FINANSTILSYNET
THE FINANCIAL SUPERVISORY
AUTHORITY OF NORWAY

RISK OUTLOOK 2012

THE FINANCIAL MARKET IN NORWAY

The report gives an account of the situation in financial institutions in light of economic and market developments, and assesses trends that may give rise to stability problems in the Norwegian financial system.

Risk Outlook 2012

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Cut-off date 7 March 2012.

Summary and assessments

Economic developments and risk

The reverberations of the international financial crisis in 2008 continue to permeate the world economy, which suffered its severest setback in many decades. Financial markets have been in turmoil. Substantial governmental stimulatory packages spurred activity but unemployment continued to rise, contributing to lower tax revenues and sizeable budget deficits. Several countries were already in a high public deficit position and heavily indebted prior to the crisis. The fiscal policy pursued in many European countries is unsustainable, and the debt crisis led to renewed turbulence in financial markets from summer 2011 onwards. Any sovereign debt default would inflict major losses on European banks, many of which are in an exposed position. Growth in the euro area has slowed substantially, and a number of countries face a new period of recession. There are also signs of lower growth in emerging economies, which have been important drivers of the international economy. All in all the stage is set for lower global growth in 2012.

The Norwegian economy was hit far less severely by the international financial crisis than other industrialised countries. There was little decline in production, and the increase in unemployment was modest. The Norwegian economy is solid and well positioned to withstand an international economic downturn. Uncertainty pervading the international economy is very high, and the possibility that the Norwegian economy may be harder hit by an international setback than in autumn 2008 cannot be ruled out. A severe international setback will also weaken parts of the competitively exposed sector, and many businesses are already facing problems due to lower demand, a strong Norwegian krone and higher cost growth compared with trading partners. A steep oil price fall will have a particularly adverse effect on the Norwegian economy through lower demand from the petroleum sector, which will affect the oil supplier industry on a broad front. Concurrently the shipping sector, which is of great significance for the two largest banks, shows weak profitability.

Of domestic factors, high house prices and Norwegian households' heavy indebtedness represent the largest risk. In recent years household finances have been marked by a growing debt burden, high loan to value ratios on home mortgage loans and greater recourse to interest-only borrowing, driven by low interest rates, positive expectations of personal finances and belief in a continued rise in house prices. This has contributed to pushing debt and house prices to a very high level in historical terms. The international downturn has encouraged expectations that interest rates will remain low for a long period in Norway as elsewhere. Expectations of continued low interest rates and high income growth are sustaining the demand for loans. Indebtedness has risen most among the youngest borrowers and low-income groups, and the rising debt has increased the household sector's vulnerability in the event of unemployment, income reduction or interest rate increase. Savings are high but are largely tied up in housing and future pensions. Should the Norwegian economy see another setback, house prices could

fall markedly prompting substantial household retrenchment. Recent decades' experience shows that when households are compelled to significantly tighten consumption, the knock-on effects to the rest of the economy are substantial. Corporate debt-servicing ability, in particular for service industries and commercial real estate, is impaired, and losses on corporate loans rise.

Banks' financial strength and liquidity

Norwegian banks are solid and profitable. Loan losses are at a low level. Banks have strengthened their financial position in recent years by retaining profits and raising fresh capital in the market. Norwegian supervisory practice in the capital area has been stringent in a European perspective. This puts Norwegian banks in a good starting position. Although Norwegian banks' core capital adequacy is above current minimum requirements, and higher than the minimum requirements under Basel III, it cannot be regarded as particularly high given the requirements with regard to future capital buffers. Uncertainty as to the further development of the economy and markets is substantial. Norwegian banks may be harder hit by the international crisis than was the case three years ago. According to Finanstilsynet's projections, Norwegian banks' core tier 1 capital adequacy risks significant impairment from higher loan losses.

Experience from the financial turbulence in 2008 showed that market conditions bearing on liquidity change rapidly, and Norwegian banks cannot rule out the emergence of another situation in which refinancing proves difficult. There needs to be a close focus on monitoring liquidity risk both on the part of the banks themselves and the supervisory authorities. Larger liquidity buffers, more long-term funding and firmer liquidity management have put Norwegian banks in a better position to tackle a situation of tighter liquidity than was the case in 2008. After a substantial worsening of banks' access to international market funding in autumn 2011, market conditions thus far in 2012 have been brighter with improvements in both access and price. This is largely ascribable to a substantial three-year loan facility from the European Central Bank. Uncertainty regarding further developments in money and credit markets remains substantial, and it is important for the banks to further expand their long-term funding once the markets permit.

Major changes are under way in the international rules governing financial institutions, many of them prompted by weaknesses brought to light during the financial crisis. CRD IV based on Basel III will bolster the banking system's financial strength. The new rules will also set requirements for banks' unweighted equity ratio. In addition to changes in the capital adequacy rules, the new framework sets quantitative liquidity requirements. Qualitative requirements are already in place.

A lesson learned from the international financial crisis in autumn 2008 was that authorities in many countries were insufficiently aware of systemic risk and the need for measures to mitigate this risk. For that reason international organisations such as the IMF and BIS recommend that macroprudential supervision and regulation be built up at the national and international level. The European Systemic Risk Board, established in 2011, oversees systemic risk within the EU. In addition to a greater focus on monitoring, new policy instruments are proposed to mitigate the risk of build-up of imbalances and systemic risk. A relevant instrument of macro regulation is the introduction of a countercyclical capital

buffer. This is designed primarily to bolster the banking system's financial position in periods of especially strong credit growth so as to avoid a severe credit contraction in an ensuing downturn. The Basel Committee has also drafted a proposal for extra capital requirements for global systemically important banks. Efforts are under way to extend this regime to institutions deemed to be systemically important at the national level, which may see an extra core tier 1 capital requirement of up to 2.5 per cent. There is reason to believe that the rule changes will in aggregate dampen fluctuations in the economy and reduce the risk of financial crises in the future.

Macroeconomic surveillance was established at Finanstilsynet in the mid-1990s in the wake of the banking crisis 20 years ago. The Authority monitors the real economy and markets using a broad set of indicators. Finanstilsynet has followed developments in the housing and credit markets with concern, and the guidelines for home mortgage loans were in part introduced to mitigate the risk of build-up of a credit financed housing bubble.

Several Norwegian, but above all many large international, banks can, subject to approval by the authorities, use internal models to compute minimum capital charges. The precision of banks' risk models, and their ability to capture all relevant risk, is a matter of uncertainty. There is a particular danger that the models fail to reflect the risk present in the system as a whole. It can be difficult to compare banks' actual financial strength. This applies at the national level, but even more so in international comparisons. Supervisory authorities, central banks and financial institutions conduct regular stress tests to identify the financial system's sensitivity to major shocks not captured by the banks' risk models.

Uncertainty with regard to international developments and the consequences of a serious setback for the Norwegian economy in general and for Norwegian banks in particular have prompted Finanstilsynet on several occasions to underscore how important it is for banks to reinforce their financial position by retaining profit and raising new equity capital in the markets. Finanstilsynet expects all Norwegian banks, finance companies and mortgage companies to attain a minimum of 9 per cent core tier 1 equity by 30 June 2012, in keeping with the EU's recommendation for large European banks.

In supervisory practice importance is attached to frequent on-site inspections at financial institutions, a thoroughgoing approval process for banks applying for permission to use internal risk models to compute minimum capital charges, and the Pillar 2 framework when gauging banks' capital needs. To assure robust regulation of the financial sector, supervision and regulation must take into account the fact that probability calculations and models do not capture all relevant risk.

Challenges facing life insurers

As providers of defined benefit occupational pension schemes, life insurers and pension funds face two predominant risks: the risk of insureds living longer than expected, and the risk that the return on pension assets will prove lower than assumed in the contract. Pension managers have substantially

strengthened provisions as a result of increased life expectancy, but developments suggest that further strengthening will be needed over time.

Interest rates have fallen steeply in recent years. Long-lasting low interest rates pose rate-of-return challenges for pension products carrying an interest guarantee. The challenges are particularly evident in the case of paid-up policies where interest rate risk cannot be priced into future premiums. Private defined benefit pensions pose a substantial risk where schemes are terminated and converted to paid-up policies, which becomes more likely if the price of the rate-of-return risk significantly pushes up the employer's premium payments.

Solvency II, life insurers' future solvency framework, brings the interest rate risk facing life insurers into relief. Under the current framework neither the value of insurers' liabilities nor the capital requirement is affected by the prospects for future return. Under Solvency II, however, liabilities are valued at estimated present value (fair value), and the challenges posed by low interest rates become clearer. Although existing customer buffers can be increased somewhat in the run-up to implementation of Solvency II, life insurers' risk bearing capacity will need to be strengthened. Changes in the regulatory framework to mitigate the vulnerability associated with paid-up policies and increase insurers' ability to bear risk should therefore be considered. Such measures will make it more attractive to supply capital to life insurers.

In light of the challenges facing the life insurance industry, the Banking Law Commission has recommended steps to curb the growth of traditional paid-up policies by enabling policyholders to convert paid-up policies to unit-linked pension agreements. Where a policyholder wishes to convert a paid-up policy, the interest guarantee ceases to apply and the individual takes over the rate-of-return risk in exchange for the opportunity to adapt the investment profile to personal preferences. Finanstilsynet endorses the main lines of the recommendation on condition that thorough information is provided to the policyholder. Moreover, new pension products are being considered that distribute risk between policyholder and pension provider in a more balanced manner than is the case with existing defined benefit and defined contribution schemes.

In order to facilitate the transition of existing schemes to Solvency II, Finanstilsynet recommends amalgamating the current fluctuation reserves and supplementary provisions to form a new buffer fund that is more flexible in terms of covering loss. It is also recommended that insurers be obliged each year to set aside provisions to this fund until it reaches 10 per cent of the premium reserve. At present, due to the competitive situation, insurers have distributed parts of their excess return in good years with final effect to the customer instead of adding the excess to their buffer capital. Finanstilsynet's recommendation, in addition to simplifying the rules for policyholders and insurers alike, makes for a better basis for building buffers that equalise risk over time. This is expected to put the management of policyholders' assets on a more long-term footing and to mitigate risk to insurers.

Consumer protection

Customer protection is at centre stage of financial market regulation and of the supervision of financial services providers such as banks, insurers and investment firms. Consumer protection has a broad compass. Solid, solvent financial institutions and well-functioning financial markets are crucial both to society and the individual consumer. At the same time it is important for consumers to enjoy good protection when buying and selling financial products and property, and to base their decisions on good information and impartial advice. The international financial crisis underscores the need for consumer protection. Loan bubbles and banking crises have inflicted heavy losses on societies and the individual. Further, many individuals have lost money on investments in complex financial products after receiving poor investment advice and insufficient information about the products' costs, risk and potential return. The consequences of differing investment choices may not be clear and may be of substantial financial significance for the individual. Provision of investment advice is accordingly a regulated and licensable business that is subject to public authorities' oversight.

Finanstilsynet has uncovered a number of gross, systematic breaches of requirements for good business practices. Interest rates are now low, and many are seeking higher return than that available on bank deposits. Concurrently banks and investment firms are seeking to compensate loss of income earned on traditional securities broking with income from other sources. There is a danger that sales of complex, high-risk products will increase for this reason. Finanstilsynet will keep a close watch on investment advisory services and will apply any sanctions needed where consumer protection requirements are seriously violated.

1. Economic trends and markets

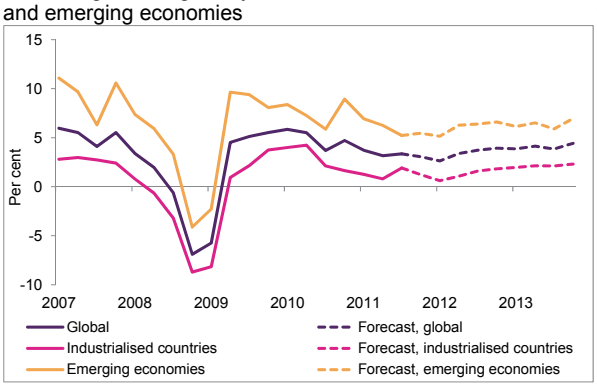
The real economy and the financial situation of households, firms and property markets are of major significance for banks' credit risk, whereas the money and capital market affect banks' liquidity risk. As a small, open, commodity-producing economy, Norway is affected by the international economy in general and by developments in important commodity markets in particular. Loans to households make up a large proportion of banks' loan portfolio, and credit risk rests on the trend in employment, the housing market and interest rates. If high indebtedness obliges households to significantly reduce their purchases of goods and services, there will be negative consequences for the wider economy, and the credit risk inherent in lending to firms will increase. Commercial real estate, to which the bulk of lending to firms goes, is highly important in this context. The largest banks also have considerable exposure to the shipping industry. Securities markets have a major bearing on risk facing insurers, and for Norwegian life insurers and pension funds a sharp fall in stock prices poses a substantial challenge. Concurrently low interest rates are making it difficult for life insurers and pension funds to honour their annual interest guarantee.

The international economy

Growth in the international economy subsided over the course of 2011. As from mid-year risk rose in the financial markets, and growth prospects for the next few years weakened. A clear division persists between the industrialised countries and the emerging economies (chart 1.1). In several industrialised countries production levels at end-2011 were still short of the level prior to the financial crisis in autumn 2008. The financial consolidation required in a number of countries' public and household sectors has dampened economic growth. However, the latest short-term indicators in the US show a more positive trend.

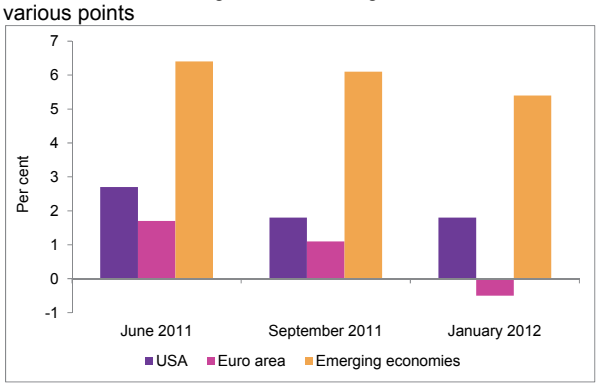
At the start of 2012 the euro area looks to be entering a new recession. The sovereign debt crisis in some euro countries has sparked fears of sovereign defaults and losses in the bank sector, bringing higher funding costs for banks and states alike. High, but subsiding, economic growth marked emerging economies in 2011. In China and India lower demand from the industrialised countries dampened growth towards the end of 2011. Inflation is high but falling in emerging economies, and remains low in the industrialised world. Slower growth in commodity prices as from the second quarter of 2011 contributed to this trend. The labour market in the industrialised countries is unprecedentedly weak. Unemployment is particularly high in the US and the EU, where it rose substantially in the wake of the financial crisis in autumn 2008. In January the IMF projected global GDP growth of about 3.3 per cent in 2012 and 3.9 per cent in 2013. Growth estimates for 2012 were gradually revised down over the course of 2011, for the euro area in particular (chart 1.2).

1.1 GDP growth – globally, in industrialised countries and emerging economies



Source: IMF WEO update, January 2012

1.2 Estimates of GDP growth of 2012 given at various points



Sources: IMF WEO, various editions

The state of the US economy improved somewhat as from the second half of 2011, and has thus far been little affected by the problems in the euro area. A weak first half of 2011 was due mainly to low growth in private consumption and public demand. Unemployment remains high, but edged down in the second half of 2011. Uncertainty in the housing market has contributed to holding down growth. However, the fall in house prices levelled off in 2011 which may, together with some improvement in the labour market, stimulate economic activity ahead. Conversely, high public debt and a budget deficit that must be reduced may inhibit economic growth in the medium term.

The euro area appears to be entering a new recession, as shown in table 1.1. There are however wide variations between member countries. Germany, Austria and Finland showed relatively good economic growth in 2011. In debt-burdened Greece, Ireland and Portugal, economic development has been weak, and these countries have set in train stringent fiscal policy retrenchments to qualify for support loans from the IMF and EU. The Greek authorities must also put in place an agreement to write down and restructure the country's sovereign debt with private creditors in order to benefit from the eurozone's bailout package. Italy and Spain have also adopted severe budget tightening. The European Central Bank's long-term refinancing operation (LTRO) in favour of private banks in December 2011 and February 2012 appears to have dampened market turbulence somewhat, and both Italy and Spain subsequently refinanced parts of their debt at far lower interest rates. Risk premiums on the most exposed countries' sovereign debt nonetheless remain high. The long-term effect of LTRO is uncertain.

Fear of losses in the banking sector has heightened banks' funding costs. This, together with a need to strengthen equity capital, may lead to reduced lending which could in turn negatively affect investment, contributing to lower growth. Private consumption in the euro area is expected to fall in 2012 in light of unemployment having stabilised at an unprecedented high level (table 1.1). In some southern European countries the jobless rate is close to 20 per cent and almost 50 per cent in the case of the under-24s. This could have serious repercussions for developments ahead.

