NORGES BANK

Financial Stability

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Financial Stability 2/09

NORGES BANK

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Norges Bank's reports on financial stability

Financial stability implies that the financial system is robust to disturbances in the economy and can channel capital, execute payments and redistribute risk in a satisfactory manner.

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 payment 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.

Experience shows that the foundation for financial instability is laid during periods of strong debt growth and asset price inflation. Banks play a key role in credit provision and payment services – and they differ from other financial institutions in that they rely on customer deposits for funding. Banks are thus important to financial stability. The *Financial Stability* report therefore focuses on the prospects for banks' earnings and financial strength and the risk factors to which banks are exposed.

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

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This report is based on information in the period to 25 November 2009

Editorial

Enhanced regulation

The financial crisis has demonstrated that banks in many countries did not have sufficient capital and that they were not robust when financial markets failed. Norwegian banks felt the effects of the latter in autumn last year and through the winter. Shortly after the bankruptcy of Lehman Brothers, considerable unrest also arose as to Norwegian banks' financing. Extensive government measures were required to enable banks to manage through the autumn and winter months.

The banking crisis of the early 1990s led to higher capital requirements for Norwegian banks. Tier I eligibility requirements are stricter than in other countries and all financial undertakings are subject to capital requirements. Furthermore, all assets in a group must be included in the calculation of capital requirements. In addition, it would seem that Norwegian banks' risk management performance has been better than that of banks in other countries. It has also been an advantage that the Norwegian Banks' Guarantee Fund manages capital that can be drawn on during a crisis.

So far in this downturn, Norwegian banks have not experienced a solvency crisis. Economic policy easing has curbed the fall in activity. In addition, banks are now bolstering their Tier I capital, which will make it easier for banks to procure new loans, bear losses and provide credit. Stress tests indicate that banks will satisfy the capital adequacy requirements also in a case where economic developments prove to be considerably worse than expected.

Nevertheless, it is important to draw lessons from Norway's and other countries' experience. Improved liquidity and capital regulation will reduce the frequency and severity of future crises. The financial system will benefit from regulation that requires banks to hold sufficient assets to cope with longer periods of market failure.

Banks now require very little equity capital for residential mortgage loans, and housing investment is subsidised via the tax system. This leads to high household debt accumulation and results in periods of financial imbalances. It is important that regulation and supervision not only limit risk at individual banks, but also risk across the whole financial system.

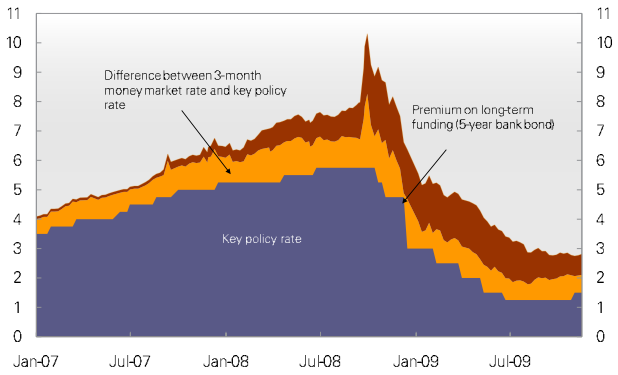
Foreign banks have sizeable activity in the Norwegian financial market. Cooperation between the Nordic countries in banking regulation, supervision and crisis management will foster an environment where rules are practiced evenly and sufficiently tightly across borders.

Svein Gjedrem
1 December 2009

1. The outlook for financial stability

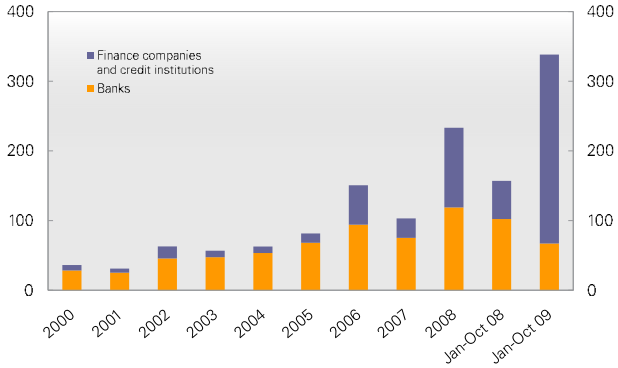
The outlook for financial stability has improved somewhat in the short and medium term since the previous report. Banks are strengthening their financial position, thus improving their capacity to absorb losses and provide credit. In autumn last year and this winter, it was demanding for banks to procure funding. Liquidity risk has receded in the short term owing to government measures. Activity in the world economy is picking up, albeit from a low level. In Norway, extensive monetary and fiscal policy measures have limited the decline in activity and bank losses, and it appears that the financial crisis will not lead to a solvency crisis at Norwegian banks. Unless the Norwegian economy is exposed to new severe shocks, banks' results are expected to remain favourable. The crisis has revealed weaknesses in the financial system and in banking regulation, also in Norway. It is important for banks to improve their liquidity management. When the financial crisis is behind us, equity capital requirements are expected to increase both in Norway and internationally. In addition, bank liquidity and funding through deposits and long-term borrowing are expected to increase. Banks will then be better poised to cope with future market failures. New and stricter bank liquidity regulation will contribute to this.

Chart 1.1 Costs of money market funding and long-term funding. Per cent. Weekly figures. 1 January 2007 – 25 November 2009



Sources: DnB NOR Markets and Norges Bank

Chart 1.2 Bonds issued by financial institutions in Norway.[1] In billions of NOK. Annual figures 2000 – 2008. January – November 2008 and 2009



1) All bonds registered in the VPS
Source: Stamdata

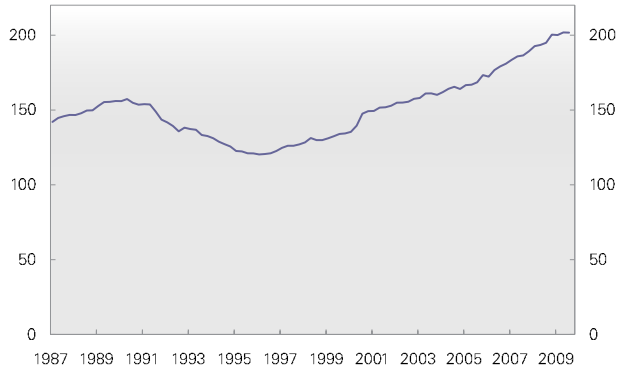
1.1 The economic climate

Extensive measures to address the financial crisis have been effective

The authorities worldwide have implemented extensive monetary and fiscal policy measures to resolve the financial crisis and limit the fall in output and employment. In addition, extraordinary measures were introduced to improve banks' equity capital and access to funding. Activity is now picking up, albeit from a very low level, and in many countries unemployment is high. Crisis-related measures have reduced financial market instability and the outlook for financial stability abroad has improved over the past six months.

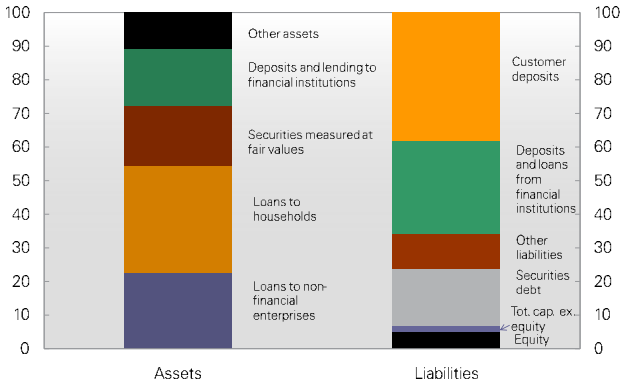
In Norway, the authorities have also implemented measures that have been effective. Monetary and fiscal easing has limited the decline in activity and bank losses. The measures have also reduced liquidity risk at banks. Banks have accessed long-term funding through the swap line for covered bonds (OMF) and central bank loans. In addition, Norges Bank has supplied considerable liquidity to the banks. Risk premiums in both short- and long-term funding markets have declined markedly (see Chart 1.1). From January through November 2009, financial institutions have increased their bond funding compared with the same period in 2008 (see Chart 1.2).

Chart 1.3 Credit (C3) as a percentage of GDP. Mainland Norway. Per cent. Quarterly figures. 1987 Q1 – 2009 Q3[1)]



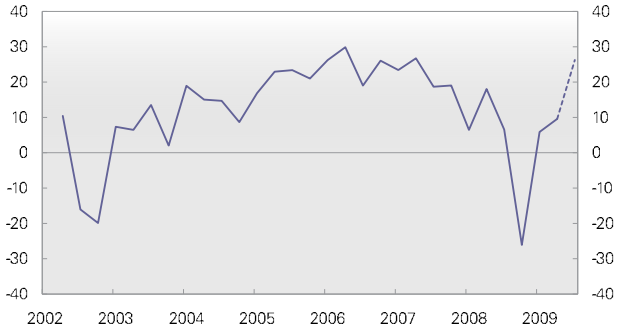
1) 2009 Q3 is based on C3 as of August 2009
Sources: Statistics Norway and Norges Bank

Chart 1.4 Bank[1)] assets and liabilities. Per cent. 30 September 2009



1) All banks in Norway. Norwegian banks' foreign subsidiaries and branches abroad are not included
Sources: Statistics Norway and Norges Bank

Chart 1.5 Return on equity[1)] for enterprises listed on Oslo Børs.[2)] Per cent. Quarterly figures. 2002 Q1 – 2009 Q3



1) Annualised results before tax as a percentage of book equity
2) Sample consisting of 146 listed non-financial enterprises as of 2009 Q2. Statoil is not included in the sample. Projections for 2009 Q3 are based on quarterly reports from non-financial enterprises in the OBX index as of 25 November 2009
Sources: Statistics Norway and Norges Bank

The measures have been wound down as financial markets return to normal. This autumn, Norges Bank has not supplied NOK liquidity through swap agreements or liquidity in foreign currency. Loans with long maturities were last offered in February this year. The swap arrangement was phased out in the course of autumn.

In addition, Norges Bank has circulated for comment planned changes to the guidelines for collateral for loans in the central bank. The temporary relaxation introduced in autumn 2008 will be reversed. Moreover, Norges Bank has announced that access to using bank-issued paper as collateral for loans will be further limited.

Norwegian banks still face challenges

The economic projections in this *Report* are based on the analyses in *Monetary Policy Report* 3/09 published in October. Profitability at Norwegian banks has improved since the previous *Financial Stability* report, but developments ahead may still be demanding. The activity level in the Norwegian economy is expected to pick up, albeit only gradually and from a low level. The activity level abroad is expected to be moderate ahead. This will influence the financial situation of banks' borrowers. Weak activity levels may reduce profitability and debt-servicing capacity in the enterprise sector.

Corporate and household debt is high in relation to total mainland GDP (see Chart 1.3). At end-Q3 this year, loans to Norwegian enterprises accounted for 23% of banks' total assets (see Chart 1.4), while loans to Norwegian households accounted for 32%. In addition, a large share of residential mortgage loans to Norwegian households are transferred to bank-owned mortgage companies.

Banks' corporate credit risk has diminished somewhat since the previous report (see Box C). The enterprise sector is fairly solid, and earnings have improved somewhat since the weak performance recorded in autumn 2008 (see Chart 1.5). At the same time, the number of bankruptcies has fallen in the course of the year. Banks' credit risk on loans to the commercial property and shipping sectors is considerable. Debt-servicing capacity in these two sectors fell in 2008 and remains low. The two sectors combined account for a large share of banks' loans

to the enterprise sector (see Chart 1.6). Banks' loan losses are therefore likely to increase somewhat in 2010.

In other Nordic and Baltic countries, the decline in economic activity has been considerably steeper than in Norway. This entails high credit risk for banks with loan exposures in these countries.

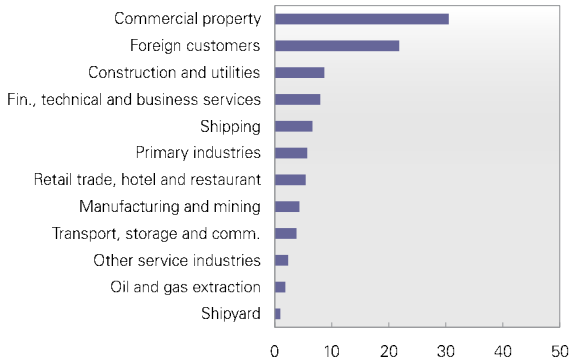
Corporate debt growth has been markedly lower in 2009. According to Norges Bank's lending survey, growth has been pushed down by both weaker credit demand and tighter lending standards. It has become easier for enterprises to obtain funding. Banks reported some easing of credit standards for enterprises in Q3, and expect further easing in Q4 (see Chart 1.7). Market funding costs for Norwegian enterprises have declined and funding has become more readily available in 2009. Risk premiums for market funding are nevertheless higher than before the crisis, particularly for enterprises in the highest-risk industries.

In the short term, banks' household credit risk has declined since the previous report (see Box C). Household income growth has been high and the household saving ratio has increased. Improved economic prospects will probably lead to a fall in the saving ratio in the coming years. The household debt burden (debt as a percentage of disposable income) is still high and is expected to edge up ahead (see Chart 1.8). The debt burden varies widely across households. A growing number of households have a debt burden that makes them vulnerable to a higher interest rate level, income shortfalls or a fall in house prices.

Improved financial strength increases banks' loss bearing capacity

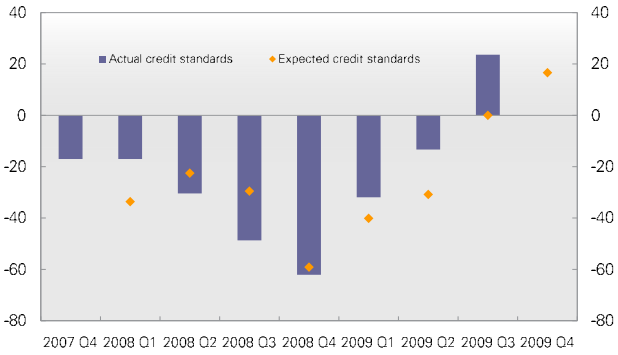
The previous report noted that banks needed more Tier I capital. Norwegian banks are now strengthening their financial position through retained earnings, Tier I capital supply from the State Finance Fund and equity capital issues. The State Finance Fund offers Tier I capital to Norwegian banks. Thirty-four banks have applied. The provision of Tier I capital by the State Finance Fund has provided banks with the opportunity to strengthen their financial position without selling assets or reducing lending activity. This increases banks' loss bearing capacity and credit provision. A stronger financial position

Chart 1.6 Banks and mortgage companies` lending to different industries as a percentage of total lending.[1] Q3 2009



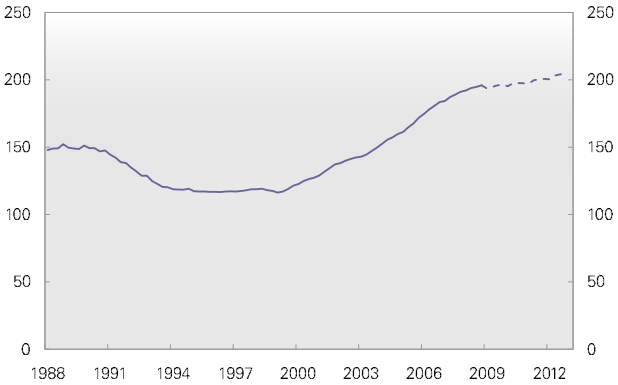
1) Around 2/3 of banks' overall lending to foreign customers is related to shipping
Source: Norges Bank

Chart 1.7 Banks' credit standards for approving loans to non-financial enterprises.[1] Net percentage balances. 2007 Q4 – 2009 Q4



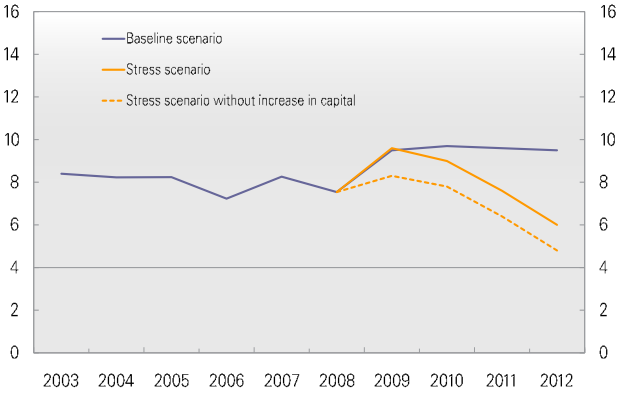
1) Negative net percentage balances indicate tighter credit standards
Source: Norges Bank

Chart 1.8 Household debt burden. Per cent. Quarterly figures. 1988 Q1 – 2012 Q4[1]



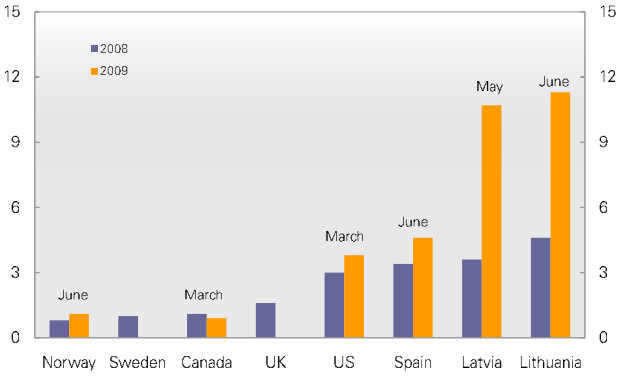
1) Projections for 2009 Q1 – 2012 Q4
Sources: Statistics Norway and Norges Bank

Chart 1.9 Tier 1 capital adequacy ratio for the five largest Norwegian banks[1] and Nordea Bank Norge. Per cent. Annual figures. 2003 – 2012[2]



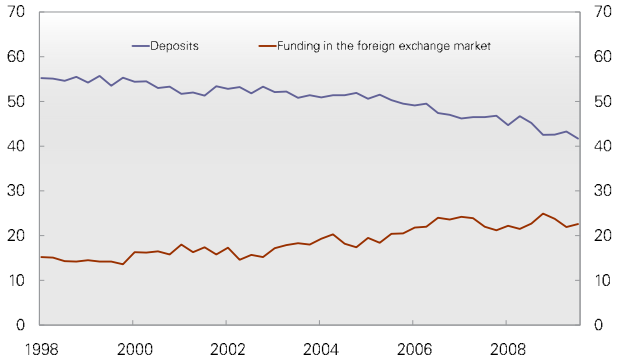
1) DnB NOR Bank, SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN and SpareBank 1 Nord-Norge
2) Projections for 2009– 2012
Source: Norges Bank

Chart 1.10 Non-performing loans as a percentage of total loans. Quarterly figures. December 2008 and latest observation in 2009



Source: IMF

Chart 1.11 Funding sources for banks[1]. Percentage of total assets. Quarterly figures. 1998 Q1 – 2009 Q3



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

reduces the premium on market funding. Confidence in Norwegian banks has also strengthened. Some banks have raised capital in the ordinary capital market, which indicates that the market is now functioning more normally.

Banks' Tier I capital ratio will be sufficient to engage in normal lending activity if developments are in line with Norges Bank's expectations up to 2012 (see Chart 1.9).

Stress testing of banks' losses and profits indicate that banks will satisfy the prevailing capital adequacy requirements even if several risks to financial stability occur at the same time (see Section D on page 49).

1.2 Risks to financial stability in Norway

Growth in the Norwegian economy has picked up faster than assumed in the previous *Financial Stability* report. Extensive monetary and fiscal policy measures have curbed the decline in output and employment. Against this background, there are prospects that banks' loan losses will be lower than projected in the previous report.

The risk outlook has changed somewhat. Since the May report, international financial markets have become more stable thanks to government measures. Risk premiums in money and bond markets have fallen and activity has picked up. Banks worldwide have received new risk capital, which has improved their loss bearing capacity and reduced the risk of failure of systemically significant financial institutions. At the same time, global economic activity is picking up, albeit from a very low level.

Continued shortage of funding

For Norwegian banks the financial crisis has primarily manifested itself as a liquidity crisis. The economic downturn in Norway has been mild compared with other countries, and the stock of non-performing loans at Norwegian banks is low (see Chart 1.10). Norwegian banks were adversely affected during the financial crisis because their lending growth relied excessively on market funding, also from foreign sources (see Chart 1.11). The financial crisis has shown that heavy reliance on short-term funding is risky, particularly if banks are too dependent on funding

in certain markets. Since the previous report Norwegian banks have not increased their long-term funding, and they are still vulnerable should access to market financing again become difficult.

A future collapse in the international financial system will adversely affect the availability of lending in Norway. In some countries, the banking sector is very large in relation to the overall economy so that it could prove difficult for the authorities to rescue banks under severe stress. If financial market participants and the authorities are not able to prevent the failure of large, systemically important financial institutions, it could increase the liquidity risk for financial institutions abroad and in Norway. Increased liquidity risk and reduced access to funding may prompt banks to tighten lending standards further.

Events that constitute a risk to the financial system may occur both in the US and Europe. The IMF points to Central and Eastern Europe, where Nordic banks have extensive business, as a particular risk area. If one or several of the large Nordic banks encounter serious problems, funding costs for Norwegian banks are also likely to increase.

Continued weak growth abroad

The global downturn is the deepest observed in the post-war period. Even if the situation now seems to have stabilised, there is still a risk that growth will remain low for a long period ahead, and in the worst case turn negative again.

In many countries, government borrowing requirements have increased noticeably during the downswing. Sizeable government debt accumulation has increased the risk of public debt payment problems. Many countries are also facing the challenge of rapid growth in public spending as a result of an ageing population. To reduce the risk of public finance crises, governments must stabilise and reduce their debt. This may move forward the winding down of crisis-related measures and lead to higher taxes or reduced public spending. As a result, growth may remain low abroad for a long period ahead, with adverse effects on the Norwegian economy. Norwegian borrowers' debt-servicing capacity may become weaker than expected in this report. A sharp fall in oil prices would reduce the profitability of oil-related investment projects and reduce activity in the oil-related industry in Norway.

In the event of a longer and deeper downturn, Norwegian banks' loan losses may become higher than envisaged at present. Higher loan losses may prompt many banks to consolidate by tightening lending, which may also lead to postponement of investment projects, amplifying the downturn in the real economy. In the next round, this would have repercussive effects on banks.

The risk of higher losses on commercial property loans

In several issues of *Financial Stability,* it was noted that the property market had been marked by a high degree of optimism for a long period. Since 2007, real market prices and rent for commercial property has been on the decline (see Chart 1.12). Market participants expect rental prices to stabilise at current levels. Earnings for listed commercial property companies are still weak. Falling market prices reduce the value of collateral and these companies will become dependent on equity issues to honour the loan terms on bank debt.

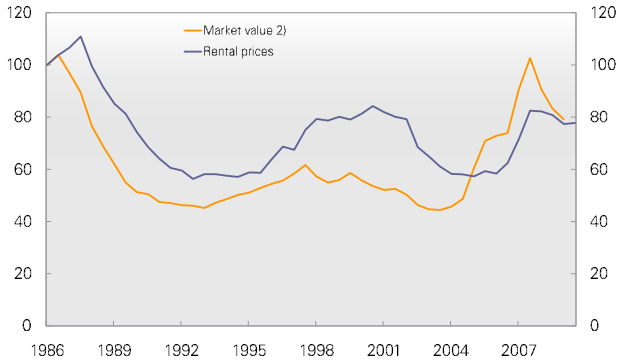
There is a risk that weak developments, with rising office vacancy rates and a fall in new rental contract prices, will continue ahead as a result of low activity in services. If retail sales shrink, shop vacancies may increase. Earnings for property companies that own hotel buildings may fall if hotel vacancy rates increase. The low interest rate level is contributing to low funding costs for property companies, but many have a fixed rate for a large share of their debt. The bulk of this debt matures in 2012. If banks' lending standards remain tight and earnings stay low, the sector will be faced with considerable challenges when this debt is to be refinanced.

As property companies are often highly leveraged and account for a large share of banks' total lending, a sharp drop in property prices and a further deterioration in earnings will increase banks' loan losses.

Risk of high losses on loans to the shipping industry

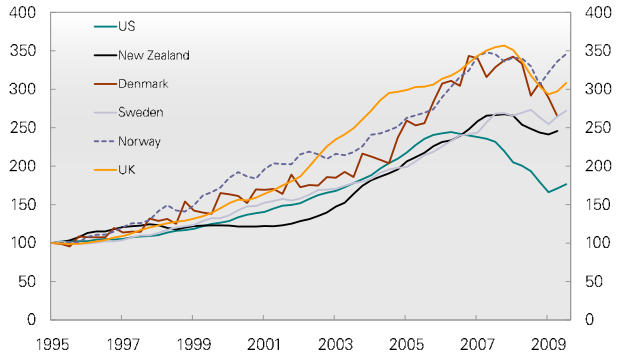
The previous report noted that the contraction in world trade has led to lower income for many shipping compa-

Chart 1.12 Rental prices and market value of office premises in 2009-NOK.[1] Indices. Jun 1986 = 100. Semi-annual figures. June 1986 – November 2008



1) High-standard offices centrally located in Oslo
2) Latest observation June 2009
Sources: OPAK, Statistics Norway and Norges Bank

Chart 1.13 House prices in a selection of countries. Indices. 1995 Q1=100. Quarterly figures. 1995 Q1 – 2009 Q3



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

nies. Lower demand and an increase in shipbuilding activity have led to surplus capacity in many shipping markets (see box on page 46). As a result, freight rates have decreased and profitability has declined, reducing the debt-servicing capacity of many shipping companies. The fall in freight rates has also reduced market prices for ships, reducing collateral values and increasing the leverage ratio.

Surplus capacity in the shipping industry is a long-term structural problem. Expected growth in the world economy and global trade will probably not compensate for the rising surplus of ships in the coming years. The longer the low global activity level and low freight rates persist, the higher the number of shipping companies experiencing falling debt-servicing capacity, liquidity problems and falling collateral values will be.

The large banks in Norway have considerable loan exposures to Norwegian and foreign shipping companies. Lower debt-servicing capacity and collateral values in this sector may result in considerable bank losses ahead.

Excessive optimism in the housing market

In previous issues of *Financial Stability*, it was noted that the household debt burden was high. Since the May report, houshold debt has continued to rise and is expected to move up somewhat ahead (see Chart 1.8). This primarily reflects high and rising house prices (see Chart 1.13). House prices fell in the last half of 2007 and through 2008 after rising over a long period. Since the trough in December 2008, house prices have rebounded sharply. As measured in relation to consumer prices, building costs, house rents and disposable income, house prices are high from a historical perspective. With the past surge in house price inflation, it is possible that both banks and households are overly optimistic regarding house price developments ahead.

