslo Stock Exchange	2,009.9
Outstanding domestic bonds and short-term paper debt	812.3
Issued by public sector and state-owned companies	321.9
Issued by banks	253.9
Issued by other financial institutions	67.8
Issued by other private enterprises	89.0
Issued by non-residents	79.6
GDP Norway, 2006	2,151.7
GDP mainland Norway, 2006	1,563.2

<sup>1)</sup> Branches of foreign institutions are included if other is not specified

Sources: Norges Bank, Kredittilsynet, Oslo Stock Exchange and Statistics Norway

**Table 2** Financial conglomerates' market shares<sup>1)</sup> in Norway in various sectors as at 31 March 2007.  
Per cent

	Banks	Finance companies	Mortgage companies	Life insurance	Total for conglomerate
DnB NOR (including Nordlandsbanken)	39.0	23.2	9.0	32.6	33.9
Nordea Norway	12.9	7.7	4.2	6.0	10.6
Sparebank 1 alliance <sup>2)</sup>	12.4	6.0	0.2	3.3	9.2
Storebrand	1.3	0.0	0.0	25.8	5.2
Terra alliance <sup>3)</sup>	5.1	0.8	1.3	0.0	3.7
Fokus Bank and Danske Bank branch	5.3	0.0	0.0	0.0	3.6
<b>Total for financial conglomerates</b>	<b>76.0</b>	<b>37.7</b>	<b>14.7</b>	<b>67.7</b>	<b>66.2</b>

<sup>1)</sup> Market shares are based on 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, non-life insurance, securities funds and asset management have been excluded

<sup>2)</sup> The Sparebank 1 alliance comprises Sparebank 1 Gruppen AS (including subsidiaries) and the 22 banks that own the group

<sup>3)</sup> The Terra alliance comprises Terra Gruppen AS (including subsidiaries) and the 78 banks that own the group

<sup>4)</sup> As of 1 April 2007 Fokus Bank ASA was converted to a branch of Danske Bank

Source: Norges Bank

**Table 3 Results and capital adequacy in Norwegian banks for selected quarters<sup>1)</sup>**

	2006 Q1		2006 Q2		2006 Q3		2006 Q4		2007 Q1	
	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA
Net interest income	8.00	1.62	8.83	1.69	8.70	1.60	8.97	1.56	8.83	1.47
Other operating income	4.53	0.92	3.94	0.76	3.76	0.69	5.87	1.02	4.98	0.83
commission income	2.56	0.52	2.65	0.51	2.47	0.45	2.70	0.47	2.60	0.43
securities, foreign exchange and derivatives	1.66	0.33	0.92	0.18	1.06	0.20	2.81	0.49	1.81	0.30
Other operating expenses	6.65	1.35	7.01	1.34	6.87	1.26	7.68	1.34	7.25	1.21
personnel expenses	3.68	0.74	3.69	0.71	3.80	0.70	4.35	0.76	4.06	0.68
<b>Operating result before losses</b>	<b>5.88</b>	<b>1.19</b>	<b>5.76</b>	<b>1.11</b>	<b>5.59</b>	<b>1.03</b>	<b>7.16</b>	<b>1.25</b>	<b>6.56</b>	<b>1.10</b>
Losses on loans and guarantees	-0.32	-0.06	-0.14	-0.03	-0.57	-0.11	-0.42	-0.07	-0.05	-0.01
<b>Pre-tax profit</b>	<b>6.27</b>	<b>1.27</b>	<b>5.93</b>	<b>1.14</b>	<b>6.19</b>	<b>1.14</b>	<b>8.74</b>	<b>1.52</b>	<b>6.63</b>	<b>1.11</b>
Profit after taxes	4.72	0.96	4.46	0.85	4.64	0.85	6.83	1.19	4.92	0.82
Capital ratio (%)	11.57		11.39		11.23		11.17		NA	
Core capital ratio (%)	9.16		8.90		8.52		8.62		NA	

<sup>1)</sup> 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<sup>1)</sup>**

