



NORGES BANK

Financial Stability

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This report is based on information in the period to 11 May 2011

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.

Financial stability is one of Norges Bank's primary objectives in the work on promoting economic stability. Norges Bank's tasks and responsibilities in this area are set out in Section 1 of the Norges Bank Act, which states that the Bank shall "*promote an efficient payment system domestically as well as vis-à-vis other countries*"; but that the Bank may also "*implement any measures customarily or ordinarily taken by a central bank*". Section 3 states that "*the Bank shall inform the ministry when, in the opinion of the Bank, there is a need for measures to be taken by others than the Bank in the field of monetary, credit or foreign exchange policy*".

Norges Bank acts as lender of last resort. The central bank shall provide extraordinary liquidity to individual institutions in the financial sector or to the banking system when liquidity demand cannot be satisfied from alternative sources. The role of lender of last resort provides an independent justification for Norges Bank's function in monitoring the financial system as a whole and its particular focus on the risk of systemic failure.

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 report is presented to the Executive Board for discussion of the main conclusions. On the basis of the analyses and the discussion, the Executive Board adopts recommendations for measures to be implemented by the authorities. The "Executive Board's assessment" is published in the report and communicated in a submission to the Ministry of Finance.

Norges Bank's *Annual Report on Payment Systems* provides a broader overview of risk and developments in the Norwegian payment system.

The Executive Board's assessment

At its meeting on 12 May, Norges Bank's Executive Board discussed the outlook for financial stability and the need for regulatory measures. The Executive Board's assessment is also communicated in a submission to the Ministry of Finance.

The outlook for financial stability

The Executive Board's assessment is that the financial system is somewhat less vulnerable than at the time of publication of the November 2010 report (see box on page 22). Banks' earnings are solid. Low loan losses contributed to strengthening earnings through 2010. Banks retained a share of profits and equity capital has increased. Almost all the banks satisfy the announced Basel III capital requirements, but capital adequacy is still lowest in the large banks. Most banks also have sufficient capital to satisfy a countercyclical buffer requirement.

Economic activity has picked up both in Norway and among trading partners. Since the November report, profitability for listed companies in Norway has increased. Companies' debt-servicing capacity has been strengthened. Continued solid growth in the Norwegian economy and low loan losses will probably contribute positively to banks' performance in 2011.

In the somewhat longer term, large residential mortgage exposures may constitute a risk factor for financial stability. Heavily indebted households are vulnerable to a decline in income or a marked increase in interest rates. In such a situation, many households will have to reduce consumption and some may encounter debt-servicing problems. Lower household demand will have a negative impact on corporate earnings, which may lead to higher losses on corporate loans in the longer term.

Norges Bank has carried out stress tests. The stress tests of banks' capital adequacy apply a scenario with renewed turbulence in money and credit markets and slower growth in the world economy, which could also lead to lower growth in Norway. The tests show that Norwegian

banks have sufficient capital to deal with an increase in loan losses as a result of weaker economic growth and a fall in house prices. If, in addition, the value of residential and commercial property shows a more pronounced fall some banks may nevertheless have to raise more capital to satisfy the capital adequacy requirements. The stress test conducted by the European Banking Authority (EBA) highlights banks' exposures to European government securities. Norwegian banks have limited holdings of such securities and are thus not directly exposed to this risk.

The two new liquidity requirements proposed under Basel III are designed as stress tests of funding structure. Many banks' holdings of liquid assets are too small and they have insufficient stable funding to satisfy the announced liquidity requirements. The largest banks still have a large share of short-term market funding and about 70% of this is in foreign currency. Although the largest Norwegian banks have had ample access to funding and have borrowed at lower interest rates than most European banks in recent months, renewed turbulence in international money and credit markets could reduce access to funding. Many banks in major EU countries need more capital and some banks have large exposures to the public and private sector in Greece, Ireland, Portugal and Spain. If market confidence in one or more of these countries' capacity to service sovereign debt evaporates, financial market turbulence may flare up again.

Recommended measures

The financial crisis revealed that banks in many countries held insufficient capital and that the funding structure was vulnerable. The Executive Board is of the view that the Basel Committee's recommendations of December 2010 will enhance the resilience of the financial system. The EU plans to present a draft directive in the course of summer on the implementation of the new recommendations in the EU. As part of the EEA Agreement, this will constitute a basis for the introduction of new minimum requirements in Norway.

The banking sector in many countries was severely affected during the financial crisis, and the Basel Committee has recommended a gradual phasing-in of the Basel III requirement from 2013 to 2019 to avoid a deleveraging process across banks in order to meet the new requirements. The Executive Board notes that the authorities in some countries have announced their intention to introduce stricter capital adequacy requirements than the Basel III minimum requirements, and that the requirements will be implemented faster than recommended by the Basel Committee. The Swedish authorities have recently announced that the requirements will be introduced earlier in Sweden.

The Executive Board notes that banks in Norway are faring well and that there are no signs of tight credit conditions. Almost all the banks already have sufficient capital to satisfy the new capital adequacy requirements. The Executive Board recommends that the new requirements be incorporated into Norwegian law as quickly as practically possible. The transition period should be shorter than recommended by the Basel Committee. Since the large Nordic banks are active in several countries, the Nordic authorities should cooperate on phasing in the new requirements.

Estimated credit risk for banks' loans is included in the calculation of banks' required level of capital. The large Norwegian banks increasingly apply their own models (IRB models) to portfolios of residential mortgage loans and corporate loans, which has lowered the risk weights of these portfolios. The risk-weighted value of the banks' assets has thus been reduced. This reduction in risk-weighted assets facilitates compliance with the capital requirements. In order to prevent a reduction in banks' equity capital in the coming years as a result of lower risk weights, the Executive Board recommends that the transitional rule from Basel I should apply until Basel III has been implemented.¹

Especially risk weights for residential mortgage loans have fallen considerably, and in an international context risk weights for residential mortgage loans in the large

Nordic banks have been very low. As a result, they need little equity capital to provide such loans. The Executive Board notes that the risk weights for residential mortgage loans in the Nordic countries for IRB banks range between 6% and 11%, while they are generally between 13% and 20% in other European countries. A lower limit on banks' risk weights for residential mortgage loans in line with the weights in other European countries could reduce banks' incentive to provide residential mortgage loans. Efforts should be made, in cooperation with the authorities in other Nordic countries, to enable the introduction of such a limit on banks' risk weights.

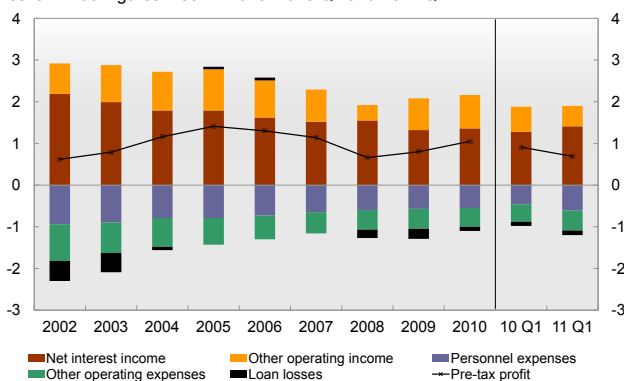
Owing to expectations that the authorities will support large and complex financial institutions if they encounter problems, these institutions can borrow at lower interest rates in the market. Consequently, large banks are able to adapt to the requirements with lower capital adequacy than smaller banks. The Executive Board notes that Finansinspektionen (the Swedish financial supervisory authority) has stated that the total minimum capital requirement for large banks is expected to be 15%-16% in the course of a few years. In Norway, the largest banks have the lowest capital adequacy. The need for more capital is highest for these banks.

If providers of capital to banks have easy access to information about individual banks' funding structure, banks will be motivated to seek a high standard. Transparency surrounding the situation of the individual bank will also contribute to reducing the uncertainty in the financial system during turbulent times. The new liquidity requirements proposed under Basel III will require banks to publish more information about their funding structure, but Norwegian banks should be directed to start publishing more detailed information about funding conditions, such as maturity structure, different types of deposits and outstanding volume of market funding in different markets and currencies. The Executive Board supports such transparency requirements. Measures should be implemented immediately.

¹ According to the transitional rule, the minimum capital requirement applying to banks in 2011 calculated under the Basel II requirements should be at least 80% of the capital calculated under the Basel I requirements. The requirement is referred to as the transitional floor. In designing regulation, the floor should be seen in connection with a lower limit for banks' risk weights for residential mortgage loans

Øystein Olsen
19 May 2011

Chart 1.1 Banks¹⁾ pre-tax profits as a percentage of average total assets. Per cent. Annual figures. 2002 – 2010. 2010 Q1 and 2011 Q1



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

1. Outlook for financial stability

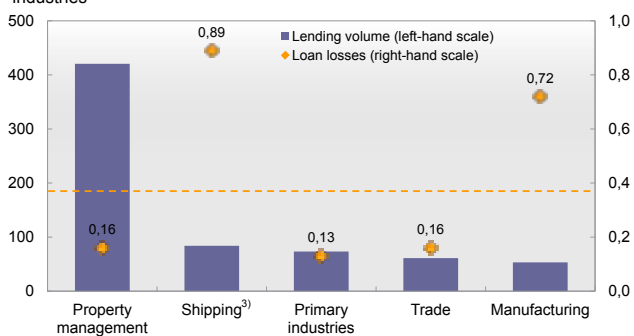
Developments in the Norwegian banking sector

Capital and earnings

Favourable bank performance in 2010 boosted Tier 1 capital ratios

Banks' earnings improved markedly from 2009 to 2010 (see Chart 1.1). Lower loan losses in particular contributed to the increase, though other profit and loss items also had a positive effect. Earnings in 2011 Q1 were considerably lower than in the corresponding quarter of 2010. Some of the decline in earnings was due to unusually low personnel expenses in 2010 Q1 owing to a non-recurring effect related to the implementation of new rules for the contractual early retirement scheme. Banks' return on equity in 2010 was somewhat higher than the average for the previous ten years. Solid earnings in 2010 have made banks more robust. Continued solid growth in the Norwegian economy will probably contribute positively to banks' performance in 2011 (see Section 2).

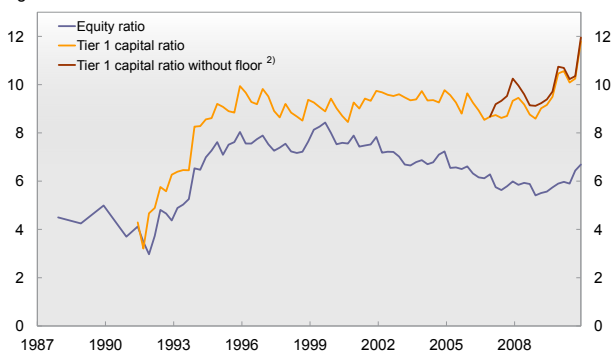
Chart 1.2 Banks¹⁾ volume of lending and loan losses to various industries in 2010.²⁾ In billions of NOK and as a percentage of lending to the respective industries



1) All banks in Norway
2) Broken line shows average loan loss in the corporate market
3) Shipping is limited to lending to Norwegian shipping companies
Source: Norges Bank

Through 2010 bank loan losses stabilised at a moderate level. For 2010 as a whole and in 2011 Q1, loan losses amounted to approximately 0.2% of gross lending to customers, half of the figure for 2009. Loan losses are expected to decline further in 2011 (see Section 2).

Chart 1.3 Banks¹⁾ Tier 1 capital ratio and equity ratio. Per cent. Quarterly figures. 1987 Q4 – 2010 Q4



1) All banks excluding branches of foreign banks in Norway. Equity ratio prior to 1990 is for all banks
2) The floor was 95% of Basel I in 2007, 90% in 2008 and 80% from 2009
Sources: Finanstilsynet (Financial Supervisory Authority of Norway) and Norges Bank

In recent years, the loss rate on loans to the corporate market has been higher than on loans to the retail market (see Table 6 in Annex 3). In 2010 the loss rate on loans to the corporate market was close to 0.4%, 0.2 percentage point lower than in 2009. Losses as a share of lending vary widely across sectors (see Chart 1.2). Banks' loan exposures are highest in the commercial property sector by a clear margin, though the loss rate on these loans was below half of the average for the corporate market as a whole in 2010. Banks are also heavily exposed to shipping

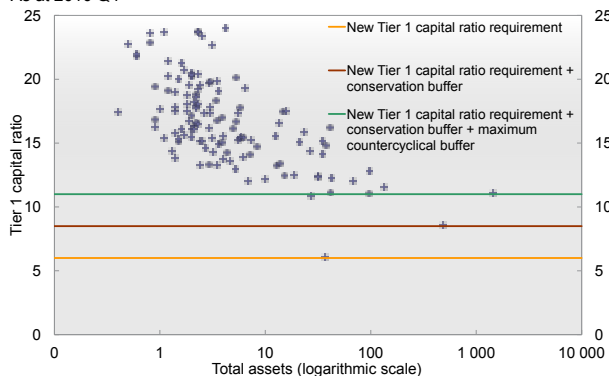
and manufacturing. The loss rate on these loans was much higher than the commercial market average in 2010. Losses on loans to manufacturing have also historically been above average, while losses on loans to shipping have often been lower than average (Table 6 in Annex 3).

Solid earnings boosted equity ratios for banks overall by 0.8 percentage point from 2009 to 2010 (see Chart 1.3). Almost 0.7 percentage point of the increase in equity ratios was the result of banks' retaining profits. The remainder of the increase was due to a decline in banks' total assets. Transfers of mortgages to mortgage companies that issue covered bonds have reduced banks' total assets and increased the average credit risk for banks' remaining loans. This pushes up the average risk weight on banks' loans, requiring banks to hold more equity for each krone lent.

At parent bank level, banks increased overall Tier 1 capital ratios from 10¼% in 2010 Q3 to 11¾% in 2010 Q4 (see Chart 1.3), though over half of the increase stems from DnB NOR Bank, which applied internal rating-based models (IRB approach) to a considerable portion of its corporate portfolio. Transfers of retained profits to Tier 1 capital at year-end account for the remainder of the increase.

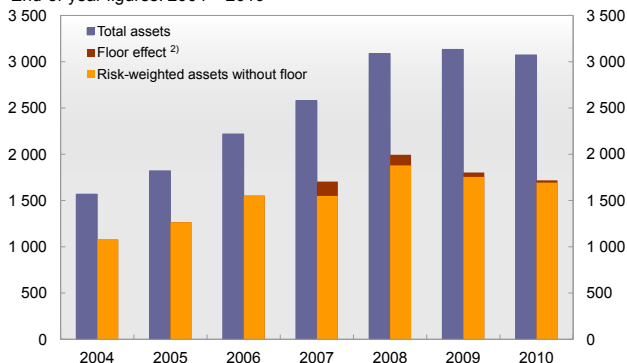
The majority of Norwegian banks increased their Tier 1 capital ratios in 2010. Most already comply with the announced Basel III capital requirements at parent bank level (see Chart 1.4). Tier 1 capital ratios at most banks are also sufficient to satisfy a countercyclical buffer requirement (see box on page 24). Despite substantial increases in Tier 1 capital at some of the largest banks in 2010, large banks continue to have the lowest Tier 1 capital ratios. The Basel Committee is considering whether to impose an additional capital requirement on large banks deemed systemically important. Large banks can adjust more quickly to higher capital requirements by retaining a higher share of profits or raising fresh equity capital in the market. In 2010 DnB NOR and the two largest savings banks¹ distributed between 44% and 50% of profits as dividend.

Chart 1.4 Banks¹⁾ Tier 1 capital ratio. Per cent. Total assets. In billions of NOK. As at 2010 Q4



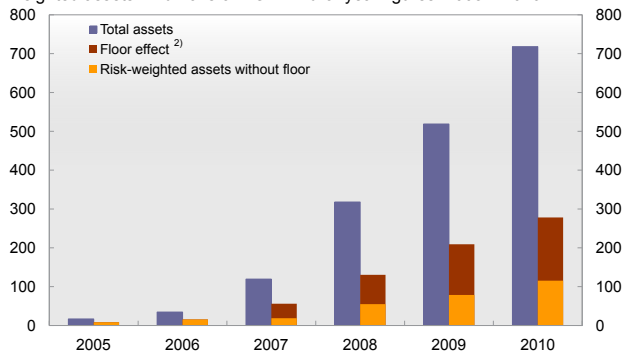
1) All banks excluding branches of foreign banks in Norway
Sources: Finanstilsynet (Financial Supervisory Authority of Norway) and Norges Bank

Chart 1.5 Banks¹⁾ total assets and risk-weighted assets. In billion of NOK. End-of-year figures. 2004 – 2010



1) All banks excluding branches of foreign banks in Norway
2) The floor was 95% of Basel I in 2007, 90% in 2008 and 80% from 2009
Sources: Finanstilsynet (Financial Supervisory Authority of Norway) and Norges Bank

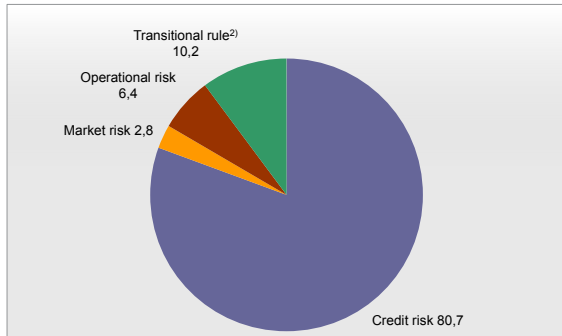
Chart 1.6 OMF covered bond mortgage companies¹⁾ total assets and risk-weighted assets. In billions of NOK. End-of-year figures. 2005 – 2010



1) All residential mortgage companies except Handelsbanken Eiendomskreditt NUF. Nordea Eiendomskreditt is only included in 2010
2) The floor was 95% of Basel I in 2007, 90% in 2008 and 80% from 2009
Sources: Finanstilsynet (Financial Supervisory Authority of Norway) and Norges Bank