A rising number of households have a debt burden that makes them particularly vulnerable to higher interest rates or income shortfalls. This may trigger a marked fall in house prices and an increase in the saving ratio. Higher financial saving improves households' capacity to bear higher interest rates or income shortfalls. Over time, this will contribute to financial stability. However, if saving

should increase sharply and remain high over a long period, the result will be reduced demand and lower corporate earnings. This may increase banks' loan losses.

There is also a risk that households take an excessively short view when assessing mortgage rates. It is the long-term interest rate profile which is relevant when purchasing a home, in line with the investment horizon and repayment period. Home buyers and bank lenders must allow for an average mortgage rate over time of around 6%, and in periods higher. Households can choose a more stable and predictable profile for interest expenses by choosing a fixed-rate loan.

1.3 Improved financial sector regulation

The global financial crisis has revealed weaknesses in the financial system. Banks did not have sufficient capital in relation to risk, and their funding was not sufficiently liquid and stable. Improved liquidity and capital regulations will reduce the frequency and amplitude of future financial crises. The Basel Committee on Banking Supervision is drawing up recommendations for stricter regulation of bank capital and liquidity management and considering approaches to reducing the cyclicality of bank behaviour. New regulation will subsequently be introduced in the EU and the EEA.

In Norway, capital regulations have been somewhat stricter than in other countries, based on the experiences of the banking crisis in the early 1990s. All financial institutions are subject to capital requirements and the Tier I eligibility requirements are stricter than in other countries. Furthermore, all assets in a group must be included in the calculation of banks' capital requirements. This has placed banks in stronger position to cope with the crisis. It has been an advantage that the Norwegian Banks' Guarantee Fund manages funds that can be used in a crisis. The Fund can provide support by injecting capital into a crisis bank. The system for membership fees should be designed so that banks supply more capital to the Fund without setting a low ceiling on the Guarantee Fund.

The main lessons learned from the financial crisis are:

1. Banks' liquidity management has not been robust to money and capital market failure

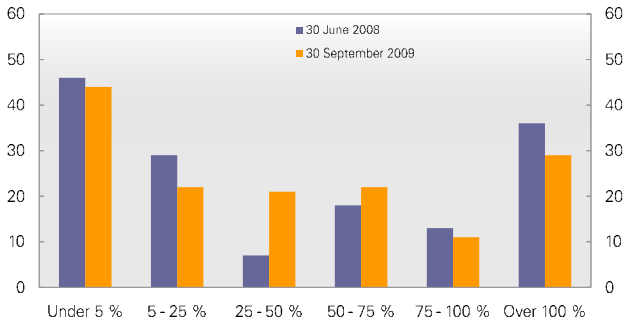
The financial crisis has shown that banks' liquidity management has not been robust to money and capital market failure. A minimum requirement should thus be introduced stipulating the size of a bank's liquid assets necessary to enable a bank to withstand periods of funding market failures. In addition, a minimum requirement for funding stability should be introduced.

Today, there are no quantitative requirements for banks' liquidity or funding structure. The rules require capital for banks' assets, but do not provide for the funding of assets or their liquidity. It is now being considered whether common requirements should be introduced, specifying the level of liquid assets a bank must hold to weather a stress situation. Assets that are to qualify as liquid should be easy to sell – also under market stress. The financial crisis has revealed that many assets held by banks for liquidity purposes have not been particularly liquid.

One of the first countries to propose stricter liquidity requirements is the UK. In the UK, the authorities will only accept liquidity buffers of high-quality government securities and central bank deposits. The UK supervisory authorities have proposed requiring that banks should be able to survive a period of money market failure and substantial deposit withdrawals without new liquidity supply from the central bank. Calculations show that in the third quarter, only 29 of the 149 banks in Norway had a liquidity buffer that was large enough to satisfy the criteria of a similar stress test (see Chart 1.14).

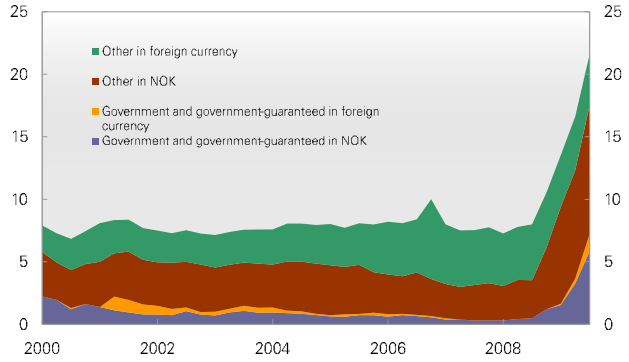
Norwegian banks should become more liquid to increase their robustness to future market failures and funding shortfalls. Even if Norwegian banks have drawn on the swap line to increase their holdings of Treasury notes, their holdings of Norwegian and foreign government securities are still limited (see Chart 1.15). At the same time, lending accounts for a high share of Norwegian banks' assets compared with other countries (see Chart 1.16). Loans are fairly illiquid assets. This may give rise to challenges for Norwegian banks when requirements are introduced as to the size of liquid assets a bank must hold.

Chart 1.14 Distribution of banks[1] by size of liquidity buffer[2] as a percentage of stress test requirement[3]. Number of banks. 30 June 2008 and 30 September 2009



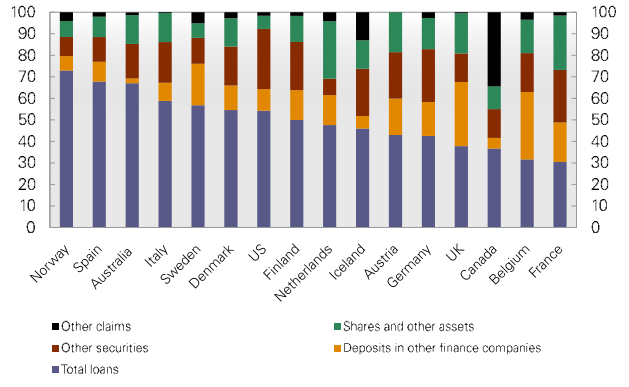
1) All banks in Norway
2) Government securities + deposits in Norges Bank
3) Government securities + deposits in Norges Bank / (Market funding with maturity under 1 month + 5% of customers with maturities under 1 month) > 100%
Source: Norges Bank

Chart 1.15 Norwegian bank[1] holdings of bonds and short-term paper. Percentage of total assets. Quarterly figures. 2000 Q1 – 2009 Q3



1) All banks excluding branches of foreign banks in Norway
Source: Norges Bank

Chart 1.16 Assets of banks and finance companies[1]. Per cent. End of 2007



1) Consolidated figures except for Canada, Iceland, US and UK
Source: OECD

Norges Bank has circulated for comment planned changes to Norges Bank's collateral guidelines. The temporary easing of the guidelines introduced in autumn 2008 will be reversed. Furthermore, it has been announced that access to using bank-issued paper as collateral for loans will be further limited. Today, up to 35% of banks' access to the central bank borrowing facility can be backed by bonds and commercial paper issued by other Norwegian banks. It is a disadvantage for the collateral provider and the collateral to be from the same sector. At the same time, Norwegian banks face a competitive disadvantage in relation to foreign banks under the current guidelines. Norwegian banks' access to central bank borrowing is limited by the 35% quota for Norwegian paper, while foreign banks are not limited by quotas for foreign paper. Foreign bank-issued paper will therefore be subject to the same limit as from 1 December 2010. As from 15 February 2012, bank-issued paper will no longer be accepted as collateral by Norges Bank. This means that many banks will have to change the composition of their liquidity portfolio. Banks should use this to shift the composition of liquidity portfolios towards more liquid assets.

In addition, funding stability requirements will be introduced. The financial crisis has shown that banks should avoid dependence on a continuous flow of funding from certain markets. Norwegian banks have a relatively high share of stable funding. Compared with other countries, Norwegian banks rely to a large extent on deposits (see Chart 1.17). Deposits are considered to be a stable funding source. Most Norwegian banks are therefore well poised to cope with the introduction of funding stability requirements.

The financial crisis has also revealed weaknesses in the trading and settlement systems for bonds and derivatives. The establishment of robust central counterparties for such markets and systems that promote their use will enhance financial stability (see box on page 29).

2. Higher capital requirements for banks

In many cases, the market now requires higher bank capital than official regulation. The regulation stipulating the minimum Tier 1 capital adequacy requirement should be changed so that banks hold more capital against unex-

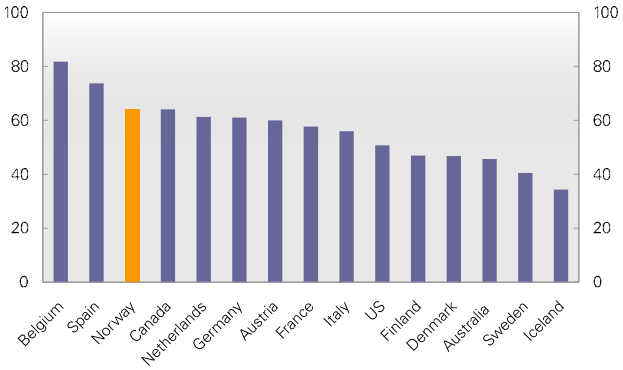
pected losses. There are several approaches to this. In addition to higher Tier I capital requirements, stricter Tier I eligibility requirements can increase loss bearing capacity. Another approach is to introduce a required minimum equity to total assets ratio at financial institutions.

Today banks are subject to a minimum capital requirement stipulating that Tier I capital shall amount to at least 4% of risk-weighted assets. Under the rules, hybrid instruments, which are a mix of debt and equity capital, may account for up to half of Tier I capital. The remainder must be equity capital. Contingent convertible bonds and other hybrid instruments cannot be used as easily as equity capital to cover losses under ordinary business conditions and winding up.

If solely equity capital (less intangible assets) were eligible as Tier I capital, all Tier I capital would have the same loss bearing capacity under normal business conditions, and the definition becomes simple. The authorities in many countries have supplied capital to banks and the capital supplied has to a large extent consisted of hybrid instruments. In the short term, this can pose an obstacle to arriving at a common definition of Tier I capital. In Norway, the share of hybrid capital that is eligible for including in Tier I capital has been subject to fairly strict criteria. Most Norwegian banks are thus well poised to cope with tighter quality requirements for Tier I capital (see Chart 1.18).

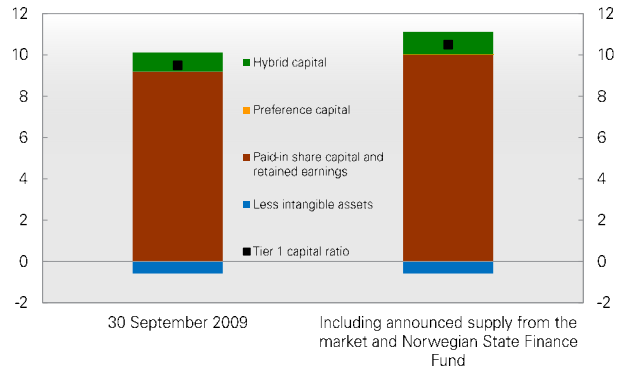
A minimum requirement for financial institutions' equity to total assets ratio could be applied. Such an unweighted equity capital requirement will limit debt accumulation at financial institutions. A minimum equity capital requirement sets a limit for the number of times a bank can leverage equity capital. For example, with a minimum requirement of 5% a bank with equity capital of NOK 5bn can borrow NOK 95bn from other funding sources. With a minimum requirement of 5%, equity capital can be leveraged 20 times. As a result of the uncertainty in the risk models, many investors give greater weight to the equity capital ratio than the Tier I ratio. A higher equity ratio will in isolation reduce the risk for bond investors, but will at the same time reduce return on equity. This may reduce the supply of equity capital to banks.

Chart 1.17 Deposits as a percentage of total assets for banks and mortgage companies[1]. 2007



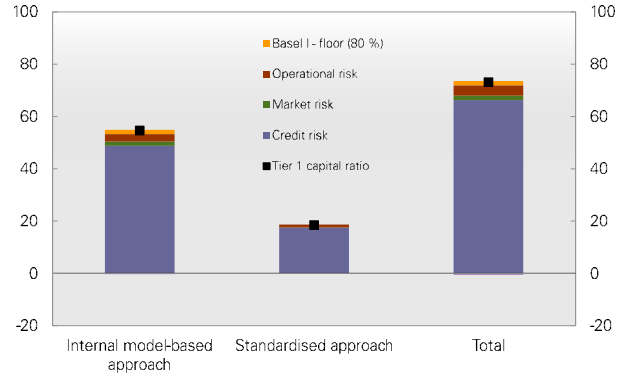
1) Consolidated figures except for Canada, Iceland and US
Source: OECD

Chart 1.18 Tier 1 capital of Norwegian banks[1]. Percentage of risk-weighted assets. 30 September 2009



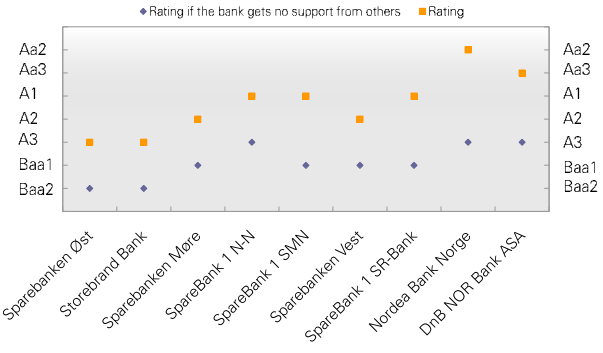
1) All banks excluding branches of foreign banks in Norway
Sources: Financial Supervisory Authority of Norway, Norwegian State Finance Fund and Norges Bank

Chart 1.19 Tier 1 capital requirements by risk category. Norwegian banks[1]. Billions of NOK. 30 September 2009



1) All banks excluding branches of foreign banks in Norway
Sources: Financial Supervisory Authority of Norway and Norges Bank

Chart 1.21 Moody's last published rating of bank's long-term debt and deposits, and rating if banks under stress do not receive support. Banks are ranked by total assets in ascending order to the right



Sources: Moody's and the banks' websites

Moreover, the Basel Committee has proposed stricter capital requirements for assets in banks' trading books, which consist of positions in financial instruments. The financial crisis showed that risk associated with such assets has been underestimated.

Capital requirements for market risk in the trading book make up a very small share of the overall capital requirement for Norwegian banks (see Chart 1.19). An increase in the capital requirements for the trading book will therefore have limited implications for Norwegian banks.

The lessons from the financial crisis imply tighter regulation of systemically important banks. Substantial public resources have been used in many countries to prevent the collapse of systemically important institutions. The systemic importance of a bank can be difficult to measure, but depends on the bank's size, complexity and how interwoven it is with other financial institutions. Tighter regulation of systemically important banks, for instance through the introduction of higher capital requirements for such banks compared with other banks, would reduce the number, size and probability of failure of such banks.

In Switzerland, regulation has been introduced stipulating that the capital adequacy of the country's two large banks must be twice as high as the international minimum requirement during good times. To reduce the cyclical impact of the measure during a downturn, the requirements will not apply until 2013. In Norway and other countries, all banks are subject to the same capital adequacy requirements, but the large banks have generally chosen to leverage their capital further than other banks (see Chart 1.20). Systemic risk considerations indicate that capital adequacy ratios at large banks should be higher.

If the authorities rescue banks from collapse, it may induce banks to increase risk-taking, i.e. moral hazard. Creditors may perceive that large banks are in practice "insured" by the government. This is reflected in credit agencies' ratings (see Chart 1.21). Banks that are assumed to be systemically significant are given a higher rating. This reduces their borrowing costs and facilitates leveraging and growth (see Chart 1.22).

3. Current regulation increases the procyclicality of bank behaviour

Banking regulation should seek to limit not only risk at individual banks, but also risk in the entire financial system. Banks' growth strategies take little account of the potential effects of their behaviour on other banks and the financial system.

Credit risk has the most impact on Norwegian banks' regulatory capital requirement (see Chart 1.19). Under the Basel II framework, the largest banks use internal models to calculate capital requirements for different loan portfolios. Risk models have increased Tier I ratios at the largest banks, but their equity capital ratios are low (see Chart 1.23). Risk can be calculated using advanced methods, but

too often the underlying figures nevertheless represent current economic conditions. The possibility of an abrupt change in economic conditions is not sufficiently taken into account. The financial crisis demonstrated that there can be a substantial difference between the pre-calculated model-based risk and actual outcomes observed at a later time. There are many examples illustrating that the capital requirements that different banks calculate for comparable assets are very different (see box on page 23). Strict disclosure requirements should therefore apply to enable the market to compare banks' capital adequacy figures.

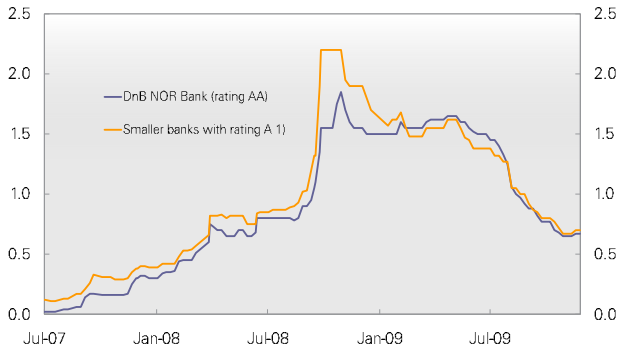
The capital requirements under the Basel II framework can give rise to considerable procyclical effects. During a downturn, borrowers' debt-servicing capacity is reduced and the value of bank collateral falls, increasing the risk of bank losses. This triggers an upward adjustment of the risk weights used to calculate the minimum capital requirement under Basel II, and the minimum capital requirement increases. The shorter the data series applied in banks' risk models are, the more the capital requirement swings with the business cycle. The impact can be appreciable. Higher capital requirements for banks during a downturn will amplify the downturn, while the opposite applies during an upturn.

The Basel Committee is drawing up proposals that will reduce the procyclicality of capital requirements. Under the new regulation, banks should in normal times build up sound buffers beyond the minimum capital requirements, enabling them to weather bad times and absorb losses without increasing their equity capital. This may counter the need for banks to ration credit during a downturn.

The procyclicality of the capital requirements can be reduced in several ways. Banks' capital requirements can depend for example on credit growth in the economy. The banking system would then be required to build up capital reserves when credit growth is high, thereby functioning as a countercyclical factor.

The International Accounting Standards Board (IASB) has proposed changes to the accounting rules of the valuation of financial assets that could reduce the procyclicality of bank behaviour. Banks should be required to record

Chart 1.22 Risk premiums on Norwegian bonds. 5-year maturity. Indicative prices. Percentage points. Compared with swap rates. Weekly figures. 29 June 2007 – 25 November 2009



1) Banks with total assets between NOK 5-15bn and rated A by DnB NOR Markets
Source: DnB NOR Markets

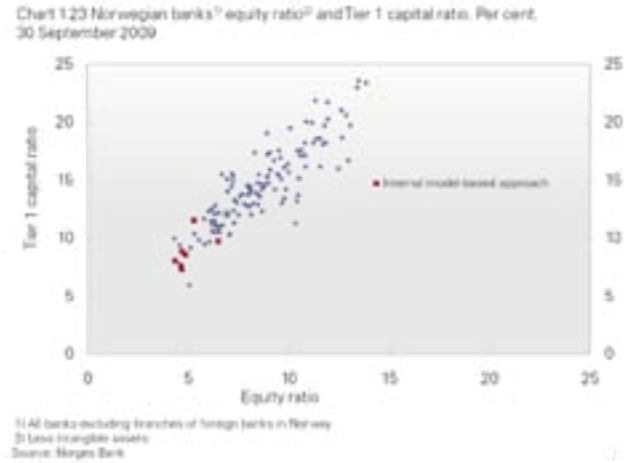


Chart 1.24 Macro- and microprudential perspectives

	Macroprudential	Microprudential
Proximate objective	Limit financial system-wide distress	Limit distress at individual institutions
Ultimate objective	Avoid output (GDP) costs linked to financial instability	Consumer (investor/depositor) protection
Correlations and common exposures across institutions	Important	Irrelevant

Source: BIS

expected losses throughout the life of a loan up to maturity, and not only when losses occur. The rules would then be more closely in line with accounting rules for other types of investment, where costs are recorded in closer accord with investment income. In Spain, banks were required to take into account the losses that arise over the economic cycle. This makes writedowns more stable over time. The advantage of such dynamic loss provisions is that they are rules-based and do not require judgement on the part of the supervisory authorities or banks.

4. Household behaviour in the housing market poses a considerable challenge to economic policy
In Norway, demand for dwellings and residential mortgages is heavily stimulated by the tax system, and bank mortgage lending is marked by the fact that banks require almost no equity for approving new housing loans. This poses challenges to economic policy.

Housing investment has been advantageous for a long time in Norway, owing to the favourable tax treatment of housing investment and consumption in relation to financial investment. This has resulted in overinvestment in housing capital and has fuelled house price inflation. This favours household debt accumulation and can thereby contribute to building up financial imbalances over time.

The Norwegian housing market is vulnerable. The combination of tax subsidisation of home ownership and a large proportion of floating-rate mortgages can amplify activity and price fluctuations. House price inflation has been very high over the past two decades compared with countries where house prices fell sharply during the financial crisis (see Chart 1.13).

Almost no equity capital is required for residential mortgage loans. Banks have largely relied on market funding to finance the strong growth in mortgage lending. As a result, banks are more vulnerable if access to market funding again becomes difficult. The low risk weights for residential mortgage loans therefore also increase liquidity risk in the banking system. The risk weights for residential mortgage loans should to a larger extent reflect the systemic risk associated with excessive growth in mortgage lending. Higher risk weights for residential mortgage loans and an equity capital requirement can curb banks' eagerness to extend residential mortgage loans. If the transitional rules in Basel II (see box on page 23) are maintained for a longer period, as proposed by Kredittilsynet, this would have the same effect.

Regulation limiting loan-to-value ratios for mortgage loans will reduce the risk of mounting financial imbalances and secure banks' collateral values. The procyclical impact of banks' activities will be reduced. Maximum loan-to-value ratios – for example even higher capital requirements for highly leveraged mortgage loans – will distort competition to a lesser extent if they are implemented for lending to the Norwegian market by banks based in other Nordic countries.

Regulation and supervision of systemic risk

The financial crisis has shed light on the need for macro-prudential supervision that reduces the risk of instability in the financial system, and thereby also in the real economy. The purpose of macro-prudential supervision is to prevent turbulence in the financial system (see Chart 1.24).

The regulation and supervision of financial institutions has had too strong a focus on preventing problems at individual institutions, i.e. based on micro-prudential supervision considerations. Regulation should not only seek to limit risk at individual banks, but also systemic risk. This can provide a more balanced combination of micro- and macro-prudential supervision in the future.

Residential mortgage loans provide a good illustration of the difference between risk at an individual bank and systemic risk. Banks' losses on housing loans have been appreciably lower than losses on corporate loans in the past decades. This has resulted in low capital requirements under Basel II. Very low capital requirements for residential mortgage loans, good interest margins and low expected losses have led to strong competition among banks for mortgage borrowers. However, housing market fluctuations, which move in tandem with variations in saving behaviour, are still a source of cyclical fluctuations and large losses when banks must write down loans to enterprises that sell goods and services to households.

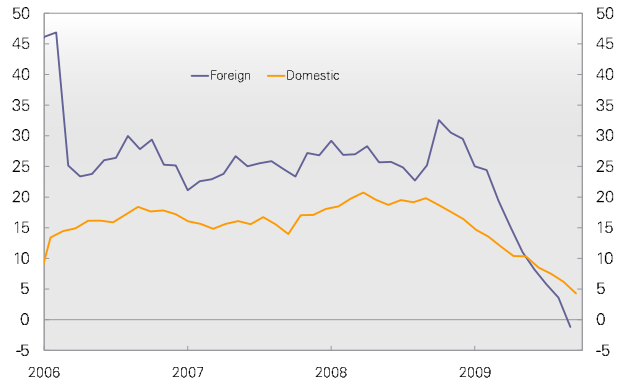
Macro-prudential supervision requires tools that can influence risk in the financial system, for example capital requirements and liquidity requirements at banks, or loan-to-value requirements for residential mortgages. Stricter requirements for bank capital, liquidity and loan-to-value ratios for residential mortgages can limit the development of imbalances in the financial system. The measures should be simple and robust. Macro-prudential supervision, like monetary policy, should not be based on mechanical rules alone, but requires a certain element of judgement.

Macro-prudential supervision should ensure that banks in normal times build up solid buffers. This may counter the rationing of bank credit during downturns. Under the current rules, the supervisory authorities can require that banks increase their capital buffers in normal times. However, the practice of these rules varies across countries. In calculating the minimum capital requirement under Pillar 2, banks must calculate the capital requirement for their overall risk exposure, and not only the risk under Pillar I. In their assessment of capital requirements, banks should be forward-looking. Banks should have buffers in relation to minimum requirements to absorb unexpected losses during downturns, including losses arising from imbalances in the financial system.

Banks' liquidity management has been one of the reasons behind the problems facing many financial institutions in recent years. Liquidity requirements should be drawn up and practiced with a view to increasing the robustness of banks to periods of market failure.

The EU has set up a new body, the European Systemic Risk Board (ESRB), to assess systemic risks and recommend risk-mitigating measures. The ESRB, where EU central bank governors will be represented, will also issue early warnings and recommendations on supervision and regulation in Europe where such risks are identified in the financial system. At the same time, the EU has decided to establish an umbrella supervisory organisation, the European System of Financial Supervision (ESFS). The advisory authorities for banking, securities and insurance will together with national supervisors participate in the new micro-prudential supervisory body.

Chart 1.25 Domestic credit to corporate sector from banks and financial institutions in Norway. 12-month growth. Per cent. Monthly figures. January 2006 – September 2009



Source: Norges Bank

Nordic cooperation on regulation and supervision

For the new regulations to have the intended effect, the rules should be practised evenly across countries to provide banks with equal competition conditions. National supervisors may be reluctant to impose strict requirements on banks due to fears of weakening their competitiveness. It is important to avoid slippage in regulation towards a – too low – common minimum level.

For Norway it is important that regulation and supervision are practiced as evenly as possible in the Nordic countries. The Nordic region is a well-suited market for using the measures actively. Nordic banks engage in cross-border operations. At the same time, they have little activity outside of the Nordic and Baltic countries. Foreign banks from other regions have limited operations in the Nordic market. The conditions are therefore in place in the Nordic market for effective cooperation in the area of banking regulation and crisis management between the political authorities, supervisors and central banks.