	2002		2003		2004		2005		2006	
	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA
Net interest income	30.72	0.16	30.14	1.99	30.71	1.91	31.75	1.78	34.51	1.62
Other operating income	10.21	0.07	14.31	0.94	15.16	0.94	17.63	0.99	18.11	0.85
commission income	7.09	0.04	7.63	0.50	8.82	0.55	9.74	0.55	10.39	0.49
securities, foreign exchange and derivatives	1.95	0.02	5.69	0.37	4.86	0.30	6.66	0.37	6.44	0.30
Other operating expenses	25.49	0.14	25.86	1.70	26.56	1.65	26.49	1.49	28.21	1.32
personnel expenses	13.26	0.07	13.81	0.91	13.77	0.86	14.24	0.80	15.52	0.73
<b>Operating result before losses</b>	<b>15.45</b>	<b>0.09</b>	<b>18.59</b>	<b>1.22</b>	<b>19.31</b>	<b>1.20</b>	<b>22.89</b>	<b>1.29</b>	<b>24.41</b>	<b>1.14</b>
Losses on loans and guarantees	6.66	0.02	6.89	0.45	1.25	0.08	-1.08	-0.06	-1.45	-0.07
<b>Pre-tax profit</b>	<b>8.92</b>	<b>0.07</b>	<b>12.02</b>	<b>0.79</b>	<b>19.78</b>	<b>1.23</b>	<b>24.61</b>	<b>1.38</b>	<b>27.14</b>	<b>1.27</b>
Profit after taxes	6.26	0.06	9.41	0.62	14.79	0.92	18.53	1.04	20.64	0.97
Capital ratio (%)	12.15		12.36		12.16		11.89		11.17	
Core capital ratio (%)	9.60		9.72		9.76		9.54		8.62	

<sup>1)</sup> All banks with the exception of branches of foreign banks in Norway

Source: Norges Bank

**Table 5** Rating by Moody's<sup>1)</sup>, total assets, capital adequacy<sup>2)</sup> and return on equity for Nordic financial conglomerates, subsidiaries<sup>3)</sup> in Norway and Norwegian banks as of 2007 Q1. Consolidated figures.

	Financial strength			Total assets (NOK bn)	Core capital ratio (%)		Capital ratio (%)		Share of interim profits (%)		Basel I / II		Return on equity		
	Short term	Long term								2005	2006	2007 Q1			
Danske Bank	B	P-1	Aa1	3,215.9	6.6	10.1	100	I	100	18.4	17.5	15.9			
Nordea Bank AB	B	P-1	Aa1	2,901.3	6.6	9.2	0	I	0	18.0	22.9	18.0			
SEB	B-	P-1	Aa2	1,855.6	8.3	11.6	100	II	100	15.8	20.8	19.0			
Handelsbanken	B	P-1	Aa1	1,657.8	6.7	9.9	0	II	0	17.8	19.7	16.8			
DAB NOR	B-	P-1	Aa1	1,383.7	7.4	10.7	0	II	0	18.8	19.5	17.2			
Swedbank	B	P-1	Aa1	1,288.1	6.8	10.0	0	II	0	24.6	19.3	18.9			
Gjiltinir	C	P-1	Aa3	208.9	11.6	14.2	0	I	0	30.3	39.4	20.5			
Nordea Bank Norge	B-	P-1	Aa1	409.2	6.6	9.1	0	I	0	18.2	15.7	11.6			
Fokus Bank				128.6	8.2	9.2	0	I	0	14.0	18.0	18.0			
SpareBank 1 SR-Bank	C+	P-1	Aa3	88.0	7.1	10.5	0	II	0	24.7	22.5	20.8			
Sparebanken Vest	C	P-1	A1	65.2	8.6	9.3	0	II	0	15.4	17.9	16.9			
SpareBank 1 Midt-Norge	C+	P-1	Aa3	64.2	8.2	12.2	0	II	0	24.1	25.5	18.2			
SpareBank 1 Nord-Norge	C+	P-1	Aa3	55.7	8.6	10.4	0	II	0	20.6	24.6	19.5			

<sup>1)</sup> Rating as of 14 May 2007. 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,....