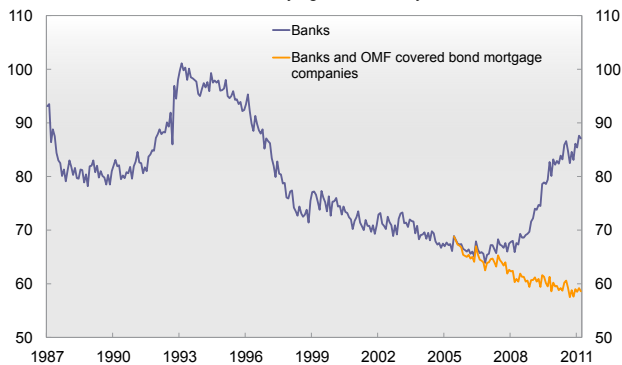
¹ SpareBank1 SR-Bank and SpareBank1 SMN are the two largest savings banks based on the market value of equity certificate capital

Chart 1.7 Capital requirements for Norwegian bank groups¹⁾ using IRB models, by area of risk. Share in per cent. As of 2010 Q4



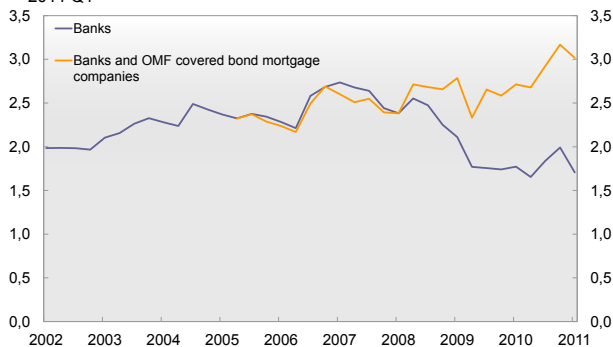
1) DnB NOR Bank, Nordea Bank Norge, SpareBank 1 SR-Bank, SpareBank 1 SMN, Sparebanken Vest, SpareBank 1 Nord-Norge and Bank 1 Oslo
 2) Requirement as IRB banks are not yet permitted to reduce capital to Basel II level
 Sources: Finanstilsynet (Financial Supervisory Authority of Norway) and Norges Bank

Chart 1.8 Banks' and OMF covered bond mortgage companies¹⁾ deposit-to-loan ratio for customers. Per cent. Monthly figures. January 1987 – March 2011



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

Chart 1.9 Banks' and OMF covered bond mortgage companies¹⁾ weighted residual maturity of gross market funding. In years. Quarterly figures. 2002 Q1 – 2011 Q1



1) All banks and covered bond mortgage companies excluding branches and subsidiaries of foreign banks in Norway. Break in series in 2009 Q2 as a result of more closely defined intervals
 Source: Norges Bank

The use of the IRB approach by the largest banks on an increasing number of lending portfolios is very important in determining how much capital they must hold for each krone lent. Changing over from the standardised to the IRB approach often results in a substantial drop in average risk weight. This reduces total risk-weighted assets and raises the Tier 1 capital ratio. In the period 2008–2010 banks' total assets remained approximately unchanged, while risk-weighted assets fell (see Chart 1.5). At the same time, transfers of the highest quality residential mortgages from banks increased banks' average credit risk.

Under the transitional rule from Basel I to Basel II to apply through 2011, the capital requirement² for IRB banks may not be lowered by more than 20% relative to what it would have been under Basel I. At parent bank level, few banks were bound by this floor at end-2010. For IRB residential mortgage companies, the floor represents a firm limit. Without the floor, their risk-weighted assets would have been reduced considerably (see Chart 1.6). As long as the transitional rule is in force, IRB residential mortgage companies must hold far more Tier 1 capital than indicated by the IRB approach. The result of the substantial floor effect on residential mortgage companies is that virtually all Norwegian IRB banks are bound by the transitional rule at corporate-group level. At end-2010 the transitional rule contributed to approximately 10% of the capital requirement for IRB banking groups (see Chart 1.7). Banking groups' consolidated Tier 1 capital ratio would have increased from 9.3% to 10.4% if they had had the full benefit of IRB weights.

Funding

Banks' liquidity coverage is still too low, and the largest banks' share of long-term market funding is substantially below the Basel Committee's proposed stable funding requirement

Banks that rely on long-term market funding and customer deposits to finance their activities are less vulnerable to funding market failure. In the course of the past 20 years, the deposit-to-loan ratios of banks and mortgage

2 The capital requirement is defined as the minimum capital adequacy requirement (8%) multiplied by risk weights for credit, market and operational risk

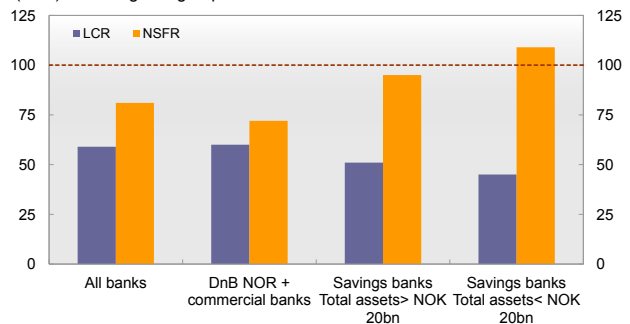
companies that issue covered bonds have fallen considerably. One reason is that lending growth has substantially outstripped deposit growth. To fund lending, banks have increased borrowing in the market. In recent years a considerable share of bank lending has been transferred to covered bond mortgage companies. This has led to an increase in banks' deposit-to-loan ratios (see Chart 1.8), while credit risk on the remaining loan portfolio has risen.

Transferring loans from banks to covered bond mortgage companies has led to longer maturities for banks' and covered bond mortgage companies' market funding (see Chart 1.9). The reason is that covered bond mortgage companies rely on long-term market funding to finance their lending. Maturities of banks' market funding are unchanged since the November 2010 report (see Chart 1.9).

In December 2010 the Basel Committee announced proposed quantitative liquidity standards for banks (Basel III). The Basel Committee is proposing to implement the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) standards in two stages, by no later than 2015 and 2018, respectively (see Chart 1.10). The LCR standard requires stress testing to determine the liquid assets sufficient to survive a 30-day period of considerable market stress featuring net outflows of customer deposits. As swap agreements expire, banks' stocks of liquid assets will fall, making it more difficult to meet the standard. The definition of what should count as liquid assets in the LCR is yet to be finalised (see box on page 31). In Q1 2011 the largest Norwegian banks' share of long-term market funding was still substantially below the Basel Committee's proposed NSFR standard (see Chart 1.10). Most small and medium-sized Norwegian banks satisfied the standard. Finanstilsynet (Financial Supervisory Authority of Norway) has directed all Norwegian banks to begin provisional reporting under the proposed standards beginning in 2011.³

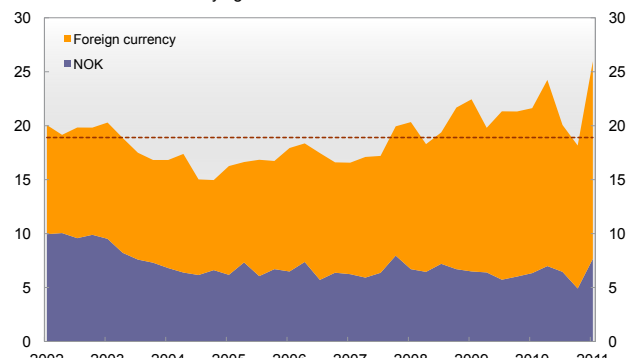
The share of short-term market funding is higher than at the time of the November report (see Chart 1.11). The increase primarily concerns sight deposits from foreign

Chart 1.10 Banks¹⁾ stable funding as a percentage of stable funding requirement (NSFR) and liquid assets as a percentage of required liquid assets (LCR).²⁾ Average for group. 2011 Q1



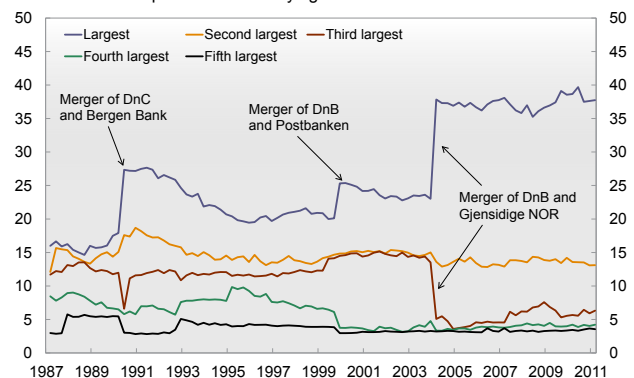
1) All banks excluding branches of foreign banks in Norway. The broken line shows the requirement under NSFR and LCR (Basel III)
2) Norges Bank's estimate
Source: Norges Bank

Chart 1.11 Banks¹⁾ gross short-term market funding as a percentage of total assets. Per cent. Quarterly figures. 2002 Q1 – 2011 Q1



1) All banks excluding branches and subsidiaries of foreign banks in Norway. The broken line shows the average for the period 2000 – 2011
Source: Norges Bank

Chart 1.12 Market shares for the five largest banks¹⁾ in Norway based on total assets. Shares in per cent. Quarterly figures. 1987 Q1 – 2011 Q1



1) All banks in Norway
Source: Norges Bank

³ See Finanstilsynet (2011): "Framtidige likviditetskrav for norske banker – innføring av rapportering" [Future liquidity standards for Norwegian banks – introduction of reporting requirements], Circular 9/2011 (In Norwegian)

financial institutions. Banks have in part eliminated the liquidity risk this represents by holding these sight deposits in foreign central banks. A considerable share of short-term market funding is in foreign currency (see Chart 1.11). Market funding in foreign currency gives banks access to more investors and enables banks to issue larger volumes. A large share of short-term market funding may pose a challenge in the event of renewed financial market turmoil.

Approximately 20% of the outstanding volume in the swap arrangement matures in September and December 2011. Large maturities on the same date make banks vulnerable to market developments on the maturity date. For that reason the Ministry of Finance has provided for early termination.⁴ This may result in a more gradual winding-up of the swap arrangement and help to smooth banks' borrowing. To date, 9% of the swap arrangement has been terminated early.

Structure

The Norwegian banking sector consists of numerous small banks as well as some large banks

Large and systemically important financial institutions may increase the vulnerability of the banking sector. A number of measures are being studied to alleviate the risk of financial difficulties at large and systemically important financial institutions and to reduce the losses to society in the event of such crises (see box on page 33). DnB NOR Bank is by far the largest bank in Norway. Since the merger between Den norske Bank (DnB) and Gjensidige NOR in 2003, its market share in terms of total assets has been between 35% and 40% (see Chart 1.12). DnB NOR Bank's market share as a proportion of total lending in Norway is around one-third (see Table 3 in Annex 3).

There are a large number of providers and strong competition for residential mortgage loans in the retail market in Norway. This makes credit provision to the retail market less vulnerable to problems in individual banks than credit provision to the corporate market. Subsidiaries

and branches of foreign banks are important providers of credit to the corporate market. As a group, these banks have a somewhat higher share of the corporate market than DnB NOR Bank.

Banks with similar characteristics may be affected in the same way by an economic shock. A banking sector consisting of a large number of banks with identical exposures to various categories of borrower may thus be vulnerable. Norwegian banks have substantial loan exposure to residential and commercial property (see Chart 1.13). However, the exposure of the largest banks in the Norwegian market to the various industries differs to a fair degree. This indicates that the Norwegian banking sector is relatively well diversified to withstand economic shocks.

Compared with the Swedish and Danish banking sectors, Norwegian banks have little loan exposure to foreign customers. However, a substantial share of this exposure is to shipping, an industry with pronounced fluctuations in profitability. DnB NOR became a wholly owned subsidiary of DnB NOR Bank in December 2010. This entailed a slight increase in Norwegian banks' exposure to foreign customers. DnB NOR still had high loan losses in 2010, but the trend is on the decline. DnB NOR has only about 5% of the DnB NOR Group's total lending, but accounted for about 60% of the group's loan losses in 2010.

It may represent a systemic risk when several banks have large exposures to a shared counterparty. At 31 March 2011 banks participating in the counterparty survey⁵ had total exposure to large financial counterparties of NOK 53bn. The largest shared financial counterparty accounted for around 8% of these exposures. Total exposure to large non-financial counterparties was NOK 63bn, with the largest shared counterparty accounting for around 9%. The exposure to this counterparty constitutes around 4% of total Tier 1 capital for the ten banks in the survey. Concentration risk related to shared counterparties across banks must therefore be regarded as relatively low as at 31 March 2011.

⁴ See Norges Bank (2011): "Offer of early termination", February. < http://www.norges-bank.no/en/price-stability/swap-arrangement/2011-swap-agreements/110228_innfrjelses-tilbud_mars_engelsk/>

⁵ The counterparty survey is conducted semi-annually by Finanstilsynet and Norges Bank. The survey includes ten of the largest Norwegian banks, which report their ten largest financial and ten largest non-financial counterparties

The share of residential mortgages on banks' balance sheets has fallen sharply as many banks have transferred most of their residential mortgages to covered bond mortgage companies. At end-2010 banks and covered bond mortgage companies had around NOK 1.650tn in residential mortgage exposure. Of these loans, 44% was held by covered bond mortgage companies. The share of residential mortgages transferred to covered bond mortgage companies varies widely among banks. Among large banks the share varies from 13% to nearly 80% (see Chart 1.14). Covered bond mortgage companies are separate legal entities that should largely be in a position to survive a crisis on their own, even if the parent bank should encounter difficulties.⁶

Tier 1 capital ratios of Norwegian banks vary substantially. The largest banks have the lowest Tier 1 capital ratios, while the numerous small banks generally have high Tier 1 capital ratios. This difference between small and large banks is also reflected in the fact that the median bank has a far higher Tier 1 capital ratio than the weighted average for all banks in the period 2004–2010 (see Chart 1.15). At end-2010 three out of four banks had a Tier 1 capital ratio above 15%, an increase of over 2 percentage points since end-2008.

External sources of risk for the banking sector

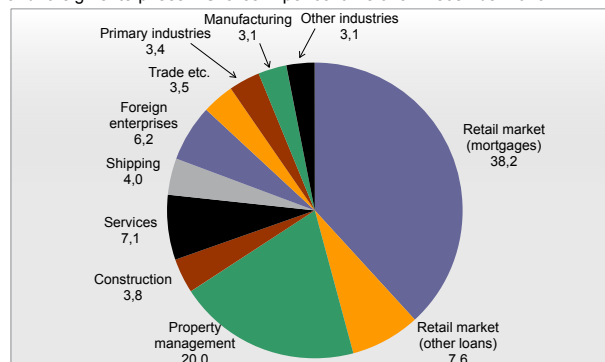
Macroeconomic conditions

Growth in economic activity is continuing, but there is risk related to high commodity prices and high government debt in a number of countries

With increased activity in Norway and among trading partners (see Chart 1.16), the outlook for financial stability is improving. Higher prices for oil and other commodities have improved the terms of trade for the Norwegian export industry, providing positive impetus to the Norwegian business sector. Unemployment is relatively low, and income growth is expected to be solid ahead.

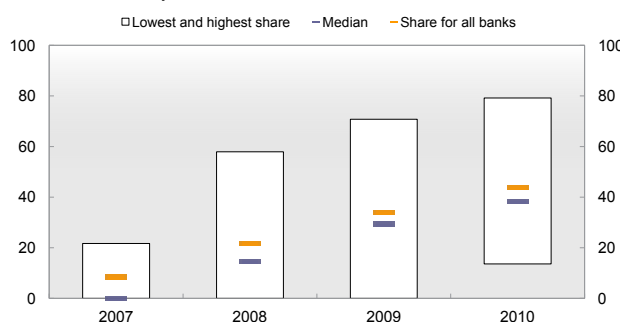
⁶ For a further description of the regulation on covered bond mortgage companies, see Bakke, Bjørn, Ketil Rakkestad and Geir Arne Dahl (2010): "Norwegian covered bonds – a rapidly growing market" *Economic Bulletin* 2010, pp. 4–19, Norges Bank

Chart 1.13 Distribution of banks¹⁾ lending to the retail market, corporate market and foreign enterprises²⁾. Shares in per cent. As of 31 December 2010



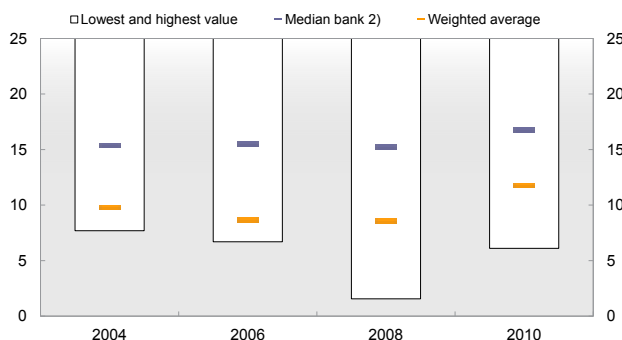
1) All banks in Norway
2) Shipping accounts for a large share of lending to foreign enterprises
Source: Norges Bank

Chart 1.14 Share of banks¹⁾ residential mortgage loans transferred to OMF covered bond mortgage companies. Spread across banks²⁾ and share for all banks. Per cent. At year-end 2007 – 2010



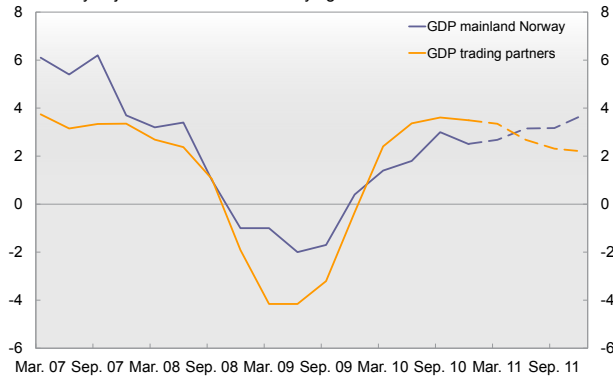
1) All banks and OMF covered bond mortgage companies in Norway
2) Banks with wholly owned or partly owned OMF covered bond mortgage companies and with total assets in excess of NOK 30bn at end-2010
Sources: Norges Bank and banks' accounting reports

Chart 1.15 Tier 1 capital ratio. Spread across banks and weighted average for all banks.¹⁾ Per cent. At year-end 2004, 2006, 2008 and 2010