Nordic cooperation can contribute to limiting the build-up of risks to financial stability in the Nordic region. In the period from 2004 to 2008, foreign banks expanded rapidly in the Norwegian market, but during the crisis they curbed their activity (see Chart 1.25). This is probably because Swedish and Danish banks were harder hit by the crisis, amplifying fluctuations in Norway.

Measures under discussion aimed at improving financial regulation

In the wake of the financial crisis, prevention and management of new financial crises has been a prominent subject of debate among authorities and academics. In addition to the proposals and measures discussed in Section 1, the following four proposals are highlighted:

In the UK, the authorities have proposed that large banks should draw up a plan for orderly winding up, often referred to as living wills, to facilitate continued operation of systemically important banking activities by the authorities or others during a crisis. Banks must list the activities they wish to sell if they are compelled to raise new capital in a stressed situation. Irrespective of the bank's size or complexity, the authorities should be in a position to split or wind up the bank in a timely manner. The work on such a plan may reveal that banks must be restructured, and hence contribute to appropriate dividing lines between various financial sector activities. Such plans also make it more likely and credible that the authorities or others will be able to take over only the systemically important activities of a bank in crisis, rather than rescuing the entire banking conglomerate.

The UK authorities have discussed the possibility of requiring that the most important functions of a bank group be placed in one entity, referred to as a narrow bank. This will limit the size of banks and increase their transparency. The entity can only receive deposits and provide payment services. It cannot own risky assets. This will make it easier for the authorities or others to continue the systemically important activities of a bank during a crisis. The other activities of the bank group are placed in another entity. The US authorities are also considering less extensive regulatory tightening that only limits the forms of securities trading in which banks may participate.

In the US, the FDIC has proposed establishing a fund for systemically important financial institutions. Systemically important financial institutions are to pay a fee to the fund based on the government's expected cost of rescuing them from collapse. This could reduce the use of public resources and the bankruptcy probability of systemically important institutions. A similar solution in Norway could be that banks categorised as systemically important pay a higher fee to the Norwegian Banks' Guarantee Fund.

Another solution may be to require systemically important banks to pay an additional tax that reflects the cost saving that the implicit government guarantee entails for the bank, or the expected cost for the government should the bank have to be rescued.

The US and UK authorities have proposed that banks be required to issue a new form of hybrid capital, referred to as contingent capital. The hybrid capital is converted into equity capital should a pre-negotiated contingency occur, for example that a bank's Tier I ratio or share price fall below a given level. The required issuance of such hybrid capital will increase banks' buffers and reduce the need for government provision of capital in difficult times. A market-based solution implies that banks themselves issue such capital, which Lloyds in the UK has done. Another alternative is that the government authorities have the right to convert loan capital to equity capital. In New Zealand, the authorities already have such a right.

Capital requirements during the banking crisis in the early 1990s

In connection with the international discussion on higher capital requirements for banks, it may be useful to recall the size of the losses during the Norwegian banking crisis. The share capital of the three largest crisis-hit Norwegian banks, Fokus Bank, Christiania Bank and Kreditkasse and Den norske Bank (DnB), was written down to zero owing to the losses incurred during the banking crisis at the beginning of the 1990s.

Fokus Bank started recording a negative profit in 1990. Christiania Bank and Kreditkasse also recorded a negative profit in 1990, but this partly reflected mergers with other crisis-hit banks. DnB was formed as a result of a merger between Den norske Creditbank and Bergen Bank in April 1990, and some smaller crisis-hit banks were taken over. The merged bank started to record a negative profit in 1991.

The equity capital ratio of Fokus Bank must have been at least 13% prior to the crisis to preserve some capital as a basis for a possible private recapitalisation. The equity capital ratio of Christiania Bank and Kreditkasse must have been at least 8% (see bottom line in the table below). DnB was part of a group that on a consolidated basis recorded higher losses than indicated by the figures in the table, and the bank's equity capital ratio must therefore have been somewhat higher than 4% prior to the crisis for the group to be able to recapitalise using private sources.

Table 1 Equity capital and negative profit at the three largest Norwegian banks[1]. Annual figures. 1989 – 1992

In millions of NOK	Fokus Bank	Christiania Bank and Kreditkasse	DnB
Total assets[2]	33 303	115 487	167 972
Equity capital[2]	1 462	4 949	7 003
as a percentage of total assets	4.4 %	4.3 %	4.2 %
Accumulated negative profit in the period 1990 – 1992 as a percentage of total assets prior to crisis	12.8 %	7.8 %	3.9 %

[1] Figures only include banking activities of the financial groups
[2] Figures apply from the year prior to the first year of negative profit, i.e 1989 for Fokus Bank and 1990 for DnB and Christiania Bank and Kreditkasse

Source: Norges Bank

Difficulties in comparing banks' capital adequacy

Capital adequacy is difficult to compare, particularly across borders. The definition of both capital (the nominator) and risk weights (denominator) for comparable assets vary. In addition, the transition from Basel I rules to Basel II rules poses a temporary problem. According to the transition rules, capital requirements based on Basel II calculations cannot be lower than 80% of what they would have been under Basel I. This applies in 2009, and the Basel Committee on Banking Supervision has proposed that it should also apply after 2009. This means that many banks are still reporting official figures that in reality are in keeping with the Basel I rules. Differences in capital adequacy may also reflect variations in the interpretation of the transition rules.[1]

Many banks also report, however, what the capital ratio would have been under the Basel II rules. Under these rules, the risk weights used to calculate the capital requirements can be determined by the internal model-based approach to risk. Capital requirements determined by internal risk models are more affected by risk than capital requirements determined by the standardised approach. Most large banks are still working on expanding the use of internal risk models. The share of banks' portfolios subject to internal risk models vary from one bank to another. A comparison will be easier when all the banks have established risk models approved under the Basel II rules.

Capital requirements for comparable assets

Even when all the large banks have risk models that cover approximately the same portfolio segments, the risk weights for comparable assets will differ. At the end of 2008, the average risk weight for residential mortgages varied between 9 and 17% among the largest Nordic banks. This partly reflects differences in the risk of losses on comparable loans across countries or regions. As a result, the risk weights should also differ. But it can also reflect differences between approved risk models, and hence yield different results for the same risk. Banks that use the standardised approach rather than the internal model-based approach must assign a 35% weight to residential mortgages.

An important source of differences in the internal model-based approach is that the time series used to calculate risk have unequal lengths. Some countries permit the use of considerably shorter time series than the optimal through-the-cycle coverage. The reason may be that longer time series are not available or are not considered to be representative. However, the risk weights will be lower if the time series do not include data from downturns[2]. In Norway, banks are required to include the banking crisis of the early 1990s in their data set when calculating risk[3].

The concept of capital

Under the Basel rules, banks' Tier I capital should in principle consist of pure equity capital. Internationally, this is interpreted to mean that at least half of Tier I capital must be common shares and retained earnings. The remainder can consist of various forms of hybrid capital. This is the case in Germany, for example. Some countries have on a national basis set a lower limit for hybrid capital, however. In Norway, hybrid capital can constitute no more than 15% of Tier I capital. In many countries, this proportion has been increased in connection with capital injections in banks over the past two years. In Norway, the quota has been expanded to include deposits from the State Finance Fund, but has otherwise been kept unchanged.

In Norway, perpetual bonds are eligible as Tier I capital, but Kredittilsynet (Financial Supervisory Authority of Norway) applies strict eligibility requirements. The bonds must be

- perpetual
- written down together with the equity capital when the Tier I ratio is lower than 5% or the total capital ratio is lower than 8%
- non-interest bearing if the Tier I capital or total capital ratio is less than 0.2% above the minimum requirements

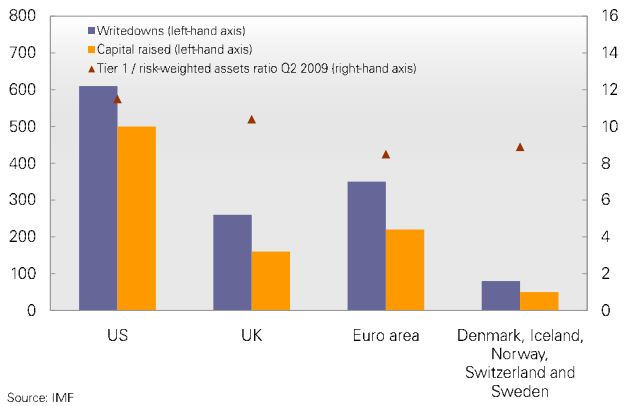
Other countries have different requirements for approving hybrid capital. EU comparisons show that these requirements are in many cases less strict than the Norwegian requirements.

EU bodies are working towards harmonising the requirements for approving Tier I capital, and it is likely that the differences will be considerably reduced when this process is completed. Many of the proposals entail closer convergence with the Norwegian rules.

1 In Norway and Sweden the transitional floor is understood as a lower limit for the risk-weighted assets. In Denmark the transitional floor is interpreted as a lower limit for the capital ratio.
2 For a further analysis, see Henrik Andersen, Norwegian banks in a recession: Procyclical implications of Basel II. Working Paper 2009/4, Norges Bank.
3 The banking crisis period should be included when calculating the average long run probability of default. The banking crisis period should also be included when calculating the lower transitional floor for estimates of loss given default.

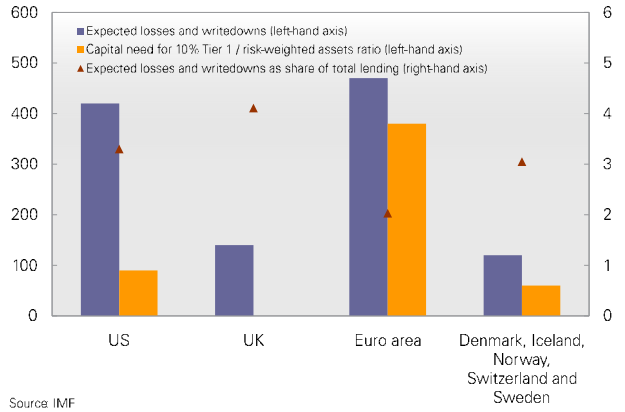
Sections

Chart A.1 Writedowns and losses in banks and capital raised. In USD billions. Tier1/risk-weighted assets ratio. Per cent. Total for 2007 – Q2 2009



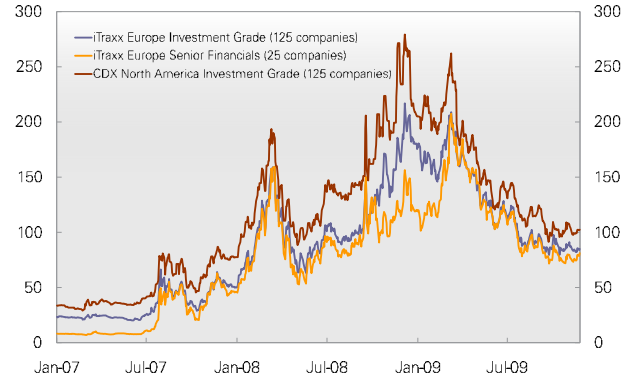
Source: IMF

Chart A.2 Writedowns and need for new capital. In USD billions. Writedowns and losses. Per cent. Estimates. Total for Q2 2009 – 2010



Source: IMF

Chart A.3 5-year CDS spreads. Basis points. Daily figures. 1 January 2007 – 24 November 2009



Sources: Bloomberg and Markit

A. Improvement in international financial markets

Credit premiums in international markets have fallen back to the levels prevailing before the Lehman Brothers collapse in September 2008, and borrowing in credit markets has become easier. Government support measures have contributed to restoring fairly normal conditions in many important markets. Government support to financial institutions and measures to mitigate the impact of the downturn are pushing up government debt in many countries, which may restrict the potential for economic growth. Banks have strengthened Tier 1 capital adequacy, but further capital injections may be needed in 2010.

Loss estimates for financial institutions revised down

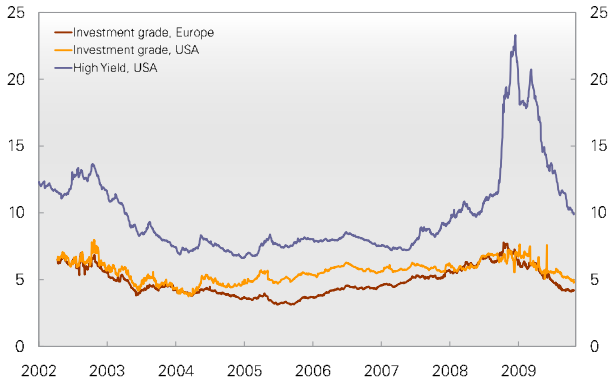
Financial institutions worldwide have recorded substantial losses and writedowns on holdings of loans and securities since autumn 2007. In October, the International Monetary Fund (IMF) revised down its April loss estimates for financial institutions. Loss estimates for 2007 – 2010 stand at roughly USD 3.4 trillion, of which approximately USD 2.8 trillion is expected in banks. USD 1.3 trillion in losses had been recognised by mid-2009, and banks have largely covered their losses by raising fresh capital (see Chart A.1).

The IMF expects losses in US and UK banks to be higher than in banks in other countries. The IMF estimates that both US and European banks may need more capital through the period to end-2010. In order to increase Tier 1 capital adequacy ratios to 10% by end-2010, banks' Tier 1 capital must be raised by a total of approximately USD 530 bn (see Chart A.2). Without a further supply of capital, the average Tier 1 capital adequacy ratio will nonetheless remain higher than the minimum requirement of 4%.

Uncertainty in financial markets easing

CDS spreads have fallen (see Chart A.3), reflecting lower default probabilities for enterprises and financial institutions. Investors are expecting corporate earnings to improve, which boosts confidence in enterprises' debt-servicing capacity. This contributes to reducing effective interest rates on corporate debt (see Chart A.4). Equity market fluctuations are now less pronounced, and equity prices have risen considerably in many countries, particularly since March 2009 (see Chart A.5). Subindices for banking and finance have increased more than the main indices since March.

Chart A.4 5-year corporate credit spreads. Percentage points. Daily figures. 1 January 2002 – 25 November 2009

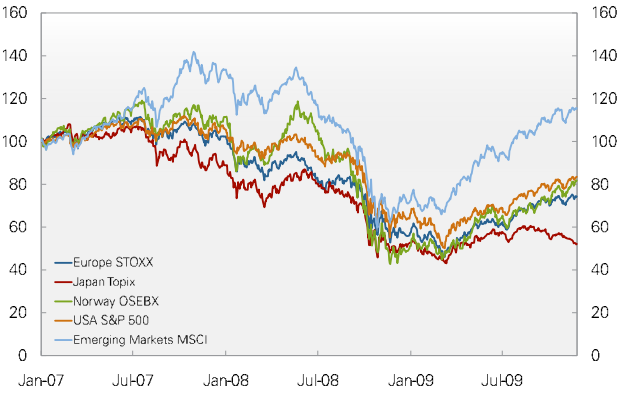


Source: Thomson Reuters

Government measures have improved financial stability

Government stimulus packages in various countries have helped to reduce financial market instability. Monetary and fiscal policy easing has mitigated the impact of the economic downturn and losses at financial institutions. Reduced key rates have contributed to lower market rates. The provision of extensive liquidity support by central banks has reduced risk premiums in interbank markets (see Chart A.6). The large-scale asset purchase facilities established by the Federal Reserve and the Bank of England have made it easier for financial institutions to obtain funding in commercial paper markets and contributed to keeping effective returns on government paper low. Even though the various measures have been effective, banks are still reluctant to lend to each other at longer maturities.

Chart A.5 International equity indices. 1 January 2007 = 100. Daily figures. 1 January 2007 – 25 November 2009



Source: Thomson Reuters

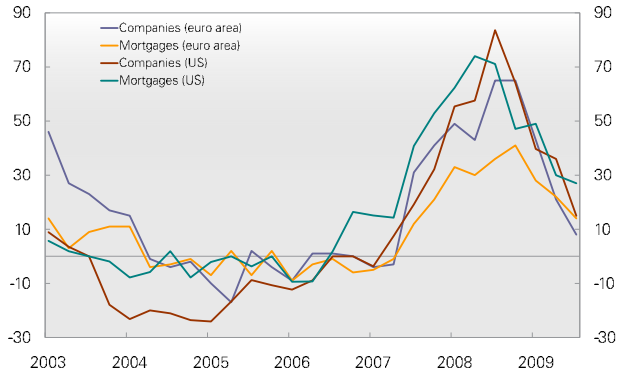
Collateralised bonds important as source of funding

Collateralised bond issuance, particularly by banks and other private issuers in the US market, was limited towards the end of 2008. The situation has improved in 2009, but there has been a shift in the composition of market participants. Bonds issued by government run/owned institutions account for more than half of the total value of global issuances in 2009. Issuance of more complex instruments, such as CDOs, is almost non-existent. New regulations may help to reduce uncertainty regarding the valuation of these instruments and thus revive demand. Changes in the capital adequacy rules (Basel II) have increased bank capital requirements on off-balance sheet securitised lending portfolios. The EU Commission has also announced that issuers (banks) may be required to keep a

Chart A.6 Spread between 3-month money market rates and expected key policy rates[1]. Percentage points. 5-day moving average. Daily figures. 1 January 2007 – 25 November 2009

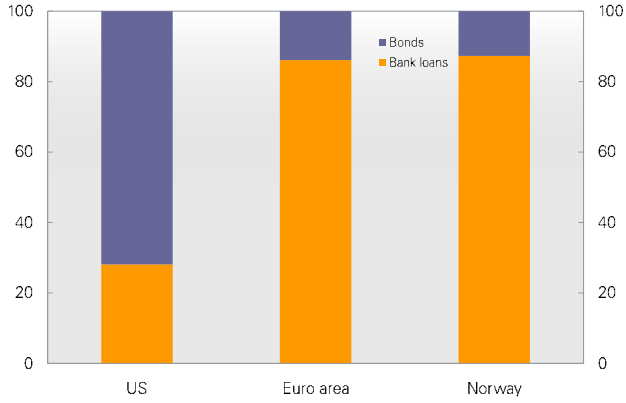
1) Expected key rates are measured by Overnight Indexed Swaps (OIS)
Sources: Bloomberg and Thomson Reuters

Chart A.7 Bank lending surveys in US and euro area. Net share of banks that have tightened credit standards. Per cent. Quarterly figures. Q1 2003 – Q3 2009



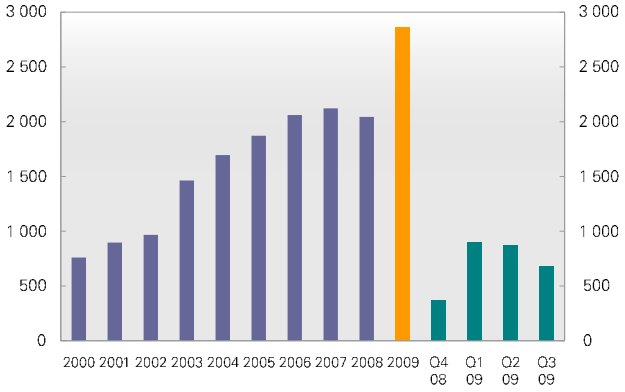
Sources: Federal Reserve and ECB

Chart A.8 Corporate debt. Bank loans and corporate bonds. Per cent. July 2009



Sources: Federal Reserve, ECB and Statistics Norway

Chart A.9 Bonds issued by European companies. All currencies and all countries. In USD billions. Annual figures. 2000 – 2008, 1 January – 25 November 2009. Quarterly figures for 2008 Q4 – 2009 Q3



Source: Bloomberg

share of securitised lending on their own balance sheets. With the changes in the rules, the cost of bearing risk becomes more visible on the issuer's balance sheet, which reduces uncertainty for the investor.

The volume of covered bonds issued by European institutions has increased in the course of 2009. The ECB's purchase programme has reduced risk premiums and increased the issue volume of these bonds in the euro zone. The issue volume of covered bonds is also high in Norway, particularly as a result of the swap arrangement. As manager of the Government Pension Fund – Global, Norges Bank has taken an initiative to strengthen the European covered bond market. Together with a number of other large investors and with the support of several central banks, an association of investors has been established, the Covered Bond Investor Council. One of its main objectives is to improve liquidity in the covered bond market.

Lending conditions remain tight

Private sector credit growth was negative in a number of countries in the first half of 2009. Low economic growth has weakened corporate and household credit demand in many countries. Lending surveys conducted by the ECB and the Federal Reserve show that the majority of banks are still tightening lending conditions, although to a lesser degree than at the turn of the year (see Chart A.7).

Substantial loan losses and writedowns of assets recognised at fair value have reduced capital adequacy ratios and resulted in a need for extensive deleveraging in many financial institutions. In order to meet capital adequacy requirements and improve solvency, a number of banks shrank their balance sheets by selling assets and reducing lending in 2009. Government capital injections and private capital issues in the market have also pushed up capital adequacy in the banking sector, thereby reducing the need for further deleveraging.

While large enterprises can obtain funding both from financials and in the bond market, smaller enterprises and private individuals are as a rule dependent on loans from banks. Banks account for the major part of corporate lending in Europe (see Chart A.8). Enterprises have replaced some of their bank funding with bonds. In 2009 bonds were issued

in large volumes in both the US and Europe (see Charts A.9 and A.10). Many bonds issued by banks in the US and Europe have been guaranteed by the authorities. Use of the guarantee schemes has gradually decreased in 2009.

Risk of over-optimism in financial markets

Corporate operating profits and earnings in the US were unexpectedly favourable in 2009 Q3, although levels had been low. High turnover in enterprises in many parts of the world is being buoyed up by orders already under contract. Other temporary effects, such as the extensive monetary and fiscal measures, have also improved enterprises' profits. Since the previous *Financial Stability* report, private investors have shown greater interest in private bonds and other securities with high returns and risk. There is a risk that the large-scale supply of liquidity is fuelling over-optimism in financial markets. In the longer term, enterprises must boost activity in order to maintain turnover.

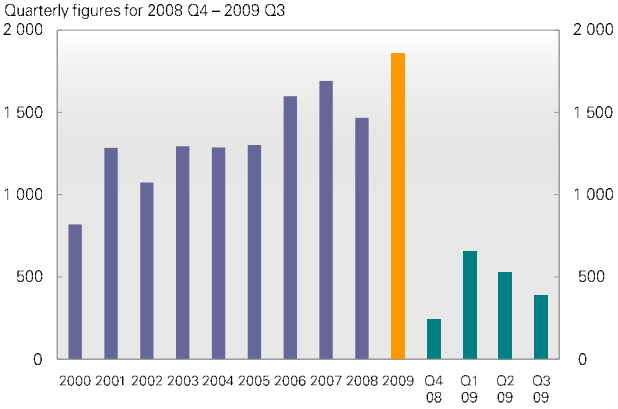
Government measures are resulting in higher government debt

For many countries, the extensive rescue measures and the downturn are resulting in substantial government borrowing and budget deficits. Global borrowing is at its highest since the Second World War, and gross government debt among the G20 countries is estimated to increase by around 40 percentage points to approximately 115% of global GDP in 2014.

The US in particular has implemented a number of measures to stabilise the financial sector. Similar action was taken in other countries, although not to the same extent as in the US. One of the Federal Reserve's measures was to purchase securitised loans. Securitised loans will probably be predominant on the asset side of the Federal Reserve's balance sheet through the first half of 2010. Other countries have implemented similar measures, which have resulted in a sharp increase in central banks balance sheets (see Chart A.11).

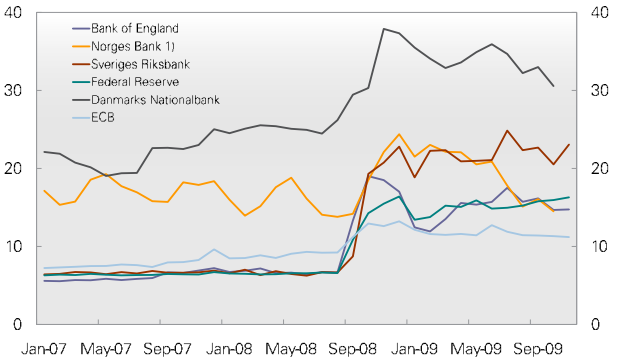
Governments have purchased troubled assets and financial commitments from financial institutions. This has pushed up the price of credit risk insurance for government debt (see Chart A.12).

Chart A.10 US corporate bonds issues by US companies. In USD billions.
Annual figures. 2000 – 2008, 1 January – 25 November 2009.
Quarterly figures for 2008 Q4 – 2009 Q3



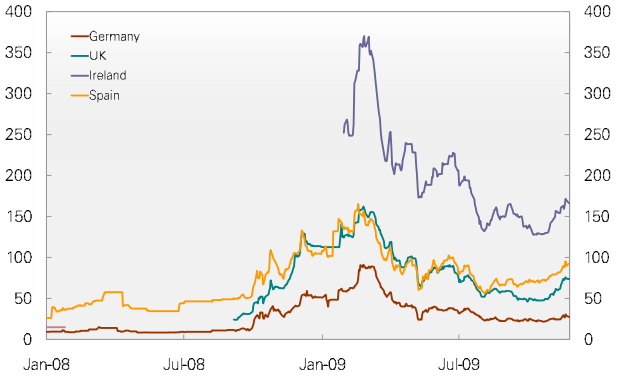
Source: Bloomberg

Chart A.11 Central bank balance sheets as a percentage of GDP. Monthly figures.
January 2007 – November 2009



1) Excluding Government Pension Fund holdings
Sources: ECB, Bank of England, Sveriges Riksbank, Federal Reserve, Danmarks Nationalbank, IMF and Norges Bank

Chart A.12 10-year CDS premiums on sovereigns. Basis points. Daily figures.
1 January 2008 – 25 November 2009



Source: Bloomberg

In favour of wider use of central counterparties

A central counterparty is an institution that specialises in risk management from the time a trade is agreed until it is fully executed. The central counterparty becomes a party to the transaction as soon as the trade has been agreed. Thus, in equity trading, the central counterparty purchases equities from the seller and sells them to the purchaser. The counterparty is responsible for the execution of both trades and must have default procedures in place in the event the seller cannot deliver or the purchaser cannot pay.

Central counterparties have traditionally been used in stock exchange transactions involving securities and derivatives. In securities trading, using central counterparties eliminates counterparty risk from initiation of the trade until settlement has been completed, usually three days later. In derivatives trading, derivatives are subject to counterparty risk until the contract expires, which can be many months after the trade was agreed. Central counterparties have also increasingly taken on clearing obligations in off-exchange trading. Central counterparties have honoured their obligations throughout the crisis.