Together with other emerging Asian economies, China remains the main driving force behind international economic growth. Growth in the Chinese economy was high, but subsiding, in 2011. Reduced demand from Western countries, above all Europe which is their most important export market, and lower investment in property may explain some of the deceleration. Government measures

to dampen price growth in the property market appear to have affected investment. Inflationary pressure also eased somewhat in 2011, mainly as a result of lower commodity prices. Signs of subdued economic growth have prompted the central bank to ease the tight monetary policy, and central bank reserve requirements have been gradually reduced since autumn 2011. Growth in the Chinese economy has been driven mainly by investments and exports. The authorities wish to put growth on a more sustainable footing by stimulating private consumption which accounts for a far smaller share of GDP than in western countries.

Table 1.1 Key macroeconomic variables. Forecasts for 2012 and 2013

	USA			Euro area			China		
	2011	2012	2013	2011	2012	2013	2011	2012	2013
GDP	1.7	2.2	2.5	1.4	-0.3	0.9	9.5	8.5	9.5
Inflation	3.2	2.0	2.0	2.7	2.0	1.7	5.6	3.8	3.8
Unemployment	8.9	8.3	7.9	10.2	10.7	10.7	-	-	-

Sources: Concensus Forecasts February 2012, OECD Economic Outlook no. 90, November 2011 (China)

Risk factors

The debt situation in the euro area and in some other large industrialised countries is still considered to be the main uncertainty for the international economy. There are fears that several debt-burdened countries in the euro area will go into default, and that larger countries such as Italy and Spain will require crisis loans. In addition, the markets are affected by waning confidence in the authorities' ability to push through the necessary austerity measures. This has fuelled persistent turmoil in international financial markets, with high risk premiums on government bonds issued by heavily indebted countries and on bonds issued by financial institutions heavily exposed to these countries. Any default is liable to inflict substantial losses on financial institutions, heighten systemic risk in European and international financial markets and lead to a far-reaching setback in the international economy. The negative growth impulses could be compounded by banks' reducing access to credit.

In several industrialised countries, fiscal policy tightening is needed in order to reduce large public debt burdens. Households' financial position is weak, unemployment high, and in many countries private demand is not strong enough to drive the economy. Low competitiveness weakens exports as a possible driving force.

Uncertainty with regard to the US fiscal policy stance is affecting the international economy. The downgrading of US sovereign debt in August 2011 sparked immediate movements in international financial markets, but government bond rates rapidly fell back. There is considerable political disagreement as to how fiscal policy retrenchments should be implemented. Congress has passed a law entailing automatic cuts as from January 2013 should the parties fail to agree on a joint austerity plan. The need for fiscal tightening may serve to dampen growth in the short and medium term. Persistent low key policy rates may pull in the opposite direction.

Emerging economies are playing an increasingly pivotal role in the international economy, and the Chinese economy has a heavy bearing on the trend in the world economy ahead. A shift towards greater domestic demand in China will be needed in order to maintain economic activity in the event of a substantial setback among the large western industrialised countries. It is uncertain whether the high

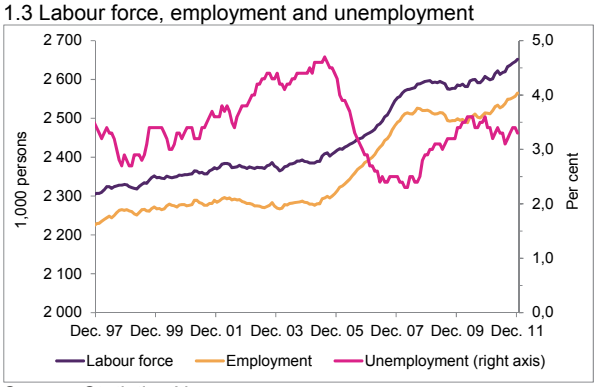
growth rates are sustainable in this transitional period. There is also much uncertainty with regard to China's property market, which has made substantial contributions to economic growth.

Norwegian economy

The Norwegian economy continues to expand. According to the National Accounts, Mainland (non-oil) Norway's GDP grew by 2.6 per cent in 2011. Because production of crude oil and natural gas fell, overall GDP rose by a smaller margin, as shown in table 1.2. Growth in the mainland economy has been relatively stable in the past two years.

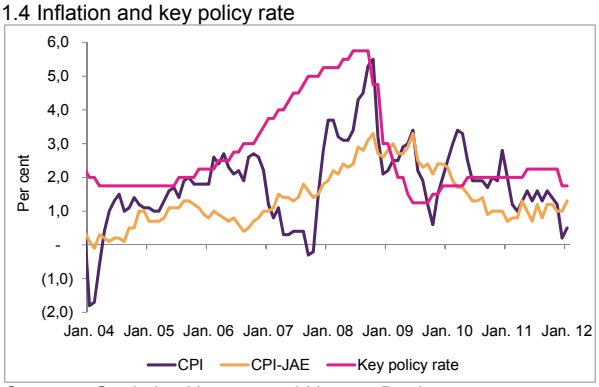
Activity in the private services sector was the main factor holding up overall production: in the fourth quarter this sector accounted for two-thirds of the growth in Mainland Norway. Growth in industrial production rose over the year, but on a two-track basis: production of equipment to the petroleum industry was an important contributor, whereas export-oriented segments dampened the upturn. On the demand side, increased investment and other demand from the petroleum activity were the main factors holding up growth, accompanied by a strong upturn in housing investment. Household consumption pushed GDP growth down somewhat, due above all to lower electricity consumption, while consumption of services rose. The rise in consumption also slowed in the public sector, and falling exports caused overall growth to end close to the trend in the mainland economy. Unemployment remained relatively stable through 2011, with the rise in employment being matched by a similar increase in the labour force (chart 1.3). High population growth due to substantial immigration from northern European countries is the main contributor to the growing labour force.

1.3 Labour force, employment and unemployment



Source: Statistics Norway

1.4 Inflation and key policy rate



Sources: Statistics Norway and Norges Bank

Price inflation declined substantially during 2011, mainly due to falling electricity prices (chart 1.4). The price growth on imported consumer goods was also very low. When adjusted for changes in taxes and energy prices, prices rose by a mere 1.4 per cent for the year as a whole. Norges Bank raised its key rate by 0.25 percentage points to 2.25 per cent in May 2011 in light of higher activity in the Norwegian economy and the likelihood of quickening price inflation. A lacklustre international economy in the summer and autumn, and fear of a setback in the Norwegian economy and even lower price growth, prompted Norges Bank to lower its key rate to 1.75 per cent in December 2011.

Statistics Norway expects a cyclically neutral trend to continue into 2013, followed by a modest upturn. The stage is set for a continued two-track economy, in which lower international growth is offset by a slight increase in domestic demand. Statistics Norway expects a markedly negative trend in the euro area and reduced growth in many emerging economies, combined with impaired Norwegian cost competitiveness, to contribute to low growth in exports for several years (table 1.2).

The petroleum sector will be a particularly important growth driver. The strong growth in oil investments in 2011 is anticipated to quicken further in the current year. Further into the forecasting period Statistics Norway expects investment to remain high, but with growth probably subsiding. Investment in mainland industries is assumed to rise overall over the next few years, but at far lower growth rates than in the previous cyclical upturn.

While Norwegian households saw a substantial income increase in 2011, growth in consumption was dampened by a higher savings rate. Uncertainty with regard to the international and Norwegian economies is a likely contributor to household sector cautiousness. Statistics Norway expects this effect to abate ahead and growth in consumption to gradually increase during the forecasting period (table 1.2). Strong population growth, good income growth and low interest rates have fuelled a marked increase in house prices, which in turn has stimulated housing investment. Lower but still relatively high growth both in housing investments and house prices is expected in the next few years. Despite good growth in Mainland Norway GDP, Statistics Norway estimates unemployment to edge up in the next two years or so due to a continued increase in the labour force.

Table 1.2 Key macroeconomic variables for the Norwegian economy. Forecasts 2012-2015.

Percentage change from previous year	2011	2012	2013	2014	2015
Private consumption	2.2	3.2	4.0	3.9	4.0
Public consumption	1.5	2.2	2.8	3.1	2.4
Gross investment, Mainland Norway	8.2	4.6	4.9	6.2	5.8
Housing investments	22.0	6.6	4.8	6.1	6.0
Exports – traditional goods	-0.6	-2.0	1.3	2.5	3.6
GDP	1.6	2.2	2.0	2.4	2.7
GDP mainland Norway	2.6	2.7	2.8	3.4	3.4
Unemployment[1] LFS[2]	3.3	3.4	3.5	3.5	3.4
Wages per standard man-year	4.3	3.6	3.7	4.4	4.9
Consumer price index (CPI)	1.2	1.3	1.7	2.1	2.6
CPI-ATE[3]	0.9	1.3	1.6	2.1	2.6
House prices	8.0	5.5	5.8	5.8	6.7
Lending rate, home equity credit lines[1]	3.6	3.8	4.0	4.6	5.3
Crude oil price in NOK[1,4]	621	639	627	627	659

[1] Level [2] Statistics Norway's Labour Force Survey [3] CPI adjusted for taxes and exc. energy products [4] Average spot price, Brent Blend Source: Statistics Norway, Economic Survey 1/2012

Risk factors

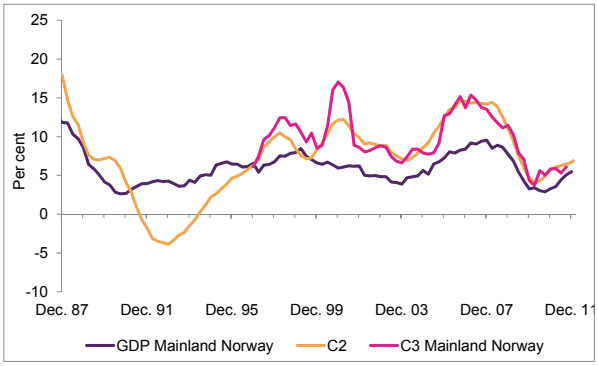
Although forecasts suggest a further upswing in the Norwegian economy, uncertainties attend this picture. Developments in the international economy pose a substantial risk to the Norwegian economy, and the problems in the euro area are a significant risk factor for growth in Norway. Although the Norwegian economy is in a better position than most to tackle a further deterioration among the euro

countries, such a trend may have a negative impact through lower consumer confidence, fall in the oil price and decline in exports. For parts of Norwegian exports, a persistently strong Norwegian currency combined with a high cost level could exacerbate the situation. Among domestic factors, high house prices and the substantial debt burden carried by Norwegian households represent the greatest risk. A large fall in house prices would have a negative impact on economic growth through lower consumption and housing investment.

Credit markets

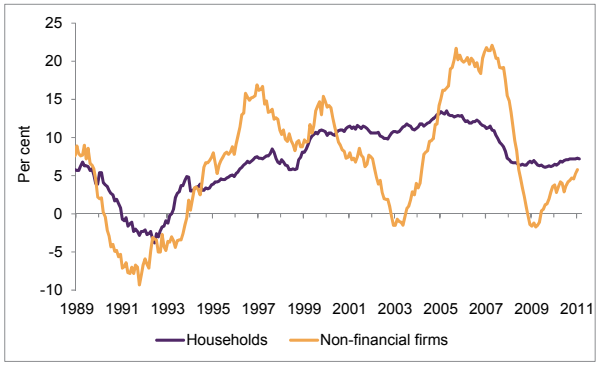
Domestic credit growth (C2) fell sharply through the economic contraction in 2008-2009 (chart 1.5). Credit growth has subsequently picked up gradually, mainly as a result of the trend among firms. At the end of January 2012, corporate credit growth was 5.8 per cent on a twelve-month basis (chart 1.6). Twelve-month growth in credit to households also subsided in the wake of the financial crisis, but levelled off at just over 6 per cent. In 2011 growth in household debt rose somewhat, and in January 2012 stood at 7.2 per cent on a twelve-month basis. Growth in overall credit (C3) edged down somewhat during 2011, primarily due to a fall in foreign credit to Mainland Norway. Growth in foreign credit to the petroleum and shipping sector remained high.

1.5 Growth in GDP and credit



Source: Statistics Norway

1.6 Growth in credit to firms and households



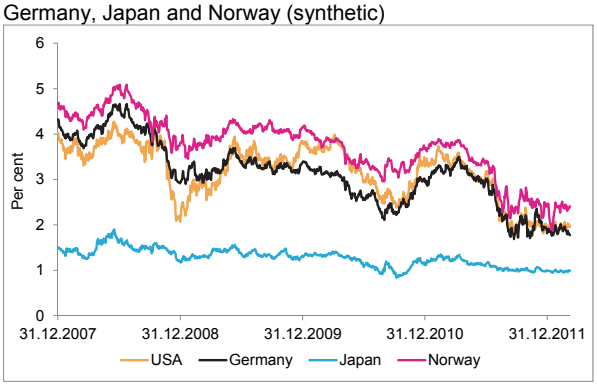
Source: Statistics Norway

Securities and foreign exchange markets

The securities and foreign exchange markets in 2011 were marked by growing fear of default of debt issued by a number of states in the euro area, and expectations of weaker growth prospects for the international economy. The manifest market turmoil towards year-end was largely down to investors' uncertainty as to the political feasibility of necessary budget cuts and avoiding sovereign default in some euro countries. The market turbulence eased somewhat after the European central bank's supply of long-term loans on a large scale to the banking system in December 2011 and February 2012. Tentative signs of improvement in the US and reduced fear of overheating of the Chinese economy have given rise to a positive trend in securities markets thus far in 2012.

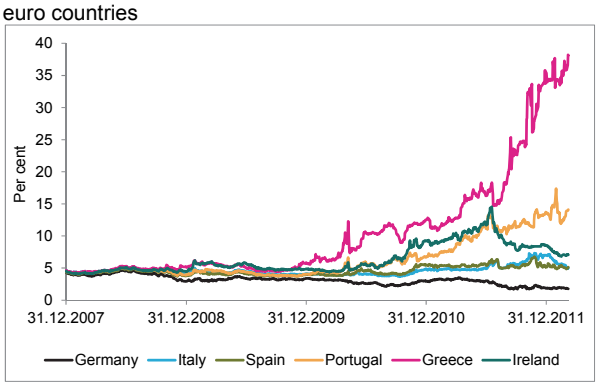
Internationally, long rates fell in general for much of 2011 (chart 1.7). In the US, bond rates fell due to prospects for weak economic growth and lasting low key policy rates. The low rates on government securities have persisted into 2012. The rating agencies have repeatedly adjusted down the credit rating of several countries' government debt in the euro area and also that of many European financial institutions. Interest rates on Greek and Portuguese government bonds rose sharply through 2011 (chart 1.8). Concurrently, rates on equivalent Spanish and Italian government bonds rose to levels that would in due course have led to an unsustainable debt situation. This reflected increased fear among investors of defaults of these countries' sovereign debt and an ensuing European banking crisis. Thus far in 2012, however, both Italy and Spain have refinanced sovereign debt at a far lower interest rate.

1.7 Ten-year government bond rates in the US, Germany, Japan and Norway (synthetic)



Source: Thomson Reuters Datastream

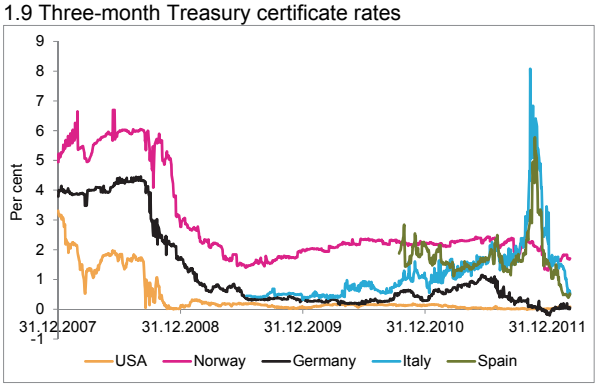
1.8 Ten-year government bond rates in selected euro countries



Source: Thomson Reuters Datastream

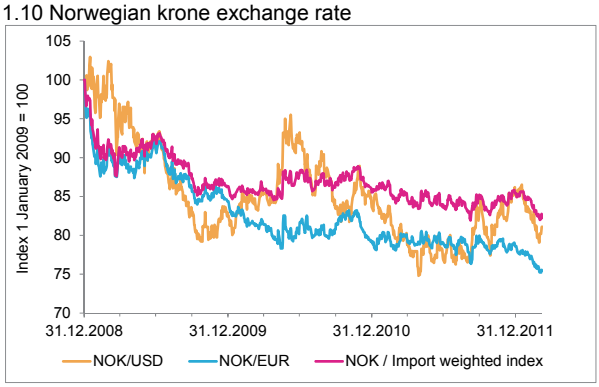
Rates on US treasury bills remained low through 2011 and into 2012 (chart 1.9). In the euro area, however, the trend in short government rates has been two-pronged: whereas interest rates on German and French treasury certificates declined to historically very low levels, rates on equivalent government securities issued by euro countries with considerable problems in their government finances have been volatile. For example, rates on Italian and Spanish three-month treasury certificates rose in October and the first half of November by more than 4 percentage points when market turbulence rose strongly, but returned to their September level in December.