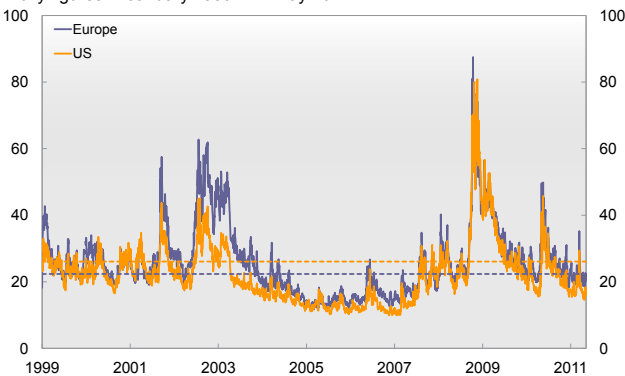
1) All banks excluding branches of foreign banks in Norway
2) The bank midway between highest and lowest when banks are arranged in order by Tier 1 capital ratio
Source: Norges Bank

Chart 1.16 GDP mainland Norway and trading partners. Four-quarter growth. Seasonally adjusted. Per cent. Quarterly figures. 2007 Q1 – 2011 Q4¹⁾



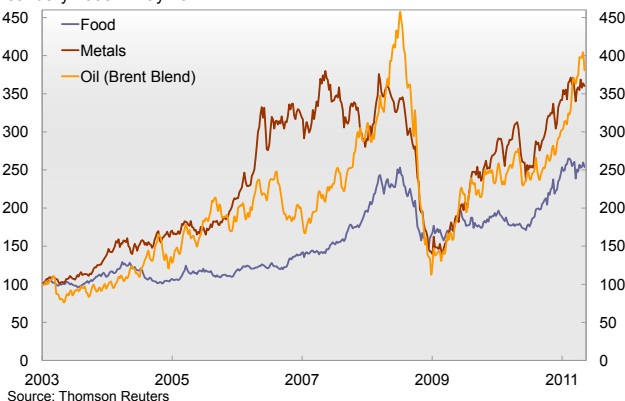
1) Projections for 2011 Q1 – 2011 Q4
Sources: Statistics Norway, OECD, Thomson Reuters and Norges Bank

Chart 1.17 Implied volatility¹⁾ derived from equity options. Per cent. Daily figures. 4 January 1999 – 11 May 2011



1) Market participants' expectations as to future fluctuations in equity prices. The broken lines show the average for the period 1999 – 2010
Source: Thomson Reuters

Chart 1.18 Commodity prices. The Economist price indices and oil price (Brent Blend). USD. Index, January 2003=100. Weekly figures. January 2003 – May 2011



Source: Thomson Reuters

Substantial imbalances persist in the global economy. Growth is unevenly distributed, with high growth in emerging economies and weak growth in many advanced economies. Emerging economies are experiencing increased capital inflows at a time when economic activity is high. This could lead to financial imbalances. In many advanced countries, the level of debt is high in the public and private sectors. The necessary deleveraging will take time and could dampen demand in these countries ahead. However, pricing of equity options suggests that equity market participants perceive the uncertainty surrounding developments ahead as moderate (see Chart 1.17). The IMF also reports that the risk associated with global financial stability has decreased since October 2010.⁷

Persistently high prices for oil and other commodities may curb growth in the global economy. As a result of vigorous demand from emerging economies and difficult supply-side conditions, commodity prices are high despite falling somewhat recently (see Chart 1.18). The unrest in North Africa and the Middle East has generated uncertainty in relation to the oil supply and contributed to higher oil prices.

Although many banks abroad have strengthened their Tier 1 capital ratios, the situation in the banking sector is still demanding in a number of countries. There is still risk associated with residential and commercial mortgage lending in the US banking sector. House prices have fallen by about 30% since the peak in 2006 and the number of unsold homes remains high. House prices are also still falling in many other countries, including Ireland and Spain. Credit standards for households continue to be tight in both the US and Europe (see Chart 1.19). A number of banks in key EU countries need additional capital, and many European banks are heavily exposed to the public and private sectors in Portugal, Ireland, Greece and Spain. If market confidence in one or several of these countries' capacity to service government debt evaporates, financial market turbulence may flare up again. General market turbulence and uncertainty as to which financial institutions will be left holding the losses can result in stress across money markets, as witnessed

⁷ See IMF (2011): *Global Financial Stability Report*, April

during the financial crisis. If banks again have to tighten lending considerably and growth in the global economy declines, Norwegian banks' loan losses will be higher (see stress test of banks' capital adequacy in Section 2).

Money and credit markets

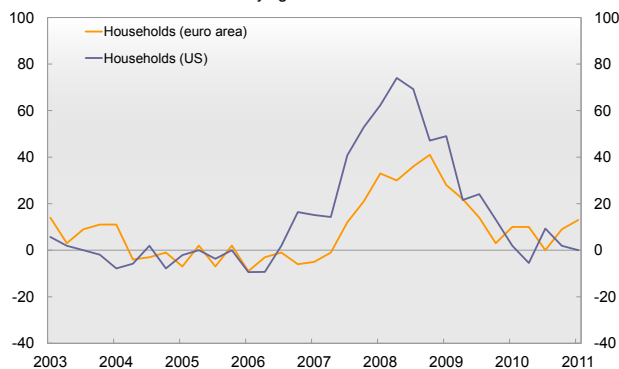
The largest Norwegian banks still have ready access to funding and are able to borrow at lower rates than many other European banks. Renewed turbulence in international money and credit markets could nonetheless quickly curtail the supply of credit

Government bond risk premiums in a number of European countries are high as a result of uncertainty as to these countries' capacity to service government debt ahead (see Chart 1.20). Higher uncertainty related to government securities could have a contagion effect on banks' funding costs. Risk premiums on European banks' bond market funding, however, have shown little change since the November report, but are still higher than the pre-turbulence levels in Europe last spring. Both credit and liquidity risk are priced into risk premiums in bond markets. Liquidity premiums in bond markets, measured as the difference between risk premiums and CDS prices, have moved down slightly since the November report. This may indicate that investors consider market liquidity to have improved somewhat.

Risk premiums for Norwegian bank and corporate bonds are broadly unchanged since the November report (see Chart 1.21). CDS prices for large Norwegian banks are considerably lower than the average for large European banks (see Chart 1.22), indicating that investors view Norwegian banks as solid in comparison with some other European banks.

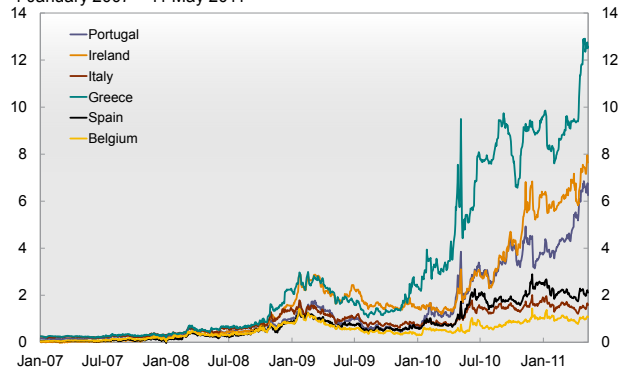
In the Norwegian money market, risk premiums are broadly unchanged since the November report (see Chart 1.23). It is less expensive for banks to obtain funding in money markets than was the case during the financial crisis. However, risk premiums are higher in Norway than in other countries, and it appears that in periods the Norwegian money market does not function well enough. This may partly reflect the limited size of the Norwegian money market. To improve interbank liquidity distribution in

Chart 1.19 Bank lending surveys in US and euro area. Percentage of banks that have tightened credit standards minus percentage of banks that have eased credit standards. Quarterly figures. 2003 Q1 – 2011 Q1



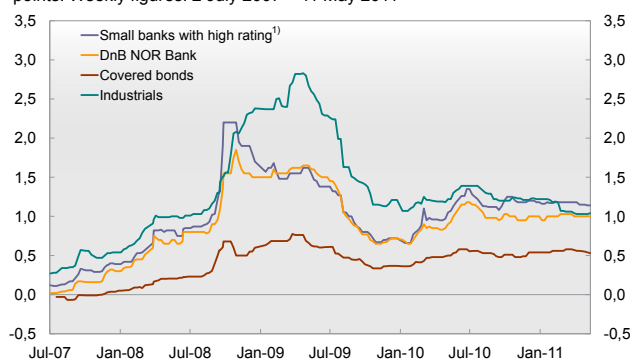
Sources: Federal Reserve and European Central Bank (ECB)

Chart 1.20 Government bond spreads. Compared with German government bonds. 10-year maturity. Percentage points. Daily figures. 1 January 2007 – 11 May 2011



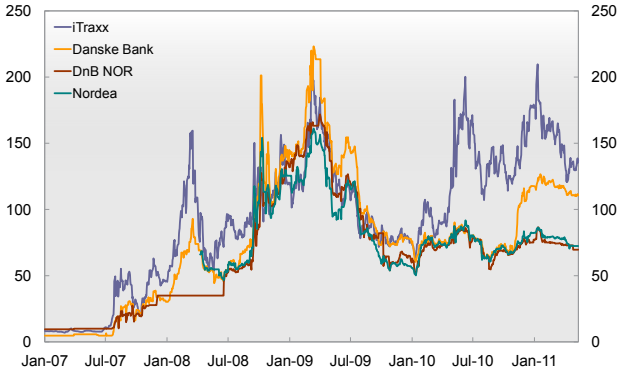
Source: Thomson Reuters

Chart 1.21 Indicative risk premiums on 5-year Norwegian corporate bonds, bank bonds and covered bonds. Spreads against swap rates. Percentage points. Weekly figures. 2 July 2007 – 11 May 2011



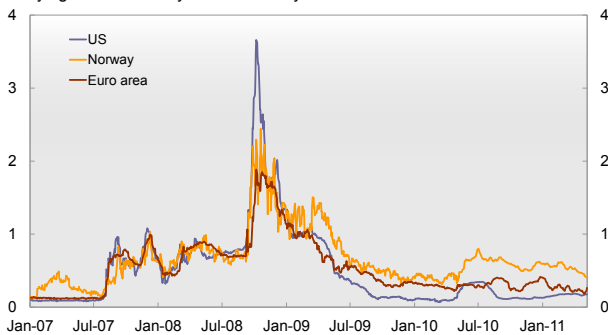
1) Banks with total assets between NOK 5bn and 15bn and rated A by DnB NOR Markets
Source: DnB NOR Markets

Chart 1.22 CDS prices. iTraxx Senior Financials¹⁾ and Nordic banks. Basis points. Daily figures. 1 January 2007 – 11 May 2011



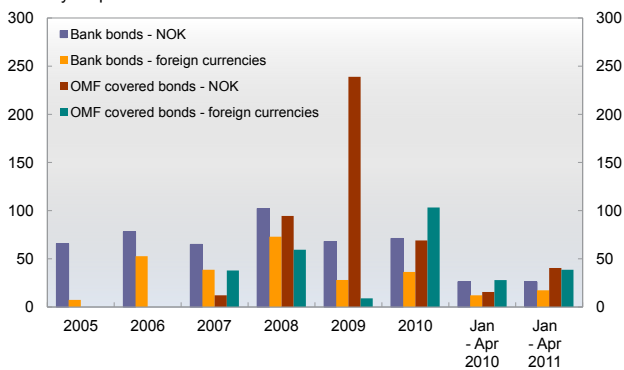
1) iTraxx Senior Financials comprises 25 large European financial institutions
Source: Bloomberg

Chart 1.23 Spread between 3-month money market rate and market expectations as to the key rate.¹⁾ Percentage points. 5-day moving average. Daily figures. 5 January 2007 – 11 May 2011



1) Expected key rates are derived from Overnight Indexed Swaps (OIS). OIS for Norway estimated by Norges Bank
Sources: Bloomberg, Thomson Reuters and Norges Bank

Chart 1.24 Bonds and OMF covered bonds issued by Norwegian banks and mortgage companies. In billions of NOK. Annual figures. 2005 – 2010. January – April 2011



Sources: Stamdata and Bloomberg

Norway, Norges Bank plans to introduce a system from 3 October 2011 whereby only a certain quota of banks' deposits at Norges Bank will bear interest at the key rate. Deposits in excess of the quota will bear interest at a lower rate.

Norwegian banks and mortgage companies have so far in 2011 issued a somewhat larger volume of senior bank bonds and OMF covered bonds than in the corresponding period in 2010 (see Chart 1.24). Over half of the total volume issued is in foreign currency. Ample access to long-term funding enables banks to reduce liquidity risk.

A number of factors may contribute to a rise in risk premiums on senior bank bonds ahead. When banks transfer a substantial portion of their residential mortgage loans to mortgage companies that issue covered bonds, the remaining security for senior bank bonds will be weaker, resulting in higher risk premiums. In addition, the EU Commission has proposed that bondholders should take losses in connection with bank bailouts. This would lead to a rise in risk premiums on bonds ahead, both abroad and in Norway.

Households

With high debt burdens and elevated house prices, vulnerability in the household sector is high

Household debt growth has been stable since the November report, but debt is rising at a faster pace than disposable income. The debt burden therefore edged up in 2010, after levelling off in 2009 (see Chart 1.25). The rise in house prices is contributing to a continued rise in the debt burden ahead. A higher debt burden renders households vulnerable to a loss of income or a marked increase in interest rates. Many households might then have to reduce consumption and some households will encounter debt-servicing problems. Lower household demand will have a negative impact on corporate earnings, which in the longer term can lead to higher losses on loans to enterprises.

The share of households with very high debt burdens continues to rise (see Chart 1.26).⁸ This increases credit risk associated with loans to households. In 2008 about 12% of households had a debt burden of more than 500%, with the largest share in the youngest age groups (see Chart 1.27).

Since the late 1990s, debt growth has been somewhat higher for older households than for younger, resulting in a somewhat more even distribution of debt across age groups. Younger households still hold the largest share of total household debt and debt makes up a far larger share of the value of the dwelling than for older households.⁹

To restrict the volume of mortgage loans with high debt-to-income and loan-to-value ratios, Finanstilsynet (Financial Supervisory Authority of Norway) issued new guidelines for prudent residential mortgage lending in March 2010.¹⁰ Finanstilsynet's residential mortgage loan survey for 2010 indicates that banks still provide many mortgage loans with a loan-to-value (LTV) ratio of more than 90%, even though the share of these loans was reduced between 2008 and 2010. Furthermore, the volume of additional collateral for mortgage loans with high LTV ratios has increased. Norges Bank's surveys of bank lending for the past few quarters suggest that some banks have had to adjust credit standards in connection with Finanstilsynet's guidelines. At the same time, there are signs that competition for mortgage borrowers is increasing. In Norges Bank's surveys of bank lending for 2010 Q3 and Q4, some banks reported that market share objectives had become more important for credit standards.

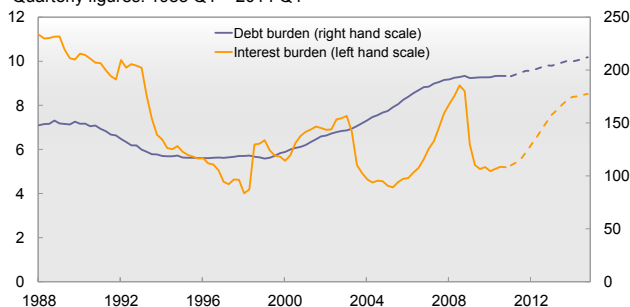
Finanstilsynet's residential mortgage loan survey also showed that average loan maturities increased in 2010. The volume of interest-only mortgage loans has also increased somewhat in recent years. The option of interest-only periods and extended repayment periods can provide more flexibility for households when finances are tight. It may therefore be to their advantage to avoid using up

8 If a bank applies the debt-to-income ratio as a loan approval criterion, the mortgage loan should normally not exceed three times the household's total gross income (see Finanstilsynet's guidelines below). This is equivalent to a debt burden, i.e. debt relative to disposable income, of about 500%

9 See Haakon Solheim and Bjørn Helge Vatne: Distribution of household debt burden across age groups. *Economic Commentaries* 2/2011

10 See: http://www.finanstilsynet.no/Global/Venstretemeny/Rundskriv_vedlegg/2010/1_kvartal/Rundskriv_11_2010.pdf (in Norwegian only)

Chart 1.25 Household debt burden¹⁾ and interest burden²⁾. Per cent. Quarterly figures. 1988 Q1 – 2014 Q4³⁾



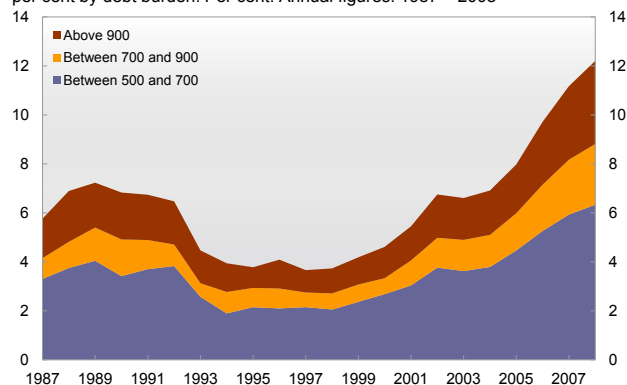
1) Debt as a percentage of disposable income adjusted for estimated reinvested share dividend for 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2014

2) Interest expenses after tax as a percentage of disposable income adjusted for estimated reinvested share dividends 2000 – 2005 and redemption/reduction of equity capital for 2006 – 2014 plus interest expenses

3) Projections for 2011 Q1 – 2014 Q4

Sources: Statistics Norway and Norges Bank

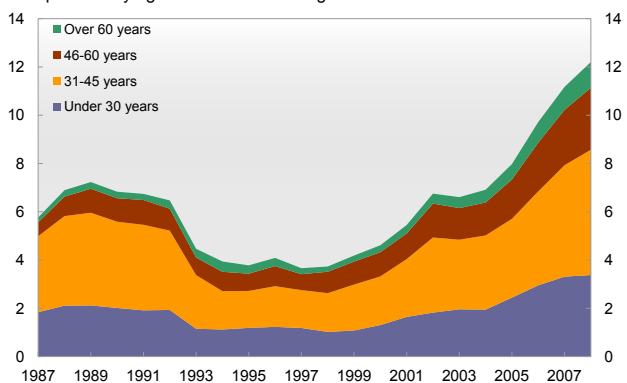
Chart 1.26 Share of private households¹⁾ with debt burden of more than 500 per cent by debt burden. Per cent. Annual figures. 1987 – 2008