In Norway, central counterparties are used in derivatives trading. Oslo Clearing is the central counterparty for trades where securities are the underlying instrument, Nord Pool Clearing where the underlying asset is energy prices and NOS Clearing where shipping freight rates, energy contracts or export prices for salmon are the underlying asset. Oslo Børs will soon require financial transactions in equities on the stock exchange to be cleared by a central counterparty. Oslo Clearing is planning to offer this service, as will LCH.Clearnet in London. The Nasdaq OMX group offers trading in the 25 most liquid Norwegian equities and is in the process of introducing central counterparty services in the Nordic region through the European Multilateral Clearing Facility (EMCF), established in the Netherlands.

Central counterparties have proved particularly useful when confidence in counterparties such as banks and investment firms is impaired. The financial crisis has led to increased international demand for services from central counterparties, for clearing of a wider range of both products and types of transaction. Central banks and other authorities also favour market-based initiatives in this area. The G20 summit in Pittsburgh reached this conclusion, and the EU Commission has proposed lower capital requirements for positions cleared through a central counterparty. It has been emphasised in particular that credit derivatives trading would benefit from the use of central counterparties. Two new central counterparties for credit derivatives have therefore been established in the EU recently and others are being established. Global coordination of these activities is also under discussion.

Use of a central counterparty has a number of advantages[1]:

- Using a central counterparty improves risk management because information about overall exposure is more complete. This is an advantage to both the institutions in the market and the authorities. During the financial crisis, one of the problems was that it was difficult to measure exposure among, for example, participants in credit derivatives markets.
- Parties trade through one, and only one, counterparty. This reduces the number of counterparties to be assessed and reduces liquidity requirements to a net position in relation to the counterparty.
- The share of transactions cleared is higher with a central counterparty. The central counterparty ensures that half of the transactions that would otherwise have fallen through because one of the parties defaulted can nonetheless be cleared. As a result, it may also be possible to clear a long chain of transactions involving the same instrument.
- A central counterparty will often have more efficient and thorough systems for assessing collateral at market value. Since it provides clearing services, the central counterparty has clear incentives to reject market participants trading beyond their financial limits.
- The risk management and margins required from central counterparties will also improve the pricing of risk in the market.

- The latter may reduce the tendency of some markets to exacerbate procyclicality. During the financial turbulence, important institutions collapsed when trading came to a halt in bilateral markets due to a lack of confidence between counterparties. This would not have occurred to the same extent if central counterparties had been in use and, consequently, the value of pledged collateral would not have fallen as sharply.

When a large share of risk in a trade agreement is concentrated in one participant, it is crucial that this counterparty is financially solid and well organised. In 2004, BIS/CPSS (Bank for International Settlement, Committee on Payment and Settlement Systems) and IOSCO (International Organization of Securities Commissions) defined the current standards for risk management and supervision of central counterparties. The central counterparty must have a well designed strategy for the management of risk related to counterparties, price changes and operational conditions. In order to clear a trade in the event that a clearing member defaults, central counterparties require the other participants using the counterparty to contribute with capital and guarantees if a default event should occur.

Money settlements between the participants and the central counterparty are effected in a bank. A bank that is no longer able to effect settlement may generate considerable problems for the financial system. International recommendations therefore set out strict requirements regarding collateral for settlement banks. Settlement in a central bank will always satisfy the requirements, and Norges Bank is always prepared to effect money settlements for important central counterparties. It may be appropriate to effect settlement that cannot in itself threaten financial stability in a private settlement bank.

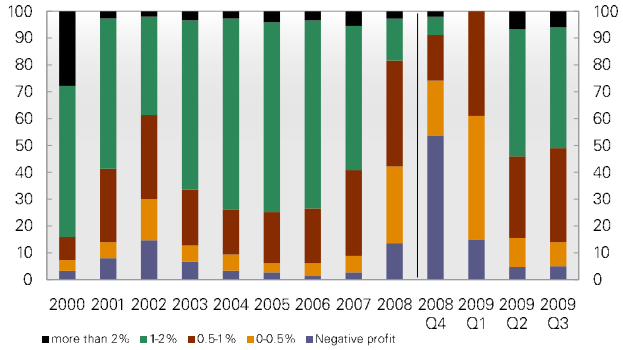
1 See Cecchetti et.al.: "Central counterparties for over-the-counter derivatives", BIS Review, September 2009.

Payment systems have functioned effectively

In periods of financial turbulence, it is particularly important that payment and settlement systems are robust. Norway's systems again functioned effectively during the most recent period of financial unrest as they are designed to limit the risk of problems spreading systemwide. Since the last half of the 1990s, considerable work has been done to establish such risk-mitigation measures. One important measure in Norway was the establishment of a real time gross settlement system in Norges Bank in 1999. This system prevents banks from building up large interbank positions through the day. In 2002 risk was further reduced when banks no longer credited their customers' accounts before they had received funds in settlement in Norges Bank. This prevents banks from incurring credit risk related to customer payments.

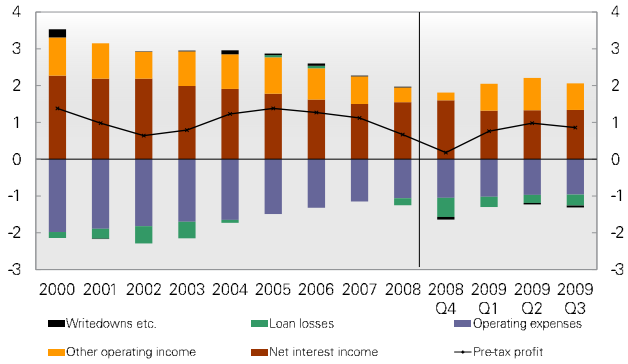
Liquidity risk may, however, increase in periods of financial turbulence. The distribution of liquidity among banks may be less effective if banks become more uncertain about counterparties. As a result, banks may, at worst, have insufficient liquidity to settle payments. During the financial turbulence, some banks began to send payments later in the day than previously. However, this did not result in a shortage of liquidity through the day. Furthermore, the various measures implemented by the authorities contributed to maintaining sufficient banking sector liquidity for payment settlement.

Chart B.1 Banks' pre-tax profits. Distribution of banks[1] by profit as a percentage of average total assets. Annual figures. 2000 – 2008. Annualised quarterly figures for 2008 Q1 – 2009 Q3



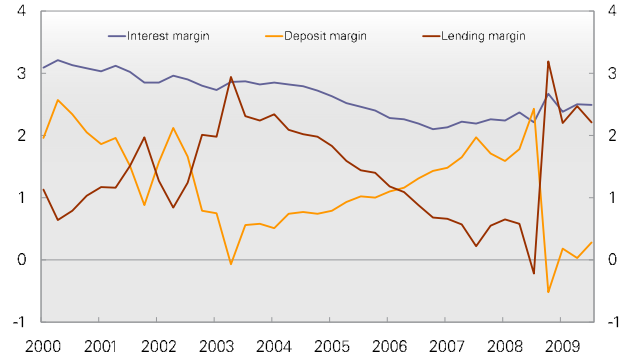
1) All banks in Norway
Source: Norges Bank

Chart B.2 Banks'[1] pre-tax profits as a percentage of average total assets. Annual figures 2003 – 2008. Annualised quarterly figures for 2008 Q1 – 2009 Q3



1) All banks excluding branches of foreign banks in Norway
Source: Norges Bank

Chart B.3 Banks'[1] average interest margin. Percentage points. End of quarter. 2000 Q1 – 2009 Q3



1) All banks in Norway
Source: Statistics Norway

B. Cautious optimism among Norwegian financial institutions

After a challenging period, Norwegian banks' results have improved. The measures implemented by the authorities have strengthened the banking industry. A number of banks have taken steps to boost their capital adequacy ratios. The relatively mild downturn in the Norwegian economy has limited banks' losses so far, but lending to shipping and commercial property and to customers in the Baltic countries still involves high risk.

Banks' results have improved

Banks have shown solid results in the past two quarters. While about half of the banks posted negative results in 2008 Q4, the share was 5% in 2009 Q3 (see Chart B.1). Fewer than 2% of Norwegian banks recorded negative results in all of the past four quarters.

The improvement in results so far in 2009 is primarily due to an increase in other operating income (see Chart B.2), which is partly related to reversals of previous write-edowns in securities portfolios. The high level of uncertainty in the foreign exchange market has resulted in wider bid/ask spreads and has increased participants' need to hedge against exchange rate fluctuations. As a result, banks have boosted their earnings from foreign exchange trading.

Banks' costs have continued to edge down through the financial crisis. Over half of the decrease is due to a fall in labour costs. Costs have declined from 3% of average total assets in 1991 to below 1% today. Developments in electronic systems have contributed to these efficiency gains. The average cost per transaction has fallen over time. The reduction in costs is largely the result of customers' preference for electronic rather than paper-based services. About one third of banks' costs in payment serv-

ices are related to cash-handling services. Reducing the costs of these services is a challenge for banks.

Interest margins have edged up over the past year (see Chart B.3). Bank lending margins have increased in particular. Deposit margins have been close to zero thus far in 2009, reflecting a low interest rate level and strong competition. Banks will be reluctant to set deposit rates at zero, and stiff competition for deposit funding depresses deposit margins. Banks have primarily increased interest margins on loans to enterprises (see Chart B.4). Heightened credit risk has led banks to increase lending margins on corporate loans. Banks' net interest income as a share of average total assets has remained approximately unchanged in the first three quarters of 2009.

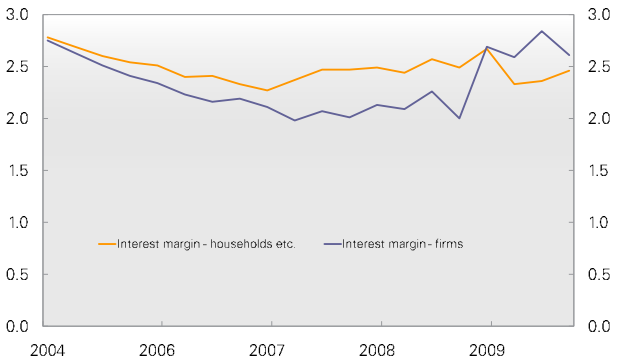
Loan losses in the first three quarters of 2009 have been lower than envisaged in *Financial Stability* 1/09. The level of activity has been higher in the Norwegian economy than in most other countries, which may partly explain why losses in Norway have been low. While loan losses in Norwegian banks came to 0.45% of gross lending in the first half of 2009, Danish banks posted losses of 1%[1]. The stock of non-performing loans in Norwegian banks is very low compared with other countries (see Chart 1.10).

Nordic banks are experiencing substantial loan losses in the three Baltic countries. The only Norwegian bank active in this region is DnB NOR, through its part-owned subsidiary DnB NORD. At the end of 2009 Q3, almost 20% of DnB NORD's loans in the Baltic countries were non-performing.

Banks' actual recognised losses have remained high even though collective writedowns have declined through 2009 (see Chart B.5). Banks can take collective writedowns when there are clear indications that they will incur losses on lending to a group of customers, for example in a specific industry. Individual writedowns can only be taken when there are clear indications that the bank will incur losses on lending to individual customers, for example in the event of default. Banks took substantial collective

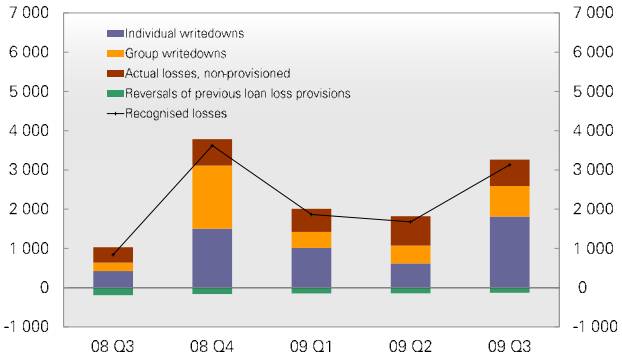
1 Source:Finanstilsynet (Danish FSA).

Chart B.4 Banks'[1)] average interest margin. Percentage points. End of quarter. 2004 Q1 – 2009 Q3



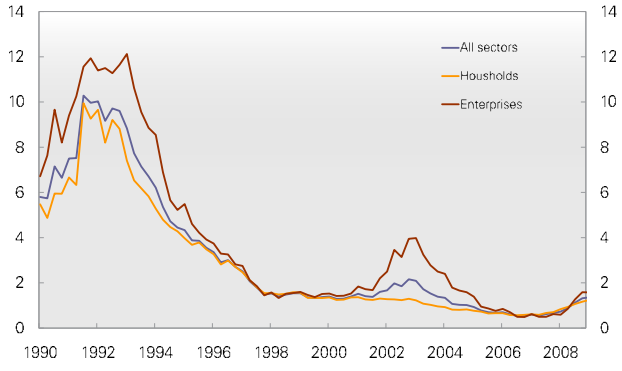
1) All banks in Norway
Source: Statistics Norway

Chart B.5 Components of banks' recognised losses[1)]. In millions of NOK. Quarterly figures. 2008 Q3 – 2009 Q3



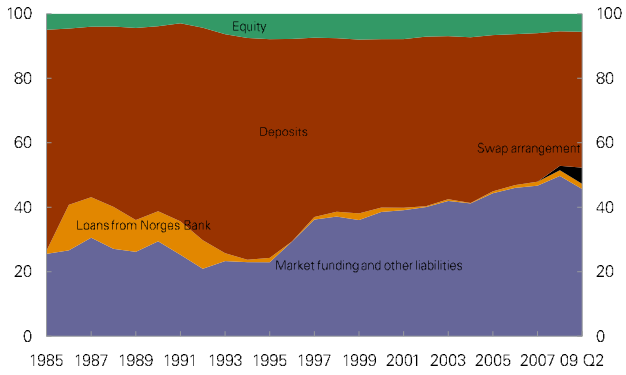
1) All banks excluding branches of foreign banks in Norway
Source: Norges Bank

Chart B.6 Banks'[1)] gross stock of non-performing loans by sector. Percentage of gross lending to the sector. Quarterly figures. 1990 Q3 – 2009 Q3



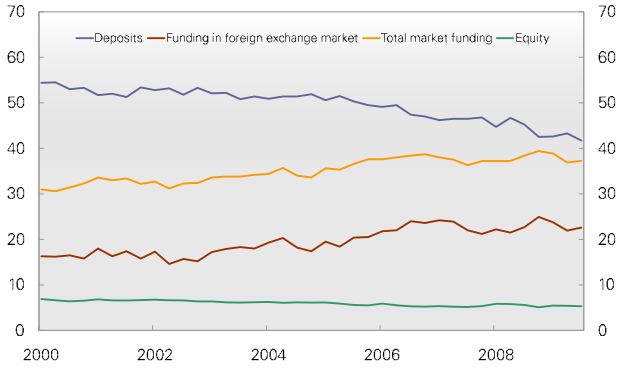
1) All banks in Norway
Source: Norges Bank

Chart B.7 Banks[1)] funding sources. Percentage of total assets. Annual figures. 1985 – 2008. 2009 Q2



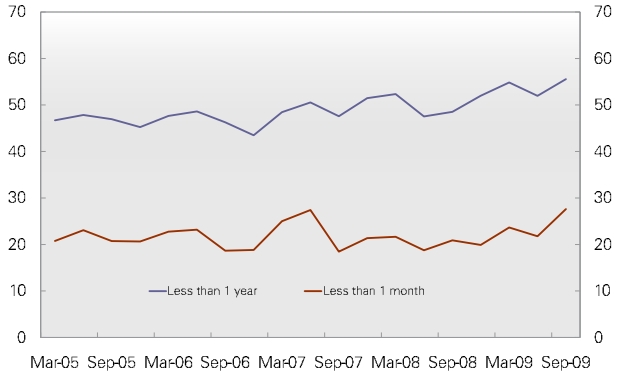
1) All banks excluding branches of foreign banks in Norway
Sources: Klovland (2007), Matre (1992), Statistics Norway and Norges Bank

Chart B.8 Funding sources for banks.[1)] Percentage of total assets. Quarterly figures. 2000 Q1 – 2009 Q3



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

Chart B.9 Banks[1)] short-term market funding by residual maturity. Per cent. End of quarter. 2005 Q1 – 2009 Q3



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

writedowns in 2008 Q4. In 2009, the share of collective writedowns decreased, while the share of recognised losses and individual writedowns has remained high.

While loan losses have fallen, the share of non-performing loans continues to rise (see Chart B.6). The level of non-performing loans is, however, far lower than during the banking crisis and is also lower than in the years around 2003.

Measures implemented have been effective

Measures implemented by the Norwegian authorities have reduced banks' liquidity risk. Funding supplied by Norges Bank increased during the financial crisis (see Chart B.7). Norges Bank has offered banks long-term funding through the swap arrangement for covered bonds and loans with longer maturities. In addition, the range of securities eligible as collateral for loans from the central bank was expanded. The establishment of the Norwegian State Finance Fund has strengthened banks' financial position, thereby improving banks' access to funding. The injection of fresh Tier 1 capital will reduce the risk associated with lending to Norwegian banks.

In Norges Bank's liquidity survey, banks have since April 2009 reported that funding has become less expensive and more accessible. Risk premiums on banks' market funding are still higher than they were before the financial turbulence started in autumn 2007 (see Chart 1.1). Both in Norwegian and international markets, risk premiums for long-term funding were unusually low in spring 2007. It is therefore unlikely that risk premiums will revert to these levels.

Banks' market funding as a share of total assets, particularly market funding in foreign currency, sank in the first half of 2009 (see Chart B.8), primarily due to Norwegian banks' difficulties in obtaining funding in international markets. The swap arrangement has also been an attractive source of funding. Developments in 2009 Q3 indicate that banks may be increasing their market funding as markets abroad improve. In isolation, a higher share of market funding makes banks more vulnerable to money and credit market turbulence.

As a result of new regulation, banks may have to increase their funding from deposits, long-term loans and equity capital (see Section 1.3). In 2009 Q3, banks' market funding became more short-term (see Chart B.9). There is a fairly good balance between maturities on funding and assets in Norwegian banks (see Chart B.10). Yet the financial crisis has shown that not all short-term assets will be equally easy to sell when markets fail. The implication is that banks should rely to a greater extent on long-term funding.

The share of Norwegian bank and mortgage company lending that is deposit-funded continues to decrease (see Chart B.11). Around half of banks' customer deposits are covered by the deposit guarantee scheme. Banks are funding a growing share of residential mortgage loans via mortgage companies that issue covered bonds. In isolation, transfers of residential mortgage loans to mortgage companies increase banks' deposit-to-loan ratios. At the same time, the average credit risk linked to banks' remaining loans increases when top-grade residential mortgage loans are transferred to mortgage companies. Large banks in particular have improved their deposit-to-loan ratios, as they were able to make use of the swap arrangement at an early stage.

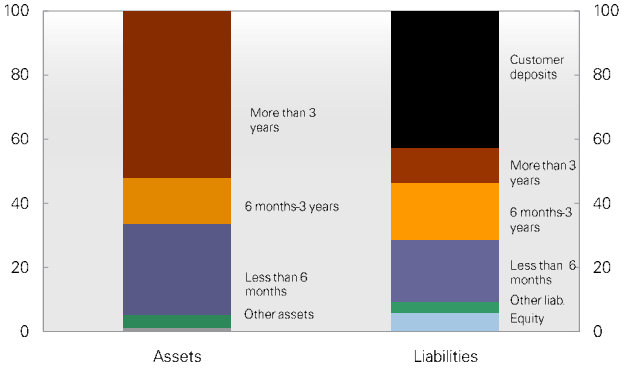
Compared with other countries, the degree of deposit funding in Norwegian banks is already high (see Chart 1.17). The share of deposit funding is somewhat higher in Norwegian banks than in Swedish and Danish banks (see Chart B.12). As a result, the impact of market failure on banks was less severe in Norway than other countries.

Strengthened capital base

The previous report stressed the need for more Tier 1 capital in banks. Tier 1 capital in the largest banks increased somewhat in the first half of 2009. However, rating agencies did not regard this increase as sufficient and assigned a lower rating to several of the largest banks. The Tier 1 capital ratio also fell for a majority of smaller banks (see Chart B.13).

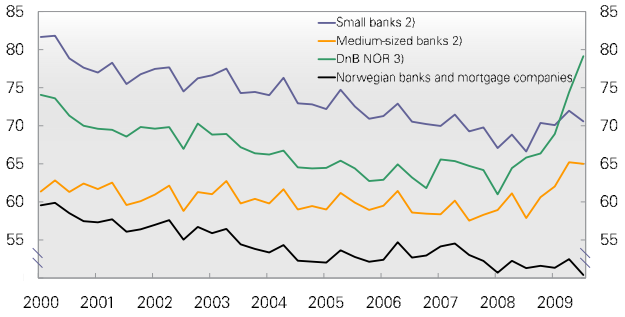
Thirty-four banks have applied to the Norwegian State Finance Fund for support to increase their Tier 1 capital

Chart B.10 Bank[1] assets and liabilities. Per cent. End-2009 Q3



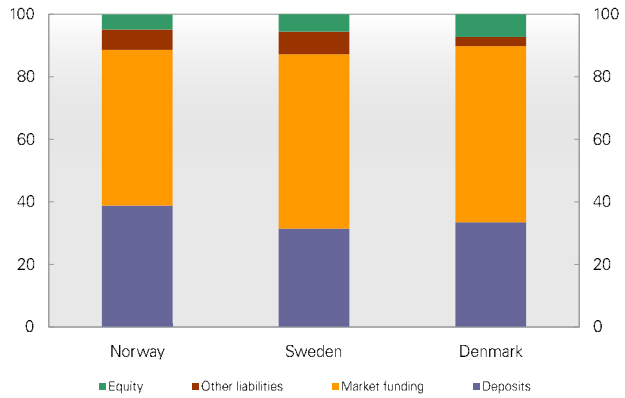
1) All banks except branches and subsidiaries of foreign banks in Norway
Source: Norges Bank

Chart B.11 Banks'[1] deposit to loan ratio. Customer deposits as a percentage of gross lending to customers. Quarterly figures. 2000 Q1 – 2009 Q3



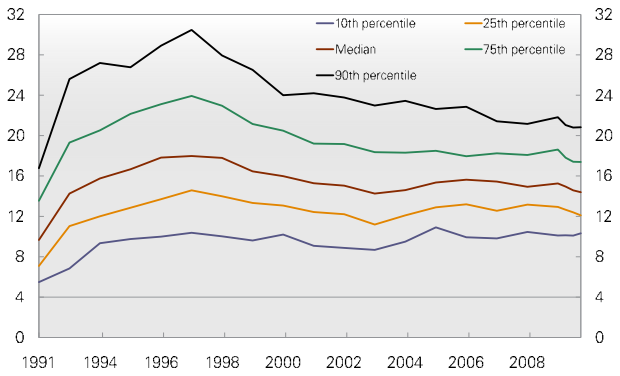
1) Alle banks excluding branches and subsidiaries of foreign banks in Norway
2) The dividing line between small and medium-sized banks is set at NOK 10bn (measured in total assets) at end- 2006
3) DnB NOR Bank ASA (parent bank) and Nordlandsbanken
Source: Norges Bank

Chart B.12 Banks' funding sources. Percentage of total assets. End-2009 Q3



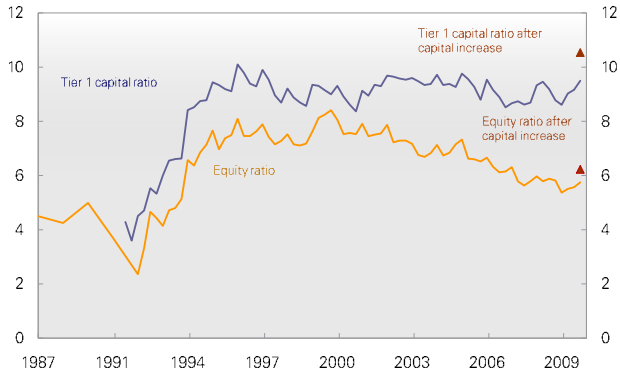
Sources: Statistics Norway and Statistics Sweden, Norges Bank and Danmarks Nationalbank

Chart B.13 Banks'[1] Tier 1 capital ratio. Per cent. Annual figures 1991 – 2008. Quarterly figures 2009 Q1 – 2009 Q3



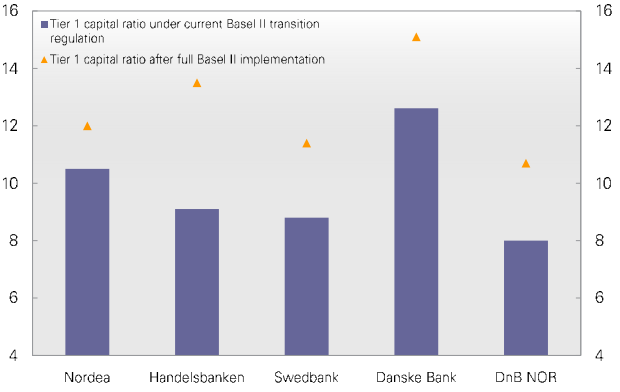
1) All banks excluding branches of foreign banks in Norway
Sources: Kredittilsynet (Financial Supervisory Authority of Norway) and Norges Bank

Chart B.14 Banks'[1] Tier 1 capital ratio and equity ratio. Per cent. Quarterly figures. 1987 Q4 – 2009 Q3



1) All banks excluding branches of foreign banks in Norway. Equity ratio before 1990 is for all banks in Norway
Sources: Kredittilsynet and Norges Bank

Chart B.15 Tier 1 capital ratio at banking group level. Per cent. End-2009 Q3



Sources: Nordea, Handelsbanken, Swedbank, Danske Bank and DnB NOR

ratio. Some Norwegian banks have also sought to strengthen their Tier 1 capital via the market. After the issues and payments from the Norwegian State Finance Fund have been completed, Norwegian banks' Tier 1 capital ratio may increase by a total of up to one percentage point and the equity capital ratio by 0.5 percentage point (see Chart B.14). Before the announced issue, DnB NOR has a low Tier 1 capital ratio compared with other Nordic banks (see Chart B.15). However, caution should be exercised when comparing capital ratios across countries (see Box on page 23).

The outlook ahead

If developments prove to be in line with Norges Bank's projections, banks' results will decline, thereafter rising somewhat in the period to 2012 (see Box D). Banks' Tier 1 capital ratios will then be high enough to maintain normal lending activities.