<sup>2)</sup> The share of interim profits included in the core capital ratio and capital ratio varies between institutions. The higher the share of (positive) interim profits included, the higher are the capital adequacy ratios. If the institution has reported capital adequacy ratios with 0% of interim profits included, these ratios are used in the table. Varying national regulations, including consolidation of life insurance companies, imply that Norwegian financial conglomerates' capital adequacy ratios are not directly comparable with ratios of other Nordic financial conglomerates. Moreover, whether the institution has started reporting capital adequacy ratios according to Basel I, or still applies Basel I, will also affect capital adequacy ratios.

<sup>3)</sup> Return on equity for Fokus Bank includes all of Danske Bank's bank activities in Norway. As of 1 April 2007 Fokus Bank ASA was converted to a branch of Danske Bank

Sources: Banks' websites and Moody's

**Table 6** Balance sheet structure, Norwegian banks.<sup>1)</sup> Percentage distribution

	2006	2006 Q1	2007 Q1
Cash and deposits	5.9	5.1	8.0
Securities (current assets)	11.2	8.7	10.5
Gross lending to households, municipalities and non-financial enterprises	72.9	74.7	70.0
Other lending	7.3	8.9	9.0
Total loan loss provisions	-0.4	-0.5	-0.3
Fixed assets and other assets	3.1	3.0	2.9
<b>Total assets</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Customer deposits	44.2	45.1	43.0
Deposits/loans from domestic financial institutions	3.6	3.9	4.0
Deposits/loans from foreign financial institutions	11.9	12.1	12.8
Deposits/loans from Norges Bank	0.9	0.1	0.1
Other deposits/loans	2.7	3.0	3.1
Notes and short-term paper	3.1	4.9	2.9
Bond debt	20.7	18.9	20.0
Other liabilities	4.1	3.3	5.8
Subordinated loan capital	2.5	2.4	2.5
Equity	6.3	6.3	5.8
<b>Total equity and liabilities</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<i>Memorandum:</i>			
Total assets (NOK billion)	2,338.0	2,015.9	2,483.8

<sup>1)</sup> All banks with the exception of branches of foreign banks in Norway

Source: Norges Bank

**Table 7** Balance sheet structure and profit, life insurance companies<sup>1)</sup>

	2006	2006 Q1	2007 Q1
<b>Balance sheet. Selected assets as a percentage of total assets</b>			
Buildings and real estate	10.2	9.9	10.2
Long-term investment	30.9	30.1	32.5
of which equities and units	0.7	0.5	0.7
of which bonds held until maturity	27.4	22.8	21.8
of which lending	2.6	3.1	2.9
Other financial assets	53.7	57.1	55.4
of which equities and units	26.4	24.1	28.1
of which bonds	22.5	24.5	21.7
of which short-term paper	2.6	5.7	2.3
<b>Profit/loss. Percentage of ATA (annualised)</b>			
Premium income	11.44	15.04	12.97
Net income from financial assets	12.93	15.73	11.90
Results before allocations to customers and tax	3.01	2.98	2.64
Value-adjusted results before allocations to customers and tax	4.07	6.48	2.74
<i>Memorandum:</i>			
Buffer capital (percentage of total assets)	8.2	7.8	8.0
Total assets (NOK billion)	673.4	615.0	686.3

<sup>1)</sup> 10 life insurance companies

Source: Kredittilsynet (The Financial Supervisory Authority of Norway)