1) Excluding self-employed

Sources: Statistics Norway and Norges Bank

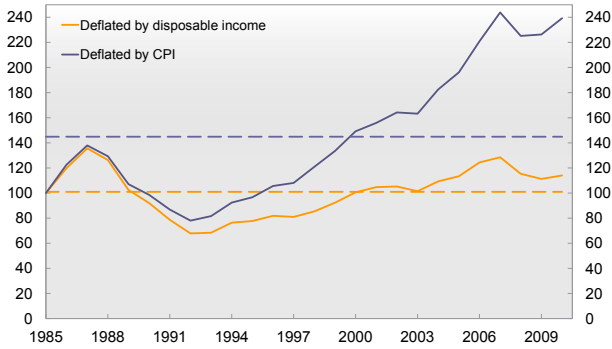
Chart 1.27 Share of private households¹⁾ with debt burden of more than 500 per cent by age. Per cent. Annual figures. 1987 – 2008



1) Excluding self-employed

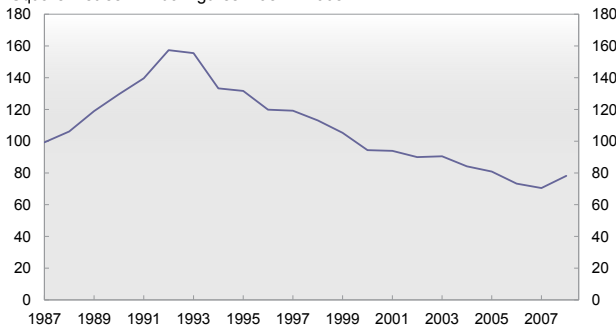
Sources: Statistics Norway and Norges Bank

Chart 1.28 House prices deflated by disposable income and the CPI. Indices. 1985 = 100. Annual figures. 1985 – 2010¹⁾



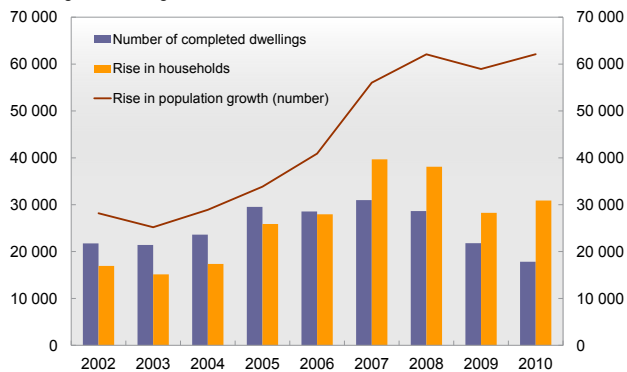
1) Broken lines show the average for the period 1985 – 2010
Sources: Association of Norwegian Real Estate agents, Association of Real Estate Agency Firms, Finn.no, Econ Pöyry, Statistics Norway and Norges Bank

Chart 1.29 Dwelling in square metres a private middle-income household¹⁾ can purchase given that loans are restricted to three times gross income. Square metres. Annual figures. 1987 – 2008²⁾



1) Households where the main income earner is between 25 and 65 years
2) Price per square metre was NOK 23 232 in 2008
Sources: Association of Norwegian Real Estate agents, ECON Pöyry, Finn.no, Association of Real Estate Agency Firms, Statistics Norway and Norges Bank

Chart 1.30 Population growth, rise in number of households and completed dwellings. Annual figures. 2002 – 2010¹⁾



1) Estimated rise in number of households 2002 – 2004
Source: Statistics Norway

this room for manoeuvre when times are good and interest rates low.

With the current low interest rates, the household interest burden is low. Household debt-servicing capacity is therefore strong in the short term, although based on the forecasts in the March 2011 *Monetary Policy Report*, the interest burden could move towards the 2008 level over the years ahead (Chart 1.25).

About 80% of household debt is secured on dwellings. Developments in house prices are therefore very important for household debt growth and banks' collateral security. A higher level of housing wealth could in addition stimulate consumption.

The rise in house prices has been high over the past half-year, although house prices edged down in April. Adjusted for the rise in the consumer price index, house prices have reached a very high level (see Chart 1.28). In April 2011, real house prices were higher than the summer 2007 peak. In relation to disposable income, house prices are somewhat lower, although still well above the average for the period 1985–2010.

The relationship between house prices and income is important for households entering the housing market. House prices have been rising faster than income for a long period. Assuming that residential mortgage loans are restricted to three times gross income, a middle-income household¹¹ would have to limit its purchase to a dwelling of about 80 square metres (see Chart 1.29). The analysis is based on average house prices and income tax returns for 2008. Since both house prices and income vary across geographical areas, household options will also vary.

Solid growth in disposable income, low borrowing rates and positive expectations concerning economic developments have contributed to the rise in house prices. Solid growth in disposable income is expected to continue ahead. However, after a period, higher borrowing rates could have a dampening impact on the rise in house prices.

11 Middle income is defined here as the income of the median household. Households are listed according to gross income and the median household is defined as the household midway between the highest and lowest income

Supply-side conditions in the housing market may have contributed to housing market pressures. The number of resale homes on the market continued to fall through 2010. Residential construction has been at a low level, but has picked up recently. At the same time, population growth is high. In recent years, the number of dwellings completed has been lower than the increase in the number of households (see Chart 1.30). Continued high population growth and higher house prices suggest a further pickup in housing starts ahead. An increase in the housing supply may curb the rise in house prices.

Enterprises¹²

Higher profitability in the corporate sector

Profitability among listed companies has continued to increase since the November report (see Chart 1.31). Higher operating revenues in particular have contributed to the increase. Growth in domestic corporate debt in the same period increased somewhat from a level that is still low (see Chart 1.32). Norges Bank's surveys of bank lending for 2010 Q4 and 2011 Q1 indicate that corporate credit demand is increasing.

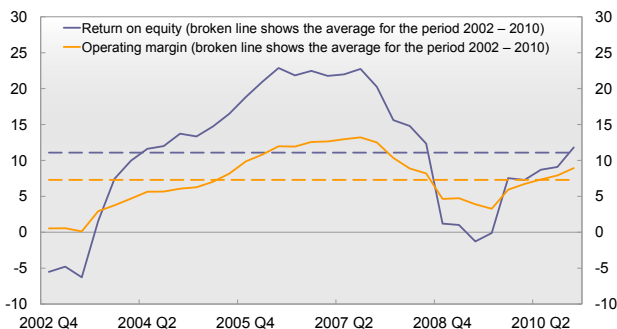
Higher profitability and moderate debt growth have improved enterprises' debt-servicing capacity and reduced credit risk for banks' corporate loans (see Chart 1.33).

Equity capital ratios for listed companies rose in the second half of 2010 and are somewhat higher than the average for the past nine years. Higher equity capital ratios make companies less vulnerable to periods of negative profits and reduce banks' potential loss given default.

Norwegian banks have large loan exposures to commercial property and shipping (see Chart 1.13). Developments in profitability and collateral values in these industries are therefore very important for banks.

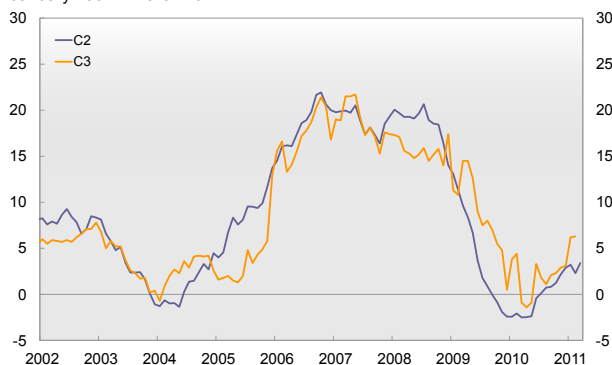
Freight rates¹³ in the shipping sector are at about the same level as at the time of the November report. At the peak in 2008, freight rates were more than three times higher than current levels. The decrease is largely due to surplus

Chart 1.31 Key ratios for enterprises listed on Oslo Børs.¹⁾ Per cent. Quarterly figures. 2002 Q4 – 2010 Q4



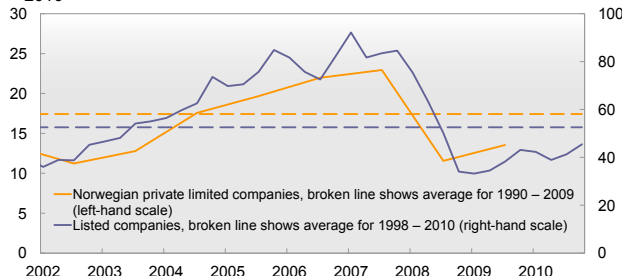
1) Sample consisting of 139 listed non-financial corporations as of 2010 Q4. Statoil is not included in the sample. Each observation is estimated based on a moving sum for the preceding four quarters. Sources: Statistics Norway and Norges Bank

Chart 1.32 12-month growth in domestic credit (C2) and total debt (C3) to non-financial corporations. Mainland Norway. Per cent. Monthly figures. January 2002 – March 2011



Source: Statistics Norway

Chart 1.33 Debt-servicing capacity¹⁾ for Norwegian private limited companies and the most liquid companies on Oslo Børs.²⁾ Per cent. Quarterly figures for listed companies, annual figures for Norwegian private limited companies. 2002 – 2010

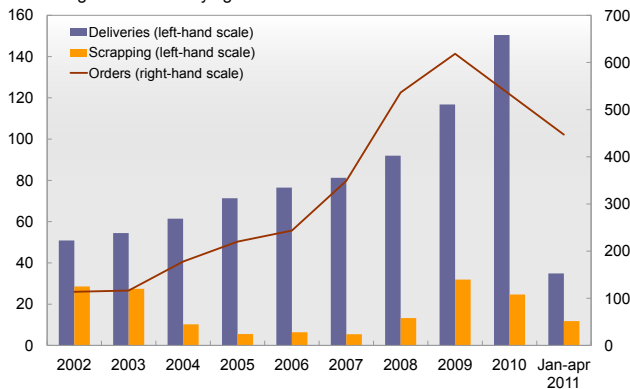


1) Calculated as profit before tax, write-offs and write-downs as a percentage of interest-bearing debt for Norwegian private limited companies and as operating profit before write-offs and write-downs over the previous four quarters as a percentage of interest-bearing debt for listed companies. 2) Public administration and oil and gas production are not included in sample of Norwegian limited companies. Financial companies and Statoil are not included in sample of most liquid listed companies. Source: Norges Bank

12 Non-financial corporations

13 Weighted average for earnings in the tanker, dry bulk, container and gas segments

Chart 1.34 Global deliveries, orders and scrapping of ships. In millions of deadweight tons. Monthly figures. 2002 – 2011

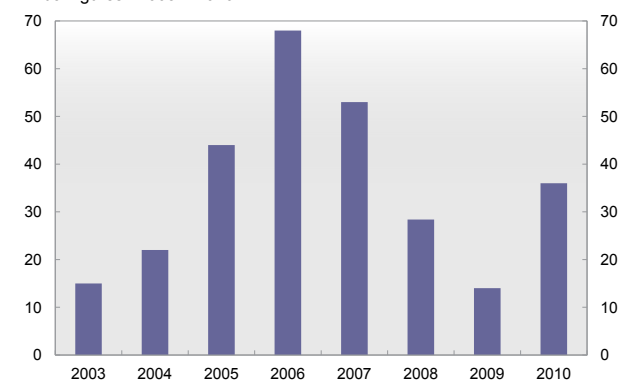


Source: Clarkson Research Service Ltd

vessel capacity as a result of a large number of newbuildings (see Chart 1.34). Order books for new vessels have, however, been reduced somewhat by cancellations. Surplus capacity is a long-term structural problem, but developments in shipping are also closely linked to the global economic conditions. In 2010, stronger economic growth contributed to somewhat more positive developments in some segments than expected by market analysts.

Persistently low freight rates pose a risk for several shipping companies of weaker profitability and reduced collateral values. This may lead to bank losses ahead. Historically, Norwegian banks' losses on loans to the shipping industry have been low.

Chart 1.35 Sales of commercial property in Norway.¹⁾ In billions of NOK. Annual figures. 2003 – 2010

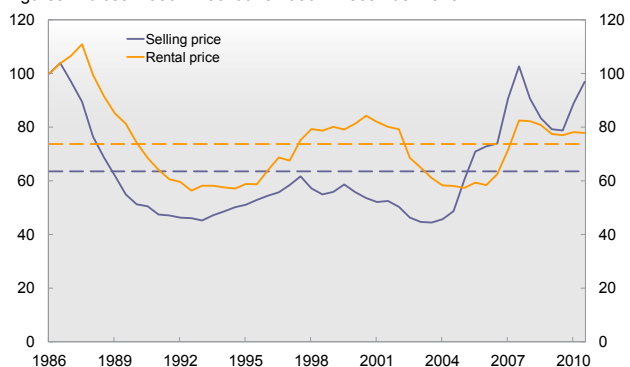


1) Transactions over NOK 50m
Sources: UNION Gruppen and DnB NOR Næringsmegling

Commercial property sales have more than doubled from 2009 to 2010 (see Chart 1.35). The level in 2009 was, however, low compared with recent years. As a result of the financial crisis, sales of commercial property from autumn 2008 primarily comprised properties with long-term, secure rental income from financially reliable tenants. Towards the end of 2010, a far larger number of properties with more standard rental periods (5 years or less) were sold, indicating that the market is returning to normal.

Property companies' activities mainly comprise renting, purchasing and selling property. In the Oslo region, an important segment of the commercial property market, selling prices for office premises rose considerably through 2010 (see Chart 1.36). Rental prices remained virtually unchanged. The level of vacancy has fallen since the beginning of 2010, but in 2012 and 2013 a substantial volume of new office premises will be completed. If demand for office premises does not keep pace, this may have a dampening effect on prices.

Chart 1.36 Real rental and selling prices for office premises.¹⁾ Semi-annual figures. Indices. 1986 = 100. June 1986 – December 2010



1) High-standard offices centrally located in Oslo. Broken lines shows the average over the period 1986 – 2010
Sources: Statistics Norway, OPAK and Norges Bank

According to market participants, developments in selling prices are driven by factors such as increased risk appetite and somewhat easier access to financing. From a historical perspective, current selling prices are high. If the current price level is based on unrealistic expectations with regard to future interest rate levels and prices, the situation may be fragile. A fall in prices in the commercial property market could weaken profitability and debt-servicing capacity among property companies.

Box 1.1 A system of analysis for assessing financial stability

Norges Bank's analyses of financial stability provide an assessment of the resilience of the financial system to potential shocks. The analyses can be divided into two dimensions. The resilience of the financial system is assessed by examining types of vulnerability in the banking sector. In addition, risk factors are analysed to assess the probability of shocks to the economy. The outlook for financial stability will be positive if both vulnerability in the system is low and the probability of shocks is small.

Norges Bank has developed a system of analysis that quantifies and integrates the assessments of financial stability. The assessment of financial stability is a summary of the four sources of risk and three sources of vulnerability (see cobweb diagram in Chart 1). The upper part of the cobweb model represents an assessment of vulnerability in the banking sector. The lower part represents an analysis of economic conditions that may constitute risk factors for the banking sector.

Developments since *Financial Stability 2/10*

The system of analysis shows that the outlook for financial stability has improved somewhat since the November 2010 *Financial Stability* report (see Chart 1). Vulnerability related to bank funding is still some-

what elevated and is unchanged since the November report. This is partly because banks' share of short-term market funding is still too high.

Vulnerability related to the structure of the banking sector is unchanged since the November report. The large market share held by DnB NOR increases the vulnerability of the structure, while a relatively broad diversification of banks' lending portfolios and funding structure has the opposite effect.

Banks' profits improved through 2010 and were used to some extent to strengthen capital adequacy. This has reduced banks' vulnerability related to capital and earnings.

The risk of shocks to the economy has declined somewhat since the November report. Economic activity has picked up both in Norway and among trading partners. Higher prices for oil and other commodities have improved the terms of trade for Norwegian exporters and provided positive growth impetus to the Norwegian business sector.

Increased profitability has improved enterprises' debt-servicing capacity, reducing risk in the corporate sector.

Risk in money and credit markets is approximately unchanged since the

November report. Adequate liquidity in the market for bonds issued by financial institutions reduces risk in money and credit markets, although risk premiums on European bank bonds are still high.

Risk in the household sector is unchanged since the November report. A higher debt burden and elevated house prices push up risk in this sector, while a high level of saving has the opposite effect.

Description of system of analysis

The system of analysis is based on a methodology for analysing financial stability similar to that applied by the IMF in their *Global Financial Stability Report*.¹ Like the IMF, Norges Bank quantifies the sources of risk and vulnerability based on a set of indicators (see Table 1 in Annex 3).

In order to capture changes in sources of vulnerability and risk, various technical transformations are used when calculating indicator values. Data series showing a clear seasonal pattern are seasonally adjusted. For other indicators, a data series may contain a trend and adjustments are made by calculating the deviation between each observation and the trend in the data series.

Each indicator value is assigned on a scale of 0 to 10 based on the

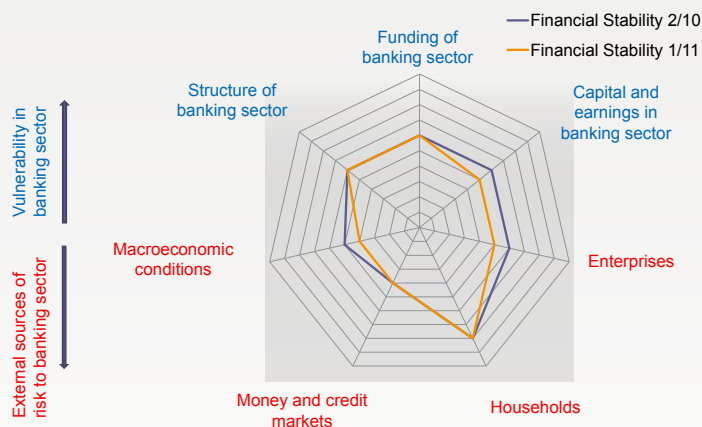
distribution of earlier observations. The values for each indicator are weighted together using equal weights to produce a score for each source of risk and each source of vulnerability. Historical observations are not always suitable for ranking risks and vulnerabilities. If the time

series of an indicator is short, extreme observations may have an excessive bearing. In other cases, even long time series can be unsuitable if structural changes occur or new regulations are introduced. The outer limits of the interval are adjusted in cases where historical

observations are not suitable for ranking risks and vulnerabilities (see Table 1 in Annex 3).