Banks' results ahead will to a great extent depend on developments in loan losses and net interest income. Loan losses will probably rise in the short term. Over time, loan losses have generally been higher in the fourth quarter than in the year as a whole. This suggests that losses in 2009 may increase. At the same time, it is likely that losses will to a great extent track developments in the wider economy. Experience has shown that loan losses are high for several quarters following periods of low or negative GDP growth (see Chart B.16). Under the International Financial Reporting Standards (IFRS), objective evidence of loss events is required before loans can be written down. As a result, losses may be recorded with a lag.

Banks' corporate credit risk has decreased somewhat since *Financial Stability* 1/09 (see Box C). The situation in the shipping and commercial property industries is, however, still challenging. These industries represent a large share of total bank lending. Writedowns of loans to the commercial property industry make up around 20% of banks' loan writedowns, even though writedowns as a percentage of lending to the industry are still low. Banks' losses on loans to the international shipping industry are expected to rise sharply ahead. In the baseline scenario, 35% of losses in 2012 will occur in the international shipping

industry. Large shipping loans are primarily supplied by the largest banks.

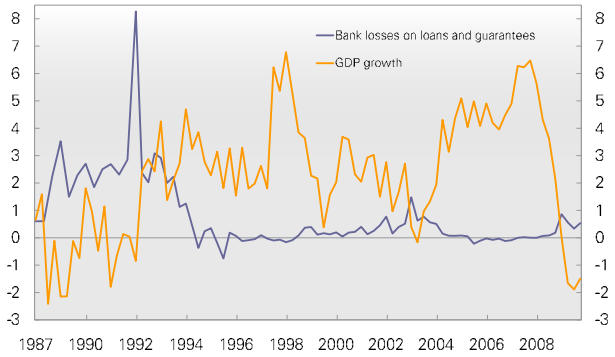
Banks' short term credit risk on loans to households has decreased somewhat since the previous report. At the same time, households continue to increase their debt burden, which may lead to a rise in banks' loan losses further ahead (see Box C).

Net interest income and commission income are central to banks' activities. These forms of income have been historically low in recent quarters and will probably have to be increased if banks are to maintain results at the pre-turbulence level. The increase in banks' income in 2009 has primarily been driven by other operating income and has been related to the unusual market situation in play this year. As uncertainty in financial markets abates, earnings from foreign exchange trading and gains may fall. At the same time, a rise can be expected in commission income, which has historically been higher in good times.

Signs of improvement in life insurance companies

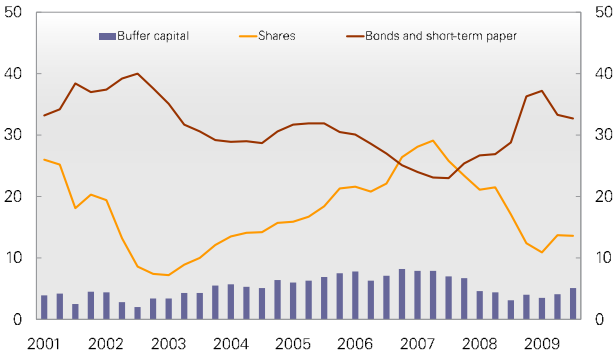
Life insurance companies recorded positive results in the first three quarters of 2009, contributing to an increase in buffer capital (see Chart B.17), although results varied widely across the various companies. The improvement was largely the result of derivative gains. The rise in share prices has contributed to boosting earnings in 2009, although the effect of the upswing was limited due to low equity shares. Companies have incurred losses owing to the fall in commercial property values. Low interest rates have limited returns on bonds and certificates. Insurance commitments should at all times be covered by insurance companies' assets. Life insurance companies must thus continue to guarantee an annual return. If the interest rate level remains low for a prolonged period, it may become difficult for life insurance companies to meet their commitments[2].

Chart B.16 Year-on-year mainland GDP growth[1]. Per cent. Bank losses on loans and guarantees[2]. Percentage of lending to all sectors. Annualised. 1987 Q4 – 2009 Q3



1) Projection for 2009 Q3
2) All banks in Norway
Source: Norges Bank

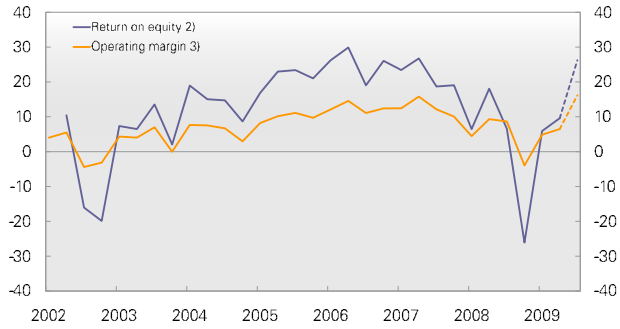
Chart B.17 Life insurance companies' buffer capital[1] and asset mix. Percentage of total assets. 2001 Q1 – 2009 Q3



1) Buffer capital is defined as the sum of supplementary provisions with an upper limit of one year, and surplus Tier 1 capital
Source: Kredittilsynet

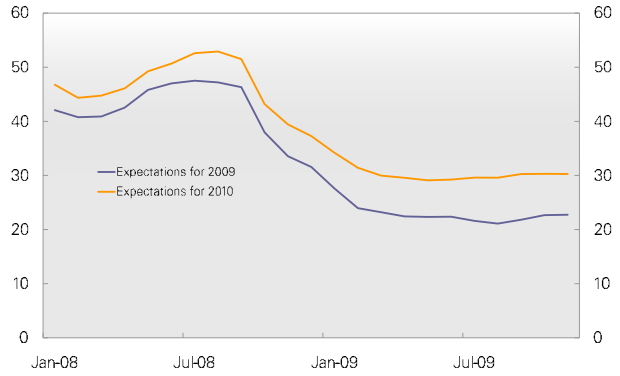
2 See *Financial Stability* 1/09.

Chart C.1 Key ratios for enterprises listed on Oslo Børs[1]. Per cent. Quarterly figures. 2002 Q1 – 2009 Q3



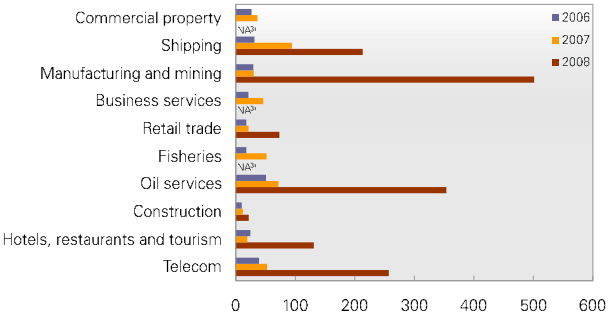
1) Sample consisting of 146 listed enterprises as of 2009 Q2. Statoil is not included in the sample. Projections for 2009 Q3 are based on quarterly reports from non-financial enterprises in the OBX index at 25 November 2009
2) Annualised profits before tax as a percentage of book equity
3) Operating profits as a percentage of sales
Sources: Statistics Norway and Norges Bank

Chart C.2 Expected earnings for enterprises listed on Oslo Børs in 2009 and 2010.[1] NOK per share. Monthly figures. January 2008 – November 2009



1) Estimates from market analysts at different points in time
Source: Thomson Reuters

Chart C.3 Financial costs[1] as a percentage of pre-tax profits for different industries[2]. Per cent. Annual figures. 2006 – 2008



1) Financial costs include interest expenses for intragroup companies
2) The industries are ranked by their share of corporate sector debt. The industry with the highest share of debt is listed at the top
3) The industry's pre-tax profits are negative in 2008, and therefore the financial costs as a share of pre-tax profits are not shown in the chart
Source: Norges Bank

C. Somewhat improved outlook for Norwegian borrowers

Banks' credit risk on corporate loans has fallen somewhat since the previous Financial Stability report. Profitability and debt-servicing capacity have picked up. Financial strength has also improved, reducing the risk of default. However, the situation in commercial property continues to be challenging. In addition, there are demanding times ahead for shipping. Falling collateral values in these industries increase bank losses in the event of default.

In the short term, banks' credit risk on loans to households has decreased somewhat since the previous Financial Stability report. The interest burden has fallen, and it appears that unemployment will be considerably lower than previously projected, while savings have risen. This reduces the short-term risk of default on household loans. House prices are rising steeply from a level that is already high. This increases collateral values and, in isolation, reduces banks' loan losses given default. High and rising house prices are pushing up the household debt burden. An increasing number of households have a debt burden that makes them vulnerable to a higher interest rate, increased unemployment or falling house prices.

C.1 Enterprises[1]

Increased profitability in Norwegian enterprises in 2009

So far in 2009, the profitability of listed companies has been better than expected. Both operating margins and average return on equity have shown a considerable increase (see Chart C.1). However, there are wide variations across industries. Enterprises expect their own profitability to increase over the next 12 months according to a survey conducted by the survey company Perduco in

1 Non-financial enterprises

2009 Q3. Market analysts also expect to see an increase in listed companies' future earnings (see Chart C.2).

In most industries, enterprises' financial expenses as a share of pre-tax profits were very high in 2008 (see Chart C.3). Overall, enterprises are in a net debt position. The low level of interest rates in 2009 has therefore made a positive contribution to profits. Companies have moreover reduced their operating costs. So far, employment has fallen less than previously projected, but may fall further as a result of additional reductions in production and costs. However, enterprises in the regional network expect to see some increase in production volumes in the time ahead.

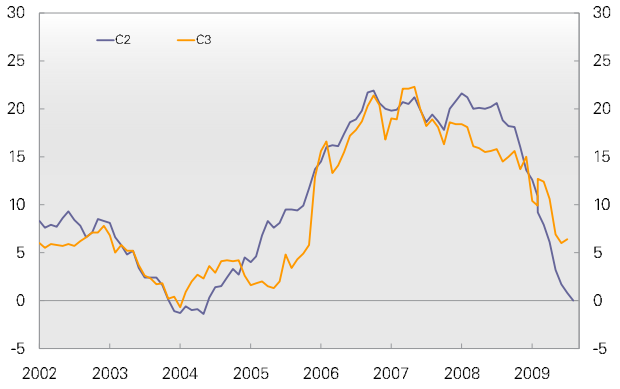
Decline in corporate borrowing

Corporate credit growth has recently fallen markedly (see Chart C.4). Lower growth in bank lending to the corporate sector reflects both weaker corporate demand for loans and tighter credit standards in banks. Norges Bank's bank lending survey showed that banks tightened credit standards for enterprises for seven consecutive quarters to end-2009 Q2 (see Chart 1.7). However, banks eased their credit standards for enterprises somewhat in Q3, and expect further easing in Q4.

According to Norges Bank's bank lending survey, corporate demand for loans increased from Q2 to Q3. This may be related to low interest rates and expectations of higher earnings. Corporate demand for bank credit will also depend on access to market funding. Throughout 2008, it was difficult for enterprises to obtain funding in the securities market. Market funding has become cheaper and more accessible to Norwegian enterprises in 2009. At end-2008, around 2% of corporate funding was in bonds and short-term paper debt (see Chart C.5). From January to November 2009, enterprises relied on bond markets for funding to a greater extent than during the corresponding period in 2008 (see Chart C.6).

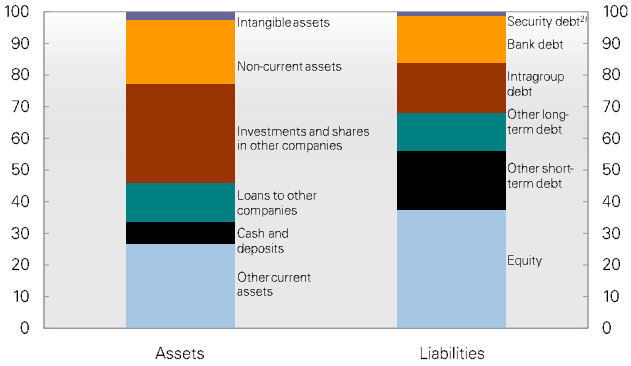
Enterprises have had to pay a higher premium on bank credit since autumn 2008. Banks' lending margins on corporate loans have increased markedly from 2008 Q4 (see Chart C.7). The average lending margin on corporate loans rose from 0.5% in the first three quarters of 2008

Chart C.4 12-month growth in total credit to mainland enterprises. Per cent. Monthly figures. January 2002 – September 2009



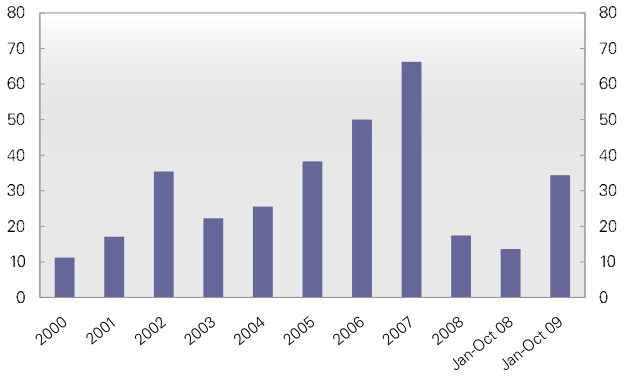
Source: Statistics Norway

Chart C.5 Enterprises[1] assets and liabilities. Per cent. End-2008



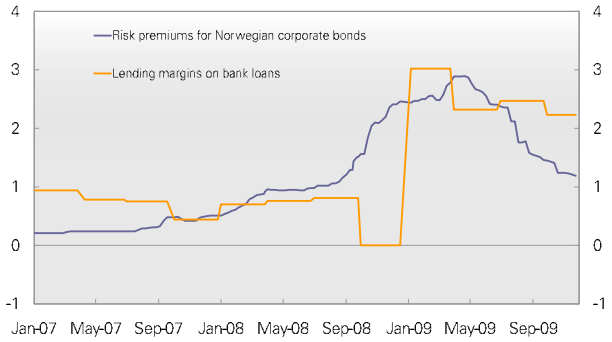
1) Financial enterprises are not included in the statistical base. Group accounts are not included
2) Bond and certificate debt
Source: Norges Bank

Chart C.6 Bonds issued by non-financial enterprises in Norway[1]. In billions of NOK. Annual figures. 2000 – 2008. January – November 2008 and 2009



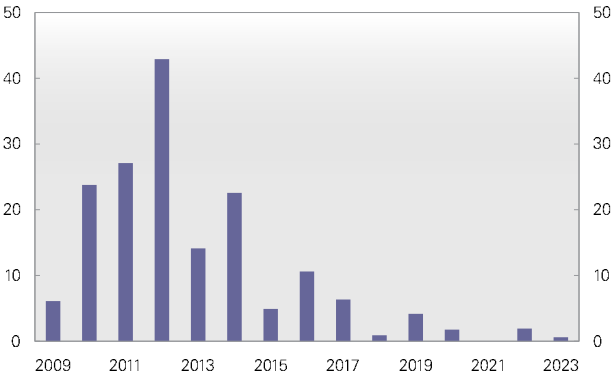
1) All bonds registered in VPS –Norwegian Central Securities Depository
Source: Stamdata

Chart C.7 Indicative risk premiums on Norwegian corporate bonds with 5-year maturity and banks' lending margins on loans to enterprises. Compared with swap rates. Percentage points. Weekly and quarterly figures. 1 January 2007 – 20 November 2009 and 2007 Q1 – 2009 Q3



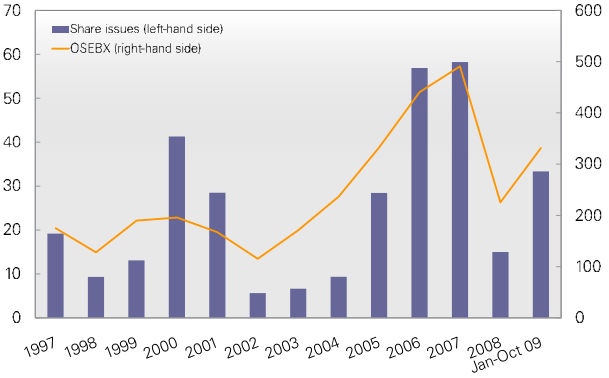
Sources: DnB NOR Markets and Statistics Norway

Chart C.8 Maturity profile of VPS-registered corporate bonds. In billions of NOK. Annual figures. 1 November 2009 – 2023



Source: Stamdata

Chart C.9 Share issues on Oslo Børs and Oslo Axess in billions of NOK and OSEBX. Annual figures. 1997 – 2008. January – November 2009



Source: Oslo Børs

to 2.3% in the same period in 2009. Higher credit risk has led banks to increase lending margins on many corporate loans.

Risk premiums on Norwegian corporate bonds have fallen since May 2009 (see Chart C.7). Lower premiums and increased investment appetite in the bond market may make it easier for enterprises to refinance their bond and commercial paper debt. Approximately 60% of enterprises' registered bond and short-term paper debt will mature in 2012 (see Chart C.8). However, some enterprises have had the terms of their bonds changed, owing to major payment problems. Some enterprises have had their repayment of bonds postponed. If they do not improve their debt-servicing capacity, they may default on these loans when the postponement period comes to an end.

Investment appetite and optimism in the equity market have picked up, enhancing enterprises' possibilities of raising equity capital. In 2008, issue activity in the Norwegian equity market was at its lowest level since 2004 (see Chart C.9). The value of equity issues in the first ten months of 2009 was twice that of the whole year in 2008. However, a number of issues in 2009 have been emergency issues by companies with solvency problems. None of this year's issues in the equity market have so far been related to new listings on Oslo Børs. Equity issues on Oslo Børs have therefore helped to bolster the financial strength of listed companies.

Improvement in enterprises' debt-servicing capacity

Better results and lower credit growth have strengthened enterprises' debt-servicing capacity in 2009. Partly as a result of elevated financial expenses and high credit growth, enterprises' debt-servicing capacity decreased sharply in 2008 (see Chart C.10). Approximately 30% of enterprises had negative debt-servicing capacity in 2008, as against 27% in 2007. Enterprises with negative debt-servicing capacity are not able to use their profits to service debt. Fixed assets constituted 20% of corporate assets at end-2008 (see Chart C.5). Bank loans are often secured on enterprises' fixed assets, but falling collateral values are weakening banks' security against lower debt-servicing capacity in enterprises.

Most industries suffered a fall in debt-servicing capacity in 2008 (see Chart C.11). Commercial property and shipping have been particularly severely affected during the financial crisis, and debt-servicing capacity in these industries fell substantially in 2008. These two industries together account for over half of banks' total lending to the corporate market, and they therefore constitute a considerable share of banks' potential losses in the corporate sector. However, the debt-servicing capacity of enterprises listed on the OBX index increased somewhat from 2009 Q1 to Q3.

Financial position weaker, but improving

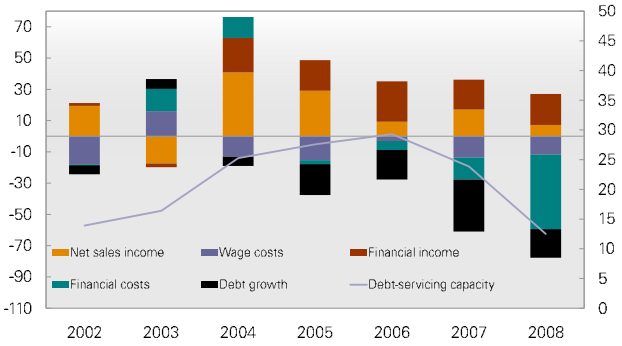
Enterprises' financial strength deteriorated somewhat during 2008. Corporate equity ratios fell from 41% in 2007 to 38% in 2008 (see Chart C.12). For enterprises with outstanding bank debt in 2008, the equity ratio fell from 30% to 28% in the same period, due to increased writedowns, weaker results and high credit growth. 12% of enterprises had negative equity in 2008. The share of enterprises with negative equity has been at approximately the same level for the past three years.

Corporate equity has been a valuable buffer during the financial crisis. In periods of reduced access to credit and fresh equity capital, enterprises have been able to draw on accumulated equity. During the bank crisis of 1988–1993, the average corporate equity ratio was 27%. Better results and increased injections of capital coupled with reduced credit growth have contributed to a rise in corporate equity ratios in 2009. Equity ratios in companies listed on the OBX index rose somewhat from 2009 Q1 to Q3.

Fewer bankruptcies

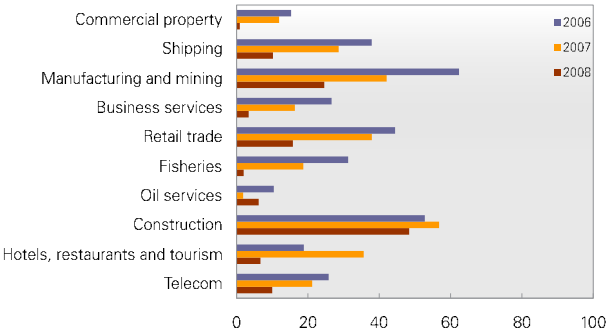
So far in 2009, the number of bankruptcies has been 55% higher than in the same period of 2008. However, growth in the number of bankruptcies has slowed in the course of 2009. Many of the bankrupt enterprises were small. Enterprises that went bankrupt in Q3 had an average of 2.8 employees and a turnover of NOK 4.8m. Small enterprises have on average a larger share of bank funding than large enterprises, but the bankruptcies have primarily occurred in sectors with relatively limited bank debt (see Chart C. 13). The low interest rate level has reduced enterprises' bankruptcy probabilities in the short and medium

Chart C.10 Debt-servicing capacity for enterprises.[1] Levels (right-hand scale) and contribution to relative changes (left-hand scale) from growth in debt, income and costs. Per cent. Annual figures. 2002 – 2008



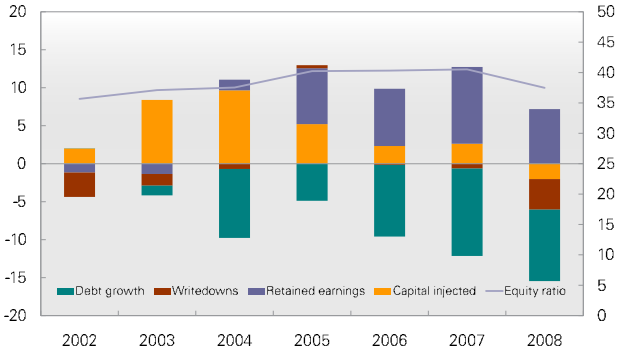
1) Profits before tax, writedowns and depreciation as a percentage of bank and bond debt. Enterprises in finance, public administration and oil and gas extraction are not included. Intragroup funding is not included
Source: Norges Bank

Chart C.11 Debt-servicing capacity[1] for different industries[2]. Per cent. Annual figures. 2006 – 2008



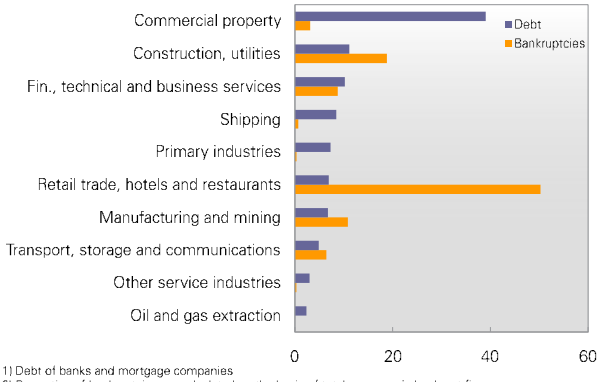
1) Profits before tax, writedowns and depreciation as a percentage of bank and bond debt. Intragroup funding is not included
2) The industries are ranked by their share of corporate sector debt. The industry with the highest share of debt is listed at the top
Source: Norges Bank

Chart C.12 Equity ratio for enterprises[1] (right-hand scale) and contribution to relative changes from debt growth, retained earnings, writedowns and capital injected (left-hand scale). Per cent. 2002 – 2008



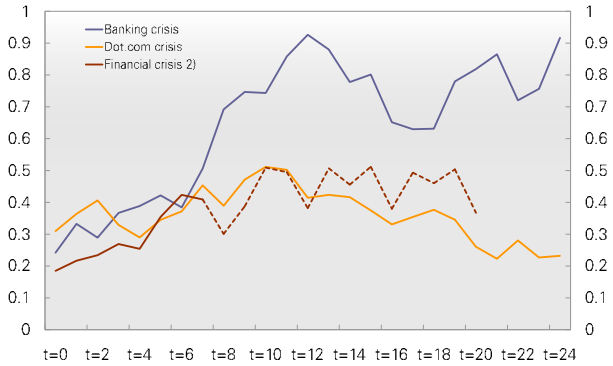
1) Enterprises in finance, public administration and oil and gas extraction are not included
Source: Norges Bank

Chart C.13 Debt[1] and bankruptcies by Norwegian industry. In per cent of total[2]. 2009 Q1 – Q3



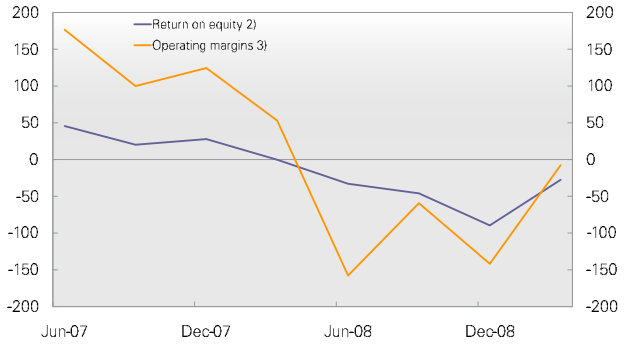
1) Debt of banks and mortgage companies
2) Proportion of bankruptcies are calculated on the basis of total revenues in bankrupt firms
Sources: Statistics Norway and Norges Bank

Chart C.14 Bankruptcy rate trends during and after various crises in Norway.[1] Per cent. Quarterly figures



1) T = 0 is defined as the quarter before the crisis began and the bankruptcy rate was lowest
2) Projections for t=9 – t=24
Sources: Statistics Norway and Norges Bank

Chart C.15 Key ratios for commercial property enterprises listed on Oslo Børs[1]. Per cent. Quarterly figures. 2007 Q2 – 2009 Q3



1) The sample consists of firms in the OSE4040 index
2) Annualised results before tax as a percentage of book equity
3) Operating results as a percentage of sales
Source: Norges Bank

term. According to our projections, the bankruptcy rate will stabilise at a lower level than during the previous bank crisis (see Chart C.14).