1.9 Three-month Treasury certificate rates



Source: Thomson Reuters Datastream

1.10 Norwegian krone exchange rate



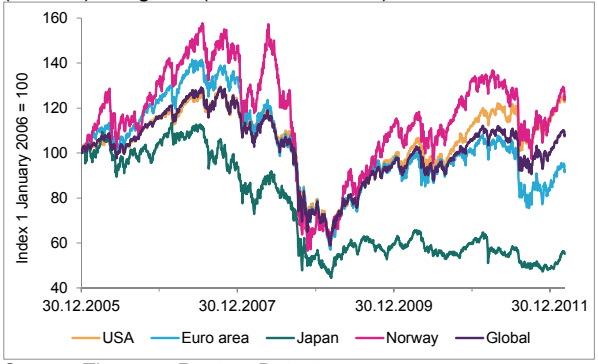
Source: Thomson Reuters Datastream

The rate of the US dollar against the euro has in the past two years or so fluctuated in step with the relative growth prospects and shifting uncertainty attending government finances in the US and the

euro countries. After a period of marked weakening against the euro early in 2011, the dollar has since August 2011 strengthened against the euro. The uncertainty among market actors strengthened the traditional hedge currencies such as the Swiss franc and Japanese yen in 2011, especially in the first half-year. The Swiss franc appreciated so markedly that the country's central bank chose to intervene. The Norwegian krone appreciated significantly against both the dollar and the euro from the start of 2011 to the end of August, but weakened against the dollar in the second half-year. Thus far in 2012 the krone has strengthened considerably against the dollar, the euro and the trade weighted exchange rate index (chart 1.10). In light of an expected positive interest rate differential against other currencies and a lasting high oil price, Statistics Norway's forecasts point to a continued strong krone exchange rate over the next two years or so. At the same time substantial fluctuations in the krone exchange rate pose challenges for the competitively exposed sector.

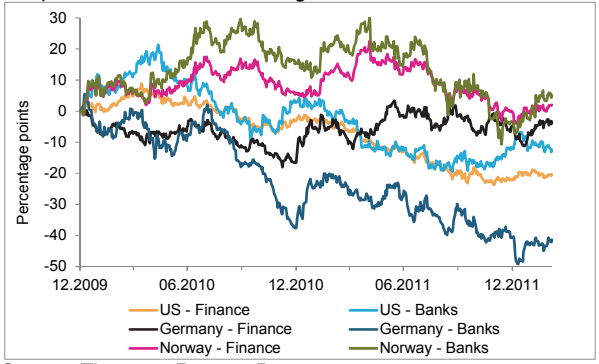
International stock markets were on a weak trend for much of 2011 (chart 1.11). Oslo Børs largely shadowed the international share price trend and the oil price. The international return on shares, measured by the MSCI World Index, was -5.0 per cent in 2011. The Oslo Børs Benchmark Index concurrently fell 12.5 per cent. Between year-end and early March 2012 stock markets have shown a positive trend. Since the end of 2009 the rate of return on Norwegian bank and financial shares has outstripped the reference index, while corresponding return in the US and Germany has been somewhat lower (chart 1.12). Return on shares issued by German banks has been particularly lacklustre, and was in the same period 41 per cent below the figure for German shares in general.

1.11 Return on shares: US (S&P 500), euro area (Euro STOXX), Japan (Topix 500), Norway (OSEBX) and global (MSCI World Index)



Source: Thomson Reuters Datastream

1.12 Excess return on finance and bank shares compared with stock market in general



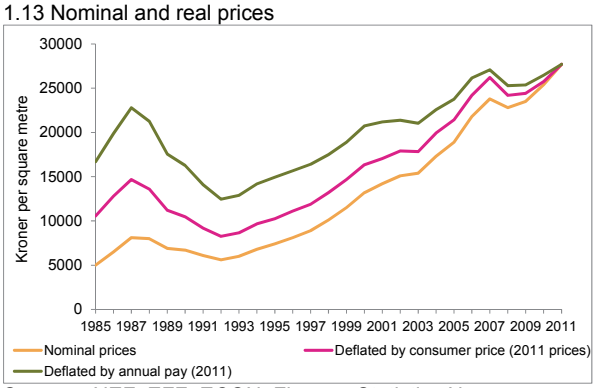
Source: Thomson Reuters Datastream

Property markets

Housing market

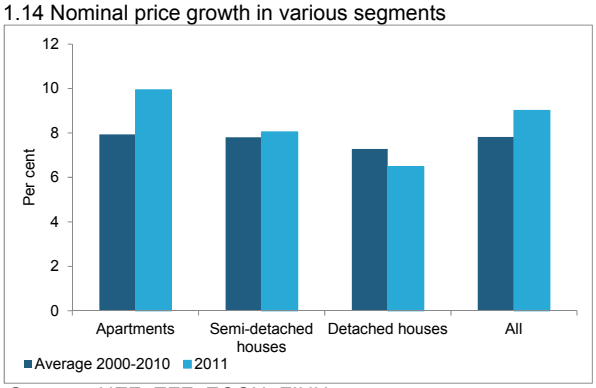
Growth in house prices in Norway remains high. Real prices of Norwegian dwellings are now at a historically high level both in terms of consumer prices and in terms of the wage level (chart 1.13). Growth in house prices has been strong since 2000, and the increase in 2011 was above the average annual growth since the turn of the millennium. House prices were as much as 9 per cent higher in 2011 than in 2010. The growth in apartment prices was particularly high in 2011 (chart 1.14).

1.13 Nominal and real prices



Sources: NEF, EFF, ECON, Finn.no, Statistics Norway

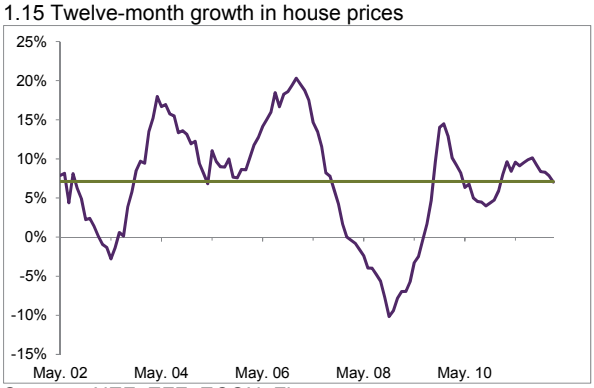
1.14 Nominal price growth in various segments



Sources: NEF, EFF, ECON, FINN.no

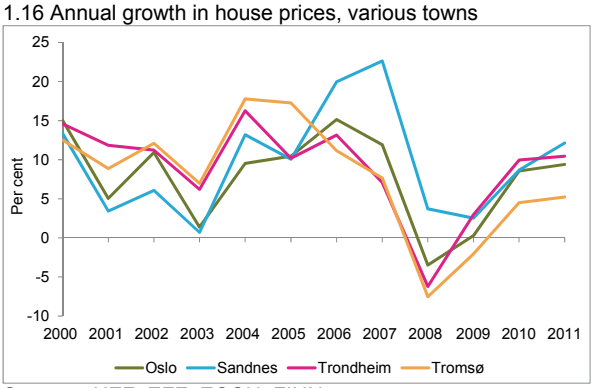
In February 2012 Norwegian house prices were nominally 7 per cent higher than in February 2011 (chart 1.15). After strong growth in January, house prices were on a relatively flat trend in February. Although the regional house price cycles closely shadow one another, there are differences in the level of price growth between the large towns (chart 1.16). Labour immigration and urbanisation contribute to variations in price growth between urban and rural areas.

1.15 Twelve-month growth in house prices



Sources: NEF, EFF, ECON, Finn.no

1.16 Annual growth in house prices, various towns



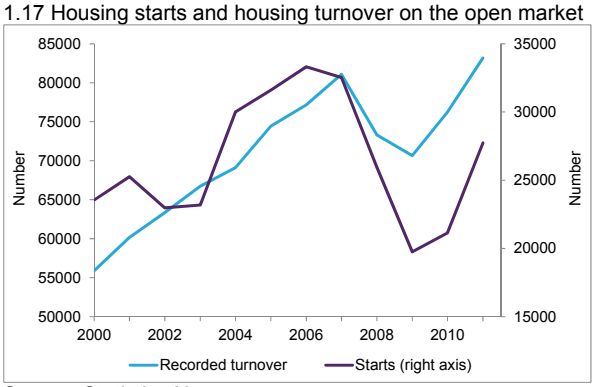
Sources: NEF, EFF, ECON, FINN.no

Housing construction follows the trend in the market for existing homes (chart 1.17). After a substantial fall in the wake of the international financial crisis, housing starts rose in the second half of 2009. 2011 saw 27,735 housing starts, 31 per cent more than in 2010. More than half of new dwellings in 2011 were in the counties of Oslo, Akershus, Rogaland and Hordaland. At the start of 2012 both the order backlog and order supply for new apartment buildings were sizeable (chart 1.18). At the same time an approximately equal number of existing homes are registered for sale on Finn.no as in February 2011. The turnover of existing homes appears to be somewhat quicker than one year previously.

The very high growth in house prices in Norway since 1992, which is also reflected in a historically high level of household debt, has been driven largely by the demand side of the housing market. The trend has heightened the vulnerability of Norwegian banks and the Norwegian economy alike. In recent years, a lack of new construction may also have contributed to the growth in house prices. Chart 1.19 shows housing starts by region as a share of total starts. In South Trøndelag this share fell up to

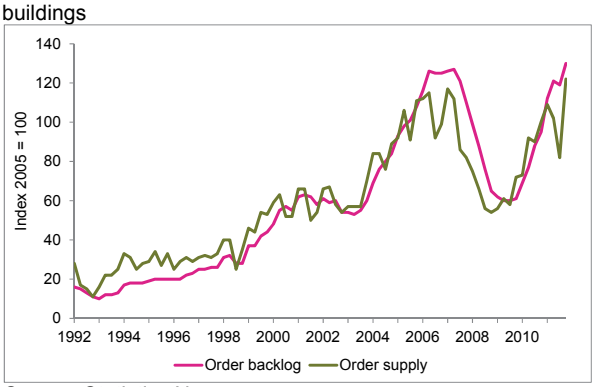
2008 while in Rogaland it gradually rose. Price growth has been high in both regions. In Oslo the figure showed a falling tendency from 2004 to 2011, when starts rose markedly. 2011 saw 4,500 housing starts in Oslo, 3,000 more than the previous year.

1.17 Housing starts and housing turnover on the open market



Source: Statistics Norway

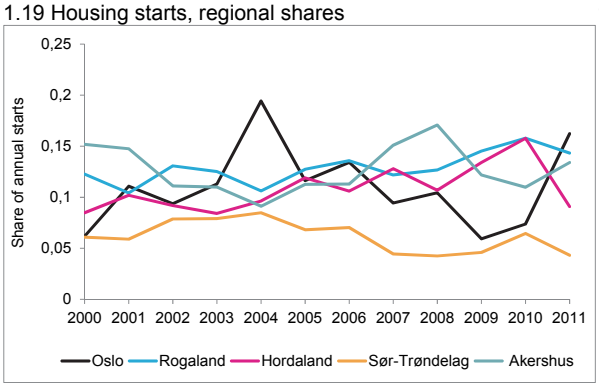
1.18 Order backlog and order supply, residential buildings



Source: Statistics Norway

Expectations of continued low interest rates, buoyant income growth and continued house price growth may generate high demand for dwellings ahead. However, international turbulence may dampen optimism, pulling in the opposite direction. After a brief decline in autumn 2011, households' house price expectations are back to the level in effect in the past couple of years (chart 1.20).

1.19 Housing starts, regional shares



Source: Statistics Norway

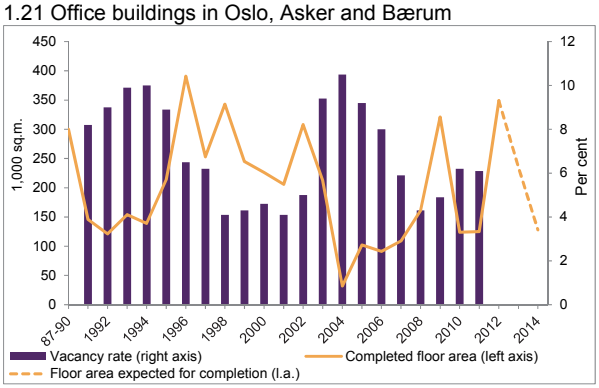
1.20 House price expectations, 12 months ahead

Sources: Eiendomsmegler 1 and Prognosesenteret

Commercial property

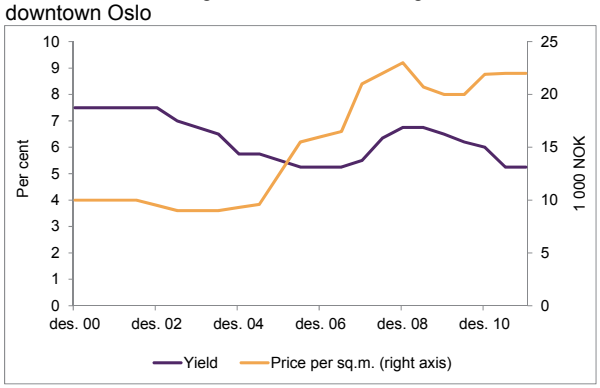
Over the course of the past year the Norwegian economy has provided good macroeconomic conditions for most sub-segments of the commercial property market. For hotels there has been a clear increase in turnover and number of bed nights, while the growth in private consumption has contributed to increased turnover at Norwegian shopping centres in 2011. The vacancy rate in the office market rose in the wake of the international financial crisis in autumn 2008, but turned at the start of 2011 and levelled off over the year (chart 1.21). Rental prices remained relatively stable in the period, but showed signs of growth towards the end of 2011. Concurrently yield has continued to fall for the best office properties with long, secure rental income, leading to higher valuations (chart 1.22). A similar trend is in evidence in other sub-segments.

1.21 Office buildings in Oslo, Asker and Bærum



Source: Eiendomsspar, Oslostudiet spring 2012

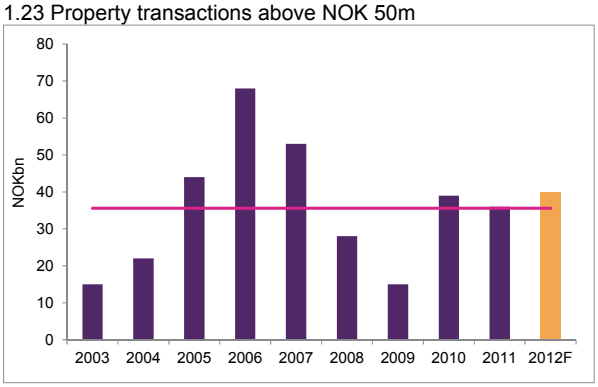
1.22 Yield and average value, office buildings in downtown Oslo



Source: OPAK

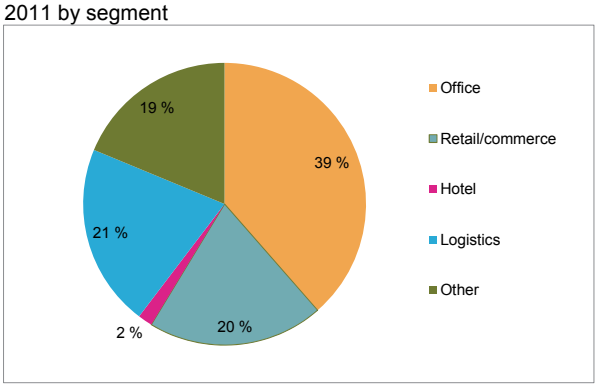
In 2011 the number of property transactions was on a par with 2010, but the transaction volume was still appreciably lower than in the years 2006-2007. This is particularly true of large property transactions (in excess of NOK 50 million) (chart 1.23). Demand for office and retail property has been high (chart 1.24). Active buyers of commercial property in Norway in 2011 were above all property companies, syndication companies and life insurance and pension companies. Investors remain selective, and it is mainly properties with long-term, secure lease agreements that have found buyers. Banks' tighter credit practice in recent years with regard to commercial property also plays a part here. However, sales of plots and properties for development have risen over the past year, and several banks have expressed a desire to increase lending to the commercial property segment.

1.23 Property transactions above NOK 50m



Source: UNION Markedsrapport: Winter 2012

1.24 Property transactions above NOK 50m in 2011 by segment



Source: UNION Markedsrapport: Winter 2012

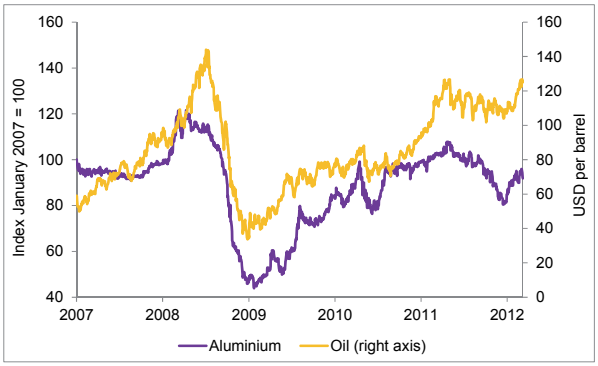
Forecasts for the Norwegian economy point to a tentative cyclical upswing in the period to 2014 which could help to maintain demand for commercial property. However a marked increase in new construction poses a significant risk of higher vacancy rates in the office, retail, hotel and warehouse segments in the years ahead. At the same time there is greater uncertainty than for some time owing to the international trend. Further, large loan volumes to commercial property are likely to be accompanied by significantly higher interest rates in 2012 and 2013 since, between 2006 and 2008, banks granted numerous, sizeable loans with high loan-to-value ratios and fixed margin agreements which are now in the process of expiring. The margin is measured against the money market rate for loans with the same period to interest rate adjustment, and is intended to cover a bank's costs, profit

and risk of loan loss. The floating margin on new commercial property loans currently lies in the interval 2 to 3.5 per cent, compared with 0.5 to 1 per cent prior to the financial crisis. The interest rate increase will produce a clear increase in costs for market participants with debt-burdened property projects. See theme II for a fuller account of banks' exposure to commercial property.