1 The Reserve Bank of New Zealand uses a similar system of analysis in its analyses of financial stability

Chart 1 Vulnerabilities in the Norwegian banking sector and external sources of risk to the banking sector¹⁾



1) A value of 0, ie. origo, denotes the lowest level of risk or vulnerability. A value of 10 denotes the highest level of risk or vulnerability. Source: Norges Bank

Box 1.2 Countercyclical buffer requirement

Under the Basel Committee proposal for a new regulatory framework for the banking sector, Basel III, an additional capital requirement may be imposed on banks if systemic risk in the economy increases, for example as a result of high asset prices or a high credit volume.¹ This requirement, referred to as the countercyclical buffer requirement, will apply to all banks, as systemic risk can also affect banks that have not themselves experienced very high lending growth.

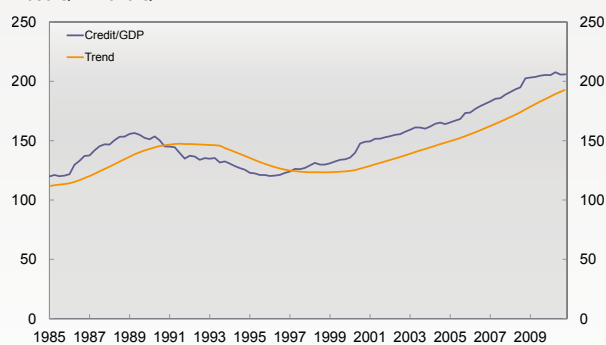
The Basel Committee has proposed that the countercyclical buffer be imposed when, for example, the credit-to-GDP ratio is clearly above that implied by a long-term trend. The size of the buffer can be adjusted in relation to the size of this gap. The decision whether or not to impose the requirement will depend on a broader analysis that also includes other indicators.

Credit to the private and municipal sector in Norway has grown approx-

imately in pace with GDP over the past two years (see Chart 1). However, the credit-to-GDP ratio is still higher than the long-term trend. Under the new framework, there would have been a need for a maximum countercyclical buffer (see Chart 2).

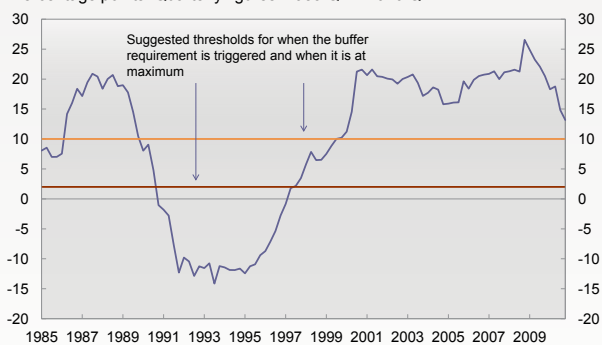
¹ For more details, see the box "Discretionary countercyclical measures" in Norges Bank (2010): *Financial Stability 2/2010*

Chart 1 Credit/GDP in Norway.¹⁾ Level and trend²⁾. Per cent. Quarterly data. 1985 Q1 – 2010 Q4



1) Total credit (C3) for mainland Norway and GDP for mainland Norway as of 1993 Q4
2) Calculated using a one-sided Hodrick-Prescott filter with lambda equal to 400 000
Sources: Statistics Norway, International Monetary Fund and Norges Bank

Chart 2 Credit/GDP in Norway.¹⁾ Measured as gap relative to trend²⁾. Percentage points. Quarterly figures. 1985 Q1 – 2010 Q4



1) Total credit (C3) for mainland Norway and GDP for mainland Norway as of 1993 Q4
2) Calculated using a one-sided Hodrick-Prescott filter with lambda equal to 400 000
Sources: Statistics Norway, International Monetary Fund and Norges Bank

2. Stress-testing banks' capital adequacy

Norges Bank conducts semi-annual stress tests of banks' capital adequacy. The tests in this report apply a scenario with renewed turbulence in money and credit markets and slower growth in the world economy. This also results in lower growth in the Norwegian economy. The tests show that Norwegian banks have sufficient capital to be able to deal with an increase in loan losses as a result of weaker economic growth and a fall in house prices. If the value of residential and commercial property shows a more pronounced fall, however, some banks may have to raise more capital to satisfy the capital adequacy requirements.

Norges Bank carries out macro stress tests of banks' capital adequacy using a set of models, including a model for the Norwegian economy, and detailed accounting figures for Norwegian banks¹. The purpose of the stress tests is to test the impact on banks' capital adequacy of different macroeconomic assumptions. The time horizon of the stress tests is three to four years and the focus is on banks' risk of losses on assets, particularly on loans to customers. Loan losses have traditionally been the main factor behind bank insolvency. However, during the financial crisis in 2008–2009 the main problem in Norway was banks' funding structure. The two new liquidity requirements proposed under the Basel III framework are designed as a stress test of funding structure. The requirements are further discussed in Section 1.

The European Banking Authority (EBA) is carrying out a stress test of European banks, including DnB NOR, in

spring 2011. In the EBA's stress test, banks project their own accounts based on an alternative stress scenario designed by the European Central Bank (ECB) and national authorities. The time horizon of the test is two years. The baseline and stress scenarios that banks are to apply in the test were published in March and the results will be published in June. In autumn 2010, Finanstilsynet (Financial Supervisory Authority of Norway), in collaboration with Norges Bank, conducted a similar exercise for seven Norwegian banks. This test is presented in the *Risk Outlook Report* for 2011². Unlike the EBA, Finanstilsynet has not yet published results for individual banks.

Stress scenarios and baseline scenario

The baseline scenario in this report is based on the projections in the March *Monetary Policy Report* (1/11). The alternative stress scenarios are based on the following risk factors:

- lower economic activity internationally
- market confidence in some European countries' capacity to service government debt evaporates
- renewed turbulence in international money and credit markets
- persistently high commodity prices and rising inflation
- high household debt level in Norway

The analysis covers the period 2011 to 2014. Two stress scenarios are applied. In stress scenario 1, the decline in activity is somewhat less pronounced than in the years 2008–2010 and during the banking crisis of 1988–1993. However, given the weak developments during the recent financial crisis, and as a deviation from the baseline scenario, the reduction in the level of activity is substantial.

¹ For a further description of the model apparatus used in stress testing banks, see Andersen, Henrik, Tor O. Berge, Eivind Bernhardsen, Kjersti-Gro Lindquist and Bjørn Helge Vatne (2008): "A suite-of-models approach to stress-testing financial stability". *Staff Memo*, 2/2008, Norges Bank. See also Andersen, Henrik and Tor O. Berge (2008): "Stress testing of banks' profit and capital adequacy". *Economic Bulletin* 2/2008, Norges Bank, pp. 47–57

² Finanstilsynet (2011): *Finansielt Utsyn* (in Norwegian only). In a forthcoming article on stress tests in *Economic Bulletin* 2011, Norges Bank presents a comparison of the results of this test and Norges Bank's stress test in *Financial Stability* 2/10

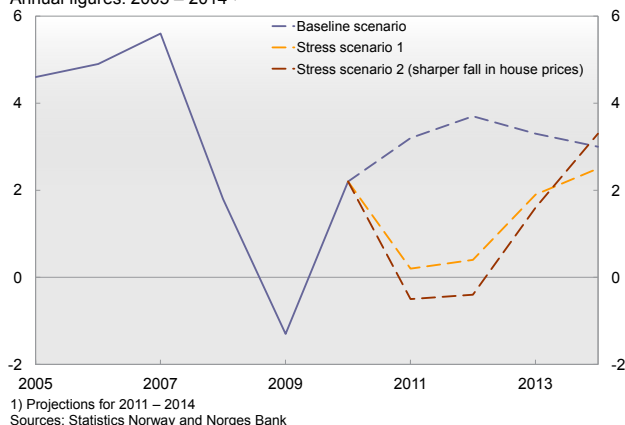
Stress scenario 2 describes a deeper downturn and builds on the assumption of a fall in house prices approximately on a scale with that in the US between 2006 and 2010. In this scenario, the fall in house prices is comparable to the overall decline in house prices in Norway in the period 1989–1992.

Both stress scenarios build on the assumption that the turmoil linked to government finances in some European countries spreads to the rest of Europe via exposures in the European financial sector. Equity prices fall sharply and risk aversion increases. European banks are faced with both funding problems and high loan losses. In turn, credit provision in the banking sector is again tightened.³

General market turbulence and uncertainty as to which financial institutions will be left holding the losses can result in stress across money markets, as witnessed during the financial crisis. In the stress scenarios, premiums in international money markets increase by about 125 basis points. The turmoil has a contagion effect into the Norwegian money market, where the premiums increase by about 100 basis points. This is in line with the assumptions in the stress tests in the November report and is also the assumption applied in the EBA's stress tests. A fall in the oil supply is assumed to push up oil prices to about USD 140 per barrel, pulling global growth down further. In the stress scenarios, growth among our trading partners is reduced by about 7½ percentage points in relation to the baseline scenario for the period 2011–2014. At the same time, higher oil prices result in an appreciation of the krone. In conjunction with the global downturn, internationally exposed industries in Norway are adversely impacted in spite of high oil prices.

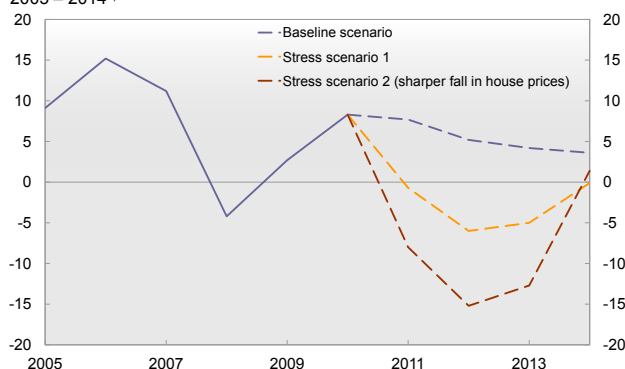
In the stress scenarios, growth in the Norwegian economy is markedly weaker than in the baseline scenario (see Chart 2.1). Unemployment rises and household income growth is dampened. Households become pessimistic and house prices fall. The decline in house prices reduces housing wealth. In stress scenario 1, house prices decline in nominal terms by around 15% from today's level (see

Chart 2.1 Mainland GDP. Annual volume change. Per cent. Annual figures. 2005 – 2014¹⁾



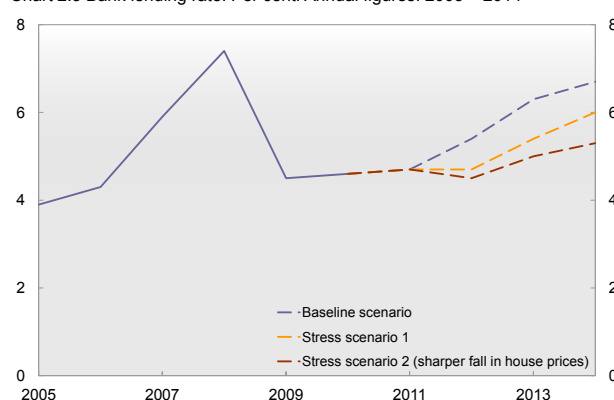
1) Projections for 2011 – 2014
Sources: Statistics Norway and Norges Bank

Chart 2.2 House prices. Year-on-year rise. Per cent. Annual figures. 2005 – 2014¹⁾



1) Projections for 2011 – 2014
Sources: Association of Norwegian Real Estate Agents, ECON Pöyry, Finn.no, Association of Real Estate Agency Firms and Norges Bank

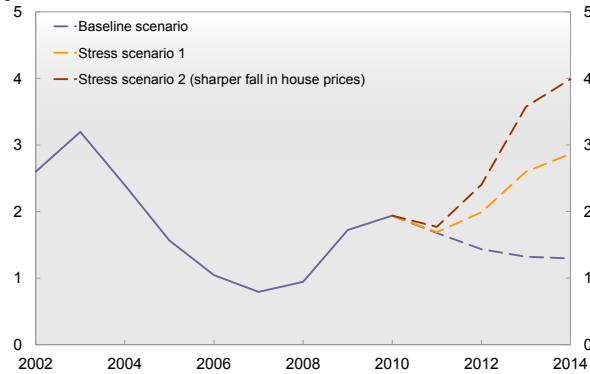
Chart 2.3 Bank lending rate. Per cent. Annual figures. 2005 – 2014¹⁾



1) Projections for 2011 – 2014
Sources: Statistics Norway and Norges Bank

³ The stress alternative for the world economy is partly based on the analysis in the IMF *World Economic Outlook Update*, January, pp. 6–7

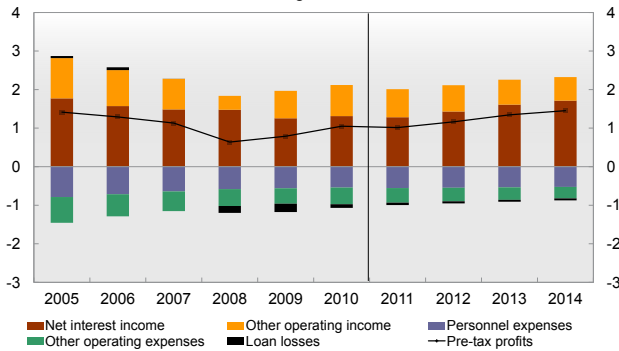
Chart 2.4 Problem loans as a percentage of gross lending. Per cent. Annual figures. 2002 – 2014¹⁾



1) Projections for 2011 – 2014
Sources: Statistics Norway and Norges Bank

Chart 2.2). The impact of the economic turbulence on household expectations may have a considerable bearing on developments. In stress scenario 2, household pessimism is assumed to increase to an appreciably greater extent than in stress scenario 1. In stress scenario 2, house prices fall by around 35%. A sharper drop in house prices and greater uncertainty result in a more pronounced reduction in household consumption. In stress scenario 1, the overall deviation from the baseline path for mainland GDP growth is 8¼ percentage points. In stress scenario 2, growth weakens by an additional 1 percentage point.⁴ Lower interest rates in stress scenario 2 than in stress scenario 1 have some dampening impact on the decline in economic activity that ensues from a sharper fall in house prices.

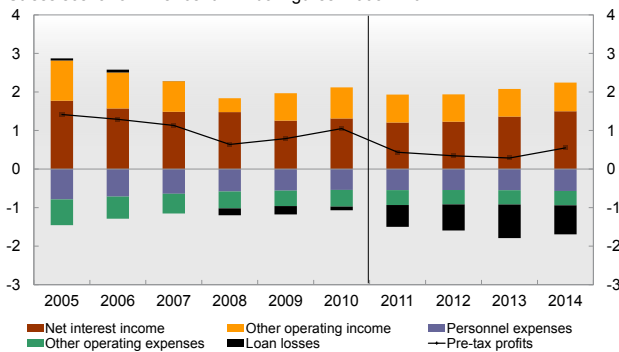
Chart 2.5 Banks¹⁾ pre-tax profits as a percentage of average total assets. Baseline scenario. Per cent. Annual figures. 2005 – 2014²⁾



1) All banks excluding branches of foreign banks in Norway
2) Projections for 2011 – 2014 for DnB NOR Bank, Nordea Bank Norge, SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN and SpareBank 1 Nord-Norge
Sources: Statistics Norway and Norges Bank

The key policy rate in the stress scenarios is assumed to depend on the output gap and inflation in Norway and interest rates among our trading partners. Weaker economic growth and lower inflation result in lower interest rates in the stress scenarios (see Chart 2.3). Banks' lending rates fall to a somewhat lesser extent than the key policy rate as money market premiums increase and banks are assumed to raise their lending margins by about 40 basis points relative to the baseline scenario. The stress scenarios assume that developments are not met by a more expansionary fiscal policy or extraordinary crisis measures on the part of the authorities.

Chart 2.6 Banks¹⁾ pre-tax profits as a percentage of average total assets. Stress scenario 1. Per cent. Annual figures. 2005 – 2014²⁾



1) All banks excluding branches of foreign banks in Norway
2) Projections for 2011 – 2014 for DnB NOR Bank, Nordea Bank Norge, SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN and SpareBank 1 Nord-Norge
Sources: Statistics Norway and Norges Bank

In the baseline scenario, the share of banks' problem loans diminishes gradually to around the average for the past five years. In both stress scenarios, higher unemployment, a stronger krone exchange rate, a fall in property prices and lower household and corporate income result in a rising volume of problem loans. Towards the end of the projection period, the share of problem loans is a little less than 3% in stress scenario 1 (see Chart 2.4). This is a somewhat lower share than in the period of increased problems loans in 2001–2003. In stress scenario 2, the share of problem loans rises to 4%. The share of problem loans for the corporate sector increases to a little more than 7% in 2014 in this scenario. The decline in household

4 The EBA's stress test assumes an overall deviation in total GDP for Norway of 2.7 percentage points for the years 2011 and 2012

demand and lower property prices lead to a pronounced increase in the vulnerability of commercial property loans, which account for a large share of banks' corporate loans. At the end of the projection period, the share of problem loans for households will be about three times higher than the level in the baseline scenario, but the level in the baseline scenario is low.