The commercial property situation is still demanding

Commercial property accounts for a large share of banks' lending to enterprises (see Chart C.13). Lower profitability and declining collateral values in this sector may therefore result in substantial losses for banks in the period ahead. The profitability of listed commercial property companies has increased in 2009 (see Chart C.15), returning to a positive level in 2009 Q3 after six quarters of negative profitability. Negative results have reduced the equity ratio from 34% in 2008 Q2 to 26% in 2009 Q3. Equity issues have had a moderating effect on the fall in the equity ratio.

Both rental and market prices for office premises in Oslo have fallen in 2009 (see Chart 1.12). In the period ahead, market participants expect rental and market prices to stabilise at the current level. Rental prices might, however, fall somewhat further as a result of an increase in vacancies. High employment has limited the expected decrease in rental prices. Since the peak in December 2007, market prices for office premises have fallen by 35% in the more expensive areas and by 20% in the remaining segments in Oslo.

A decrease in rents reduces a company's income from new leases or from renegotiating old leases at new prices. In connection with the new IFRS accounting procedures, a fall in market prices will increase writedown costs, reduce the value of investment property and increase the company's leverage ratio regardless of whether the company makes sales. The effect of a decrease in rents is shown in the accounts later than that of a fall in market prices, but the effect may be more prolonged since leases often have long terms.

Several large companies have issued equity in the first half of 2009. A recurring feature was that a number of issues were offered at an issue price far below the equity price – in several cases, at a discount of over 50%. The capital has been used to repay debt and uphold banks'

borrowing terms. A large proportion of commercial property loans will reach maturity in 2012. In view of banks' continuing tight credit standards and weak profitability, it will be difficult to obtain funding in the time ahead. However, banks in Norway now seem to be easing credit standards on lending to the commercial property sector.

Outlook ahead

According to our projections, better results in enterprises will result in some increase in debt-servicing capacity and credit growth. Overall, the outlook and balance of risks indicate that the key rate can be raised gradually to around 2% in the first half of 2010 (see *Monetary Policy Report* 3/09). Higher interest rates will in isolation reduce debt-servicing capacity and restrain credit growth, particularly in oil services and shipping, where enterprises are most highly leveraged. Projections of enterprises' accounts show that the equity ratio will increase somewhat ahead due to higher profits.

C2. Households

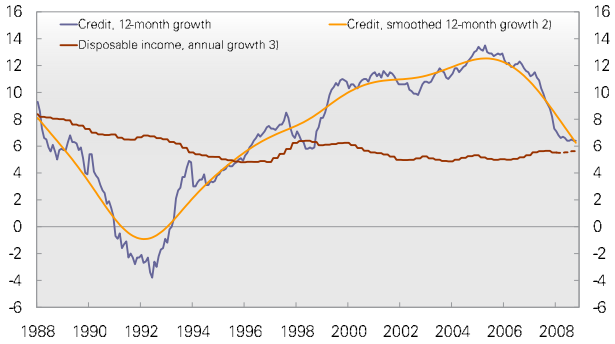
High debt burden makes households vulnerable to a higher interest rate level

Household credit growth now seems to have stabilised after slowing throughout 2008 (see Chart C.16), primarily as a result of a low interest rate level, no further credit tightening by banks and more positive expectations among households regarding their own financial position and the Norwegian economy. In the long term, credit growth will be limited by growth in disposable income.

The debt burden (debt as a percentage of disposable income) in Norwegian households is still high, (see Chart C.17). This is primarily due to high and rising house prices. Structural changes in the credit market such as home equity lines of credit, increased use of interest-only periods and longer maturities, have given households greater flexibility and made it possible to service higher debt for a given income.

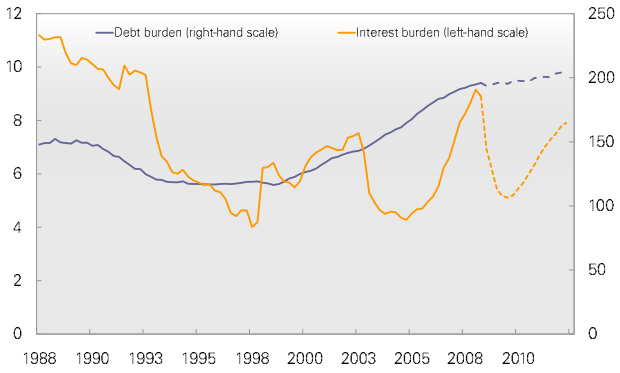
Total debt is unevenly distributed across households (see Chart C.18). An increasing number of households have

Chart C.16 Credit to households and household disposable income[1]. Per cent. Monthly figures and quarterly figures. January 1988 – September 2009 and 1988 Q1 – 2009 Q2



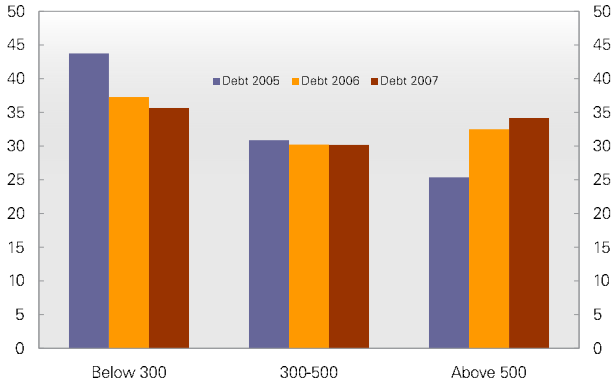
1) Disposable income is adjusted for estimated reinvested dividend income for 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2009. Projections for 2009 Q1 – 2009 Q3
2) 12-month credit growth is smoothed using a Hodrick-Prescott filter
3) Annual growth in disposable income is smoothed using a 4-year moving average
Sources: Statistics Norway and Norges Bank

Chart C.17 Household debt burden and interest burden. Per cent. Quarterly figures. 1988 Q1 – 2012 Q4[1]



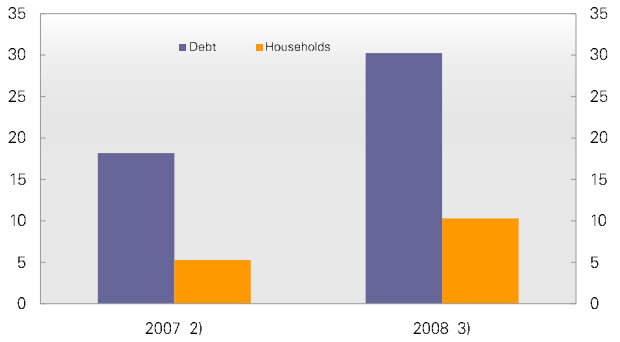
1) Projections for 2009 Q1 – 2012 Q4
Sources: Statistics Norway and Norges Bank

Chart C.18 Debt distributed by household debt burden. Per cent. Annual figures. 2005 – 2007



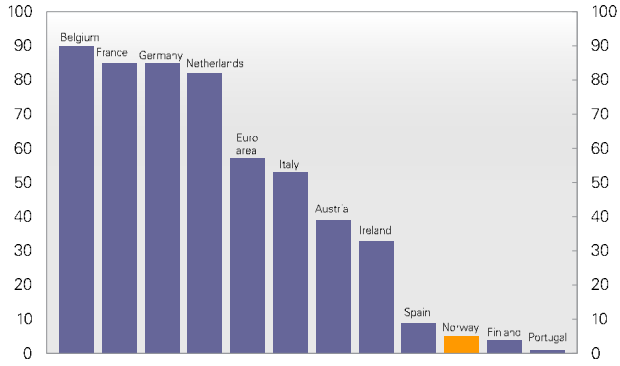
Sources: Statistics Norway and Norges Bank

Chart C.19 Share of households and debt in group of households with loan-to-value ratio above 100% and debt burden above 20%. Homeowners 2007 [1]



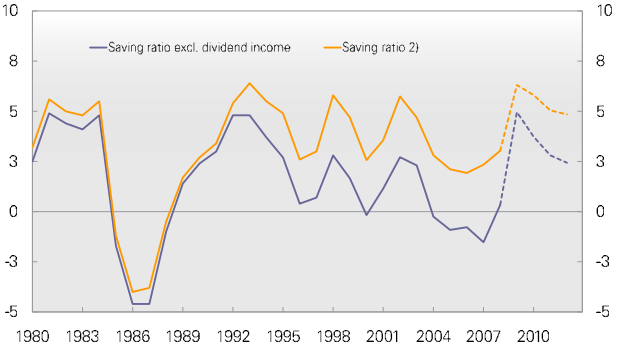
1) 2008 is estimated based on data from 2007
2) 5.8% interest rate
3) 7.7% interest rate and a 15% fall in house prices from 2007
Sources: Statistics Norway and Norges Bank

Chart C.20 Share of new fixed-rate mortages.[1] Per cent. 2007



1) For Norway the figures are for new residential mortgages as of spring 2009. Fixed rates with lock-in period longer than one year
Sources: ECB and Kredittilsynet

Chart C.21 Household saving as a percentage of disposable income. Per cent. Annual figures. 1980 – 2012[1]



1) Projections for 2009 Q1 – 2012 Q4
2) Adjusted for estimated reinvested dividend income for 2000 – 2005 and redemption/reduction of equity 2006 – 2012
Sources: Statistics Norway and Norges Bank

a debt burden of over 500%, and in 2007 these households accounted for more than one third of total household debt. This group will be especially vulnerable to a higher interest rate level or loss of income.

The interest burden (interest expenses as a percentage of the sum of disposable income and interest expenses) has fallen in pace with the decline in bank lending rates over the last year (see Chart C.17). Purchasing a home is a long-term investment, and both the banks providing the loans and the individual household must take into consideration that interest rates may rise sharply. Variable mortgage rates have been unusually low over the past year, as a result of the substantial cuts in the key policy rate implemented to prevent a deep downturn. Lending rates fluctuate widely, however. In 2008, the household average lending rate was 7.7%. Coupled with a fall in house prices of 15%, this resulted in a steep rise in the share of debt in the group of particularly vulnerable households (see Chart C.19).[2]

Households can ensure that their interest expenses are more stable and predictable by choosing fixed-rate loans. The total share of fixed-rate loans to Norwegian households has grown from 6.7% at the end of last year to 9.9% at the end of 2009 Q3. Despite this increase, the share of new mortgages with fixed interest rates is still very low compared with other European countries (see Chart C.20). In Norges Bank's bank lending surveys, banks report that the demand for fixed-rate loans rose in the first three quarters of 2009 and is expected to edge up further in 2009 Q4.

Savings are increasing

Households have strengthened their financial position, and are now saving more of their disposable income. The saving ratio (savings as a percentage of disposable income) has risen in the past year, (see Chart C.21). High debt levels and increased uncertainty with regard to future economic developments may have resulted in an increasing preference for reducing consumption in order to repay debt or build up financial buffers. This has contributed to an increase in net

2 Particularly vulnerable households are here defined as households with an interest burden of more than 20% and a debt-to-value ratio on residential property of more than 100%. See "Bolig og gjeld" [Housing and Debt] by B.H. Vatne, *Economic Commentaries* 9/2009.

lending (see Chart C.22). Net wealth rose from 2008 Q4 to 2009 Q2 (see Chart C.23). Most of the increase was due to higher house prices, but households also made gains on securities during the first half of 2009.

Sharp rise in house prices

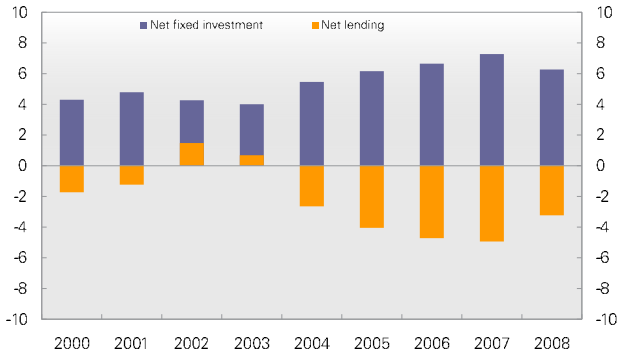
House prices fell through 2008 after rising for a long period. Since then, house prices have again risen considerably, and the year-on-year rise in house prices was 12.1% at the end of October this year (see Chart C.24). At the same time, the number of households is rising sharply and building activity has fallen (see Chart C.25). The total number of housing starts was 26% lower in the first three quarters of 2009 compared with the same period last year.

Compared with other countries, the rise in house prices in Norway has been very steep in recent years (see Chart 1.13). Current house prices also seem high compared with rents, the consumer price index, building costs and disposable income (see Chart C.26).

With capacity constraints in the building industry, it takes time for the total housing supply to adjust to demand. House prices may therefore increase more in the short term than in the long term. In the long term, real house prices will rise in step with real residential construction costs, which will be determined by developments in land prices and building costs. Over the past 50 years, the average annual rise in real house prices has been 2½%.[3] As a simplified approach, we assume that an annual real rise of 2½% therefore represents a long-term equilibrium rise in real house prices. For the sake of simplicity, the midpoint between the peak and trough in the period 1987–1992 can be used to represent an equilibrium level for real house prices. If our estimates are based on an annual real rise of 2½% from this level, we see that real house prices are currently very high. This may in isolation indicate a considerable potential fall in the housing market. However, there is some uncertainty as to the year in which it can be claimed that the housing market was in equilibrium.

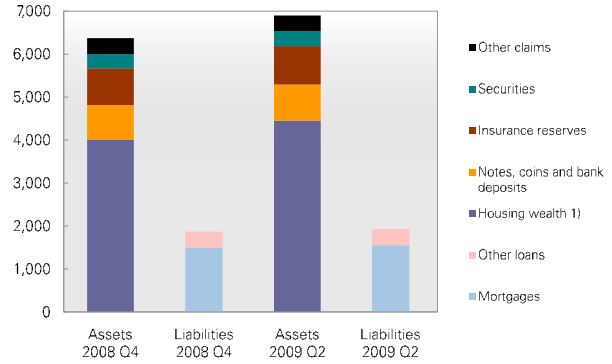
3 See Jacobsen, Solberg-Johansen and Haugland: "Housing investment and house prices", *Economic Bulletin* 1/07.

Chart C.22 Household net fixed investment and net lending. Percentage of disposable income.[1] Annual figures. 2001 – 2008



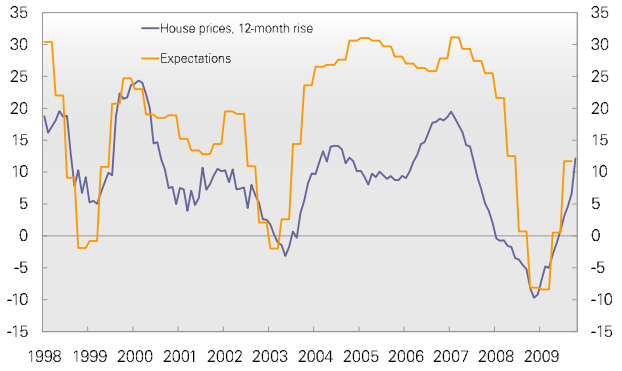
1) Capital transfers are deducted from net fixed investment. Disposable income and net lending are adjusted for estimated reinvested dividend income for 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2008
Sources: Statistics Norway and Norges Bank

Chart C.23 Household assets and liabilities. In billions of NOK. 2008 Q4 and 2009 Q2



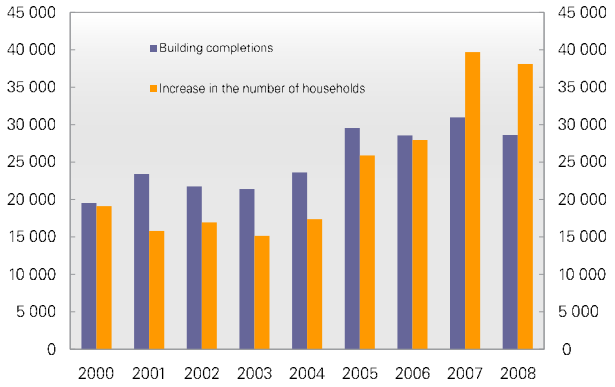
1) Norges Bank estimates
Sources: Statistics Norway and Norges Bank

Chart C.24 House prices and household expectations. 12-month rise in per cent and quarterly diffusion index. January 1998 – October 2009 and 1998 Q1 – 2009 Q3



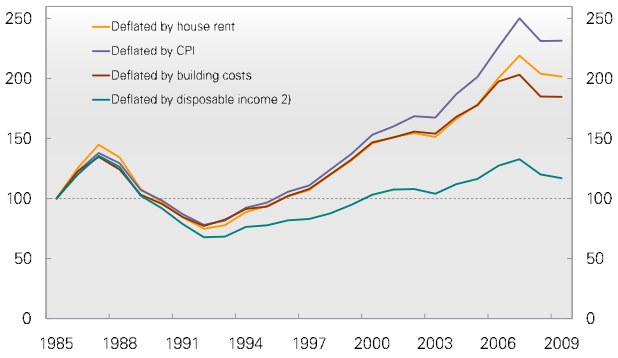
Sources: Association of Norwegian Real Estate Agents, ECON Pöyry, Finn.no, Association of Real Estate Agency Firms, Norges Bank and Norwegian Savings Banks Association

Chart C.25 Building completions and increase in the number of households. Annual figures. 2000 – 2008



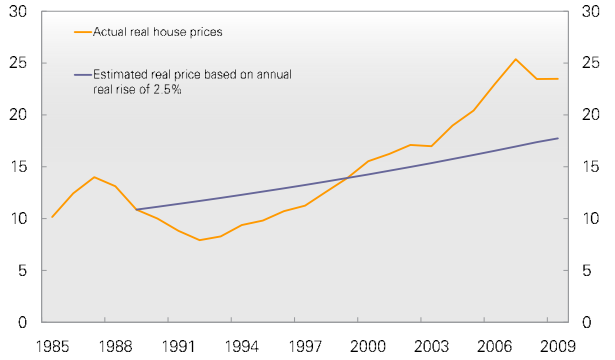
Source: Statistics Norway

Chart C.26 Real house prices. Indices. 1985 = 100. Annual figures. 1985 – 2009[1)]



1) End-October 2009. Projected annual wages 2009
2) Disposable income adjusted for estimated reinvested dividend income for 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2012
Sources: Association of Norwegian Real Estate Agents, ECON Pöyry, Finn.no, Association of Real Estate Agency Firms and Norges Bank

Chart C.27 Real house prices. Actual prices and technical estimate of prices based on an annual real rise of 2½%. NOK 1000 per sq.m. Annual figures. 1985 – 2009[1)]



1) End-October 2009
Sources: Association of Norwegian Real Estate Agents, ECON Pöyry, Finn.no, Association of Real Estate Agency Firms and Norges Bank

House prices have fluctuated considerably. Household expectations regarding future economic developments have historically proved to be a reliable indicator of the rise in house prices (see Chart C.24). Now that a long period of vigorous house price inflation is behind us, there is also a risk that both banks' and households' view of house prices ahead is too optimistic. The Bank of England has pointed out that one explanation for the strong debt build-up in UK households and the coincident strong rise in house prices may be that households had unrealistically positive expectations regarding future developments in interest rates, unemployment and house prices[4]. If Norwegian households have unrealistic expectations regarding these factors, developments in the Norwegian housing market will also be fragile.

Outlook ahead

According to our projections, the household debt burden will edge up ahead, primarily as a result of high and rising house prices. Since only a small share of the housing stock is sold each year, house prices will in isolation push up the debt burden for a period ahead (see Chart C.17). If the debt burden continues to rise ahead, the interest burden will also increase. As lending rates rise, the interest burden will increase even if the debt burden remains unchanged. At the same time, although the saving ratio is expected to reach its highest level since 1993 in the course of 2009, it will probably decrease in the years ahead due to more positive economic prospects (see Chart C.21).

A simple model estimated over the period from 1990 Q2 to end-2008 Q3 provides a good explanation of developments in house prices over the past 15 years. The most important explanatory factors included in the model are income, interest rates, unemployment and residential housing construction.[5] On the basis of the explanatory factors included in the model and projected economic developments from *Monetary Policy Report* 3/09, house prices may continue to rise in the period ahead. However, such projections are surrounded by considerable uncertainty.

4 See "Monetary Policy and Debt Sustainability" by Kate Barker, MPC Bank of England. Speech to the West Cheshire and North Wales Chamber of Commerce, 23 September 2009 http://www.bankofengland.co.uk/publications/speeches/2009/speech402.pdf

5 See Jacobsen and Naug: "What drives house prices?", *Economic Bulletin* 1/2005.

Shipping – a vulnerable sector

Shipping accounts for a large share of banks' corporate lending (see Chart 1.6). The DnB NOR Bank Group and Nordea Bank Norway are two of the world's largest shipping banks and account for over 90% of Norwegian banks' lending to shipping. At end-2008, lending to shipping constituted approximately 20% of total lending to the corporate market by these two banks. Shipping is a very cyclical sector, and in recent months freight rates have fallen markedly. Diminished debt-servicing capacity in this sector would therefore result in considerable losses for banks in the period ahead.

Shipping comprises a number of different segments. Oil-related shipping accounts for the largest share of lending to shipping. At the end of 2009 Q3, lending to this segment accounted for 27% of DnB NOR's total lending to shipping. Corresponding figures for the container and dry bulk cargo segments were, respectively, 16% and 14%. Oil-related shipping includes tugboats, rig vessels and supply vessels for oil platforms. Dry bulk is transport of dry cargo that is not packaged in units, for example various mineral goods, coal, grain, salt and timber. The steel industry accounts for half of all dry bulk transported by sea. Container ships carry more processed goods and finished products.

Wide fluctuations in shipping

Developments in the global economy and international trade naturally play an important part in the demand for shipping. Since the Second World War, four waves of increased regional growth and globalisation have provided a powerful stimulus to global trade, first in Europe in the 1950s, then in Japan in the 1960s, the remainder of Asia in the 1970s and China at the turn of the millennium. The demand for shipping began to grow at the start of the 2000s as a result of strong economic growth in China and the expansion of global trade (see Chart 1). In the period 2000–2008, China contributed 60% of global shipping growth. Demand was particularly high for container and dry bulk transport. After several years of sharply rising demand for shipping, this trend reversed in 2008. The global economy deteriorated rapidly, and demand from China fell. The demand for oil-related shipping has been high in recent years as a result of increased investments and large oil exploration budgets (see Chart 2).

The supply of shipping is primarily determined by newbuilding, scrapping of vessels and vessels laid up. The supply responds relatively slowly to changes in demand for shipping. Depending on the number of orders already taken on by shipyards, the period from order to delivery of a vessel varies from one to four years. At the beginning of the 2000s, newbuilding was unable to keep up with strong growth in demand. In addition, many vessels built in the 1970s were scrapped at the turn of the millennium (see Chart 3). High demand resulted in a sharp rise in freight rates in the late 2000s (see Chart 4) and newbuilding and completion of vessels increased considerably (Chart 3). Many new vessels were built, particularly for the dry bulk and container segments, but also in some oil-related shipping segments. The supply of vessels increased markedly in 2008, and freight rates fell considerably (Chart 4). Clarkson, a provider of international shipping information, has estimated the total fleet to be four times as large as the demand, assuming all orders are delivered.

Historically, Norwegian banks' losses on loans to shipping have been low (see Chart 5). Until 1984, Norwegian banks were subject to stringent lending regulations. More than 80% of Norwegian shipping companies' supply of capital was therefore obtained from foreign sources in the postwar period up to the great shipping crisis of the mid-1970s. Since the mid-1980s, Norwegian banks have acquired considerable knowledge of the sector and have long and close ties with shipowners.

Outlook ahead

In the years ahead, world economic developments, particularly developments in China, will play an important role in shipping demand. Growth in emerging economies, particularly in Asia, is expected to pick up quickly to pre-crisis levels (see Monetary Policy Report 3/09). This will push up demand for dry bulk and container transport in particular. The demand for oil-related shipping is influenced

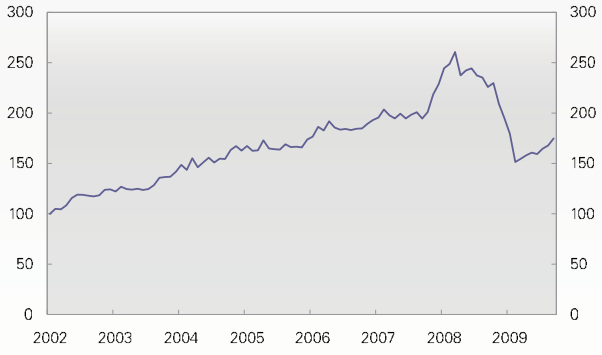
by investment levels and oil companies' budgets for oil exploration. A number of investment projects are planned for the Norwegian continental shelf in the years ahead. Petroleum investment is projected to be high in the period 2010–2012 given that oil prices do not fall below USD 70 (Chart 2). Expectations of higher growth in emerging market economies and high petroleum investment are reflected in higher expected shipping demand in the years ahead.

The volume of new orders actually delivered in the period ahead will be important for developments in excess supply (see Chart 6). At end-2008, orders for newbuildings were equivalent to half of the existing fleet, with a value of approximately USD 600bn. Most orders are scheduled for completion by 2011. So far, shipyards have not been able to keep pace with orders, and the surplus of vessels may therefore be lower than what orders are indicating in the period ahead. Funding shortages have also constrained newbuilding, resulting in many order cancellations. State subsidies of yards, for example in China and Korea, may exacerbate the situation for international shipping. In the short term, supply may be reduced due to lower vessel speeds and an increase in the number of vessels laid up. In the longer term, supply may be reduced as more vessels are scrapped and newbuilding declines further. Since the current fleet is relatively young, the stock of older vessels that can be scrapped is limited.

The expected increase in shipping demand is probably not sufficient to cover the very high surplus of transport capacity. Due to the large surplus of vessels and the rising number of new vessels on the market, freight rates will probably remain low in the years ahead. Persistently low freight rates reduce expectations regarding future earnings, which in turn leads to falling market values for vessels (see Chart 7). Falling market values reduce profitability as a result of increased write-edowns of vessel values, see IFRS (the new international financial reporting standards introduced in 2005). This reduces the value of banks' collateral. The longer the downturn and low freight rates persist, the more shipping companies will experience liquidity problems and weaker debt-servicing capacity.