Commodity markets

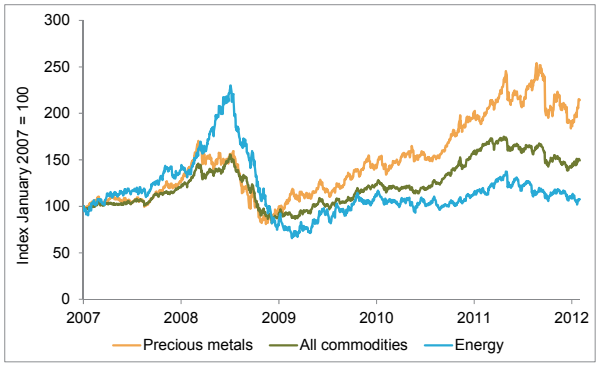
Commodities are important inputs in production, and changes in commodity prices affect manufacturers' profitability. Banks can be affected indirectly through their loans to commodity users or producers. Since commodities are also investment objects in their own right, they may have a direct significance for many financial institutions, especially internationally, through the latter's exposures to the commodity markets. High activity in emerging economies contributed to higher demand for oil and pushed up prices in autumn 2010 (chart 1.25). In the first quarter of 2011, supply side uncertainty after political turmoil in several oil-producing countries in North Africa led to further price increases. Stockbuilding pulled in the same direction. The price of North Sea oil reached a preliminary peak of around USD 125 per barrel in April 2011. Lower demand and reduced supply side uncertainty brought a moderate oil price fall to USD 100-115 in the second half of 2011. Thus far in 2012 prices have risen anew, in part as a result of tensions between western countries and Iran. Reduced growth prospects for the European economy have prompted the International Energy Agency to lower its demand estimates for 2012. The price of exported gas rose through 2011, but Statistics Norway expects both the oil and the gas price to edge down in 2012.

1.25 Price of oil and aluminium



Source: Thomson Reuters Datastream

1.26 Price of selected commodities



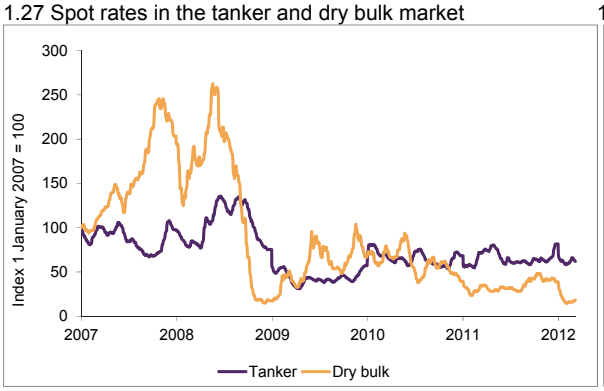
Source: Thomson Reuters Datastream

The price of base metals such as aluminium (chart 1.25) and copper rose strongly in the second half of 2010 and into the first half of 2011. This trend was primarily a reflection of demand in emerging economies. Weaker global demand, mainly from the large industrialised countries, brought falling prices in the second half of 2011. Prices of precious metals rose substantially over the course of 2011, especially in the second and third quarters (chart 1.26). Volatile financial markets have probably spurred demand for gold as an investment alternative.

Shipping

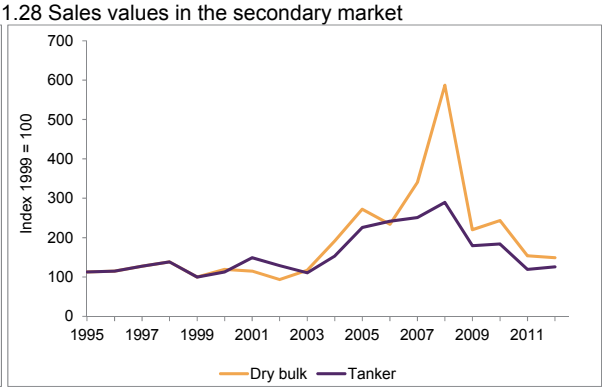
The turnaround in the world economy in autumn 2008 took place in a period of strong increase in tonnage. This contributed to a sharp fall in freight rates and ship values in all shipping segments (chart 1.27 and 1.28). Although freight rates and ship values have subsequently recovered somewhat in certain segments, the industry is still marked by considerable surplus capacity as a result of rapid fleet growth. A particular challenge is posed by traditional shipping segments such as the dry bulk, tanker and container segments where earnings are insufficient to meet shipping companies' full costs. However, the offshore segment showed a favourable trend later in 2011 and on into 2012, although here too rate levels are substantially lower than prior to the financial crisis.

1.27 Spot rates in the tanker and dry bulk market



Source: Thomson Reuters Datastream

1.28 Sales values in the secondary market



Source: RS Platou

The IMF expects some improvement in world trade ahead and the oil price to remain at a level encouraging oil companies to continue to expand their exploration and production activities. This will contribute to higher demand for shipping services. A large surplus of ships, and new ships continuing to enter the market, are however likely to keep down freight rates in the years ahead. This applies in particular to the traditional shipping segments, whereas market prospects are more favourable for offshore segments in light of the considerable willingness to invest in evidence in the oil sector. Lasting low freight rates will reduce future earnings in parts of the industry, bringing further falls in ship values. Impaired debt servicing capacity and falling mortgage values in the shipping industry could inflict rising losses on banks in the period ahead. See theme II for banks' exposure to shipping.

2. Situation for the banks

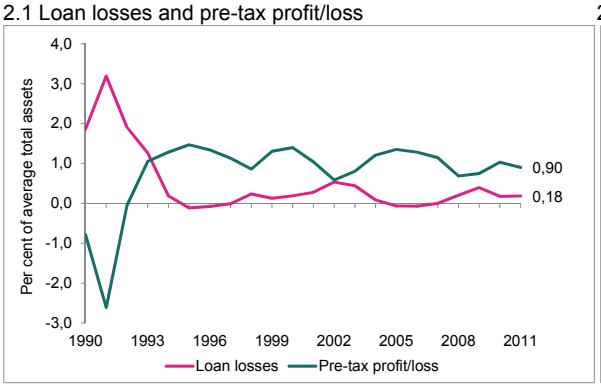
Banks' role as providers of capital links them closely to other sectors of the economy. Profitability, and risk factors that are liable to affect banks' financial soundness, need to be viewed in light of the trend in the economy and markets discussed in chapter 1. The present chapter summarises banks' results in 2011 and goes on to discuss factors affecting banks' risk and ability to withstand loss.

Earnings

Given normal cyclical fluctuations, traditional banking generally provides relatively stable earnings and the limited loan losses incurred are covered through profit. In severe economic contractions banks may suffer considerably heavier losses, as many in the international arena did in 2008. While Norwegian banks fared relatively well during the financial turbulence and incurred limited loan losses, profits were somewhat poorer than in the years prior to the financial crisis. As from 2009 banks have again achieved good results. This is also the case for 2011. Profits in Norway's banking sector appear to have been little affected by low growth and renewed uncertainty in the international economy.

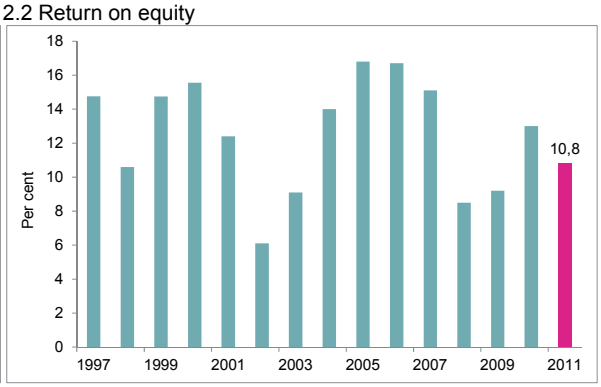
Norwegian banks (groups) achieved a pre-tax profit close to NOK 34bn in 2011, down 7 per cent from the previous year. In terms of average total assets (ATA) profit fell 0.13 percentage points to 0.90 per cent (chart 2.1). Return on equity was 11 per cent (chart 2.2). After correction for substantial one-time effects in 2010, profit in 2011 was somewhat higher, and return on equity roughly unchanged, compared with the previous year.

2.1 Loan losses and pre-tax profit/loss



Source: Finanstilsynet

2.2 Return on equity



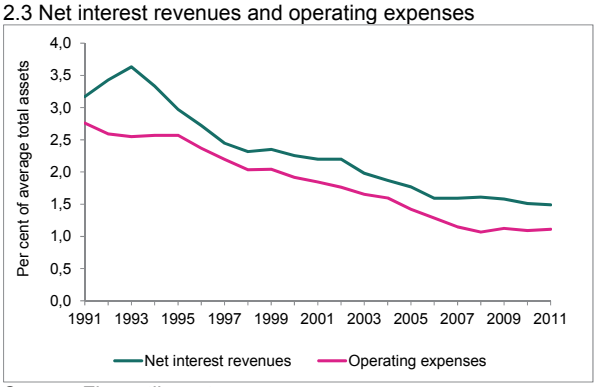
Source: Finanstilsynet

Banks' most important revenue source is net interest revenues which in 2011 accounted for 68 per cent of their total revenues. Net interest revenues fell from 1.51 per cent of average total assets (ATA) in

2010 to 1.49 per cent in 2011 (chart 2.3), as compared with a figure of 2.26 per cent of ATA in 2000. Growth in banks' total assets has long exceeded growth in net interest revenues. Long-term funding, which is normally costlier than short-term funding, makes up an increasing share of banks' aggregate funding, bringing higher funding costs. Further, the risk premium on banks' market funding has risen since 2008, causing funding costs to rise when bond debt incurred in the years prior to the financial crisis is refinanced on new terms. Deposits are normally a cheaper form of funding than market funding. Competition for depositors has been intense, and the deposit margin (the difference between the money market rate and the average deposit rate) has fallen somewhat over time, albeit rising slightly in the past year. Smaller banks have a higher share of deposits than large banks, and their net interest revenues rose somewhat in 2011.

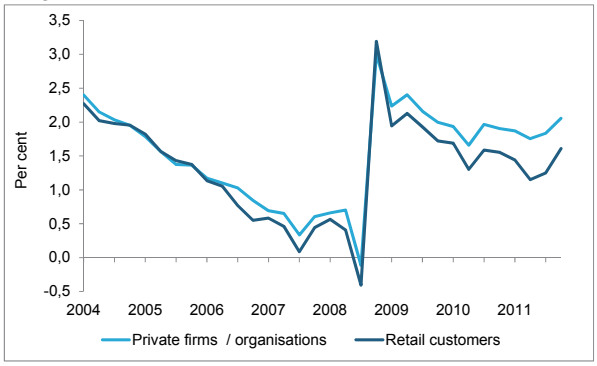
In the years immediately prior to the financial turbulence in autumn 2008, banks' lending margins (the difference between the average lending rate and the money market rate) had fallen to an unsustainable level. The pricing of loans to corporates did not reflect actual credit risk. As from autumn 2008 banks' lending margins rose markedly (chart 2.4), only to fall once again over the next two years or so. The large movement in the lending margin in autumn 2008 was related to the sharp fall in money market rates towards year-end. In recent years the margin on retail loans in particular has fallen due to intense competition for residential borrowers.

2.3 Net interest revenues and operating expenses



Source: Finanstilsynet

2.4 Lending margin - lending rate against three-month NIBOR



Source: Finanstilsynet

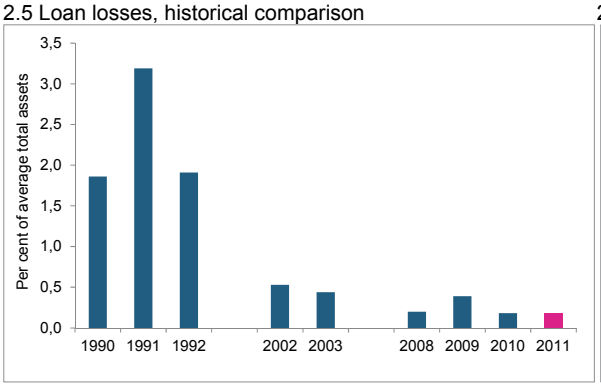
The decline in net interest revenues has largely been met by lowering costs, thereby maintaining earnings. Costs were reduced from 1.9 per cent of total assets in 2001 to 1.1 per cent in 2011 (chart 2.3) with the bulk of the reduction in the period to 2007.

Low loan losses are key to sound banking profits. Loan losses in 2011 were roughly on a par with 2010 at 0.18 per cent of ATA, which in historical terms is very low (chart 2.5). The volume of defaults continued low in 2011 at 1.7 per cent of outstanding loans.

Banks' loan impairment write-downs appear relatively low. At end-2011 collectively assessed write-downs measured a mere 0.3 per cent of outstanding loans, while individually assessed write-downs measured 0.5 per cent (chart 2.6). Uncertainty in the international economy is substantial, and negative repercussions of a setback for the Norwegian economy could lead to increased losses for Norwegian

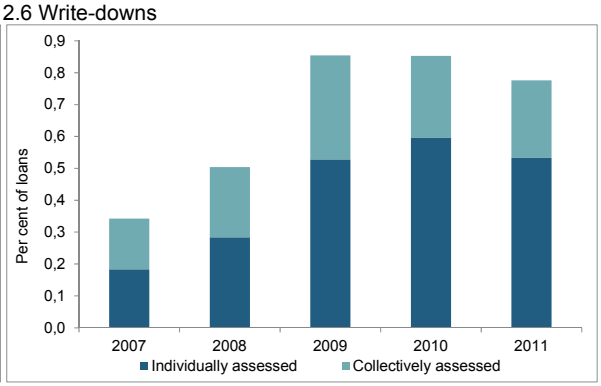
banks. In November 2011 Finanstilsynet urged all banks, finance companies and mortgage companies to consider the need for larger write-downs when closing the accounts for 2011. Collectively assessed write-downs rose somewhat in the fourth quarter, but in proportion to outstanding loans were nonetheless lower than at end-2010.

2.5 Loan losses, historical comparison



Source: Finanstilsynet

2.6 Write-downs



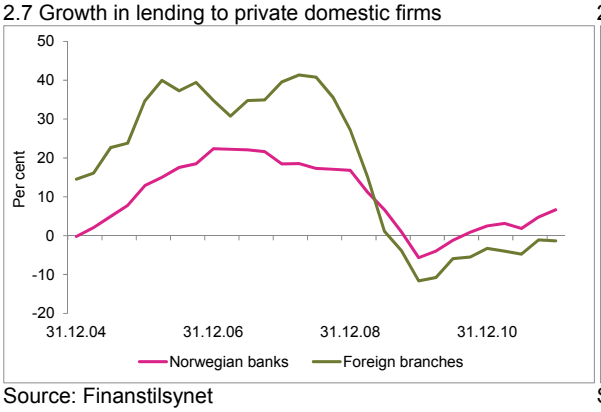
Source: Finanstilsynet

For a detailed review of banks' results, see Report for Financial Institutions (Norwegian only) published quarterly on Finanstilsynet's website.

Loan loss risk

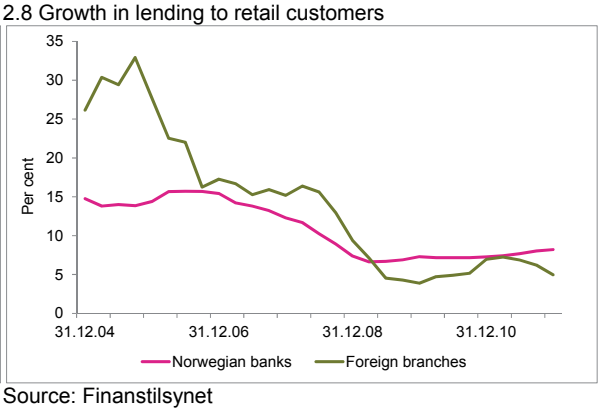
Credit risk is the risk faced by a credit institution that loans or other claims will not be repaid. Since loans account for an average of 75 per cent of banks' aggregate total assets, the trend in credit risk is highly significant for their profitability and financial strength. About 60 per cent of banks' loans go to households, 40 per cent to firms.