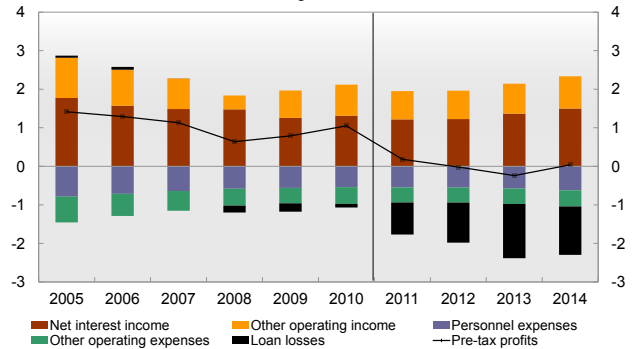
Developments in the banking sector

The risks posed to banks are very different in the two stress scenarios. In stress scenario 1, the fall in house prices is moderate, while the value of residential and commercial property shows a marked decline in stress scenario 2. This has a considerable impact on banks' collateral values. Reduced collateral values result in higher risk of loss given default. Banks' risk weights increase. As a result of this, banks' risk-weighted assets are assumed to increase more in stress scenario 2 and the loss ratio to be somewhat higher.⁵

In the baseline scenario, banks' earnings improve somewhat further out in the projection period (see Chart 2.5). In stress scenario 1, banks' earnings weaken, but banks remain in a profit position (see Chart 2.6). In stress scenario 2, however, losses show a marked increase (see Chart 2.7). As a result, earnings turn negative for four of the six banks included in our calculations⁶. Earnings for banks with large commercial property loans feature a particularly weak profile. The analyses highlight that Norwegian banks' high share of commercial property loans make them vulnerable to large losses in this industry. Losses on commercial property loans remain at lower levels than during the banking crisis in the period 1988–1993. We have also projected capital adequacy for all Norwegian banks. The projections show that small banks with a high share of retail loans are affected to a limited extent, even in stress scenario 2.

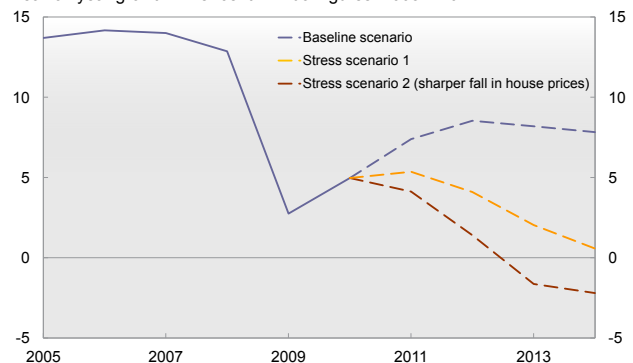
Low activity in the economy leads to a sharp drop in credit growth under both stress scenarios (see Chart 2.8).

Chart 2.7 Banks¹⁾ pre-tax profits as a percentage of average total assets. Stress scenario 2. Per cent. Annual figures. 2005 – 2014²⁾



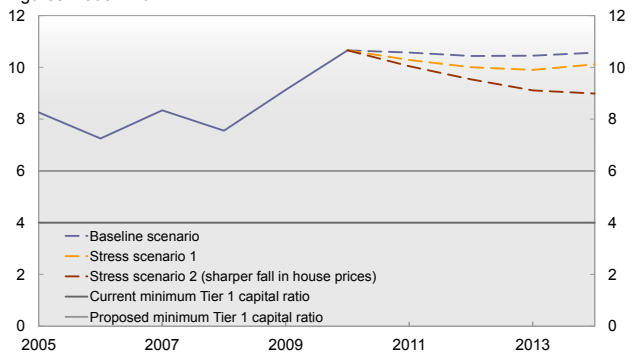
1) All banks excluding branches of foreign banks in Norway
2) Projections for 2011 – 2014 for DnB NOR Bank, Nordea Bank Norge, SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN and SpareBank 1 Nord-Norge
Sources: Statistics Norway and Norges Bank

Chart 2.8 Weighted growth in credit to enterprises (C3) and households (C2). Year-on year growth¹⁾. Per cent. Annual figures. 2005 – 2014²⁾



1) Change in stock of loans measured at year-end
2) Projections for 2011 – 2014
Sources: Statistics Norway and Norges Bank

Chart 2.9 Banks¹⁾ Tier 1 capital ratio in stress scenarios. Per cent. Annual figures. 2005 – 2014²⁾

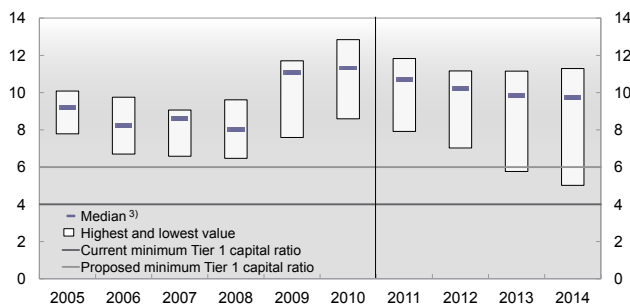


1) DnB NOR Bank, Nordea Bank Norge, SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN and SpareBank 1 Nord-Norge
2) Projections for 2011 – 2014
Sources: Finanstilsynet (Financial Supervisory Authority of Norway) and Norges Bank

5 A detailed account of the assumptions underlying bank projections is provided in a forthcoming article in *Economic Bulletin* 2011

6 DnB NOR, Nordea Bank Norge, Sparebanken 1 SR-bank, Sparebanken 1 Midt-Norge, Sparebanken 1 Nord-Norge and Sparebanken Vest

Chart 2.10 Banks¹⁾ Tier 1 capital ratios in stress scenario 2. Banks are ranked by Tier 1 capital ratio. Per cent. Annual figures. 2005 – 2014²⁾



1) DnB NOR Bank, Nordea Bank Norge, SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN and SpareBank 1 Nord-Norge
 2) Projections for 2011 – 2014
 3) Median is defined here as the middle bank in a list where half the banks have a lower Tier 1 capital ratio than the median bank
 Sources: Finanstilsynet (Financial Supervisory Authority of Norway) and Norges Bank

Increased credit risk results in higher risk weights and thereby higher risk-weighted assets. Even though earnings are still positive under stress scenario 1, average Tier 1 capital adequacy is somewhat lower compared with the baseline scenario (see Chart 2.9). In stress scenario 2, capital adequacy weakens further. Tier 1 capital adequacy remains nonetheless well above the Basel III recommendation of 6% as Tier 1 capital levels were high at the outset. The distribution among banks, however, indicates that capital adequacy for some banks might fall below 6% in stress scenario 2 (see Chart 2.10). Thus, if the value of residential and commercial property shows a more pronounced fall, some banks might have to raise more capital to satisfy the capital adequacy requirements.

The EBA's stress test gives weight to banks' exposures to European government securities. Norwegian banks have limited exposures to such instruments and are thus not directly exposed to this risk. On the other hand, Norwegian banks also have large holdings of mark-to-market securities. Under stress conditions there will always be a risk that losses on this portfolio will coincide with large loan losses. Portfolio income in the baseline and stress scenarios is assumed to be equal. In addition, a sensitivity analysis has been carried out where losses on banks' equity holdings increase. This is a small,⁷ but vulnerable share of the market portfolio. In the sensitivity analysis, losses on banks' holdings of mark-to-market equities are set equal to the percentage fall in equity prices. In stress scenario 1, equity prices are assumed to decline by 20%. According to the analysis, this reduces banks' post-tax profits as a percentage of average total assets by 0.1 percentage point in 2011. A larger fall of 35% in stress scenario 2 reduces banks' post-tax profits by 0.2 percentage point. This results in a further weakening of capital adequacy, but the average capital adequacy level at the six banks still remains at a good 6%, also in stress scenario 2.

7 A factor behind the low equity allocation is that § 24 of the Act relating to Commercial Banks and § 24 of the Act relating to Saving Banks stipulate that the value of a bank's holdings of equities and units shall not exceed 4% of total assets

Box 2.1 Projections of bank earnings – changes since the May 2010 Financial Stability report

The *Financial Stability* report presents projections for the six banks included in the stress test¹. Overall earnings for these banks fell during the financial crisis in 2008 and 2009, but edged up again in 2010 (see Chart 1). Projected bank earnings were adjusted up somewhat between the May and the November 2010 report. Owing to somewhat higher operating income than projected in the November report, banks' earnings for 2010 were somewhat higher than had been assumed (see Chart 2). As expected, lower loan losses boosted earnings, while the contribution from interest income remained at the same level as in the previous year.

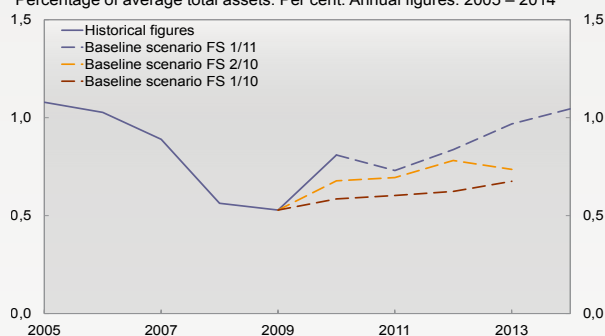
Projected bank losses for the six banks in the stress test have been revised down in pace with the pickup in economic activity (see Chart 3). Losses fell markedly from 2009 to 2010 and were somewhat lower than projected in the November report, primarily reflecting a somewhat smaller increase in corporate problem loans² than projected earlier. The increase in household problem loans was broadly as projected.

Banks' Tier 1 capital ratios have increased more than we projected in the November report (see Chart 4). While risk-weighted assets were assumed to increase in pace with

lending growth in the November report, reporting by banks in 2010 Q4 showed that risk-weighted assets had fallen. Risk weights for banks' loans have a strong impact on capital adequacy ratios. DnB NOR started using the internal ratings based approach (IRB) in 2010 Q4 for a substantial share of its corporate portfolio (see also discussion in Section 1, Developments in the Norwegian banking sector, Capital and earnings). This made a sizeable contribution to the fall in risk-weighted assets.

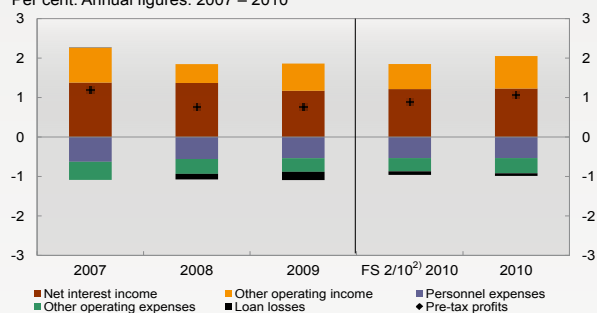
1 DnB NOR, Nordea Bank Norge, Sparebanken 1 SR-bank, Sparebanken 1 Midt-Norge, Sparebanken 1 Nord-Norge and Sparebanken Vest
2 Sum of non-performing and doubtful loans

Chart 1 Banks⁽¹⁾ post-tax profits in baseline scenarios. Percentage of average total assets. Per cent. Annual figures. 2005 – 2014



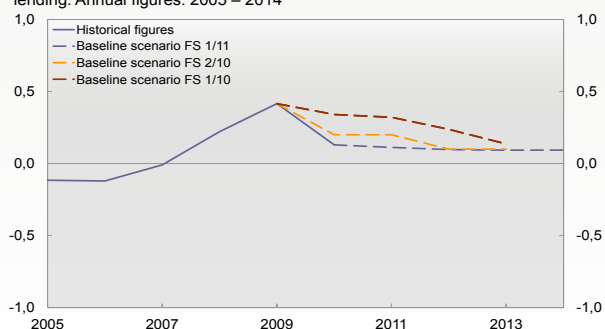
1) DnB NOR Bank, Nordea Bank Norge, SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN and SpareBank 1 Nord-Norge
Sources: Statistics Norway and Norges Bank

Chart 2 Banks⁽¹⁾ pre-tax profits as a percentage of average total assets. Per cent. Annual figures. 2007 – 2010



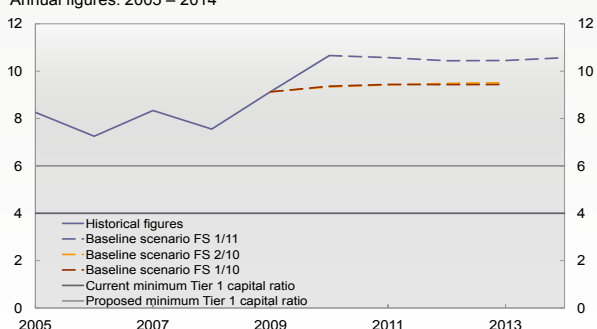
1) DnB NOR Bank, Nordea Bank Norge, SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN and SpareBank 1 Nord-Norge
2) Baseline scenario in FS 2/10
Sources: Statistics Norway and Norges Bank

Chart 3 Banks⁽¹⁾ loan losses in baseline scenarios. Percentage of gross lending. Annual figures. 2005 – 2014



1) DnB NOR Bank, Nordea Bank Norge, SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN and SpareBank 1 Nord-Norge
Sources: Statistics Norway and Norges Bank

Chart 4 Banks⁽¹⁾ Tier 1 capital ratios in baseline scenarios. Per cent. Annual figures. 2005 – 2014



1) DnB NOR Bank, Nordea Bank Norge, SpareBank 1 SR-Bank, Sparebanken Vest, SpareBank 1 SMN and SpareBank 1 Nord-Norge
Sources: Finanstilsynet (Financial Supervisory Authority of Norway) and Norges Bank

Box 2.2 Liquid assets in the liquidity coverage ratio (LCR)

The Basel Committee has recommended the implementation of minimum requirements regarding the size of banks' liquidity coverage ratios (LCR) by 2015 (Basel III).¹ Finanstilsynet (Financial Supervisory Authority of Norway) has directed banks to begin provisional reporting of the LCR from 31 July 2011. Under the LCR standard, each bank must have a sufficient stock of high-quality liquid assets to survive a 30-day period of considerable market stress featuring a net outflow of customer deposits. The stock of assets and outflow must be in a single common currency.

Liquid asset requirements

The Basel Committee has specified a number of characteristics that an asset must meet to be eligible for inclusion in the LCR. The standard is not yet in its final form, but in order to qualify as liquid, the asset must be unencumbered and of high quality. An asset qualifies as "unencumbered" if it is not used as collateral. Assets that otherwise satisfy the requirements, but have been pledged to the central bank or a public sector entity (PSE) but are not used may be included in the LCR. Assets are considered to be high-quality liquid assets if they can be easily and immediately converted into cash through repo or outright sale at little or no loss of value, even during stressed market conditions. High-quality liquid assets should also ideally be eligible as collateral at central banks. Nevertheless, central bank eligibility does not by itself constitute the basis for inclusion of an asset in the LCR.

Assets that can be included in the stock are divided into two liquidity categories (see Table 1). Level 1 assets are required to be highly liquid and are therefore held at market value in the stock of liquid assets. In Norway, outstanding stocks of government securities are low, and will fall further as the government securities in the swap arrangement mature. As Level 2 assets are somewhat less liquid, a 15% haircut is applied to their current market value. Under the Basel Committee proposal, Level 2 assets may comprise no more than 40% of the overall stock.

It is not yet clear which assets will qualify as Level 2 assets in NOK. Of the assets that may qualify, covered bonds (OMF) dominate in terms of volume. For Norwegian OMF covered bonds to be included as Level 2 assets, the Norwegian covered bond market needs to become more liquid. Measures by both market participants and the authorities can help to bring this about. When the swap arrangement expires, a greater volume of OMF covered bonds will be available in the market. This may in itself make the covered bond market more liquid. Furthermore, issuers can seek to increase the volume of each bond to enable it to be actively traded in the secondary market. If market makers are committed to providing two-way quotes, investors will be able to buy or sell covered bonds at known prices. This will serve to boost trading volume. Information concerning issued covered

bonds and the stock of collateral should be continually updated and easily accessible by investors.² Collaboration among Norwegian issuers of OMF covered bonds may help investors to obtain all the information they need from a single source. For their part, the authorities can improve the liquidity of the covered bond market by repealing the Issue Regulation³. This regulation places certain limitations on the issuance of bonds at a discount. When market rates rise, this may prevent issuers from extending existing bond series, preventing the bond issues from becoming large enough to be attractive for trading in the secondary market.

Treatments in countries with insufficient liquid assets

The Basel Committee is proposing alternative treatment for financial institutions in jurisdictions with an insufficient supply of liquid assets in their domestic currency. This will apply to very few jurisdictions. Before the new regulation enters into force, the Committee will develop a prescriptive quantitative threshold to determine which jurisdictions are eligible for alternative treatment. For example, this threshold may take the form of an upper limit for outstanding government securities, or total outstanding volume of Level 1 and Level 2 securities relative to GDP. It is reasonable to assume that Norway will be eligible for alternative treatment. In Norway, outstanding government securities amounted to around 24% of GDP in 2010. Excluding

the amount of outstanding Treasury bills in the swap arrangement, the Norwegian government securities market amounts to around 14% of GDP.⁴ Around a third of the outstanding volume connected with the swap arrangement matures in 2011, and the arrangement as a whole will be wound up before the liquidity standard enters into force.

The Basel Committee proposes three options for jurisdictions that qualify for alternative treatment.

- Option 1: Contractual committed liquidity facilities from the relevant central bank

This option would allow banks to access a contractual committed liquidity facility provided by the relevant central bank (i.e. relevant given the currency in question) against collateral in securities. The facility should be separate from regular market operations and central bank standing arrangements. The facility line will be eligible as liquid assets in the LCR. The maturity date will, at minimum, fall outside the 30-day LCR window to prevent the contractual commitment from being included in the denominator for calculating the LCR. In addition to a haircut on the pledged security, banks will have to pay a fee

so that the net yield on the assets used to secure the facility should be similar to the net yield on a representative portfolio of Level 1 and Level 2 assets, after adjusting for any material differences in credit risk. The fee will thus discourage banks from utilising the arrangement to obtain a higher return on less liquid assets. Banks that claim the facility line to meet the LCR will be charged interest on the amount drawn down.

- Option 2: Foreign currency liquid assets

This option would allow supervisors to choose to allow banks that evidence a shortfall of liquid assets in the domestic currency to use liquid assets in a foreign currency to meet the LCR. Banks choosing this option will be able to hold liquid assets in a given currency, even if a bank's expected net cash outflow over a 30-day stress period is in another currency. For banks following this option, supervisors should restrict such positions to levels consistent with the bank's foreign exchange risk management capacity, the currencies permitted under the arrangement and the size of the foreign exchange risk a bank may take when using this option.

The largest Norwegian banks rely

heavily on foreign financing. However, the use of currency swaps will ensure that net cash outflows will largely be in NOK. Thus, the option to allow banks to use assets in foreign currency to meet the LCR will make banks dependent on their ability to swap other currencies for NOK when they need to draw down on the stock.

- Option 3: Additional use of Level 2 assets with a higher haircut

Under this option, supervisors may choose to allow banks to hold more than 40% Level 2 assets in the stock to meet the LCR.⁵ The haircut applied to these additional assets would be higher than the 15% haircut on Level 2 assets that are included in the 40% cap. The option will apply to securities issued in NOK. The amount of assets in NOK that will qualify as Level 2 assets will limit the effect of introducing this option.