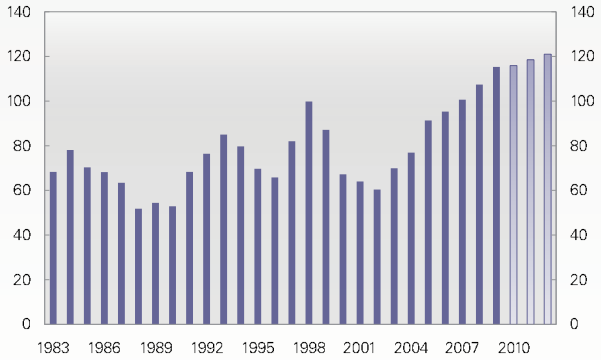
Bank losses on loans to the shipping industry have been projected in a baseline scenario and a stress scenario. If developments are in line with Norges bank's projections, bank losses on loans to shipping will increase to approximately 1.5% of total lending to this industry in 2012. Calculations also show that, should developments be weaker than projected, bank losses on loans to the shipping industry could increase considerably (see Section D on page 49).

Chart 1 Indicator of world trade. Index[1], January 2002 = 100. Monthly figures. January 2002 – September 2009



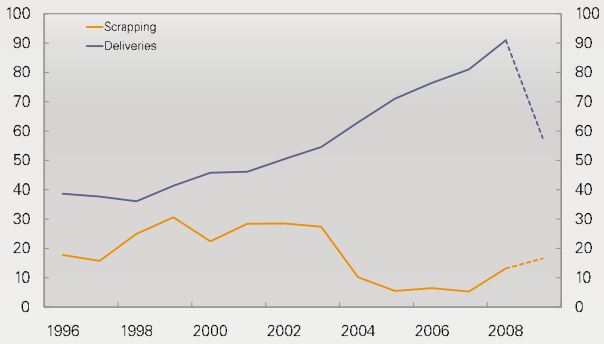
1) The index is constructed on the basis of the sum of exports and imports in the US, Japan, Germany and China. The figures are converted into USD
Sources: Thomson Reuters and Norges Bank

Chart 2 Petroleum investment. Constant 2006 prices. In billions of 2009 NOK. Annual figures. 1983 – 2012[1]



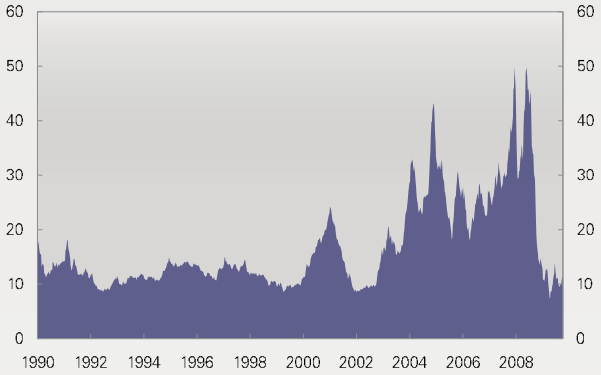
1) Projections for 2009 – 2012
Sources: Statistics Norway and Norges Bank

Chart 3 Delivery of new ships and scrapping. Million Dwt[1]. Annual figures. 1996 – 2009[2]



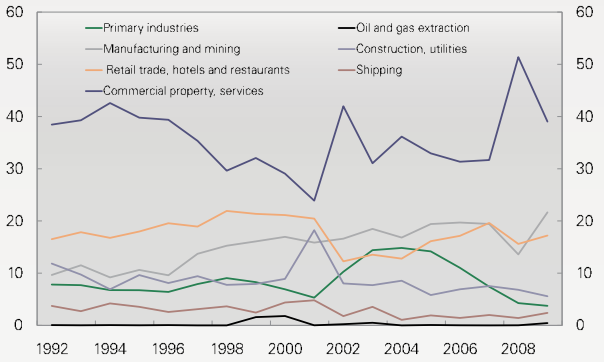
1) Measure of deadweight tonnage capacity, which includes cargo, fuel, fresh water, ballast water, passengers and crew
2) First half of 2009
Source: Clarkson Research Services Ltd.

Chart 4 Freight rates (Clarksea Index)[1]. USD 1 000 per day. Weekly figures. 1 January 1990 – 11 September 2009



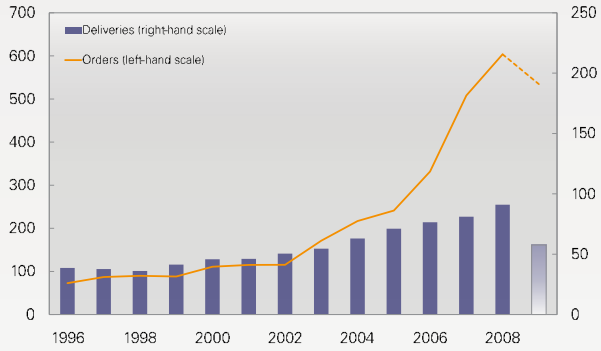
1) Weighted average for earnings in the tanker, bulk, container and gas segments
Source: Clarkson Research Services Ltd.

Chart 5 Norwegian banking industry-specific loan losses as a percentage of total loan losses in the corporate market. Per cent. Annual figures. 1992 – 2009[1]



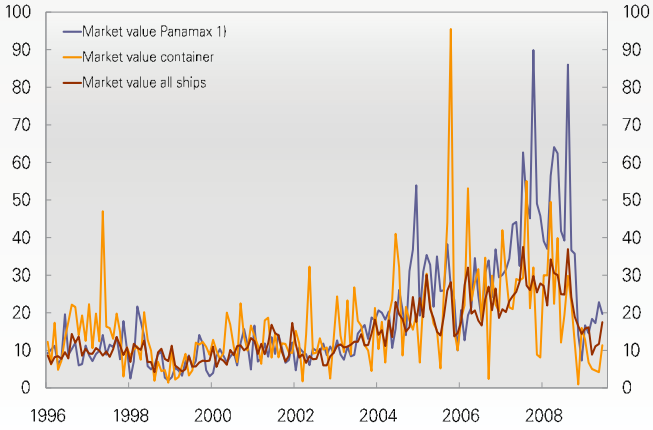
1) 2009 Q1 – Q3
Source: Norges Bank

Chart 6 Delivery of new ships and orders. Million Dwt[1]. Annual figures. 1996 – 2009[2]



1) Measure of deadweight tonnage capacity, which includes cargo, fuel, fresh water, ballast water, passengers and crew
2) First half of 2009
Source: Clarkson Research Services Ltd

Chart 7 Market value of ships. In USD millions. Monthly figures. January 1996 – June 2009

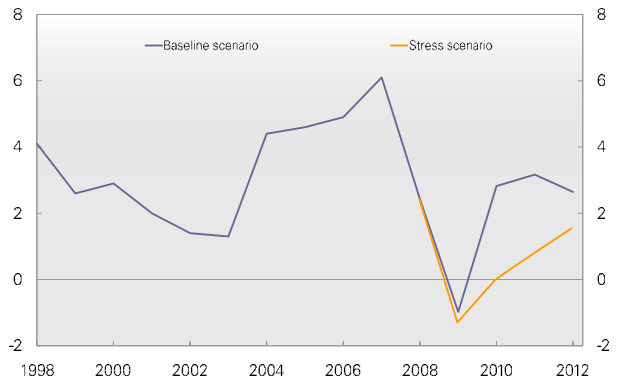


1) Bulk ship of 32.2 metres width that can pass through the Panama Canal
Source: Clarkson Research Services Ltd

D. Stress testing bank losses and profits

In stress testing bank losses and profits, we have analysed the consequences for Norwegian banks of an alternative stress scenario where global growth prospects deteriorate. As a result of the measures implemented and planned by banks in order to strengthen their capital base, banks are better equipped to cope with deteriorating macroeconomic developments.

Chart D.1 Mainland GDP. Annual volume change. Per cent. 1998 – 2012[1)]



1) Projections for 2009 – 2012
Sources: Statistics Norway and Norges Bank

Weaker macroeconomic developments

In the stress test[1], projections of banks' losses and profits in the baseline scenario[2] for the Norwegian economy are compared with developments in a stress scenario. The stress scenario illustrates how banks may be affected if a number of the risk factors described in Section 1 materialise. Since *Financial Stability* 1/09, the uncertainty surrounding economic developments both at home and abroad has eased somewhat. At the same time, growth in the Norwegian economy picked up more rapidly than expected in the previous report. An alternative scenario has therefore been chosen where economic activity is not as weak as in the stress scenario in the previous report. The analysis period is from 2009 Q4 to end-2012[3].

The stress scenario is based on the assumption that global growth prospects will deteriorate. An upswing in the global economy in the last half of 2009 then comes to a halt. Increased government debt in a number of countries as a result of expansionary fiscal policy compels states to restrict further fiscal stimulus. Global commodity prices fall. Oil prices fall sharply from the current level to around USD 40 per barrel in the course of 2010. Banks must absorb high losses on loans to international shipping and borrowers in the Baltic countries.

The decline in global economic growth leads to a reduction in manufacturing output in Norway, especially traditional exports, over the coming years. Investment activity is also reduced due to low oil prices. Unemployment rises and households' expectations concerning their own financial position and the country's economic outlook fall. Private consumption is reduced. In this scenario, growth in mainland GDP is markedly weaker than in the baseline scenario (see Chart D.1). In 2010, annual mainland GDP growth is about 0,3 percentage points lower than in the baseline scenario. Historical variation in GDP from the 1970s to the present indicates that such growth will occur around 5% of the time, i.e. approximately every twenty years.

1 For a more detailed description of the model system, see Andersen, Berge, Bernhardsen, Lindquist and Vatne: "A suite-of-models approach to stress-testing financial stability", *Staff Memo,* 2 / 2008, Norges Bank. See also Andersen and Berge: "Stress testing of banks' profits and capital adequacy," *Economic Bulletin,* 2 / 2008, Norges Bank, pp. 47-57.

2 Baseline scenario published in *Monetary Policy Report* 3/09

3 See Appendix Table 10 for a detailed overview of projections in the stress scenario.

In the stress scenario, the krone depreciates sharply as a result of low oil prices, high losses in Norwegian banks and lower market confidence in the Norwegian economy (see Chart D.2). The krone exchange rate remains at a level close to the weakest autumn 2008-levels. Inflationary impulses increase due to the depreciation. The key policy rate is increased.

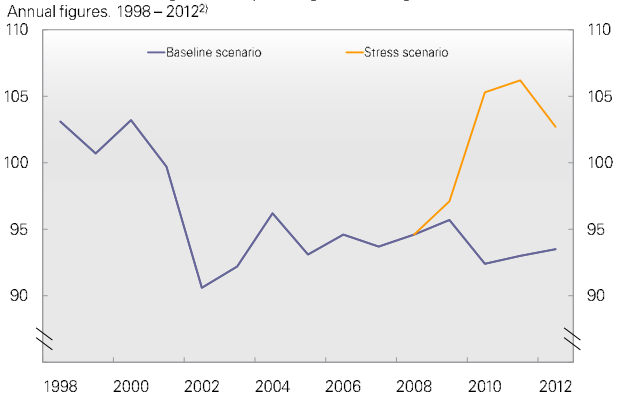
As a technical assumption, the interest rate is assumed to respond to the inflation rate, activity levels and external interest rates (one example of such a rule is the Taylor rule). At the same time it is assumed that banks raise average lending margins by about 0.2 percentage point compared with the baseline scenario, resulting in a path for bank lending rates that is close to the baseline scenario (see Chart D.3). Interest rates abroad remain low in the stress scenario. Wider interest rate differentials between Norway and other countries contribute in isolation to an appreciation of the krone, but it is assumed here that this effect is not strong enough to counter low oil price levels and weakened confidence in foreign exchange markets.

Growth in household disposable income will be low in the years ahead, and unemployment will be higher than in the baseline scenario. Together with reduced confidence in the economy, this leads to a fall in house prices in the stress scenario (see Chart D.4). Nominal house prices will be about 20% lower at the end of 2012 than today. This represents a real decline of around 30%. Credit growth is low in the stress scenario (see Chart D.5), primarily as a result of weak economic developments, reduced investment activity and falling house prices.

Elevated loan losses

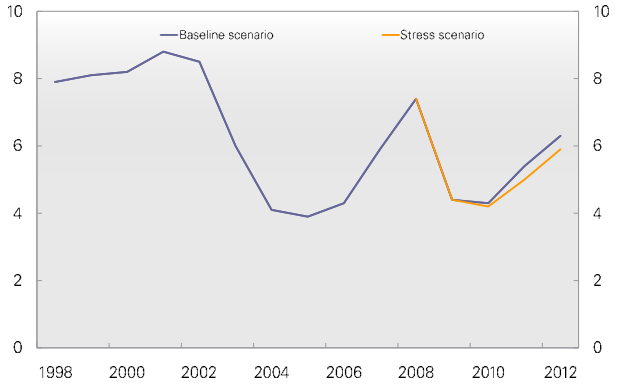
Borrowers' debt-servicing capacity is weaker in the stress scenario than in the baseline scenario. Enterprises' turnover and performance drop rapidly in a number of industries. Turnover in export-oriented enterprises decreases sharply due to weaker economic developments abroad. In isolation, the depreciation of the krone has a positive effect on turnover in export-oriented enterprises, but does not compensate for falling demand. Domestic demand for consumer and capital goods declines as a result of weaker household expectations and lower willingness to

Chart D.2 Real exchange rate[1]. Import-weighted exchange rate index (I-44). Annual figures. 1998 – 2012[2]



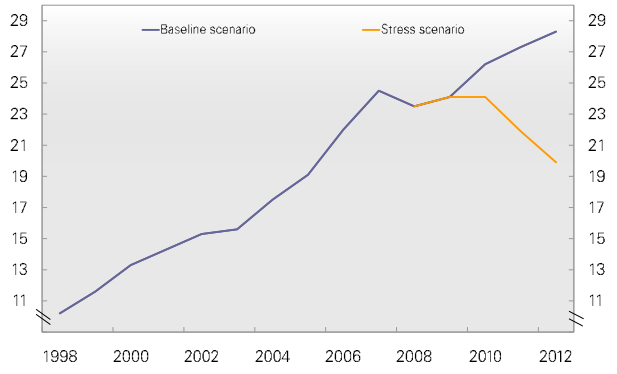
1) A rising curve denotes a weaker krone exchange rate
2) Projections for 2009 – 2012
Sources: Statistics Norway and Norges Bank

Chart D.3 Banks' lending rates. Per cent. Annual figures. 1998 – 2012[1]



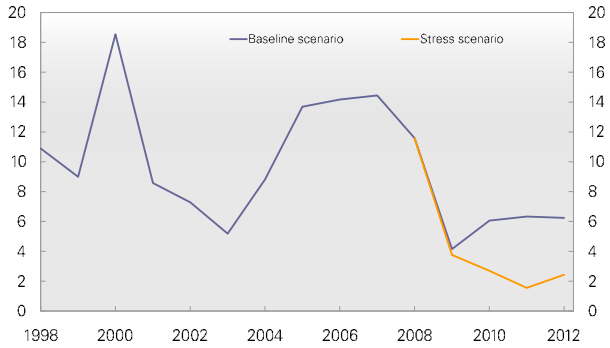
1) Projections for 2009 – 2012
Sources: Statistics Norway and Norges Bank

Chart D.4 House prices. NOK 1000 per sq.m. Annual figures. 1998 – 2012 [1]



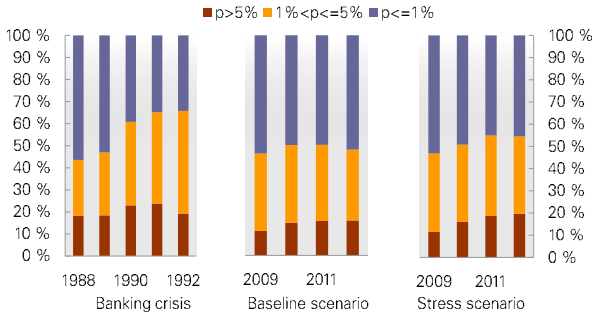
1) Projections for 2009 – 2012
Sources: : Association of Norwegian Real Estate Agents, ECON Pöyry, Finn.no, Association of Real Estate Agency Firms and Norges Bank

Chart D.5 Credit to households and non – financial enterprises. Year-on-year growth[1]. Per cent. 1998 – 2012[2].



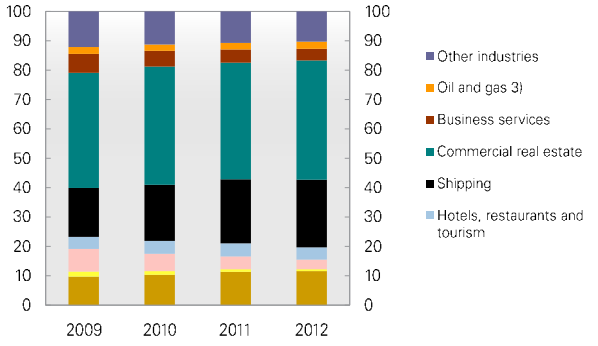
1) Change in stock measured at end-year
2) Projections for 2009 – 2012
Sources: Statistics Norway and Norges Bank

Chart D.6 Distribution of total corporate debt[1] with different default probabilities[2]. Per cent. Annual figures. 1988 – 1992 and 2009 – 2012



1) Including bonds, certificates and convertible debt
2) p = probability of default
Source: Norges Bank

Chart D.7 Expected loss[1] in stress scenario. By industry[2]. Percentage of total losses. Annual figures. 2009 – 2012



1) Calculated by risk-weighted debt, defined as probability of default multiplied by bank debt
2) Domestic enterprises
3) Including oil services
Source: Norges Bank

invest among enterprises. Profits in enterprises in the export, property and shipping sectors fall markedly from 2009 to 2010. Demand in the shipping industry decreases sharply and writedowns and turnover fall to a greater extent than in most other industries.

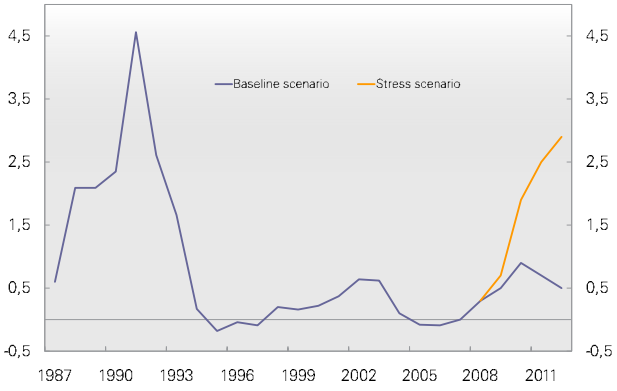
In the stress scenario, the share of total bank debt held by the most high-risk enterprises rises in the period to 2012 (see Chart D.6). The share of debt held by enterprises with a default probability of more than 5% increases from 12% to 20% over this period. However, the most high-risk enterprises accounted for a relatively large share of total debt during much of the banking crisis. The probability of default is lower in the baseline scenario than in the previous report. The rise in default probability is curbed by an increase in debt-servicing capacity and equity ratios at the end of the projection period.

Banks' potential loan losses are greatest in commercial property, shipping and manufacturing. Loans to these sectors accounted for more than 60% of total bank lending to enterprises in 2008. Commercial property accounts for the largest share of total expected losses on corporate loans in the stress scenario (see Chart D.7), primarily because loans to property companies make up as much as 40% of bank lending to the corporate market. The shipping industry's share of total expected losses will increase most in the projection period, mainly due to the sharp rise in default probability. Profits in shipping companies are expected to fall more sharply than in property companies. A large share of bank debt in the property industry is in the form of fixed-rate loans. In the short term, property companies' profits will be affected to a lesser extent by a rise in interest rates.

In the stress scenario, banks' problem loans to enterprises will increase to more than 11% per cent of gross lending. This is markedly higher than in the baseline scenario, where problem loans make up about 4%. In the stress scenario, higher unemployment, rising lending rates, low income growth and falling house prices result in a higher volume of problem loans in the household sector towards the end of the simulation period. The levels are low, however.

The share of problem loans that banks must recognise as losses (loss ratio) partly depends on collateral values. Commercial property prices fell by about 20% from the second half of 2007 to the first half of 2009, and in the stress scenario prices are projected to fall further in pace with house prices. The loss ratio is assumed to be 40% through the period, which is somewhat lower than the highest levels during the banking crisis of 1988 – 1993. Losses will then come close to 3% of lending in 2012 (see Chart D.8). If losses on loans to international shipping and the Baltic countries were to remain at the levels in the baseline scenario, losses would amount to just over 2% of gross lending in 2012.

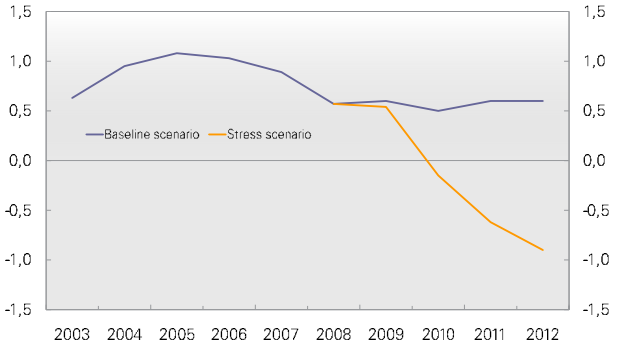
Chart D.8 Bank losses. Percentage of gross lending. Annual figures. 1987 – 2012[1)]



1) Projections for 2009 – 2012
Source: Norges Bank

Loss estimates in the baseline scenario are lower now than in the previous report. This is mainly due to an improvement in the outlook for the Norwegian economy. It appears that unemployment will be lower than previously projected. Oil futures prices indicate expectations of a continued rise in oil prices, which will help to buoy up activity in the oil industry. Nonetheless, due to expectations of continued high losses on loans to the Baltic countries, as well as higher losses on loans to international shipping, estimates remain fairly high throughout the period.

Chart D.9 Post-tax results for Norway's five largest banks[1)] and Nordea Bank Norge. Percentage of average total assets. Annual figures. 2003 – 2012[2)]



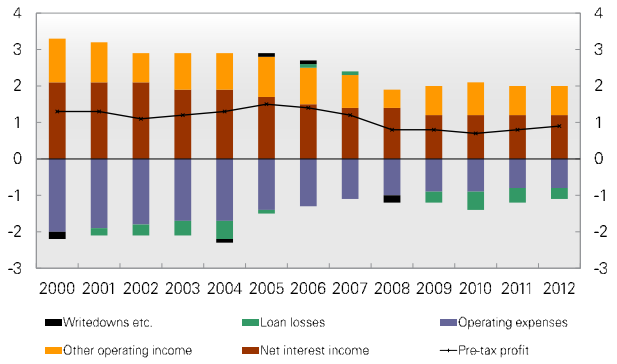
1) DnB NOR Bank, SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN and SpareBank 1 Nord-Norge
2) Projections for 2009 – 2012
Source: Norges Bank

Banks' earnings and capital adequacy

In the baseline scenario, banks' after-tax profits decline in 2010, then increase somewhat (see Chart D.9). Profits are expected to amount to between 0.5% and 0.6% of average total assets in the years 2009 to 2012. This is lower than in the period before 2008, when banks had access to cheap funding and achieved high earnings because of strong economic growth.

In the stress scenario, results are negative from 2010, primarily reflecting elevated loan losses. Losses for the six banks in the stress test are somewhat higher than for the banking industry as a whole as lending to more vulnerable sectors is higher for these banks. In the period 2010 to 2012, more than 35% of loan losses will come from lending to the shipping industry and the Baltic countries.

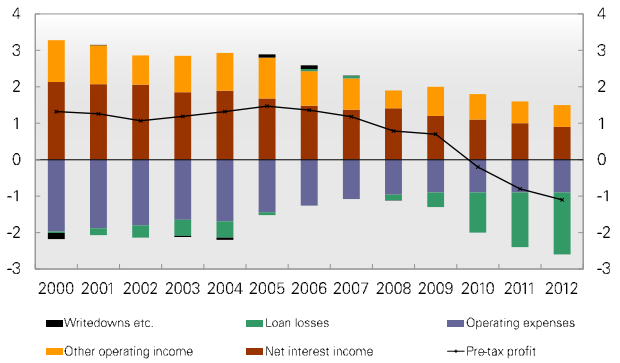
Chart D.10 Banks'[1)] pre-tax profits as a percentage of average total assets. Baseline scenario. Annual figures. 2000 – 2012[2)]



1) All banks excluding branches of foreign banks in Norway
2) Projections for 2009 – 2012
Source: Norges Bank

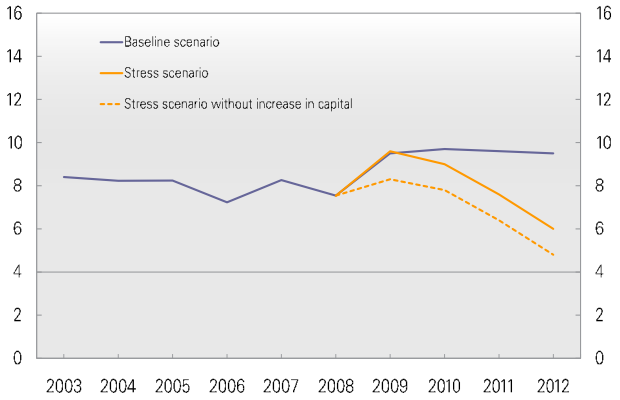
Banks' profits largely depend on their net interest income. In the baseline scenario, net interest income as a percent-

Chart D.11 Banks[1] pre-tax profits as a percentage of average total assets. Stress scenario. Annual figures. 2000 – 2012[2]



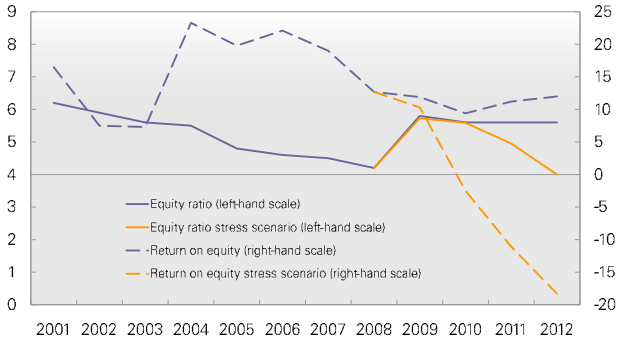
1) All banks excluding branches of foreign banks in Norway
2) Projections for 2009 – 2012
Source: Norges Bank

Chart D.12 Tier 1 ratio for Norway's five largest banks[1] and Nordea Bank Norge. Per cent. Annual figures. 2003 – 2012[2]



1) DnB NOR Bank, SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN and SpareBank 1 Nord-Norge
2) Projections for 2009 – 2012
Source: Norges Bank

Chart D.13 Equity ratio and return on equity for Norway's five largest banks[1] and Nordea Bank Norge. Per cent. Annual figures. 2001 – 2012[2]



1) DnB NOR Bank, SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN and SpareBank 1 Nord-Norge
2) Projections for 2009 – 2012
Source: Norges Bank

age of total assets will stabilise around the levels recorded in 2009 (see Chart D.10). Net interest income increases by an annual average of 5½%. In the stress scenario, net interest income decreases by an annual average of 7% (see Chart D.11).