2.7 Growth in lending to private domestic firms



Source: Finanstilsynet

2.8 Growth in lending to retail customers



Source: Finanstilsynet

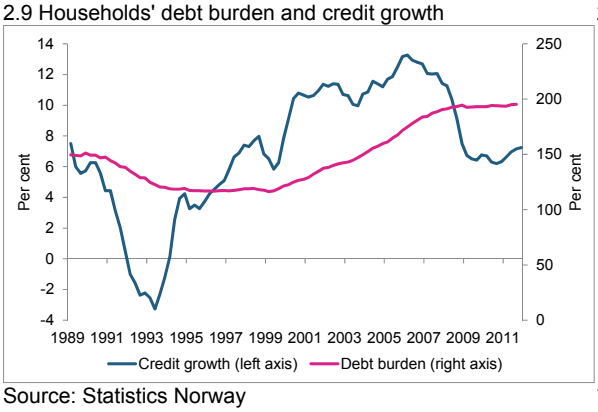
Bank lending grew in all by 7 per cent in 2011, a larger rise than in 2009 and 2010. This was mainly due to increased lending to domestic private firms. In 2011 the annual rate of growth in lending to the latter segment reached 7 per cent (chart 2.7). Retail lending growth has also been on a rising trend,

albeit more stable over time than growth in lending to firms. At 8 per cent in 2011, growth in lending to retail customers was the highest since autumn 2008 (chart 2.8).

Risk in the household sector

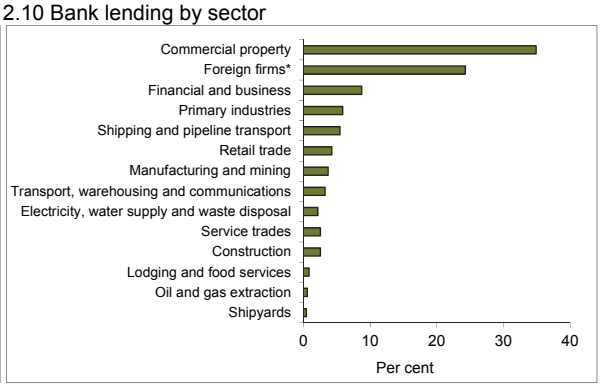
In recent years household finances have been marked by higher gearing (chart 2.9), high loan-to-value ratios on new residential borrowings and increased use of interest-only mortgages. Growth in credit to households outstripped nominal income growth in 2011 as previously. Debt growth has for several years largely followed the house price trend with a lag, and house prices rose strongly in 2011. See chapter 1 for an account of the housing market. Debt, now at a very high level, has risen most among the youngest borrowers and lowest income groups. Households' high indebtedness has increased their vulnerability in the event of unemployment, income reduction and interest rate hikes.

2.9 Households' debt burden and credit growth



Source: Statistics Norway

2.10 Bank lending by sector



* Much bank debt to this sector is to shipping.
Source: Finanstilsynet

Calculations by Statistics Norway on commission from Finanstilsynet show household finances to be highly sensitive to interest rate changes. Interest rates in Norway have been low for some time, and a sluggish trend in the international economy could cause rates to remain low in the period ahead. However, banks' rising funding costs may bring higher mortgage lending rates, thereby increasing households' vulnerability and banks' credit risk. See further details in Theme I.

Risk in the corporate sector

According to Norges Bank's regional network, Norwegian firms' profitability has improved over the last two years. However, the differences from sector to sector are increasingly marked. At the start of 2012 the export industry reported weaker profits while other industries reported improved profits. Oil suppliers still had the strongest earnings growth. Statistics Norway's economic barometer for the fourth quarter of 2011 showed a negative trend in the export market which was partially compensated for by higher domestic demand. The two-track situation is substantiated by the Confederation of Norwegian Enterprise's economic barometer which at the end of 2011 showed that suppliers to the petroleum sector took a positive view of the current market situation and expected further improvement in 2012. Housing producers were also positive, but did not foresee an upturn ahead. Export firms on the other hand took a negative view of the market situation, especially for 2012.

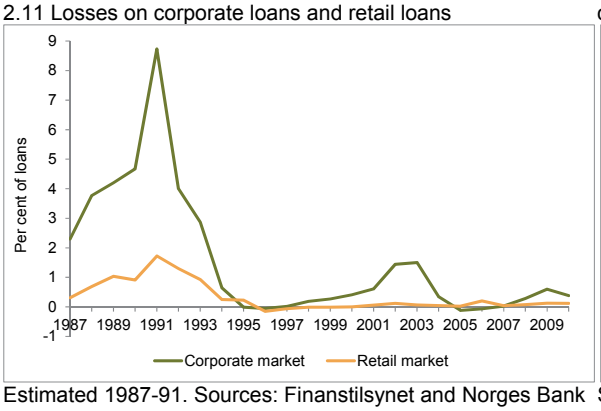
Improved profitability and low debt growth have all in all strengthened firms' debt servicing capacity. Statistics Norway expects investment activity among mainland firms to pick up in the period ahead, potentially accelerating credit growth (chapter 1). It also foresees some increase in interest rates, which in isolation will reduce firms' debt servicing capacity. However, recent years' trend in equity ratios among Norwegian mainland firms suggests a strong financial position overall. Corporate bankruptcies have fallen in number since 2008, and mainly involve small firms with little turnover, few employees and relatively limited bank debt. This has so far limited banks' loan losses. An international downturn suggests poorer prospects for exporters to traditional markets, while a continuing upturn in the Norwegian economy points to lower credit risk on banks' exposures to the sheltered sector. See Theme II for a closer account of banks' risk exposure to the corporate sector.

Commercial property and shipping account for more than half of banks' loans to the corporate market, and also account for a large share of banks' potential losses to that market (chart 2.10). Developments in commercial property and shipping are described in Chapter 1 while an account of banks' exposures to the two industries is given in Theme II.

Risk of secondary effects of households' heavy debt burden

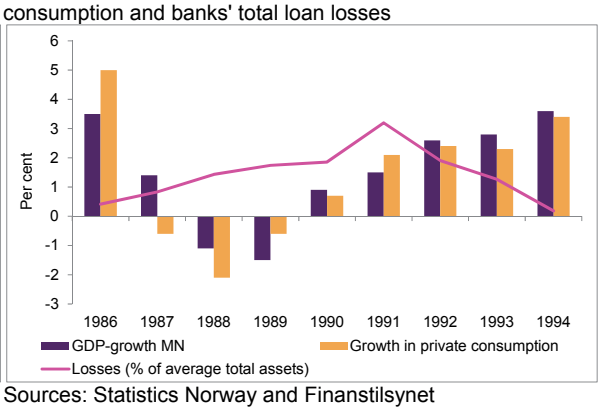
Losses on home mortgage loans have been low in historical terms. Even during the bank crisis in the 1990s about 80 per cent of losses were on loans to corporates (chart 2.11). Debt collection figures (see the account of consumer debt and the debt collection trend in Theme I) show that only 1 per cent of outstanding debt collection business relates to home mortgages, possibly suggesting that retail customers go out of their way to service their mortgages.

2.11 Losses on corporate loans and retail loans



Estimated 1987-91. Sources: Finanstilsynet and Norges Bank

2.12 Growth in Mainland Norway GDP, private consumption and banks' total loan losses



Sources: Statistics Norway and Finanstilsynet

Higher gearing among households nonetheless entails a rising loan loss risk for banks. Both during the banking crisis and in recent decades' cyclical downturns, the spillover effects of reduced household consumption to the wider economy have been considerable. Normally, household consolidation initially leads to a fall in consumption which subsequently translates into a fall in GDP (chart 2.12). As a result, corporate debt servicing capacity, in particular in service industries and commercial property, is impaired, and losses on corporate loans may rise. Hence the trend in employment and the housing market affects the profitability of non-financial firms and has a large bearing on banks' credit risk, earnings and financial strength.

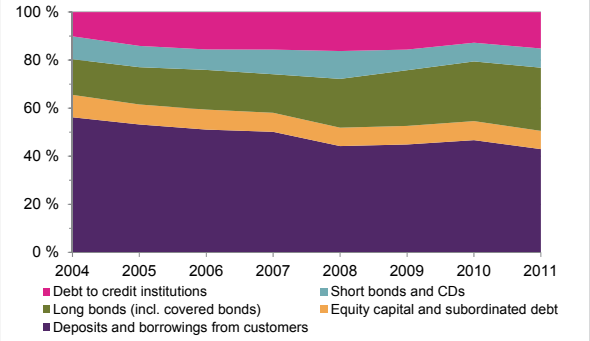
Financing banks' operations

Despite having risen slightly, banks' funding maturities remain far shorter than their lending maturities. When banks channel credit, short-term deposits are converted into long-term loans. This maturity transformation is an important function in banks' operations, but renders banks vulnerable if deposits and funding are not renewed. Experiences from autumn 2008 and the second half of 2011 showed clearly how rapidly liquidity risk can materialise.

Sources of funding

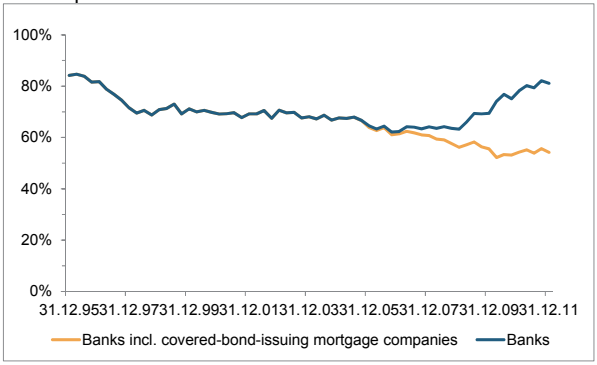
Banks' funding largely comprises deposits from customers and borrowings on money and securities markets (chart 2.13). Large banks have a considerably larger share of market finance than smaller banks which base their operations largely on deposit funding. Access to, and the price of, market funding depend in the first instance on banks' earnings and financial strength. However, as shown most recently in 2011, all banks are liable to be affected by a general crisis of confidence.

2.13 Funding of banks and covered-bond-issuing companies



Source: Finanstilsynet

2.14 Deposit-to-loan ratio



Source: Finanstilsynet

Deposits

Customer deposits rose by 8 per cent in 2011, totalling NOK 1,597bn at year-end. Bank deposits have proven to be a stable funding source, also in periods of financial turmoil, thanks to the deposit guarantee scheme. The guarantee given by the Banks' Guarantee Fund covers up to NOK 2m per depositor per bank. At the end of 2011 the Fund covered 57 per cent of total deposits from sectors under its remit.

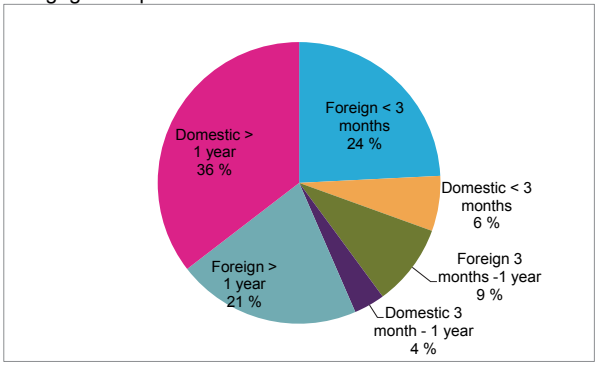
The deposit-to-loan ratio (customer deposits in per cent of gross loans to customers) for banks (parent bank) as a whole was 80 per cent at the end of 2011, an increase of close to 10 percentage points over the past two years (chart 2.14). The high ratio is related to banks' transfer of considerable portions of their loan portfolios to captive or co-owned residential mortgage companies. When these are included, banks' deposit-to-loan ratio was 54 per cent. This figure has been stable for the past two years or so.

Market financing

Banks' securities debt (mainly bonds and money market instruments) and loans from credit institutions totalled NOK 1,288bn at the end of 2011, of which 67 per cent was foreign debt. Covered bonds are now also an important source of funding, and a cheaper one than senior bonds. Banks issue covered bonds through captive or co-owned residential mortgage companies. By the end of 2011 covered bonds

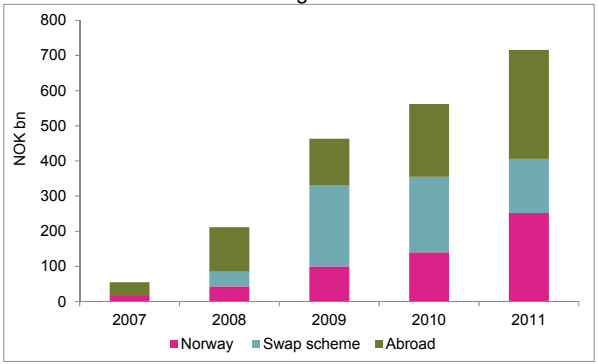
worth NOK 717bn and senior bonds worth NOK 414bn had been issued. Covered bonds forming part of the government's stimulatory package, which allowed banks to exchange covered bonds for government securities in autumn 2008, totalled NOK 154bn (chart 2.16). Covered bonds accounted for 33 per cent of banks' and residential mortgage companies' total market financing at the end of 2011.

2.15 Market financing, banks and covered-bond-issuing mortgage companies



Source: Finanstilsynet

2.16 Covered bonds outstanding



Sources: Statistics Norway, Norges Bank and Finanstilsynet

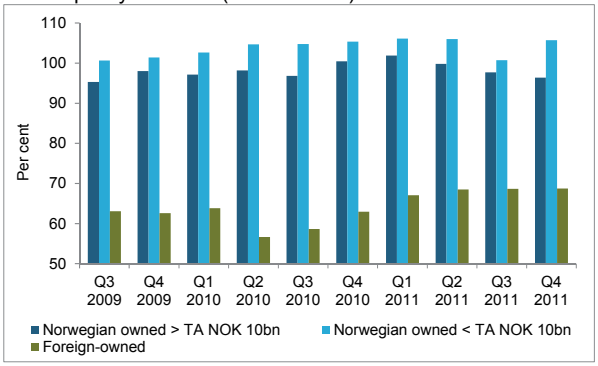
Since size and credit rating are important for access to foreign financing, it is the largest banks that obtain funding abroad. Small Norwegian banks are indirectly exposed through funding provided to them by the large banks. More than 80 per cent of small banks' interbank debt is to the large banks.

The largest banks have much short-term funding at maturities below three months in the money and securities markets. At end-2011 the refinancing need for the next three months was about NOK 620bn, most of which referred to foreign money market paper and deposits from foreign credit institutions. The sizeable refinancing amount relates to these banks' substantial deposits in central banks, and the net refinancing need is therefore far lower than the gross figures would suggest.

Stability of funding

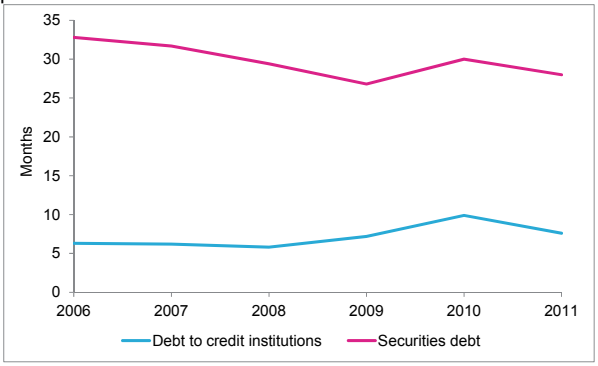
In recent years banks' covered bond issues have lengthened the maturity of banking groups' market financing. Between end-2006 and end-2011 banks, including residential mortgage companies, increased the proportion of funding with a maturity above one year by about 8 percentage points.

2.17 Liquidity indicator (consolidated)



Source: Finanstilsynet

2.18 Average residual maturity, market funding parent bank



Source: Finanstilsynet

Finanstilsynet's liquidity indicator, which shows the ratio of long-term funding with maturity in excess of one year to illiquid assets, was 92 per cent for banks including residential mortgage companies at the end of 2011 (chart 2.17). A longer-term funding structure after the financial turbulence of 2008 is reflected in a higher indicator value. In 2011, on the other hand, the indicator value fell somewhat for the largest banks due to poorer access to long-term financing towards year-end.

Maturity structure

According to reporting by banks (including residential mortgage companies), NOK 750bn of securities debt and debt to credit institutions will fall due in 2012. Debt falling due after 2012 totals NOK 1,218bn, mostly in the form of covered bonds. The maturity of banks' market financing declined somewhat up to the financial turbulence of 2008 (chart 2.18). Once markets resumed satisfactory functioning, long-term funding also increased. In autumn 2011 markets deteriorated anew, making long funding difficult to obtain and bringing another reduction in average securities debt maturity. Debt to credit institutions has shorter average maturity than securities debt, although here too average maturity fell in the second half of 2011.

Conditions in money and credit markets

Conditions in the international money and credit markets deteriorated as from the end of July 2011. Access to long-term funding became more difficult, and credit spreads increased. Over the course of autumn few senior bonds were issued in Europe, whereas covered bonds from solid issuers continued to find buyers.

The considerable uncertainty pervading international money and credit markets caused banks to be more cautious about lending to one another. In the euro area, aggregate sight and time deposits with the European Central Bank (ECB) rose in autumn 2011 from about EUR 100bn to almost EUR 700bn. The ECB responded by increasing both the volume and the maturity of funding offered to banks. In December 2011 and February 2012 more than 800 banks, including several Nordic ones, utilised the opportunity to take out three-year loans (under LTRO – Long-Term Refinancing Operation) on favourable terms. This initiative brought a substantial improvement in money and credit markets.