1 Bank for International Settlements (2010): Basel III: International framework for liquidity risk measurement, standards and monitoring, December

2 ICMA (2011): CBIC - European transparency standards – Public Consultation

3 Issue Regulation (1996): Forskrift om emisjonskurs og meldeplikt ved utstedelse av ihendehaverobligasjoner m.v. (Regulation concerning issue prices and notification requirements for issues of bearer bonds, etc.), <[http://www.lovdata.no/for/sf/fd/xd-19961220-1247.html](http://www lovdata.no/for/sf/fd/xd-19961220-1247.html)>

4 See Syed, Haseeb (2010): "The Norwegian market for government securities and covered bonds in view of new liquidity buffer requirements for banks". *Economic commentaries* 7/2010

5 Adjusted for secured funding transactions maturing within 30 days, the maximum amount of adjusted Level 2 assets is equal to two-thirds of the adjusted amount of Level 1 assets after haircuts have been applied

Table 1: Liquid assets in the LCR

Level 1 assets:
<ul style="list-style-type: none"> • Cash • Central bank reserves • Securities issued by sovereigns, central banks and other PSEs assigned a 0% risk weight under the Basel II standardised approach • Non-0% risk-weighted sovereign or central bank debt securities, with certain restrictions
Level 2 assets:
<ul style="list-style-type: none"> • Securities issued by sovereigns, central banks and other PSEs assigned a 20% risk weight under the Basel II standardised approach • Corporate bonds and covered bonds with a credit rating of at least AA-

Box 2.3 Stricter requirements for systemically important banks

It must be possible to resolve problem banks quickly and efficiently without using taxpayers' money. This is one of the important lessons of the financial crisis. Following the crisis, proposals have been made for resolving crises in financial institutions of any size without resorting to public funding. Shareholders and uninsured creditors shall absorb losses while continuity of the institution's vital economic functions is maintained. The Basel Committee and the Financial Stability Board (FSB) are currently assessing various measures to increase capital adequacy and contain the adverse effects of crises in the largest and most systemically important financial institutions. A number of countries have implemented measures to address the problem on their own initiative. This box describes the current status of these efforts.¹

The G20 has proposed that large, systemically important banks² should be subject to stricter requirements:

- more intensive supervision to identify problems earlier and ensure that the bank implements measures at an early stage
- a higher level of capital to increase banks' loss absorbency and reduce the need for a government bailout
- additional and improved crisis management tools to mitigate the negative effects of problems in a bank

More intensive supervision of large banks requires independent supervisory authorities with clear mandates and adequate resources.³ The legal basis must enable these authorities to intervene early in banks facing financial problems. Such measures must be taken long before the bank's capital has been depleted and preferably early enough to prevent severe liquidity problems. The legal basis to intervene in this way has long been available to the authorities in Norway under the Guarantee Schemes Act. Norges Bank has, however, pointed out that the current legal basis could be strengthened to better enable intervention before capital levels in problem banks fall below the minimum requirement.⁴ The EU recently proposed a new crisis management regime for banks where the need for early intervention is a key element and which includes enhanced cooperation between supervisory authorities and central banks to ensure better coordination and more targeted supervision, in particular of the largest banks.

A higher level of capital for the largest banks is necessary to reduce the probability of crises and the need for public solvency support. Under the Basel III framework, all banks are required to hold total capital (including buffer requirements) of between 10.5% and 13%, of which between 7% and 9.5% is required to be Common Equity Tier

1 capital. There is now international support for the proposal that capital adequacy for the largest banks must be even higher, particularly capital that can absorb losses even if the bank continues as a going concern. The Basel Committee will this year propose a methodology for identifying the banks that are systemically important on a global level (Global Systemically Important Financial Institutions, G-SIFIs). The FSB will in cooperation with the Basel Committee recommend new capital requirements for such banks.

In Switzerland, the authorities have proposed an additional capital buffer for systemically important banks. The proposal would result in considerably higher capital levels than at present for the two large banks deemed to be systemically important (UBS and Credit Suisse).⁵ First, these banks would be required to have a Common Equity Tier 1 buffer of 5.5% in addition to the Basel III minimum requirement of 4.5% Common Equity Tier 1 capital (as from 2015).⁶ Second, they would be required to have a buffer of convertible debt capital of 9%, of which 3 percentage points would have to be convertible without interrupting operations if the bank's Common Equity Tier 1 capital ratio should fall below 7%. The remaining 6 percentage points would have to be convertible without interrupting operations if the bank's Common Equity Tier 1 capital ratio should fall below 5%.

The two Swiss banks would thus have a substantial buffer on top of the Basel requirement of 10.5% (which enters fully into force in 2019).

In Sweden, the authorities have shown an interest in the Swiss proposal and indicated that a similar regime could be introduced for large Swedish banks: Finansinspektionen (the Swedish financial supervisory authority) has advised major Swedish banks to be prepared for a faster implementation of the new Basel III capital requirements in Sweden than in other countries. In the course of a few years, their capital requirement could rise to a total of 15–16%, of which at least 10–12% will be required to be Common Equity Tier 1 capital. For the time being, the Swedish authorities will continue to apply current transitional rules for minimum capital requirements to sustain capital adequacy in the period to the introduction of the new and stricter Basel III requirements.

Additional and improved tools for crisis management in the banking sector are important to mitigate the adverse effects of banking crises. Many countries have already expanded their crisis management toolbox (for example, Denmark, the UK and Germany), enabling the authorities to intervene earlier and take control of a crisis bank and to

split up and sell all or parts of the bank. Documents referred to as recovery and resolution plans, or living wills, are a particularly important tool. It is proposed that banks draw up their own plans to restore capital adequacy and ensure continuity of operations in the event that the bank should encounter problems, while the authorities draw up plans to deal with the bank if operations must be discontinued. The wills must be discussed with the authorities and the latter can instruct the bank to implement measures, including organisational changes, to ensure effective and prompt crisis management.

Small banks will either be closed or sold to other banks if they should encounter problems. Larger banks will need to find other solutions to ensure customers continuity of access to important economic functions while shareholders and unsecured creditors absorb the losses. The EU Commission is considering instructing all banks to have a certain amount of convertible capital or capital that can be converted to common equity if they should encounter severe financial problems. The authorities would then be able to write down unsecured debt to cover a bank's losses even if it continues as a going concern, thereby limiting the need for public support for a crisis bank. If the debt is partly converted into equity, the bank

could be recapitalised, with new owners without using taxpayers' money. This will contribute to a more conscious approach among creditors when selecting which banks will receive loans and at what price.

Structural changes in the banking sector may also be needed if banks' level of common equity capital is too low or the authorities' toolbox for resolving banking crises proves inadequate. The UK authorities have appointed an independent commission to assess the need for structural measures in the banking sector. The commission recently published an interim report recommending ring-fencing important retail functions in the largest UK banks.⁷

1 For a more thorough discussion, see Henrik Borchgrevink (2011): *Regulering av systemviktige banker – og de store nordiske bankene, Penger og Kreditt 1/2011* (forthcoming, in Norwegian only)

2 There is no clear definition of a systemically important bank. Size, dominance and links with other operators are often used to identify systemically important banks. Smaller banks can be systemically important in situations of widespread financial instability. The US authorities have decided that all bank holding companies with total consolidated assets of USD 50bn or more are systemically important. If a corresponding limit (scaled to Norwegian conditions) were to be introduced in Norway, all banks with total assets of NOK 36bn or more would be systemically important

3 FSB (2010): *Intensity and Effectiveness of SIFI Supervision*

4 Letter of 29 November 2011 from Norges Bank to the Ministry of Finance (in Norwegian only)

5 *Final Report of the Commission of Experts for limiting the economic risks posed by large companies* (2010)

6 The Basel III requirement for a capital conservation buffer is 2.5% (to be comprised of Common Equity Tier 1 capital only)

7 Interim Report. *Consultation on Reform Options*. Independent Commission on Banking (2011)

Annex 1

Glossary

Baseline scenario: The baseline scenario represents the developments Norges Bank considers most probable under a number of assumptions. The baseline scenario derives from models, supplemented by discretionary assessment.

Corporate market: Sectors 710–790, which include non-financial private enterprises and the self-employed.

Covered bonds (OMF): Debt instruments secured by a cover pool to which investors have a preferential claim in the event of default. The cover pool can include residential mortgages, commercial property loans and public sector debt.

Customers: Sector term used for banks' customers and includes sectors 110, 380–890 and 941–990. In addition to the sectors included in the retail and corporate markets, customers also include the central and local government sector as well as foreign non-financial sectors.

Disposable income (households): All forms of income less taxes, interest expenses and other expenses. Norges Bank corrects disposable income for estimated reinvested share dividends for 2000–2005 and redemption/reduction of equity capital for 2006–2014.

Internal ratings-based (IRB) approach: Use of internal ratings-based risk models to calculate capital requirements on the basis of credit risk under the Basel framework.

Liquidity coverage ratio (LCR): The Basel Committee has proposed a minimum liquidity coverage standard to be introduced in 2015 (Basel III). The liquidity coverage ratio (LCR) is defined as the stock of high-quality liquid assets as a percentage of total net cash outflows over 30 calendar days of severe market stress. The standard requires that the value of the ratio be no lower than 100%.

NIBOR (Norwegian Inter Bank Offered Rate): NIBOR or the money market rate is the interest rate on interbank loans. Supply and demand in the money market determine money market rates. NIBOR is a currency swap rate.

Private and municipal sector: Sectors 510–890, which include the institutional sectors local government, public non-financial enterprises, private non-financial enterprises and households.

Retail market: Sector 810, which comprises wage earners, pensioners, benefit recipients, students etc.

Net stable funding ratio (NSFR): The Basel Committee has proposed a minimum stable funding standard to be introduced in 2018 (Basel III). The net stable funding ratio (NSFR) is defined as the available amount of stable funding as a percentage of the required amount of stable funding for all illiquid assets. This ratio must be greater than 100%.

Stress scenario: Stress alternative for the Norwegian economy under which the occurrence of number of unexpected economic shocks is assumed. Although the stress scenario is not the most probable alternative to the baseline scenario, it represents an analysis of risk factors that can lead to problems for banks.

Swap arrangement: Arrangement whereby banks obtain government securities in exchange for covered bonds (OMF) for an agreed period. Norges Bank administers the arrangement on behalf of the Ministry of Finance.

Total risk-weighted assets: Total risk-weighted assets comprise the denominator in the calculations of financial institutions' equity capital, Tier 1 capital and capital adequacy ratios. The risk weights that may be used in the calculations are set out in the Basel II capital adequacy standards.

Annex 2

Boxes 2006–2011

1/2011

Projections of bank earnings – changes since the May 2010 *Financial Stability* report
Liquid assets in the liquidity coverage ratio (LCR)
Stricter requirements for systemically important banks

2/2010

Projections of bank earnings – changes since the May *Financial Stability* report
New regulation of bank capital and liquidity
Discretionary countercyclical measures
Crisis resolution – systemically important banks
Effects of persistently low interest rates

1/2010

Projections of bank earnings – changes since the December *Financial Stability* report
Macroprudential supervision and systemic risk
Finanstilsynet's new guidelines for prudent lending – effects on household debt
Consequences of Solvency II for banks
New accounting rules for valuation of financial assets

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

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

1/2006

Implications of changes in pension fund regulations for the bond market
Long-term real interest rates and house prices
Household housing wealth and financial assets
Household margins
Banks' pricing of corporate credit risk
The importance of Norges Bank's key rate and the competitive climate for banks' interest rates
Equity market valuation

Annex 3

Table 1 Vulnerabilities in the Norwegian banking sector and external sources of risk to the banking sector

Sources of vulnerability and risk	Indicators	Transformation	Time series start
Structure banking sector	1. Market share of the largest bank in terms of total assets	1. Equally large percentiles. Market shares below 10% (over 50%) produce an indicator value of 0 (10)	1. Q1 1987
	2. Ratio of market shares for lending to the corporate market	2. Equally large percentiles. A figure above 250 (under 100) produces an indicator value of 0 (10)	2. Q1 1987
	3. Deviations from the macro bank's loan portfolio	3. Percentiles adjusted based on discretion due to short time series	3. Q2 2009
	4. Deviations from the macro bank's funding structure	4. Same as 3	4. Q1 2005
	5. Semivariance for negative deviations from average Tier 1 capital ratio	5. and 6. No transformation	5. Q2 1991
	6. Semivariance for negative deviations from future Liquidity Coverage Ratio (LCR) standard		6. No data
Funding banking sector	1. LCR	1. Deviation from requirement. Evaluated based on discretion before implementation	1. Q1 2009
	2. Short-term market funding in foreign currency as a percentage of total assets	2. No transformation	2. Q4 2000
	3. Net short-term market funding as a percentage of total assets	3. No transformation	3. Q4 2000
	4. Net Stable Funding Ratio (NSFR)	4. Deviation from requirement. Evaluated based on discretion before implementation	4. Q1 2009
	5. Weighted average maturity of market funding in years	5. No transformation	5. Q4 2000
Capital and earnings banking sector	1. Deviation between Tier 1 capital ratio and the market's minimum requirement	1. No transformation. Minimum requirement set at 6% until 2008 and 8.5% as of 2009 based on discretion	1. Q2 1991
	2. Equity ratio	2. No transformation	2. Q4 1987
	3. Net interest income as a percentage of average total assets	3. Percentiles set based on discretion	3. Aug.1987
	4. Pre-tax profit as a percentage of average total assets	4. No transformation	4. Aug.1987
	5. Loan losses as a percentage of lending	5. No transformation	5. 1987
Macro-economic conditions	1. Output gap mainland Norway	1. No transformation	1. Q1 1987
	2. Output gap trading partners	2. No transformation	2. Q1 1987
	3. Registered unemployment (4-month moving average)	3. Change in percentage points from last quarter	3. Q1 1973
	4. Real exchange rate (relative wages)	4. Smoothed deviation from trend	4. Q4 1971
	5. OECD composite leading indicator	5. Equally large percentiles	5. Q1 1980
	6. Oil price	6. and 7. Deviation from trend	6. Q1 1986
	7. Government net assets as a percentage of GDP	8. No transformation	7. 1985
	8. Norges Bank's projections of GDP growth for the next four quarters		8. No
Money and credit markets	1. Risk premiums on European bank bond indices	1. Monthly average of daily figures. Thresholds adjusted	1. 1 Jan 1991
	2. Risk premiums iBoxx minus iTraxx Senior Financials	2. Same as 1	2. 21 Jun 2004
	3. Implied volatility derived from options on US government bonds	3. Same as 1	3. 4 Apr 1988
	4. Spread between 3-month money market rate and market expectations of the key rate	4. Same as 1	4. Q1 2007
Households	1. Debt burden	1. Deviation from trend	1. Q4 1978
	2. House prices deflated by disposable income	2. No transformation	2. Q4 1978
	3. Savings ratio (8-quarter moving average)	3. Distribution around a normal rate. Lower figures produce higher indicator values	3. Q4 1981
	4. Share of households with a net debt burden above 500%	4. No transformation	4. 1987
Enterprises	1. Debt servicing capacity	1. No transformation	1. Q4 1997
	2. Equity ratio	2. No transformation	2. Q1 2002
	3. Norges Bank's regional network, output index	3. No transformation	3. Q1 2002
	4. Investment gap	4. Absolute deviation from trend	4. Q3 1979
	5. Selling prices for office premises in Oslo	5. No transformation	5. Q2 1981
	6. Freight rates, shipping	6. Freight rate index deflated by US CPI	6. Q1 1990

Table 2 Structure of the Norwegian financial industry as of 31 March 2011

	Number	Lending (NOK bn)	Total assets (NOK bn)	Tier 1 capital ratio (%) ¹⁾	Capital ratio (%) ¹⁾
Banks (excluding branches of foreign banks)	133	1 646	3 088	11.8	14.2
Branches of foreign banks	12	327	592		
Mortgage companies (including branches of foreign companies)	32	1 065	1 416	10.9	12.4
Finance companies (including branches of foreign companies)	49	94	112	13.5	14.3
State lending institutions	3	238	253		
Life insurance companies (excluding branches of foreign companies)	12	41	891	12.1	14.9
Non-life insurance companies (excluding branches of foreign companies)	44	1	136	39.2	39.6
<i>Memorandum:</i>			(NOK bn)		
Market value of equities, Oslo Stock Exchange			1 854		
Outstanding domestic bonds and short-term paper debt			1 617		
Issued by public sector and state-owned companies			648		
Issued by banks			289		
Issued by other financial institutions			426		
Issued by other private enterprises			101		
Issued by non-residents			153		
GDP Norway, 2010			2 505		
GDP mainland Norway, 2010			1 945		

1) Capital ratio and Tier 1 capital ratio as at December 2010

Sources: Finanstilsynet (Financial Supervisory Authority of Norway), Oslo Stock Exchange, Statistics Norway and Norges Bank

Table 3 Market shares of banks and covered bond mortgage companies¹⁾ in Norway as of 31 March 2011. Per cent

	Gross lending to		Deposits from	
	Retail market	Corporate market	Retail market	Corporate market
DnB NOR Bank ²⁾	31.6	33.3	32.3	35.7
Subsidiaries of foreign banks in Norway ³⁾	13.0	18.2	8.9	17.8
Branches of foreign banks in Norway ⁴⁾	11.0	17.3	8.4	15.0
SpareBank 1-alliansen ⁵⁾	19.3	15.0	19.3	13.9
Terra-Gruppen ⁶⁾	8.8	4.2	11.2	5.5
Other savings banks ⁷⁾	13.3	9.6	14.7	9.8
Other commercial banks ⁸⁾	3.1	2.3	5.2	2.2
Total	100.0	100.0	100.0	100.0
Total market (in NOK bn)	1 658	1 063	718	590

1) The market shares are calculated by summing the balance sheet items for the institutions in the different groups

2) DnB NOR Bank, Nordlandsbanken, DnB NOR Boligkreditt and DnB NOR Næringskreditt

3) Nordea Bank Norge, Santander Consumer Bank, SEB Privatbanken and Nordea Eiendomskreditt

4) Fokus Bank (branch of Danske Bank), Handelsbanken, SEB, Swedbank, Handelsbanken Eiendomskreditt, BNP Paribas, Skandiabanken + 6 other branches