In the baseline scenario, it is assumed that banks are able to increase the overall interest margin by 0.2 percentage point compared to the current level. Banks increase lending margins when credit risk rises. Increased deposit margins due to higher interest rates also contribute. It is assumed that expensive loans taken up during 2008 will reach maturity further out in the baseline scenario, and that premiums on banks' market funding will fall as a result to a level 0.2 percentage point lower in 2012 than today.

In the stress scenario, it is assumed that borrower risk leads to downgrading of banks. As a result, risk premiums on market funding remain high. Premiums are 0.4 percentage point higher than current levels. Overall interest margins in the stress scenario are the same as in the baseline scenario. In order to maintain earnings and take account of increased risk, bank lending margins increase to 0.2 percentage point more in the stress scenario than in the baseline scenario. Deposit margins are, however, 0.2 percentage point lower than in the baseline scenario, as high premiums on market funding increase competition for deposits.

The average Tier 1 capital ratio ranges between 9 and 10% in the baseline scenario (see Chart D.12). Capital expected to be provided by the Norwegian State Finance Fund and capital raised in the market amounts to slightly more than 1 percentage point of the average capital ratio. In the stress scenario, negative results will lead to a significantly lower capital ratio. Banks will meet the official capital adequacy requirements, but without recapitalisation banks would be in non-compliance with the minimum capital requirement in the stress scenario. The equity ratio remains stable in the baseline scenario, and return on equity remains at between 10% and 14% (see Chart D.13). In the stress scenario, poor results lead to negative and declining return on equity in the years 2010 to 2012. The equity ratio falls to 4% in the stress scenario.

Annex 1

Boxes 2004 – 2009

2/2009
Measures under discussion aimed at improving financial regulation
Capital requirements during the banking crisis in the early 1990s
Difficulties in comparing banks' capital adequacy
In favour of wider use of central counterparties
Payment systems have functioned effectively
Shipping – a vulnerable sector

1/2009
The background for the financial crisis
Then and now – a comparison with the banking crisis of 1988–1993

2/2008
Banks' capital requirements
How vulnerable is the financial system? An analysis using gap indicators
Stress-testing of bank losses and results

1/2008
Stress-testing of bank losses and results
Norges Bank's Survey of Bank Lending
Central bank measures to address liquidity problems at banks

2/2007
Problems in the US residential mortgage market
Problems in interbank markets – central bank liquidity measures
Covered bonds
Stress testing of banks' losses and results

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
Substanital 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 then 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

Annex 2

Table 1 Key figures for Norwegian limited companies[1)]
Per cent

	Share of debt[2)]		Operating margin[3)]		Return on total assets4[)]		Equity ratio[5)]		Predicted probability of default[6)] Median		Expected loan loss as a percentage of debt[7)]	
	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008
Agriculture and forestry	0.2	0.2	5.4	3.3	8.4	1.3	33.4	33.7	3.10	3.50	2.61	4.58
Fishing and fish-farming	3.7	4.7	16.2	10.1	5.3	-1.3	40.3	36.8	2.84	3.22	1.43	2.16
Manufacturing and mining	14.5	12.5	7.3	5.6	10.2	1.2	42.4	36.9	2.30	2.55	1.45	1.85
Energy and water supply	4.2	3.9	15.9	30.1	8.6	11.7	45.8	44.9	1.25	1.50	0.63	0.82
Construction	2.3	2.3	6.3	5.8	12.6	10.0	28.3	29.0	1.66	1.90	1.55	1.95
Retail trade	8.3	7.9	4.3	2.9	10.9	5.2	33.1	31.5	3.79	4.16	2.15	2.54
Hotel, restaurant and travel	1.5	1.5	5.1	4.5	13.9	3.5	34.6	34.4	9.49	9.94	3.59	7.15
Shipping	10.6	13.7	17.8	10.9	5.6	3.3	46.2	42.1	1.49	2.15	0.70	1.73
Transport except shipping	3.0	3.2	7.4	6.4	7.9	4.6	34.0	31.7	1.37	1.91	0.96	1.92
Telecommuni-cations	0.2	0.4	12.7	12.0	5.4	2.1	39.9	37.6	7.21	6.71	11.69	6.46
Commercial property	40.8	39.4	70.1	40.4	7.5	-1.2	41.3	38.5	0.96	1.65	1.01	1.96
Business services	6.3	5.6	9.2	5.9	7.5	0.0	41.3	36.7	2.41	2.79	1.62	2.82
Education, health and social serv.	2.0	2.2	10.3	6.6	10.8	5.9	32.2	33.9	3.77	3.85	2.27	2.73
Oil services	2.5	2.6	14.2	13.9	7.4	2.2	37.2	36.5	1.54	2.63	0.96	0.82
Total	100.0	100.0	8.7	6.7	8.5	2.5	40.5	37.5	3.08	3.46	1.27	2.06

1) Excluding oil and gas extraction, banking and insurance, and public sector
2) The industry's share of enterprises' total debt to credit institutions
3) Operating margin as a percentage of turnover
4) Profits before tax as a percentage of total assets at year-end
5) Book equity as a percentage of total assets
6) Predicted probabilities of default in per cent from Norges Bank's bankruptcy prediction model SEBRA-extended
7) Probability of default (SEBRA-basis) multiplied by bank debt of each enterprise, totalled for all enterprises in the industry. Per cent of the industry's total bank debt. Can be interpreted as credit institutions' expected loan losses per krone loaned to the industry, assuming the entire loan is lost.

Source: Norges Bank

Table 2 Structure of the Norwegian financial industry of 30 September 2009

	Number	Lending (NOK bn)	Total assets (NOK bn)	Tier 1 capital ratio (%)	Capital ratio (%)
Banks (excluding branches of foreign banks)	139	1 698	3 120	9.5	12.1
Branches of foreign banks	11	328	588		
Mortgage companies (including branches of foreign companies)	27	757	1 104	11.0	13.0
Finance companies (including branches of foreign companies)	50	126	147	9.7	11.0
State lending institutions	3	217	232		
Life insurance companies (excluding branches of foreign companies)	11		774		15.5
Non-life insurance companies (excluding branches of foreign companies)	45		143		
Memorandum:			(NOK bn)		
Market value of equities, Oslo Børs			1 323		
Outstanding domestic bonds and short-term paper debt			1 534		
Issued by public sector and state-owned companies			618		
Issued by banks			286		
Issued by other financial institutions			382		
Issued by other private enterprises			105		
Issued by non-residents			142		
GDP Norway, 2008			2 548		
GDP mainland Norway, 2008			1 830		

Sources: Kredittilsynet (Financial Supervisory Authority of Norway), Oslo Børs, Statistics Norway and Norges Bank

Table 3 Financial conglomerates' market shares[1)] in Norway in various sectors of 30 September 2009. Per cent

	Banks	Finance companies	Mortgage companies	Life insurance	Total for conglomerate
DnB NOR (including Nordlandsbanken)[2)]	39.8	24.5	30.7	29.6	36.2
SpareBank 1 alliance[3)]	13.2	7.8	9.7	3.1	11.0
Nordea Bank Norge	13.3	8.4	2.2	6.0	10.1
Storebrand[4)]	1.0	0.0	1.2	26.2	4.4
Terra alliance[5)]	5.0	0.8	2.3	0.0	3.7
Danske Bank Norway (Fokus Bank)[6)]	5.3	0.0	0.0	0.0	3.4
Total	77.6	41.6	46.1	64.8	68.9

1) 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 the financial conglomerates. For example, non-life insurance, securities funds and asset management have been excluded
2) Excluding DnB NOR's subsidiaries and branches abroad
3) The SpareBank 1 alliance comprises SpareBank 1 Gruppen AS (including subsidiaries), BN Bank and the 20 banks that own the group
4) Excluding Storebrand's Swedish subsidiary, SPP, acquired in December 2007
5) The Terra alliance comprises Terra Gruppen AS (including subsidiaries) and the 78 banks that own the group
6) Fokus Bank ASA was converted to a branch of Danske Bank as of 1 April 2007

Source: Norges Bank

Table 4 Results and capital adequacy in Norwegian banks for selected quarters[1)]

	Q3 08		Q4 08		Q1 09		Q2 09		Q3 09	
	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA
Net interest income	11.30	1.64	11.91	1.60	10.11	1.32	10.28	1.33	10.47	1.34
Other operating income	2.53	0.37	1.55	0.21	5.59	0.73	6.79	0.88	5.62	0.72
Commission income	2.35	0.34	2.24	0.30	2.13	0.28	2.27	0.29	2.55	0.33
Securities, FX and derivatives	-0.81	-0.12	-0.97	-0.14	3.90	0.52	4.12	0.53	2.21	0.29
Other operating expenses	7.35	1.07	7.78	1.05	7.76	1.02	7.51	0.97	7.47	0.96
Personnel expenses	4.24	0.62	4.35	0.59	4.52	0.59	4.27	0.55	4.38	0.56
Operating result before losses	6.49	0.94	5.68	0.77	7.93	1.04	9.57	1.24	8.61	1.10
Losses on loans and guarantees	0.92	0.13	3.83	0.52	2.15	0.28	1.69	0.22	2.31	0.30
Pre-tax profit	5.43	0.79	1.36	0.18	5.78	0.76	7.55	0.98	6.71	0.86
After-tax profit	3.77	0.55	0.59	0.08	3.95	0.52	5.48	0.71	4.79	0.61
Capital ratio (%)	11.4		11.2		11.6		11.9		12.1	
Tier 1 capital ratio (%)	8.8		8.6		9.0		9.2		9.5	

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

Sources: Norges Bank

Table 5 Results and capital adequacy in Norwegian banks[1)]

	2006		2007		2008		2008 Q1-Q3		2009 Q1-Q3	
	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA
Net interest income	34.51	1.62	36.72	1.50	43.16	1.55	31.25	1.50	30.84	1.48
Other operating income	18.11	0.85	18.47	0.75	10.69	0.38	9.13	0.44	18.00	0.86
Commission income	10.39	0.49	10.24	0.42	9.34	0.34	7.09	0.34	6.95	0.33
Securities, FX and derivatives	6.44	0.30	3.58	0.15	-1.42	-0.05	-0.46	-0.02	10.23	0.49
Other operating expenses	28.21	1.32	28.17	1.15	29.57	1.06	21.79	1.05	22.74	1.09
Personnel expenses	15.52	0.73	15.61	0.64	16.72	0.60	12.38	0.59	13.18	0.63
Operating result before losses	24.40	1.14	27.02	1.10	24.28	0.87	18.60	0.89	26.10	1.25
Losses on loans and guarantees	-1.45	-0.07	-0.01	0.00	5.41	0.19	1.59	0.08	6.15	0.30
Pre-tax profit	27.14	1.27	27.41	1.12	18.28	0.66	16.92	0.81	20.02	0.96
After-tax profit	20.64	0.97	20.78	0.85	13.02	0.47	12.43	0.60	14.21	0.68
Capital ratio (%)	11.2		11.7		11.2		11.4		12.1	
Tier 1 capital ratio (%)	8.7		9.3		8.6		8.8		9.5	

1) All banks excluding branches of foreign banks in Norway

Sources: Norges Bank

Table 6 Balance sheet structure, Norwegian banks[1)]
Percentage distribution

	2008	Q3 08	Q3 09
Cash and deposits	11.6	9.8	9.2
Securities (current assets)	11.6	8.2	19.1
Gross lending to households, municipalities and non-financial enterprises	59.4	64.8	54.4
Other lending	11.3	11.1	9.8
Loan loss provisions	-0.3	-0.3	-0.4
Fixed assets and other assets	6.4	6.4	8.0
Total assets	100.0	100.0	100.0
Customer deposits	38.5	40.3	37.9
Deposits/loans from domestic financial institutions	4.5	4.6	4.8
Deposits/loans from foreign financial institutions	12.9	13.3	14.5
Deposits/loans from Norges Bank	1.8	0.4	1.4
Other deposits/loans	4.5	3.7	8.8
Notes and short-term paper debt	5.4	4.1	3.2
Bond debt	19.0	19.5	16.4
Other liabilities	5.5	6.0	4.9
Subordinated loan capital	2.5	2.4	2.2
Equity	5.4	5.9	5.7
Total equity and liabilities	100.0	100.0	100.0
Memorandum:			
Total assets in NOK billions	3 088	2 822	3 120

1) All banks excluding branches of foreign banks in Norway

Source: Norges Bank

Table 7 Rating by Moody's[1], total assets, capital adequacy[2] and return on equity for Nordic financial conglomerates, subsidiaries in Norway and Norwegian banks as of 2009 Q3. Consolidated figures

								Return on equity		
	Financial strength	Short-term	Long-term	Total assets (NOK bn)	Tier 1 capital ratio (%)	Capital ratio (%)	Share of interim profits (%)	2007	2008	Q1-Q3 09
Nordea Bank AB	C+	P-1	Aa2	4 131	10.3	12.2	0	19.7	15.3	12.4
Danske Bank	C	P-1	Aa3	3 748	12.6	16.3	100	15.1	1.0	1.8
DnB NOR	C	P-1	Aa3	1 849	7.3	10.1	0	22.0	12.4	10.7
SEB	C-	P-1	A1	1 847	12.5	14.1	100	19.3	13.1	1.2
Handelsbanken	C+	P-1	Aa2	1 776	8.9	12.7	0	23.3	16.2	12.8
Swedbank	D+	P-1	A2	1 500	8.8	12.1	100	18.9	15.2	neg.
Nordea Bank Norge	C	P-1	Aa2	508	7.8	10.3	0	13.2	17.6	11.1
SpareBank 1 SR-Bank	C-	P-1	A1	122	6.9	9.3	50	19.4	8.0	16.9
Sparebanken Vest	C-	P-1	A2	94	8.4	9.9	0	16.2	4.9	7.5
SpareBank 1 SMN	C-	P-1	A1	90	10.6	13.9	50	18.9	11.9	16.6
SpareBank 1 Nord-Norge	C	P-1	A1	65	10.1	12.1	0	18.1	8.1	15.8

1) Rating as of 23 November 2009. Moody's scale of rating: Financial strength: A+, A, A-, B+, B, B-, C+, C, C-,… Short-term: P-1, P-2,… Long-term: Aaa, Aa1, Aa2, Aa3, A1, A2,…
2) The share of interim profits included in the Tier 1 capital ratio and capital ratio varies across 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.

Sources: Banks' websites and Moody's

Table 8 Balance sheet structure and profit/loss, covered bond companies[1)]

	2008	Q3 08	Q3 09
Balance sheet. Percentage distribution			
Cash and deposits	3.6	2.3	4.2
Securities (current assets)	8.4	3.2	3.6
Gross lending	87.5	94.0	91.7
Loan loss provisions	0.0	0.0	0.0
Fixed assets and other assets	0.5	0.5	0.5
Total assets	100.0	100.0	100.0
Notes and short-term paper debt	0.2	0.3	0.1
Bond debt	59.1	51.0	67.8
Loans	37.0	43.0	26.3
Other liabilities	0.2	1.8	0.7
Subordinated loan capital	0.7	0.9	0.6
Equity	2.9	3.0	4.4
Total equity and liabilities	100.0	100.0	100.0
Profit/loss. Percentage of ATA (annualised)			
Net interest income	0.77	0.52	1.04
Operating expenses	0.22	0.24	0.22
Losses on loans and guarantees	0.04	0.02	0.01
Pre-tax profit	0.77	0.45	0.40
Memorandum:			
Repayment loans in NOK billions	220	187	354
Total assets in NOK billions	359	275	547
of which residential mortgage companies	359	275	530
of which commercial mortgage companies	0	0	17

1) Mortgage companies with the right to issue covered bonds in accordance with the regulation that came into force on 1 June 2007. In September 2008, the figures are for seven companies, in December 2008, for eight companies and in September 2009, for eighteen companies, of which 2 companies are covered bonds companies with mortgage loans secured on commercial property.

Source: Norges Bank

Table 9 Balance sheet structure and profit, life insurance companies[1)]

	Q3 08	Q3 09
Balance sheet. Selected assets as a percentage of total assets		
Buildings and real estate	13.0	12.2
Financial assets measured at amortised cost, of which:	29.4	31.9
Investments held until maturity	21.6	17.2
Lending and claims	6.9	13.8
Financial assets measured at fair value, of which:	50.9	51.1
Shares and units	17.3	13.6
Bonds and short-term paper	28.8	32.7
Profit/loss. Percentage of ATA (annualised)		
Premium income	15.8	10.6
Net income from financial assets	-3.7	4.9
Result from technical accounts	-2.9	0.4
Result from non- technical accounts	-0.9	0.3
Value-adjusted pre-tax results	-8.1	2.7
Memorandum:		
Buffer capital (percentage of total assets)	3.1	5.1
Total assets in NOK billions	731	774

1) 11 life insurance companies. (Netfonds Livsforsikring has been in activity since 2009 Q1 and is not included)

Source: Kredittilsynet (The Financial Supervisory Authority of Norway)

Table 10 Stress testing bank losses and profits. Projections in stress scenario (baseline scenario[1]) in brackets)

	2009		2010		2011		2012	
Macroeconomic scenario. Change from previous year, per cent								
Mainland GDP	-1¼	(-1¼)	0	(2¾)	¾	(3¼)	1½	(2¾)
Mainland GDP in previous report [2]	-2	(-1)	-1¼	(2½)	½	(3¾)	1½	(3)
CPI	2¼	(2¼)	1¾	(1¾)	3¼	(2¼)	3¾	(2½)
CPI previous report	2	(2)	1¾	(2)	1½	(2¼)	1	(2½)
Annual wage growth	4	(4)	4	(4¼)	3	(4½)	3½	(4¾)
Annual wage growth in previous report	4	(4)	3¼	(3¾)	2	(4¼)	1¾	(4¾)
Registered unemployment[3]	2¾	(2¾)	3¼	(3)	4	(2¾)	4½	(2¾)
Registered unemployment[3] in previous report	2¾	(2¾)	4	(3¼)	5¼	(2¾)	5½	(2½)
Oil price (USD per barrel)	54	(62)	40	(82)	42	(87)	50	(87)
Oil price (USD per barrel) in previous report	36	(49)	31	(57)	32	(62)	38	(62)
Bank lending rates (per cent)	4½	(4½)	4¼	(4¼)	5	(5½)	6	(6¼)
Bank lending rates (per cent) in previous report	4¼	(4½)	3	(4)	2¾	(5)	3¼	(5¾)
House prices	2½	(2¾)	¼	(8¾)	-9	(4½)	-9	(3½)
House prices in previous report	-4	(-1)	-4¼	(3)	-8¼	(4)	-11½	(5)
Credit to households	6½	(6¾)	5	(7¼)	4	(7½)	3¾	(7)
Credit to households in previous report	5¼	(6½)	4	(5¼)	2¼	(5¼)	¾	(5¼)
Credit to non-financial corporations	½	(1)	-¼	(4½)	-2	(5)	½	(5¼)
Credit to non-financial corporations in previous report	-1¾	(2¼)	-5½	(5½)	-½	(7¼)	1½	(8)
Debt-servicing capacity, non-financial corporations								
Share of debt among enterprises with a default probability above 5 per cent	11.5	(11.1)	16.0	(14.9)	18.7	(15.7)	19.6	(15.9)
Share of debt among enterprises with a default probability above 5 per cent in previous report	14.6	(14.0)	17.3	(16.0)	20.2	(17.7)	23.2	(18.3)
Bank losses and profits								
Problem loans								
Problem loans, percentage share[4], households	1.0	(1.0)	0.8	(0.7)	0.9	(0.6)	1.2	(0.6)
Problem loans, percentage share[4], households in previous report	0.9	(0.9)	0.9	(0.8)	1.0	(0.7)	1.2	(0.7)
Problem loans, percentage share[4], non-financial corporations	3.8	(3.6)	6.9	(4.0)	10.4	(4.0)	11.1	(4.0)
Problem loans, percentage share[4], non-financial corporations in previous report	7.3	(5.7)	10.9	(5.1)	13.1	(4.2)	16.2	(3.6)
Bank losses								
Bank losses, percentage of gross lending	0.7	(0.5)	1.9	(0.9)	2.5	(0.7)	2.9	(0.5)
Bank losses, percentage of gross lending, excl. higher losses to shipping and the Baltic countries	0.6	(0.5)	1.3	(0.9)	1.9	(0.7)	2.1	(0.5)
Bank losses, percentage of gross lending in previous report	2.5	(1.1)	3.0	(0.9)	3.9	(0.8)	3.7	(0.8)
Post-tax results								
Post-tax results[5]	0.5	(0.6)	-0.1	(0.5)	-0.6	(0.6)	-0.8	(0.6)
Post-tax results[5], excl. higher losses to shipping and the Baltic countries	0.6		0.0		-0.4		-0.6	
Post-tax results[5] in previous report	-0.5	(0.3)	-0.9	(0.4)	-1.3	(0.4)	-1.3	(0.3)
Net interest income								
Net interest income[5]	1.2	(1.2)	1.1	(1.2)	1.0	(1.2)	0.9	(1.2)
Net interest income[5] in previous report	1.2	(1.3)	1.0	(1.2)	1.0	(1.2)	0.9	(1.2)
Tier 1 capital adequacy								
Tier 1 capital adequacy	9.6	(9.5)	9.0	(9.7)	7.6	(9.6)	6.0	(9.5)
Tier 1 capital adequacy, excluding capital injections	8.3	(8.2)	7.8	(8.4)	6.4	(8.4)	4.8	(8.4)
Tier 1 capital adequacy in previous report	7.2	(8.1)	5.8	(7.9)	3.7	(7.8)	1.6	(7.6)
Capital adequacy								
Capital adequacy	12.5	(12.4)	11.9	(12.7)	10.5	(12.8)	8.7	(12.8)
Capital adequacy, excluding capital injections	11.2	(11.1)	10.6	(11.5)	9.3	(11.6)	7.6	(11.7)
Capital adequacy in previous report	10.5	(11.4)	9.4	(11.5)	6.3	(11.4)	3.1	(11.3)

1) Baseline scenario for CPI, annual wage growth, registered unemployment, oil price and mainland GDP are from *Monetary Policy Report* 3/2009
2) *Financial Stability*1/2009
3) As a percentage of the labour force. Baseline scenario in *Financial Stability* 1/09 is not fully comparable with baseline scenario in *Financial Stability* 2/09, as this series previously was calculated by using the same percentage change as in LFS unemployment
4) Non-performing loans and other loans that banks regard as particularly doubtful, as a share of banks' total lending
5) Percentage of average total assets

Sources: Statistics Norway, Technical Reporting Committee on Income Settlements, Thomson Reuters, Association of Real Estate Agency Firms, ECON Pöyry, Finn.no, Association of Real Estate Agents and Norges Bank

Table 11 Key figures

	Average 1987 – 1993	Average 1994 – 2007	2008	Projections 2009	2010	2011 – 2012
Households						
Debt burden[1)]	141	141	196	196	197	202
Interest burden[2)]	9.7	5.9	8.9	5.1	5.7	7.5
Borrowing rate[3)] after tax	9.1	4.9	5.3	3.1	3.0	4.1
Real interest rate after tax4[)]	4.3	2.9	1.5	0.6	0.9	1.7
Net financial wealth[5)]	8	46	26			
Unemployment (LFS)[6)]	4.7	4.0	2.6	3 ¼	3 ¾	3 ½
Rise in house prices[7)]	-1.3	10.4	-4.1			
Enterprises						
Debt burden[8)]	1 087	829	1 453			
Interest burden[9)]	44	28	56			
Return on total assets[10)]	3	5	3			
Equity-to-assets ratio[11)]	27	37	37			
Banks[12)]						
Profit/loss[13)]	-0.4	1.2	0.7	0.9		
Interest margin[14)]	5.2	3.0	2.7	2.5		
Non-performing loans[15)]		1.9	0.9	1.4		
Loan losses[16)]	2.3	0.1	0.3	0.5		
Lending growth[17)]	4.7	11.3	4.1	-8.9		
Return on equity[18)]		15.3	9.0	11.9		
Equity ratio[19)]		7.4	5.4	5.7		
Tier 1 capital ratio[20)]	6.3	9.5	8.6	9.5		

1) Loan debt as a percentage of disposable income adjusted for estimated reinvested share dividends for 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2012
2) Interest expenses after tax as a percentage of disposable income adjusted for estimated reinvested share dividends for 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2012 plus interest expenses
3) Banks' lending rates to households
4) Lending rates adjusted for inflation measured by the CPI
5) Households' total assets less total debt as a share of disposable income adjusted for estimated reinvested share dividends for 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2012
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 Pöyry and Finn.no
8) Enterprises' total debt as a percentage of profits before tax and depreciation. Limited enterprises in Norway. Exlcuding bank/insurance, public sector and extraction of oil/gas. Figures include only enterprises with debt.
9) Enterprises' total interest expenses as a percentage of profits before tax, interest expenses and depreciation. Limited enterprises in Norway. Exlusive bank/insurance, public sector and extraction of oil/gas. Figures include only enterprises with debt.
10) Enterprises' profits before tax as a percentage of total assets. Limited enterprises in Norway. Excluding bank/insurance, public sector and extraction of oil/gas.
11) Book equity as a percentage of total assets. Limited enterprises in Norway. Excluding bank/insurance, public sector and extraction of oil/gas.
12) Annual accounts and stock at year-end form the statistical basis. Figures for profit/loss, loan losses, lending growth and return on equity as of 2009 Q1 – Q3 are annualised
13) 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
14) Percentage points. Average lending rate minus average deposit rate for all banks in Norway, based on stock at year-end
15) Non-performing loans as a percentage of gross lending to households, non-financial enterprises and municipalities
16) Loan losses as a percentage of gross lending to households, non-financial enterprises and municipalities for all Norwegian banks excluding branches of foreign banks in Norway and branches of Norwegian banks abroad
17) Per cent. Annual growth in lending to the corporate and retail market from all banks in Norway
18) Net profit as a percentage of average equity for all Norwegian banks excluding 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
19) Equity as a percentage of assets for all Norwegian banks excluding branches of foreign banks in Norway
20) Regulatory Tier 1 capital to risk-weighted assets for all Norwegian banks excluding branches of foreign banks in Norway.
The average for the period 1987 – 1993 is for the years 1991 – 1993 due to lack of data

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

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