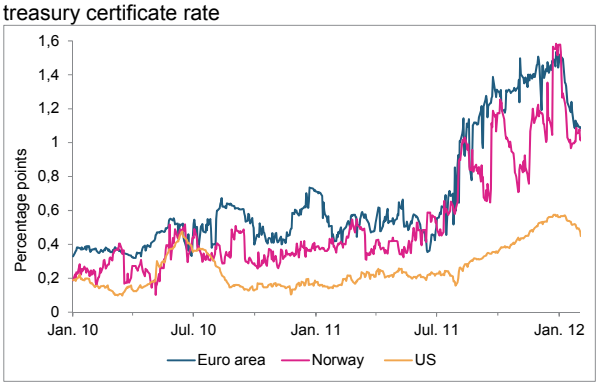
Norway's interbank market has functioned satisfactorily. Norges Bank introduced a quota system for central bank deposits in October 2011 whereby deposits in excess of the individual bank's allotted quota yield far lower interest than deposits within the quota. The system accordingly makes large deposits in Norges Bank financially unfavourable, and was introduced with a view to stimulating the interbank market.

Thus far in 2012 activity in international money and credit markets has picked up, and large volumes of covered bonds in particular have been issued. European banks, mainly banks viewed as financially solid, have also issued senior bonds. Credit spreads remain high for long maturities, but have subsided slightly. Short-term liquidity has been available to presumptively solid banks throughout. Activity in the Norwegian capital market has also picked up, although the Norwegian market did not see same reduction in issue volumes as the international market.

Prices

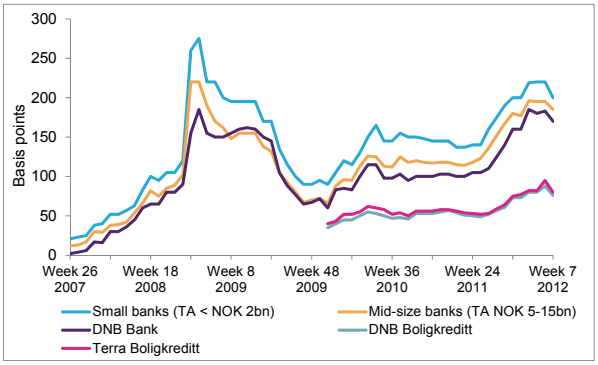
The interest rate differential between the interbank market and treasury certificates widened after summer in Norway as elsewhere (chart 2.19), but was still far from the levels seen in autumn 2008. In Norway the increase in the differential was almost halved early in 2012.

2.19 Spread between three-month interbank rate and treasury certificate rate



Source: Thomson Reuters Datastream

2.20 DNB Markets indicative prices. Floating 5-year bank bonds and covered bonds above 3-month NIBOR



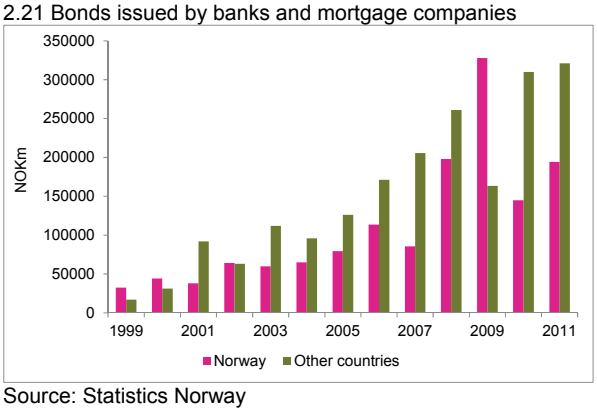
Source: DNB Markets

For senior bonds, the price differential between short and long maturities widened over the course of 2011 for all types of banks due to costlier long-term funding. The largest change was seen by the smallest banks and banks with a low rating. The price of short term funding, on the other hand, declined somewhat for the largest banks and remained virtually unchanged for the smallest banks. Prices have risen substantially more for senior bonds than for covered bonds since the financial turbulence intensified in July 2011 (chart 2.20), making it more favourable than previously for banks to turn to covered bonds for long-term funding.

Bond issuance

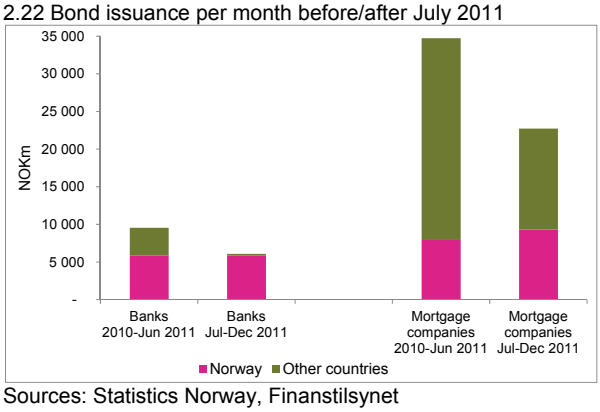
Foreign funding sources are of great significance for Norwegian banks (chart 2.21). Banks issued a smaller volume of senior bonds in 2011 than in recent years whereas the volume of issues through mortgage companies (mainly covered bonds) increased. The differing trend may be due to limited demand for long senior bonds in the second half-year (chart 2.22).

2.21 Bonds issued by banks and mortgage companies



Source: Statistics Norway

2.22 Bond issuance per month before/after July 2011



Sources: Statistics Norway, Finanstilsynet

Norwegian banks' issue activity early in 2012 confirms an improved supply of long-term funding. In January 2012 the volume of senior bond and covered bond issues in the Norwegian market was above the average monthly level in the first half of 2011.

Minimum quantitative liquidity requirements proposed under CRD IV

Quantitative liquidity regulation is recommended for inclusion in the new capital requirements directive, CRD IV. The requirements will be linked to two indicators which are still under development:

Liquidity Coverage Ratio (LCR) measures an institution's liquidity buffer. It requires an institution's highest-quality liquidity reserves to exceed expected net disbursements over a stress period of 30 days. LCR will be introduced as a minimum requirement in 2015. Finanstilsynet introduced LCR reporting for all banks in September 2011. As presently defined, the indicator makes it difficult for Norwegian banks to meet the future requirement of 100 per cent coverage.

The main challenges refer to three factors:

1. Strict requirements on turnover making large parts of the covered bond market in Norway ineligible as liquid assets
2. Small supply of low-risk-weighted securities due to a thin market for government paper
3. A presumption of large withdrawals of customer deposits

Calibration of the indicator is still ongoing, and the composition of the LCR buffer will likely be modified in the period to 2015.

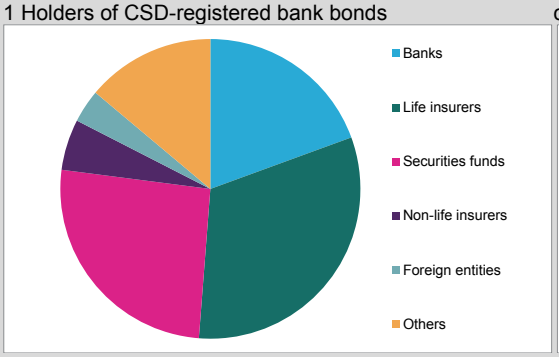
Net Stable Funding Ratio (NSFR) measures the ratio of available stable funding to a one-year stable funding requirement, and shows the level of a bank's long-term funding. A minimum ratio of 100 per cent is required. This is designed to discourage banks from financing illiquid, long-term assets by means of short term funding. The NSFR is scheduled for introduction in 2018. It closely resembles the liquidity indicator currently used by Finanstilsynet in monitoring liquidity. Based on reporting from a selection of Norwegian banks, they are better placed to meet the NSFR requirement than the LCR requirement.

Covered bonds

There are considerable incentives for banks to increase their issuance of covered bonds, for example reasonable pricing compared with other market financing. However, doing so may affect the assets available as collateral for banks' other funding sources, and hence also the price payable by banks for other funding.

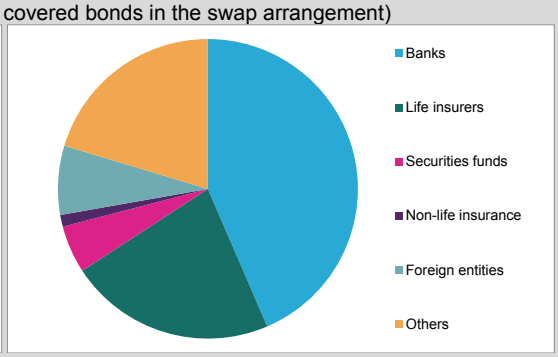
The largest investors in bank bonds are the banks themselves and life insurers (chart 1). The same investor groups also make up two-thirds of the market for covered bonds, i.e. disregarding covered bonds that are presently tied up in the government swap arrangement (chart 2). Rule changes may encourage banks and insurers alike to prefer covered bonds at the expense of the banks' senior bonds. Over the course of 2011 Norwegian banks, as a result of new rules governing provision of collateral at Norges Bank and adjustment to new liquidity requirements under CRD IV, have increased their holding of covered bonds by NOK 61bn, whereas their holding of banks' senior bonds has fallen by NOK 4bn. The risk weighting introduced under Solvency II may have spurred a similar tendency among Norwegian life insurers which increased their holding of covered bonds by NOK 32bn in 2011 while reducing their holding of bank bonds by almost NOK 4bn. In addition to focusing attention on the significance of covered bonds and the collateral available for other bondholders, these changes may contribute to a further rise ahead in the risk mark-up payable by banks on their senior bonds.

1 Holders of CSD-registered bank bonds



Source: Statistics Norway

2 Holders of CSD-registered covered bonds (exc. covered bonds in the swap arrangement)



Sources: Statistics Norway, Finanstilsynet

The framework for covered bonds

Covered bonds are regulated by the Financial Institutions Act and appurtenant regulations governing covered bonds. Covered bonds are issued by specialised mortgage companies that are subject to a licensing requirement, ordinary capital requirements and Finanstilsynet's oversight. Covered bonds afford the bond investor strong protection in a defined selection of the issuer's assets.

Covered bonds are secured by mortgage loans or assets owned directly by the mortgage company. The cover pool may consist of home mortgage loans at up to 75 per cent of property value, loans to commercial property at up to 60 per cent of property value, the majority of loans to public authorities or derivatives with qualified counterparties. Up to 20 per cent of the cover pool may consist of particularly liquid and secure receivables. Payment flows from the cover pool must be sufficient for the mortgage company to honour its payment obligations to the owners of covered bonds at any time.

The value of the cover pool must always exceed the value of outstanding covered bonds (the balance principle), ie the pool must if necessary be topped up with eligible assets. This will for example be the case where a fall in house prices results in a loan-to-value ratio above 75 per cent on one or more loans. Only that part of the loan concerned that is within 75 per cent of property value will count in the cover pool. Similarly, defaulted loans cannot be included in the calculation of eligible cover pool assets. The rules require Finanstilsynet to appoint an external examiner to oversee that the cover pool register is correctly maintained, and the balance principle duly observed, at all times.

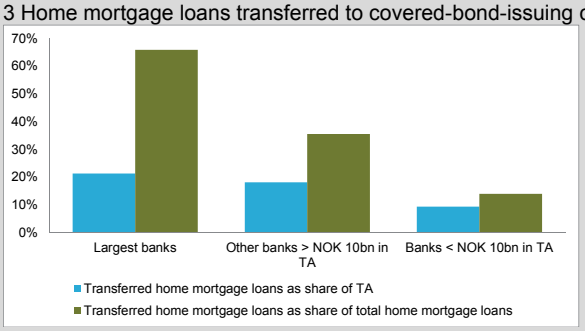
Should a covered bond issuer default on its obligations to the bondholders, the latter will be secured both by a direct claim against the issuer and by their preferential right to the cover pool residing in the issuer. The legislation does not however entitle owners of covered bonds to present claims to the owners of a covered bond issuer.

Norwegian law sets no requirement as to significant overcollateralisation, i.e. that the cover pool should exceed issued covered bonds by a predefined proportion. The degree of any overcollateralisation is however of significance for the credit rating assigned to a covered bond by the rating agencies, which may in turn give rise to differences between covered bond issuers with a credit rating and those without.

Potential for further issuance of covered bonds

In general the largest banks have transferred a higher proportion of their loans to covered bond issuers than the smallest banks (chart 3). There are, however, wide variations among the medium-size and smallest banks. Thirty-seven banks, mainly banks with total assets below NOK 10bn, have not utilised the opportunity to issue covered bonds, although most have the opportunity to do so through the alliances to which they belong. It should be noted that a number of the banks' loans, especially those of the smaller banks, may have been prepared for transfer to covered bond issuers, thereby representing a potential for new issuances in the short term.

3 Home mortgage loans transferred to covered-bond-issuing companies



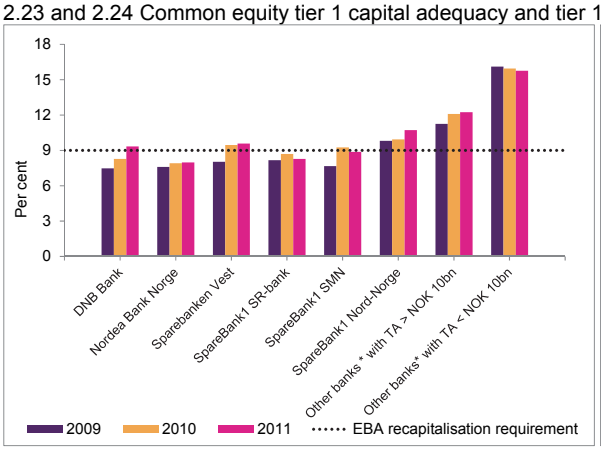
Source: Finanstilsynet

There also exists a potential in the shape of loans already transferred to covered bond issuers, but not used as cover pool assets for covered bonds. At end-2011 this potential was just under NOK 150bn, a considerable proportion of which is assumed to be tied up in overcollateralisation designed to maintain a credit rating. There is also a potential for covered bonds based on loans to, inter alia, commercial property. Few banks have so far exploited this potential, possibly because a lower proportion of commercial loans are likely to qualify as collateral than is the case for home mortgages.

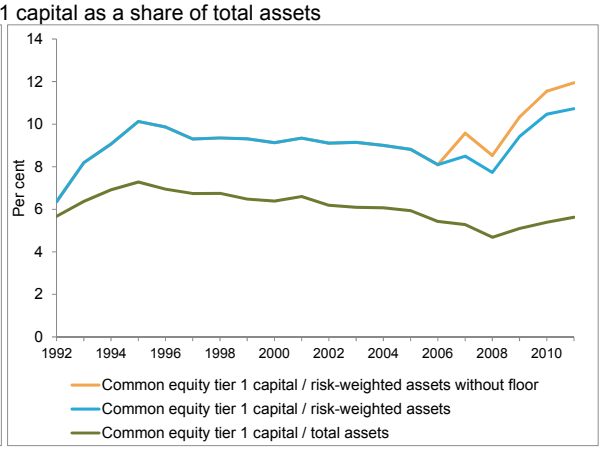
Banks' capacity to withstand loss

In the assessment of financial strength, attention in the international arena is increasingly directed at common equity tier 1 capital. This, consisting primarily of shareholders' equity, is measured against risk weighted assets.

2.23 and 2.24 Common equity tier 1 capital adequacy and tier 1 capital as a share of total assets



Figures for other banks are based on parent bank figures. Source: Finanstilsynet



Figures for banks (parent bank) and residential mortgage companies. Source: Finanstilsynet

All Norwegian banks met the minimum capital adequacy requirements by an ample margin at the end of 2011. Since 2008 banks' financial soundness has improved, in part thanks to good results and substantial profit retention. Several larger banks have launched stock issues. In addition, loss bearing capacity has been strengthened by tighter requirements set by the market and the authorities in the period since the financial crisis. Financial positions were further strengthened in 2011, and common equity tier 1 capital adequacy rose on average for all Norwegian banks and residential mortgage companies to 10.7 per cent (chart 2.24).

Requirement as to recapitalisation

The new proposals on capital requirements in Europe (CRD IV) are designed to assure that banks maintain an adequate level of financial soundness. Since supervisory practice in Norway in the capital area has long been more stringent than in other countries, both in terms of the quality of tier 1 capital and the minimum share it can comprise of own funds, the readjustments needed to the new regime will be less for Norwegian banks than for many European banks. Norwegian banks already meet the new minimum capital requirements.

The EU has already decided to recommend that the largest banks in Europe should achieve a minimum level of common equity tier 1 capital of 9 per cent by 30 June 2012 at the latest. Institutions are expected to retain profit and variable remuneration or, alternatively, to obtain fresh capital to that end. The requirement is significantly higher than the current minimum requirement, and above the minimum requirements that will apply under CRD IV. Even so it cannot be regarded as particularly high in view of capital buffer requirements and markets' and governments' expectations of capital adequacy significantly higher than the minimum requirement.