5) SpareBank 1 SR-Bank, SpareBank 1 SMN, SpareBank 1 Nord-Norge, Sparebanken Hedmark + the 13 other savings banks in SpareBank 1-alliansen, SpareBank 1 Boligkreditt, BN Bank, Bank 1 Oslo + 1 commercial mortgage company and 1 other residential mortgage company

6) Terra BoligKreditt, Terra Kortbank and the 76 savings banks which are owners of Terra-Gruppen AS + 1 other residential mortgage company

7) Sparebanken Vest, Sparebanken Møre, Sparebanken Sør, Sparebanken Pluss, Sparebanken Sogn og Fjordane, Sandnes Sparebank + 14 other savings banks and 10 residential mortgage companies

8) Storebrand Bank, Landkreditt Bank, Gjensidige Bank, Storebrand Boligkreditt + 9 other commercial banks, 2 other residential mortgage companies and 1 commercial mortgage company

Source: Norges Bank

Table 4 Results and capital adequacy in Norwegian banks for selected quarters¹⁾

	Q1 10		Q2 10		Q3 10 ²⁾		Q4 10		Q1 11	
	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA
Net interest income	9.97	1.28	10.12	1.28	11.73	1.48	10.78	1.39	10.85	1.41
Other operating income	4.77	0.61	6.42	0.81	5.72	0.72	6.84	0.88	3.78	0.49
Commission income	2.44	0.31	2.62	0.33	2.67	0.34	2.86	0.37	2.59	0.34
Securities, FX and derivatives	1.76	0.23	1.32	0.17	2.25	0.28	3.73	0.48	0.16	0.02
Other operating expenses	6.89	0.89	7.74	0.98	8.46	1.07	7.99	1.03	8.49	1.10
Personnel expenses	3.56	0.46	4.37	0.55	4.82	0.61	4.40	0.57	4.74	0.61
Operating result before losses	7.85	1.01	8.80	1.11	8.98	1.13	9.63	1.24	6.14	0.80
Losses on loans and guarantees	0.81	0.10	1.15	0.14	0.63	0.08	0.71	0.09	0.88	0.11
Pre-tax profits	7.04	0.91	9.88	1.25	7.22	0.91	8.90	1.15	5.32	0.69
After-tax profits	5.27	0.68	7.67	0.97	5.50	0.69	6.87	0.88	3.96	0.51
Capital ratio (%)	13.1		12.5		12.5		14.2		NA	
Tier 1 capital ratio (%)	10.6		10.1		10.3		11.8		NA	

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

2) DnB NOR Finans merged with DnB NOR Bank in September 2010

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

Table 5 Results and capital adequacy in Norwegian banks¹⁾

	2006		2007		2008		2009		2010	
	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA	NOK bn	% ATA
Net interest income	32.79	1.62	36.72	1.52	43.16	1.55	41.01	1.32	42.61	1.36
Other operating income	17.27	0.85	18.47	0.77	10.69	0.38	23.39	0.76	23.73	0.76
Commission income	9.82	0.49	10.24	0.42	9.34	0.34	9.46	0.31	10.60	0.34
Securities, FX and derivatives	6.23	0.31	3.58	0.14	-1.42	-0.05	12.70	0.40	9.07	0.29
Other operating expenses	26.54	1.31	28.17	1.17	29.57	1.06	30.70	0.99	31.08	0.99
Personnel expenses	14.66	0.73	15.61	0.65	16.72	0.60	17.71	0.57	17.15	0.55
Operating result before losses	23.52	1.16	27.02	1.12	24.28	0.87	33.71	1.09	35.27	1.12
Losses on loans and guarantees	-1.42	-0.07	-0.01	0.00	5.41	0.19	7.29	0.24	3.30	0.11
Pre-tax profits	26.22	1.30	27.42	1.14	18.28	0.66	24.81	0.80	33.05	1.05
After-tax profits	19.98	0.99	20.78	0.86	13.02	0.47	17.60	0.57	25.30	0.81
Capital ratio (%)	11.3		11.7		11.2		13.1		14.2	
Tier 1 capital ratio (%)	8.7		9.3		8.6		10.5		11.8	

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

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

Table 6 Banks' losses on loans to various industries and sectors as a percentage of lending to the respective industries and sectors¹⁾

Industry ²⁾ / sector	Loans in billions of NOK									
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2010
Agriculture, forestry and fishing	2.76	6.08	1.48	-2.17	-0.55	-0.06	0.19	0.22	0.13	73.3
Fish-farming, hatcheries	8.62	22.91	4.20	-12.77	-0.17	-0.11	0.56	0.77	0.25	13.4
Extraction of crude oil and natural gas	1.11	1.70	-1.41	-0.04	-0.05	0.00	0.00	-0.12	0.31	14.1
Manufacturing and mining	1.75	1.72	0.44	0.67	-0.28	0.10	0.45	0.67	0.61	65.8
Manufacturing								0.72	0.72	53.3
Shipbuilding								0.49	0.15	9.0
Electricity and water supply, construction	0.46	1.72	0.49	0.26	-0.18	0.12	0.42	0.92	0.61	118.4
Construction	0.47	2.39	0.57	0.27	-0.14	0.18	0.66	0.96	1.44	28.7
Trade, hotels and restaurants	0.91	0.91	0.45	0.20	0.09	0.21	0.52	1.34	0.21	72.9
Trade and auto repair	0.64	0.68	0.32	0.15	0.10	0.21	0.49	1.48	0.16	61.1
Hotels and restaurants	0.47	1.00	0.88	0.23	0.03	0.29	0.42	0.54	0.48	11.8
Shipping and pipeline transport	0.55	0.49	-0.09	0.06	0.06	-0.05	0.09	1.13	0.89	83.9
Other transport and communications	1.29	0.70	0.48	0.01	0.05	0.06	0.06	1.20	1.24	43.5
Commercial services and property management	1.55	0.54	0.01	-0.13	-0.06	0.02	0.34	0.37	0.20	532.8
Property management	0.67	0.20	0.08	0.02	-0.12	0.03	0.28	0.30	0.16	420.5
Commercial services								0.66	0.33	112.3
Other service industries	1.05	1.57	0.33	0.29	0.14	0.10	0.22	0.33	0.43	32.8
Total for all industries	1.44	1.50	0.33	-0.15	-0.08	0.03	0.28	0.59	0.37	1 037.5
Retail market	0.11	0.05	0.04	0.02	-0.01	0.04	0.07	0.11	0.12	957.1
Others ³⁾	0.29	0.17	0.26	-0.15	0.02	0.01	0.09	0.04	0.02	519.6
Total	0.63	0.55	0.15	-0.05	-0.03	0.03	0.17	0.30	0.21	2 514.1

1) All banks with the exception of branches of foreign banks in Norway in 2002–2008

From 2009 most of the largest branches of foreign banks are included

2) Some industries have partly changed content due to the implementation of new statistical classifications of industry in May 2009

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

Source: Norges Bank

Table 7 Rating by Moody's¹⁾, total assets, capital adequacy²⁾ and return on equity for Nordic financial conglomerates, subsidiaries in Norway and Norwegian banks as of 2011 Q1. Consolidated figures

	Financial strength	Short-term	Long-term	Total assets (NOK bn)	Tier 1 capital ratio (%)	Capital ratio (%)	Share of interim profits (%)	Return on equity		
								2009	2010	2011 Q1
Nordea Bank	C+	P-1	Aa2	4 595	9.8	11.2	0	11.3	11.5	12.0
Danske Bank	C	P-1	A1	3 284	14.6	17.4	100	1.7	3.6	2.7
DnB NOR	C	P-1	Aa3	2 097	9.8	11.8	0	10.6	13.6	10.3
Handelsbanken	C+	P-1	Aa2	1 973	17.0	20.1	0	12.6	12.9	13.2
SEB	C-	P-1	A1	1 858	13.2	12.7	100	1.2	6.8	10.5
Swedbank	D+	P-1	A2	1 530	11.2	13.0	100	-12.5	8.1	16.1
Nordea Bank Norge	C	P-1	Aa2	512	8.5	10.8	0	10.1	15.6	8.9
SpareBank 1 SR-Bank	C-	P-1	A1	133	10.2	11.8	50	17.5	15.5	11.2
Sparebanken Vest	C-	P-1	A2	107	10.9	11.8	50	8.0	11.3	11.1
SpareBank 1 SMN	C-	P-1	A1	94	10.6	12.5	50	16.2	14.6	13.2
SpareBank 1 Nord-Norge	C	P-1	A1	68	10.7	11.7	0	18.2	15.3	23.3

1) Rating as of 10 May 2011. 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 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. Qwing to differences in national regulations, including consolidation of life insurance companies, 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, Norwegian banks¹⁾
 Percentage distribution

	2009	2010	Q1 11
Cash and deposits	9.9	8.5	9.7
Securities (current assets)	19.3	19.7	18.6
Gross lending to households, municipalities and non-financial enterprises	53.7	53.7	53.3
Other lending	10.0	10.7	11.1
Loan loss provisions	-0.4	-0.5	-0.5
Fixed assets and other assets	7.5	7.8	7.7
Total assets	100.0	100.0	100.0
Customer deposits	43.1	46.6	46.7
Deposits/loans from domestic credit institutions	3.1	3.0	3.0
Deposits/loans from foreign credit institutions	15.2	12.2	12.5
Deposits/loans from Norges Bank	1.6	1.3	1.1
Other deposits/loans	6.3	6.1	5.4
Notes and short-term paper debt	3.1	3.4	3.7
Bond debt	15.5	14.7	14.7
Other liabilities	3.9	3.9	4.2
Subordinated loan capital	2.3	2.2	2.0
Equity	5.9	6.7	6.5
Total equity and liabilities	100.0	100.0	100.0
<i>Memorandum:</i>			
Total assets (NOK billion)	3 132	3 073	3 088

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

Source: Norges Bank

Table 9 Balance sheet structure and profit/loss, covered bond companies¹⁾

	2009	2010	Q1 11
Balance sheet. Percentage distribution			
Cash and deposits	3.2	1.6	1.2
Securities (current assets)	2.4	3.2	3.1
Gross lending	93.6	94.7	95.2
Loan loss provisions	0.0	0.0	0.0
Fixed assets and other assets	0.7	0.4	0.5
Total assets	100.0	100.0	100.0
Notes and short-term paper debt			
Notes and short-term paper debt	0.1	0.1	0.3
Bond debt	66.6	70.0	71.0
Loans	27.1	22.2	20.6
Other liabilities	1.1	2.7	3.4
Subordinated loan capital	0.6	0.5	0.4
Equity	4.5	4.5	4.3
Total equity and liabilities	100.0	100.0	100.0
Profit/loss. Percentage of ATA (annualised)			
Net interest income	0.98	0.71	0.64
Operating expenses	0.21	0.23	0.22
Losses on loans and guarantees	0.01	0.01	0.01
Pre-tax profit	0.45	0.60	0.51
Memorandum:			
Repayment loans (NOK billion)	396	539	570
Total assets (NOK billion)	594	804	843
of which residential mortgage companies	560	760	795
of which commercial mortgage companies	34	44	48

1) Mortgage companies with the right to issue covered bonds in accordance with the regulation that came into force on 1 June 2007

In December 2009 the figures are for 22 companies of which 17 companies are residential mortgage companies, in December 2010, the figures are for 24 companies of which 19 companies are residential mortgage companies, and in March 2011, the figures are for 24 companies of which 20 companies are residential mortgage companies.

Source: Norges Bank

Table 10 Stress testing bank¹⁾ losses and profits.

Macroeconomic scenario. Percentage change from previous year unless otherwise stated	Baseline scenario ²⁾				Stress scenario 1				Stress scenario 2			
	2011	2012	2013	2014	2011	2012	2013	2014	2011	2012	2013	2014
Mainland GDP	3 ¼	3 ¾	3 ¼	3	¼	½	2	2 ½	-½	-½	1 ¾	3 ¼
CPI	1 ½	1 ¾	2 ¼	2 ½	1 ½	1 ¾	1 ¾	1 ¾	1 ½	1 ¾	1 ¼	1
Annual wage growth	4	4 ½	4 ¾	4 ¾	4	3 ¾	2 ½	2 ½	4	3 ½	1 ½	1 ½
Registered unemployment (rate, level)	2 ¾	2 ½	2 ½	2 ½	2 ¾	3 ½	4 ¼	4 ¼	2 ¾	3 ¾	4 ¾	5
Exchange rate												
Level. Import-weighted 44 countries)	88 ¾	89 ¼	89 ½	90 ¼	88 ½	86 ¾	86 ½	87	88 ½	87 ¼	87	87 ¾
Oil price, USD per barrel (level)	112	112	108	108	143	136	134	118	143	136	134	118
Bank lending rates (level)	4 ¾	5 ½	6 ¼	6 ¾	4 ¾	4 ¾	5 ¼	6	4 ¾	4 ½	5	5 ¼
House prices	7 ¾	5 ¼	4 ¼	3 ½	-¾	-6	-5	0	-8	-15 ¼	-12 ¾	1 ½
Credit to households ³⁾	7 ¾	7 ¾	7 ¼	7	6 ¼	4 ¾	2 ½	2	5 ¼	2 ¼	-1 ¾	-2 ¼
Credit to non-financial corporations ³⁾	7	9 ¾	9 ½	9	4 ¼	3 ¼	1 ¼	-1 ¼	2 ½	¼	-1 ¾	-2 ¼
Bank losses and profits												
Problem loans households ⁴⁾ (percentage share of lending to the sector)	1.1	1.0	0.8	0.8	1.2	1.2	1.4	1.6	1.3	1.6	2.1	2.6
Problem loans non-financial enterprises ⁴⁾ (percentage share of lending to the sector)	2.9	2.4	2.3	2.3	2.7	3.6	5.3	5.7	2.7	4.2	6.7	7.1
Problem loans total ⁴⁾ (percentage share of gross lending)	1.7	1.4	1.3	1.3	1.7	2.0	2.6	2.9	1.8	2.4	3.6	4.0
Loan losses (percentage of gross lending)	0.1	0.1	0.1	0.1	1.1	1.3	1.6	1.4	1.6	2.0	2.7	2.3
Pre-tax profits (percentage of average total assets)	1.0	1.2	1.3	1.5	0.4	0.3	0.3	0.5	0.2	0.0	-0.2	0.0
Net interest income (percentage of average total assets)	1.3	1.4	1.6	1.7	1.2	1.2	1.4	1.5	1.2	1.2	1.4	1.5
Tier 1 capital (percentage of risk-weighted assets)	10.6	10.4	10.5	10.6	10.3	10.0	9.9	10.1	10.0	9.5	9.1	9.0

1) Norway's five largest banks and Nordea Bank Norge

2) Baseline scenario for CPI, annual wage growth, registered unemployment, oil price, exchange rate and mainland GDP are from *Monetary Policy Report 1/2011*

3) Change in stock measured at end-year

4) Non-performing loans and other loans that banks regard as particularly doubtful. All banks excluding branches of foreign banks in Norway

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, Finanstilsynet (Financial Supervisory Authority of Norway) and Norges Bank

Table 11 Key figures

	Average 1987–1993	Average 1994–2009	2010	2011	Projections 2012 2013–2014	
Households						
Debt burden ¹⁾	141	148	194	199	204	210
Interest burden ²⁾	9.7	6.0	5.2	5.9	7.2	8.4
Borrowing rate ³⁾ after tax	9.1	4.8	3.0	3.1	3.8	4.5
Real interest rate after tax ⁴⁾	4.3	2.6	0.6	1.1	1.8	2.1
Net financial wealth ⁵⁾	8	43	29			
Rise in house prices ⁶⁾	-1.3	8.8	8.3	7.7	5.2	3.9
Enterprises						
Debt burden ⁷⁾	900	680	615			
Interest burden ⁸⁾	38	25	21			
Return on total assets ⁹⁾	4	7	8			
Equity-to-assets ratio ¹⁰⁾	26	36	36			
Banks¹¹⁾						
Profit/loss ¹²⁾	-0.4	1.1	1.1	0.7		
Interest margin ¹³⁾	5.2	2.9	2.4	2.4		
Non-performing loans ¹⁴⁾		1.8	1.8	1.8		
Loan losses ¹⁵⁾	2.3	0.2	0.2	0.2		
Lending growth ¹⁶⁾	4.7	9.7	-1.7	-0.5		
Return on equity ¹⁷⁾		14.7	14.5	8.4		
Equity ratio ¹⁸⁾		7.2	6.7	6.5		
Tier 1 capital ratio ¹⁹⁾	6.3	9.5	11.8			

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 2006–2014

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 2006–2014 plus interest expenses

3) Banks' lending rates to households. Banks and covered bond mortgage companies from 2006 onwards

4) Lending rates adjusted for inflation measured by the CPI

5) Households' total financial 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 2006–2010

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

7) Enterprises' total debt as a percentage of profits before tax and depreciation. Limited enterprises in Norway. Excluding bank/insurance, public sector and extraction of oil/gas. Figures include only enterprises with debt. Key figures for 2010 are based on a sample of financial statements that were submitted early

8) Enterprises' total interest costs as a percentage of profits before tax, interest costs and depreciation. Limited enterprises in Norway. Excluding bank/insurance, public sector and extraction of oil/gas. Figures include only enterprises with debt. Key figures for 2010 are based on a sample of financial statements that were submitted early

9) Enterprises' pre-tax profits as a percentage of total assets. Limited enterprises in Norway. Excluding bank/insurance, public sector and extraction of oil/gas. Key figures for 2010 are based on a sample of financial statements that were submitted early

10) Book equity as a percentage of total assets. Limited enterprises in Norway. Excluding bank/insurance, public sector and extraction of oil/gas. Key figures for 2010 are based on a sample of financial statements that were submitted early

11) Annual accounts and stock at year end form the statistical basis. Figures for 2011 as of Q1. Profit/loss, loan losses, lending growth and return on equity are annualised

12) Pre-tax profits 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 to other periods

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

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

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

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

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

18) Equity in per cent of assets for all Norwegian banks except branches of foreign banks in Norway

19) Regulatory Tier 1 capital to risk-weighted assets for all Norwegian banks except 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, Finanstilsynet (Financial Supervisory Authority of Norway) and Norges Bank



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