**Table 8 Key figures**

	Average				Projections		
	1987-1993	1994-2005	2006	1. kv. 2007	2007	2008	2009-2010
<b>Households<sup>1)</sup></b>							
Debt burden <sup>2)</sup>	151	138	191		202	215	233
Interest burden <sup>3)</sup>	9.7	5.7	5.4		6.6	7.7	8.4
Borrowing rate after tax	8.3	4.9	3.3		4.0	4.4	4.5
Real interest rate after tax <sup>4)</sup>	4.0	2.9	1.7		2.2	2.4	2.0
Net financial wealth to income ratio <sup>5)</sup>	8	45	53				
Unemployment <sup>6)</sup>	4.7	4.2	3.5		2¾	3	3½
House price growth <sup>7)</sup>	-1.3	10.1	15.0		13	6	3
<b>Enterprises</b>							
Debt burden <sup>8)</sup>	717	336	226		263	305	339
Interest burden <sup>9)</sup>	52	31	20		28	37	41
Return on total assets <sup>10)</sup>	2	5	7				
Equity-to-assets ratio <sup>11)</sup>	26	36	43				
<b>Securities markets</b>							
P/E <sup>12)</sup>	11.5	16.9	12.7	13.5			
Yield gap <sup>13)</sup>		3.5	6.0	4.9			
<b>Banks<sup>14)</sup></b>							
Profit/loss <sup>15)</sup>	-0.1	1.2	1.3	1.1			
Interest margin <sup>16)</sup>	5.2	3.1	2.1	2.1			
Non-performing loans <sup>17)</sup>		2.1	0.6	0.6			
Loan losses <sup>18)</sup>	2.3	0.2	-0.1	0.0			
Lending growth <sup>19)</sup>	4.7	10.6	19.0	11.0			
Return on equity <sup>20)</sup>		15.1	17.5	14.8			
Capital ratio <sup>21)</sup>	10.3	12.5	11.2				

1) Projections based on a technical revision of the baseline scenario in Monetary Policy Report 1/07

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

3) Interest expenses after tax as a percentage of liquid disposable income adjusted for estimated reinvested dividend payments plus interest expenses

4) Household borrowing rate after tax deflated by the 12-quarter moving average (centred) of inflation measured by the CPI

5) Households' total assets less total debt as a share of disposable income adjusted for estimated reinvested dividend payments

6) Comprises all groups 16 - 74 years

7) Based on house prices from Association of Norwegian Real Estate Agents, Association of Real Estate Agency Firms, ECON and Finn.no

8) Enterprises' debt to financial institutions as a percentage of profits before tax and depreciation. Non-financial limited enterprises in Mainland-Norway. Figures include only enterprises with debt to financial institutions

9) Enterprises' total interest costs as a percentage of profits before tax, interest costs and depreciation. Non-financial limited enterprises in Mainland-Norway. Figures include only enterprises with debt to financial institutions

10) Enterprises' profits before tax as a percentage of total assets. Non-financial limited enterprises in Mainland-Norway

11) Book equity as a percentage of total assets. Non-financial limited enterprises in Mainland-Norway

12) The value of a sample of companies on the Oslo Stock Exchange divided by earnings on continued operations during the last four quarters. Data pre September 1997 is from Datastream. Data since September 1997 is from Norges Bank

13) Earnings yield minus five year government bond yield adjusted for five year Consensus Forecast inflation forecast. Earnings are defined as earnings on continued operations

14) Annual accounts and stock at year end form the statistical basis. Figures for profit/loss, loan losses, lending growth and return on equity for 2007 Q1 are annualised

15) 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

16) Percentage points. Average lending rate minus average deposit rate for all banks in Norway, based on stock at year end

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

18) Loan losses as a percentage of gross lending to households, non-financial enterprises and municipalities for all Norwegian banks except branches of foreign banks in Norway and branches of Norwegian banks abroad

19) Per cent. Annual growth in lending to the corporate and retail market from all banks in Norway

20) Net 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 until 1990 Q1

21) Regulatory capital to risk-weighted assets for all Norwegian banks except branches of foreign banks in Norway and branches of Norwegian banks abroad. The average for the period 1987-1993 is for the years 1991-1993 due to lack of data

Sources: Statistics Norway, Datastream, Reuters EcoWin, Association of Norwegian Real Estate Agents, Association of Real Estate Agency Firms, ECON, Finn.no and Norges Bank



# B-blad/Economique

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