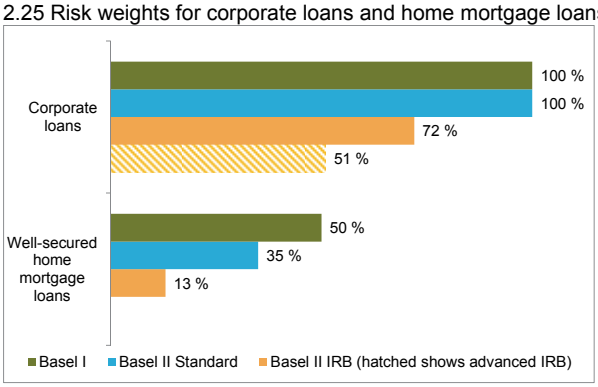
It is important that the banks are well equipped to respond to the effects of international turbulence. Although Norwegian banks are regarded as financially sound, they need to further improve their financial position. Finanstilsynet expects all Norwegian banks, mortgage companies and finance companies, including those of small and medium size, to meet the target of 9 per cent common equity tier 1 capital by 30 June 2012. Finanstilsynet expects the minimum level of 9 per cent to be calculated in accordance with current Norwegian rules, which set a floor for risk weighted assets. See also the EBA's webpages on EU Capital Exercise.

Risk weights

The various aspects of banks' operations carry differing risk. Basel II permitted the use of models to determine risk weights when computing capital charges (IRB). Use of models is subject to approval by the supervisory authorities and strict risk management requirements must be met. In Norway seven banks have received permission to use internal risk models, while the great majority of Norwegian banks use the standardised approach to determine capital charges. The rationale for allowing use of models was to achieve capital requirements that reflect the underlying risk in banks' portfolios as accurately as possible.

Chart 2.25 illustrates the considerable fall in risk weights since the introduction of Basel II, especially for banks that use their own models (IRB). Basel II was introduced after a long period of sound and stable development of the Norwegian economy. Although calibration is designed to adjust for this, the models reflect historical experience that is limited by available data. They do not capture all relevant risk, and will likely understate the effects of systemic risk. See Theme III Macro supervision, capital requirements and risk weighting. At the European level it is noted that the models are unlikely to fully reflect the economic turmoil of recent years, and reductions in banks' risk weights appear not to be balanced by improvements in risk management and control. In Norway Finanstilsynet has taken account of model calibration uncertainties when assessing banks' aggregate need for capital.

2.25 Risk weights for corporate loans and home mortgage loans



Source: Finanstilsynet

Effect of transitional rules (floor requirement)

When Basel II permitted banks to use their own models to measure capital, an objective was to ensure that the banking system's financial soundness would not be impaired. To prevent internal models resulting in excessive reductions in capital charges, transitional rules were introduced in the form of a

floor requirement. This states that the capital requirement under Basel II cannot be less than 80 per cent of the requirement under Basel I.

International financial turbulence has on several occasions caused transitional rules in the form of a floor requirement to be left in place. The design of the floor requirement and the use of internal models have not been fully harmonised across the EU since the introduction of Basel II. The European Banking Authority recently set up an international working group to consider closer harmonisation at the European level, and a similar group has been set up by the Nordic countries. See also the discussion regarding Nordic harmonisation in Financial Outlook 2011, chapter 2.

3. Situation for insurance and pensions

The role of the pensions and insurance sector as a major, long-term investor renders it vulnerable to turbulence in international financial markets. A substantial portion of the sector's total assets is invested in Norwegian and foreign securities. Sharp fluctuations in financial markets can impact heavily on their results.

This chapter opens with a summary of the companies' results and financial strength in 2011, including a brief review of non-life insurers. This is followed by a discussion of market risk, which is the largest risk factor, and buffer capital, which inter alia covers any shortfall in return relative to pension obligations. The market turbulence which intensified in 2011 has reduced available buffer capital and is affecting the opportunity to create long-term return. Pension and insurance providers also face challenges related to low interest rates, increasing life expectancy and the introduction of Solvency II.

Life insurance and pensions

Earnings

In 2009 at 2010 buoyant stock markets brought good return for life insurers and pension funds. Renewed uncertainty in the world economy in 2011 reversed the trend and impacted negatively on the companies through two channels. The stock market fall was immediately reflected in the value of companies' equity investments while prospects of future weak growth led to a sharp fall in long interest rates, measured by 10-year government bond yields, which were already very low. This limits the companies' return on the large bond portfolios.

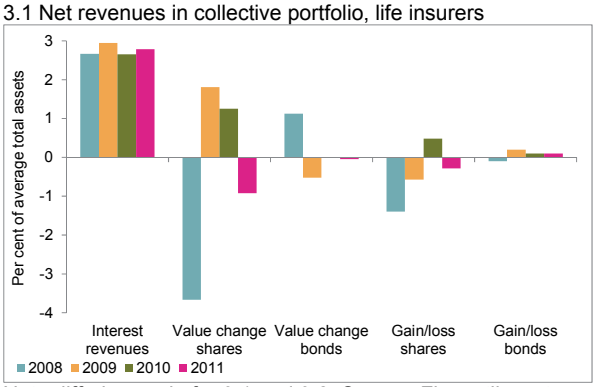
As a result, life insurers' profit before allocation to policyholders and tax came to about NOK 6bn in 2011, half the previous year's figure. For pension funds the corresponding profit was NOK 3bn compared with NOK 5bn in 2010. If use of fluctuation reserves is excluded, the adjusted profit before allocation to policyholders and tax was negative at, respectively, -NOK 3bn for life insurers and -NOK 5bn for pension funds.

Revenues from premium payments are largely stable. The same is true of pension and claims payments. The main reason for the wide variations in profits lies in the fluctuations in financial revenues from the collective portfolio, which includes defined benefit pension schemes and paid-up policies, and makes up the bulk of the companies' balance sheet. For life insurers and pension funds as a whole, return on financial assets in the collective portfolio fell from NOK 58bn in 2010 to NOK

20bn in 2011. The equity portfolios produced particularly large effects (charts 3.1 and 3.2). Since the turn of the millennium, the years of lowest financial revenues for the pensions industry as a whole have coincided with the stock market fall following the dotcom bubble at the start of the 2000s, the financial crisis in 2008 and the European debt crisis in 2011.

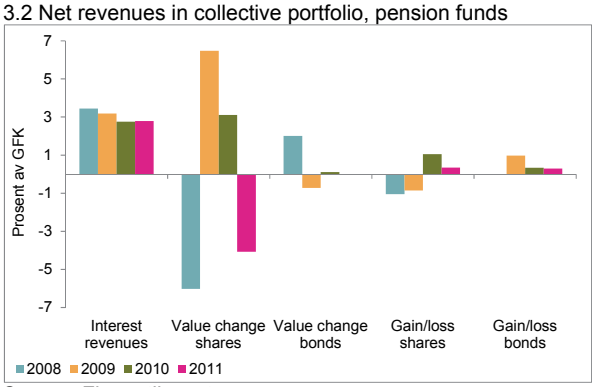
Despite a substantial fall in long, risk-free interest rates, companies maintained or increased their interest revenues in 2011. This is partly due to higher allocation to fixed income instruments following divestment from equities, but the increased interest rate differential between government securities and corporate bonds has also contributed.

3.1 Net revenues in collective portfolio, life insurers



Note differing scale for 3.1 and 3.2. Source: Finanstilsynet

3.2 Net revenues in collective portfolio, pension funds

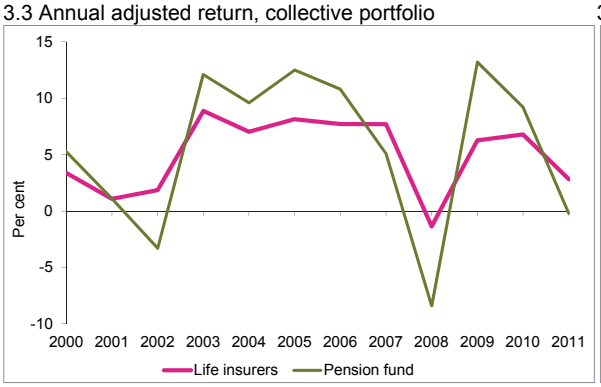


Source: Finanstilsynet

Policyholder return in the collective portfolio

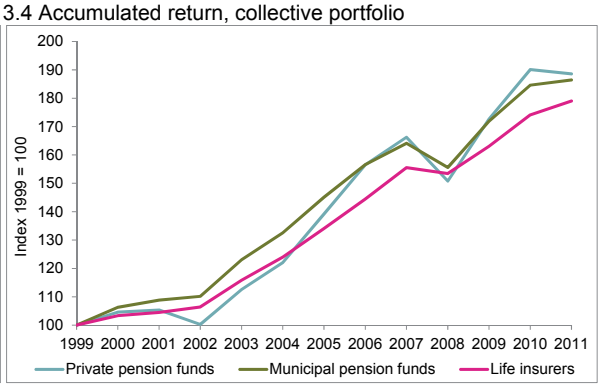
A very large proportion of the obligations of Norwegian life insurers and pension funds refer to pension rights with a guaranteed rate of return. The assets underlying these obligations are managed in the collective portfolio, which makes up about 82 per cent of the total assets of life insurers and 88 per cent of the total assets of pension funds. Total assets also comprise a unit linked portfolio and the owners' own assets (corporate portfolio).

3.3 Annual adjusted return, collective portfolio



Source: Finanstilsynet

3.4 Accumulated return, collective portfolio



Source: Finanstilsynet

Adjusted return on capital in life insurers' collective portfolios fell by 4 percentage points to 2.8 per cent in 2011, while for pension funds it fell from 9 per cent in 2010 to 0 per cent in 2011 (chart 3.3). Because of low return the companies devoted in aggregate more than NOK 17bn of their fluctuation

reserves to meeting the interest guarantee in 2011. In 2010 more than NOK 16bn were added to fluctuation reserves from return over and above the interest guarantee.

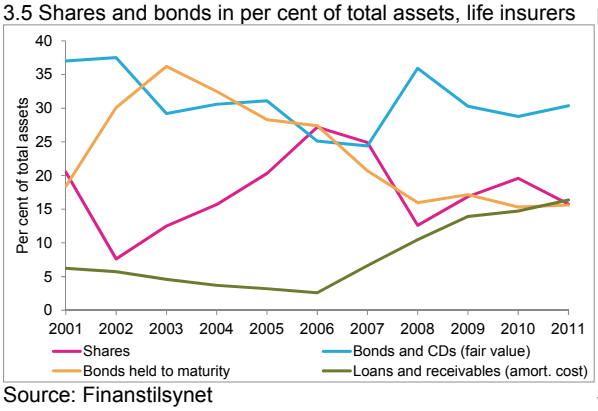
Differing equity components explain much of the difference in return between life insurers and pension funds. Pension funds have a generally higher equity component which over time has yielded higher return, but also wider fluctuations (chart 3.4). The fluctuations are largest for private pension funds, which generally have a higher equity component than municipal pension funds.

For a closer review of life insurers' and pension funds' results, see "Report for Financial institutions (Norwegian only) which is published quarterly on Finanstilsynet's website.

Asset allocation and risk in different asset classes

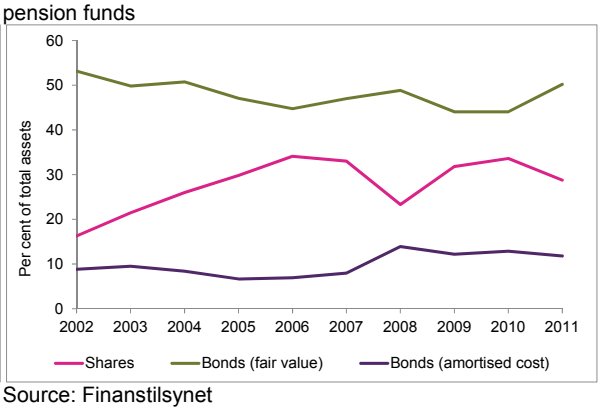
Market risk is the largest risk area for life insurers and pension funds due to their large holdings of shares and fixed income securities. Equity risk is normally the highest risk for these institutions, and sizeable stock market fluctuations are rapidly reflected in their return and financial soundness. At the end of 2011 shares accounted for 16 per cent of life insurers' total assets (chart 3.5). The equity component was reduced in 2011, but so far not to the low level seen at the end of 2008. Foreign shares accounted for more than 75 per cent of life insurers' aggregate equity exposure. Hence international stock market trends are of major significance for life insurers' financial revenues. Pension funds' equity component is at a higher level than that of life insurers and also fluctuates less (chart 3.6). This suggests that life insurers may to a greater degree than pension funds adjust their equity risk to the market trend, and reduce their equity portfolio by a larger margin than pension funds when the stock market falls. One reason may be that pension funds tolerate greater fluctuations due to their higher buffer capital, and that their owners (sponsors) are more closely linked to their customers than is the case for a life insurer. Pension funds' equity component nonetheless fell over the course of 2011.

3.5 Shares and bonds in per cent of total assets, life insurers



Source: Finanstilsynet

3.6 Shares and bonds in per cent of total assets, pension funds



Source: Finanstilsynet

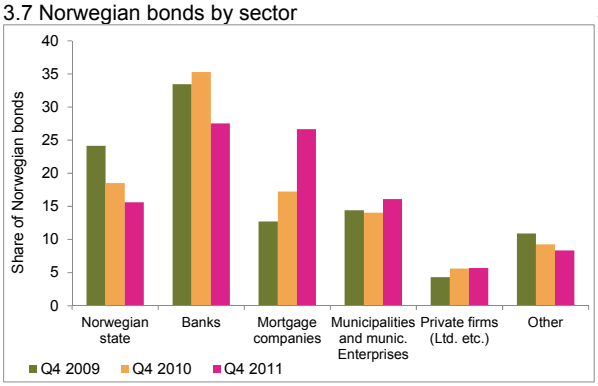
Bonds carried at fair value contribute to interest revenues, but the value of holdings changes with changing interest rates. Hence large market fluctuations may lead to variable return on capital. In 2011 life insurers increased the proportion of bonds carried at fair value to 30 per cent of total assets. Bonds held to maturity, and other bonds carried at amortised cost, promote stable interest revenues for life insurers, and their value is unaffected by changing market interest rates. The proportion of these bonds has remained relatively stable over the past two years. Investments in loans and receivables at

amortised cost, which are similarly unaffected by interest rate changes, have shown a substantial increase since 2007. Bonds carried at fair value by pension funds accounted for 50 per cent of the latter's total assets, while bonds carried at amortised cost accounted for 12 per cent. The value of pension funds' bond portfolio is accordingly more volatile than that of life insurers.

Fixed income instruments not recorded at fair value carry a degree of reinvestment risk. Large parts of this portfolio were invested at interest rates higher than today's, and with current interest rate scenarios would have to be reinvested at far lower rates when they mature. However, since more than 70 per cent of life insurers' bonds at amortised cost have more than four years to maturity, large parts of the portfolio will yield stable earnings for several years ahead.

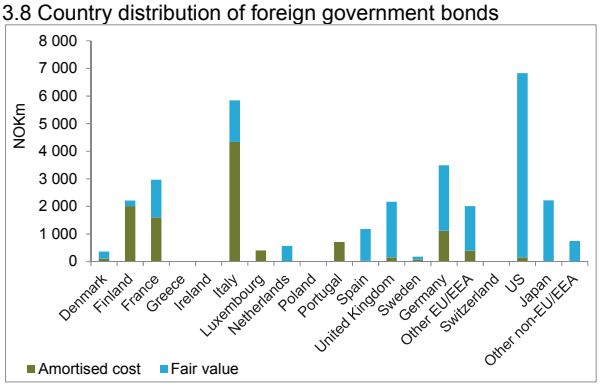
About one half of life insurers' overall bond portfolio consists of Norwegian bonds. Bank bonds were previously by far the largest item. In the last two years, however, the proportion of bonds from mortgage companies (mainly covered bonds) has risen substantially, in part at the expense of bank bonds (chart 3.7). This is assumed to be due to covered bonds' advantageous risk weighting compared with bank bonds under the forthcoming solvency regime (Solvency II). This trend can be expected to continue up to the introduction of Solvency II, which will significantly increase life insurers' capital requirements. See also the account of investments in fixed income securities in Risk Outlook 2011, theme III, Challenges facing life insurers.

3.7 Norwegian bonds by sector



Source: Finanstilsynet

3.8 Country distribution of foreign government bonds



Source: Finanstilsynet

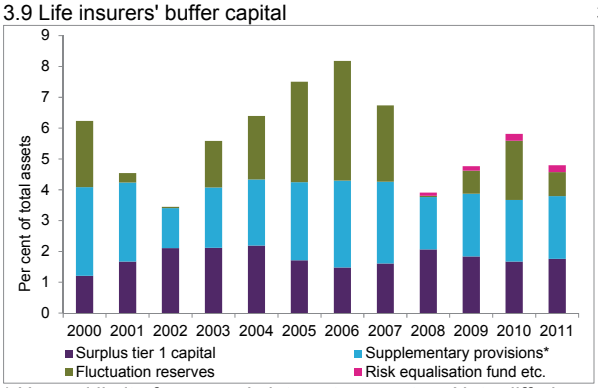
The proportion of Norwegian government bonds has been reduced in the past two years in line with a general reduction in government bond investments. At end-2011 more than one-half of life insurers' government bonds were Norwegian. In addition, life insurers held foreign government bonds in an amount of NOK 32bn, corresponding to 7 per cent of these companies' overall bond portfolio. The largest share was in US and Italian government securities (chart 3.8). There is also some exposure to Spanish and Portuguese government bonds. Even so, exposure to the debt-burdened euro countries (in this context Italy Spain and Portugal) accounted a mere 1.7 per cent of the overall bond portfolio.

Financial soundness and stress tests

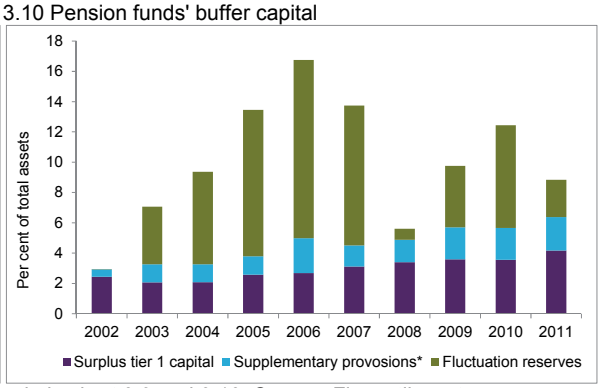
In order to meet market risk and other risk factors faced, life insurers and pension funds must build up buffer capital. This is defined as available provisions plus the buffer capital available at any time. High buffer capital provides greater room for manoeuvre in asset management with greater ability to take

investment risks and a potential for higher returns. Good investment returns make for higher buffer capital through profit and fluctuation reserves. The companies manage their portfolios on a dynamic basis by adjusting risk to risk-bearing capacity. This effectively involves reducing their equity component when equity markets fall and increasing it when the market rises. In the current market, with low interest rates and an unstable equity market, maintaining return above the guaranteed rate of return poses a challenge to life insurers and pension funds alike.

3.9 Life insurers' buffer capital



3.10 Pension funds' buffer capital



* Upward limit of one year's interest guarantee. Note differing scale in chart 3.9 and 3.10. Source: Finanstilsynet

Life insurers' buffer capital totalled NOK 43bn at end-2011, equivalent to 5 per cent of their total assets. In the third quarter Norwegian and international stock markets slumped, causing most insurers to exhaust their fluctuation reserves. However, the fourth quarter brought a positive development and some increase in buffer capital. Buffer capital is higher than in 2008 but lower than in 2009 and 2010 (chart 3.9). Despite the decline on end-2010, pension funds' buffer capital is still higher than that of life insurers (chart 3.10). At end-2011 pension funds' buffer capital totalled NOK 16bn, equivalent to 9 per cent of their total assets.

Life insurers and the largest pension funds report stress tests on a quarterly basis to Finanstilsynet. The tests are designed to analyse the impact of the forthcoming solvency regime, Solvency II. Monitoring life insurers' position relative to the new solvency regime is becoming increasingly important as the date of implementation approaches. Companies have received a little more time to adjust, since the Solvency II capital requirements will probably become effective in 2014 rather than 2013 as planned. The stress tests are closely aligned to the new framework, albeit somewhat simpler, and are regularly modified in step with revisions of Solvency II. The stress test scenarios cover all aspects of insurers' activity, including market risk, insurance risk, counterparty risk and operational risk.

Stress test scenarios for market risk:

- Specified relative change in the yield curve both for interest rate increases and decreases, where the relative change decreases with lengthening maturity
- A 39 per cent fall in equity markets for type 1 shares (listed shares in the EEA or OECD area) and 49 per cent for type 2 shares (other equity exposure). The shocks are adjusted by a symmetric adjustment mechanism within a band of plus or minus 10 per cent
- A 25 per cent fall in property markets

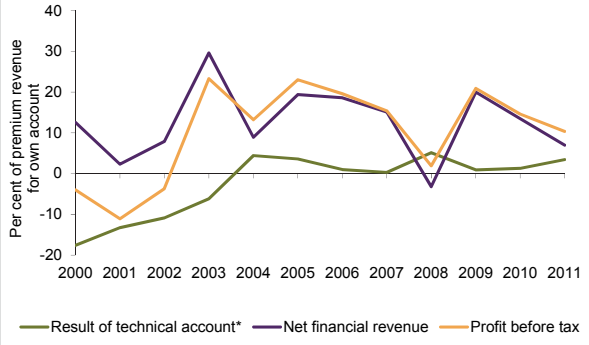
- A 25 per cent change in the foreign currency exchange rate
- Specified changes in credit spreads based on rating class
- Concentration risk resulting from significant exposure to a single counterparty

The stress tests measure the companies' overall risk against buffer capital, i.e. their buffer capital utilisation. Buffer capital utilisation above 100 per cent indicates that the solvency capital requirement under Solvency II is not met. At end-2011 several companies had a ratio in excess of 100 per cent in the stress test, some significantly in excess. Several companies will face substantial challenges in complying with the capital requirements under Solvency II.

Non-life insurance

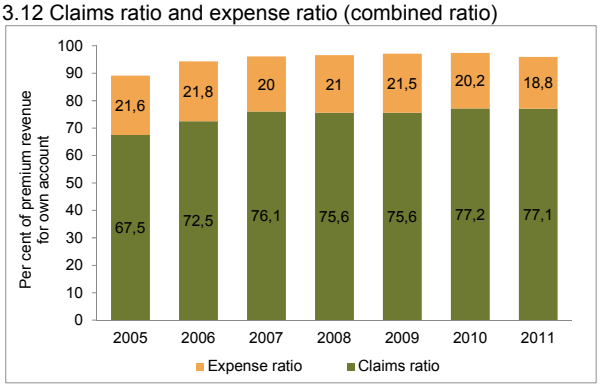
The Norwegian non-life insurance market is complex. In 2011 foreign companies accounted for an overall market share of 42 per cent. Among the Norwegian companies the major actors have traditionally covered general non-life insurance, whereas small actors mainly target specialised areas such as marine insurance. In recent years, however, a number of new companies have set up in general non-life insurance. Several of these are affiliated to large groups or groupings operating in other parts of the financial sector.

3.11 Financial results of non-life insurers (without captives)



*Less allocated return on investment. Source: Finanstilsynet

3.12 Claims ratio and expense ratio (combined ratio)



Source: Finanstilsynet

In 2011 Norwegian non-life insurers (without captives) posted higher profit from underlying insurance business than in the previous year (chart 3.11), largely due to reduced costs (chart 3.12). Although non-life insurers have a lower equity component than life insurers and pension funds, their financial revenue nonetheless fell, reducing aggregate pre-tax profit from NOK 4.0bn in 2010 to NOK 3.1bn in 2011. Norwegian non-life insurers are in general financially sound and meet the capital requirements by an ample margin.

2011 was a year of much damage from natural events. Hurricanes and major floods resulted in natural damage claims of about NOK 1.7bn. As from 1980 all fire-insured items are also insured against natural damage through a mandatory additional premium. Natural damage premiums not used to cover the year's natural damage claims are transferred to a separate natural damage fund within the individual company. Aggregate natural damage funds totalled about NOK 10bn in 2011. In the event of damage

in excess of NOK 600m caused by individual events, such as the storm Dagmar, the excess is covered by reinsurance agreements.

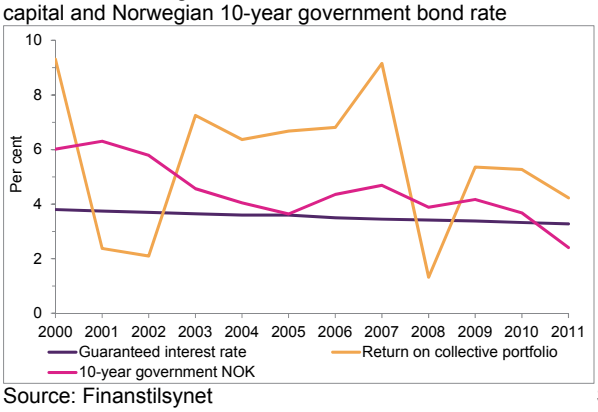
Insurance cover against natural damage to infrastructure, land and forest etc., which is not insured through ordinary insurance schemes may be sought from the Norwegian National Fund for Natural Damage Assistance (Statens Naturskadefond) which is financed by annual appropriations over the fiscal budget. Natural damage to property lacking explicit insurance against fire (damage to vehicles, boats, etc) is covered directly by the insurer.

Challenges facing life insurers

Low interest rates and guaranteed return

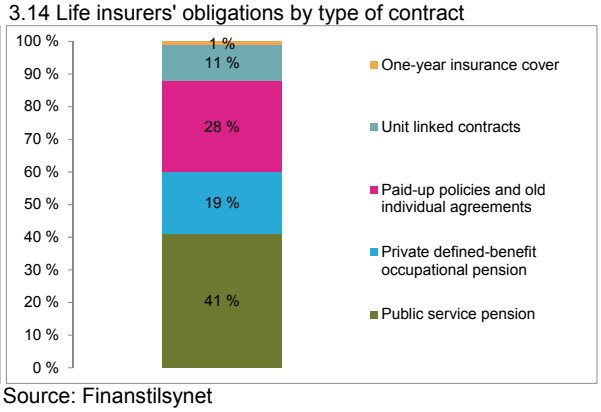
The steep fall in interest rates seen in recent years poses a major challenge to life insurers. Historically the risk-free rate has exceeded (in some case by a large margin) the guaranteed rate of return on obligations in the collective portfolio (chart 3.13). The excess return in good years has enabled the build-up of buffer capital or funds surplus to the interest guarantee to be passed on to the policyholder. Currently the risk-free market rate, represented by the government bond yield, is below insurers' average interest guarantee. Existing rate-of-return guarantees were established in a period of high interest rates, and meeting these guarantees when rates are low will pose a challenge. Allocation to other assets may provide higher expected return, but also entail higher risk and therefore a need for more buffer capital.

3.13 Life insurers' guaranteed interest rate, book return on capital and Norwegian 10-year government bond rate



Source: Finanstilsynet

3.14 Life insurers' obligations by type of contract



Source: Finanstilsynet

Insurance products affected differently by low interest rates

A lasting low interest rate level is in general problematic for products with a guaranteed rate of return. Under the Norwegian product regulation regime, interest rate risk differs for different products; see the distribution of products in chart 3.14. Previously insurers were paid for the risk they assumed in that they received a share of the excess return. The Norwegian legislation was amended in 2008. Profit sharing was retained for paid-up policies and for individual contracts written prior to 2008. For occupational pension schemes, profit sharing in arrears was replaced by a premium paid in advance to cover costs and risk, including risk posed by the rate-of-return guarantee. The return guarantee

premium, which can be revised on an annual basis, is influenced by the risk that actual return will prove lower than the guaranteed return, which depends inter alia on interest rate level and buffer capital size.

In the public service pension context the customers, i.e. employers, will not have the option of terminating a pension scheme. Insurers can therefore price the interest guarantee correctly year by year even with a low level of interest rates. But the risk posed by low interest rates is then largely passed on to the employer. In the case of private sector service pensions, insurers will also be able to price the interest guarantee. Here, however, the customer will have the option of terminating the scheme in order to switch to a defined contribution pension plan. In such case the obligations are converted into paid-up policies where the insurer cannot invoice a premium for the interest guarantee. The insurer itself will bear the risk posed by low interest rates. The switch to paid-up policies can be expected to escalate in the event of a substantial rise in the premium required by the interest guarantee. Although the opportunity to price the interest guarantee reduces interest rate risk, this risk could be substantial in the event of a large scale switch to paid-up policies.

In the case of paid-up policies, insurers are rewarded for the risk they assume by receiving up to 20 per cent of excess return. This is of little value in a situation of low interest rates and little likelihood of significant excess return over time. A low-interest-rate scenario will accordingly pose a challenge to the paid-up policy portfolio. The same applies to the portfolio of individual contracts written prior to 2008.

Low interest rates will increase both life insurers' costs of defined benefit pensions resulting from policyholders' guaranteed interest and the costs of defined benefit pensions in the employers' accounts. In addition, new accounting rules for pension obligations will entail increased volatility and higher costs for firms which have hitherto used the "corridor approach". This confers the right to defer accounting for estimate deviations and may mean that a pension obligation in the accounts differs significantly from the best estimate of the obligation on the balance sheet date. As from 2013 the best estimate of the value of pension obligations must be shown in the balance sheet. Both effects point to an increase in defined contribution pension schemes at the expense of defined benefit pensions. The low level of interest rates indicates that this trend will last. A switch from defined benefit to defined contribution pension entails greater freedom of choice in the management of pension assets, but at the same time moves the risk from the insurer to the members of the pension scheme.

Increase of technical provisions for increased longevity

Insurers' obligations extend over a long time horizon. Alongside the challenges of low interest rates and uncertain markets, insurers are also vulnerable to the insurance risk inherent in the fact that insureds are living longer than was assumed in the computation of insurance technical provisions. A few years back increased longevity in the population prompted revision of the mortality assumptions underlying the insurance-technical basis for calculation. New tariffs taking account of reduced mortality (longer life expectancy) were introduced in 2008. Most life insurers duly substantially strengthened provisions in 2007, while a minority of insurers received approval for step-up plans spread over several years. Insurers are now undergoing a similar process of increasing technical provisions for individual pension agreements.

The tendency for increased longevity continued after 2008. Finance Norway (FNO) has drawn up new mortality tables as a basis for updated tariffs, necessitating further strengthening of insurance technical provisions. Even relatively modest changes in longevity will require a substantial further increase of provisions. Life expectancy adjustment was introduced in the public sector in 2009, thereby limiting the risk of greater longevity faced in public service pension schemes. The same was not done for other schemes. The new solvency regime, Solvency II, is expected to affect insurers' solvency capital requirements by taking into account reduced mortality.

While a number of companies increased their technical provisions for longevity in 2011, substantially larger provisions are likely to be needed given expected new tariffs. In light of uncertainty as to the mortality trend ahead, Statistics Norway has examined various scenarios. Given today's insurance portfolio, and depending on what scenario is chosen as a basis, the need for increased technical provisions for collective pension insurance is put at between NOK 20bn and NOK 40bn for life insurers and pension funds combined. The intention is that companies should start to increase their technical provisions at an early stage, and step-up plans whereby insurance technical provisions are increased over several years will be permitted.

Solvency II puts into relief challenges posed by lasting low interest rates

Under current rules the value of obligations or the capital requirement are not affected by future return expectations. Under the future solvency regime, Solvency II, the obligations will be measured at fair value, thereby reflecting the risk of failure to honour the interest guarantee across the entire lifetime of the obligation. Hence Solvency II will to a greater degree than the current body of rules bring into relief the interest rate risk associated with products carrying a guaranteed return, and capital requirements are expected to rise substantially. In today's fixed income market with very low long interest rates and prospects of a protracted low rate level, life insurers face major challenges. This is particularly true of companies with a high proportion of paid-up policies in their portfolio. These fully paid up contracts contain a relatively high average guaranteed rate of return. For paid-up policies a lower level of interest rates, and hence a higher value of the obligations, cannot be compensated for by raising interest guarantee premiums. Most life insurers will be compelled to substantially reduce risk and/or bring in new capital to meet the solvency requirements of Solvency II.

The latest impact study for Solvency II was carried out in 2010, based on data as of end-2009. The study showed a substantial tightening of capital requirements for life insurers. Developments in financial markets in 2010 and 2011 have given rise to a situation more challenging than when the impact study was undertaken. Some uncertainty remains regarding the final calibration of Solvency II and possible transitional arrangements. Even allowing for possible changes in the Solvency II rules and more stable conditions in financial markets, it appears clear that the new body of rules will significantly tighten capital requirements.

Rule changes proposed that may ease the transition to Solvency II

Public service pensions, which from the providers' vantage point involve least rate-of-return risk, make up the bulk of pension obligations. About two-thirds of these pension schemes reside in KLP Insurance. Private defined benefit schemes are associated with higher rate-of-return risk, in part because they can be converted to paid-up policies in the future as a result of job changes or conversion from defined-benefit to defined-contribution schemes. NOU 2012:3, recently presented by the Bank Law Commission, recommends allowing policyholders on a voluntary basis to convert the old-age pension part of their paid-up policy to a unit-linked pension saving plan. The proposal will enable paid-up policyholders to switch to an alternative investment vehicle with higher expected return in exchange for assuming rate-of-return risk.

Finanstilsynet recommended by letter of 8 March 2011 that fluctuation reserves and supplementary provisions be amalgamated to form a new buffer fund that is more flexible in terms of covering loss. This will provide, in addition to simpler body of rules for policyholders and companies, a better opportunity equalise risk over time. It also sets the stage for long-term management of policyholders' assets which better supports the long-term nature of the obligations and can provide a basis for higher expected return over time. In a situation where interest rates are substantially higher than the guaranteed rate of return, the former are unlikely to be significantly below the guaranteed rate. However, in today's low-interest-rate scenario there is a considerable risk that the rate of return in poor years will fall short of the guaranteed rate. Hence there is a larger need than previously for buffers able to equalise risk over time.

The Ministry of Finance has also asked the Banking Law Commission to consider possible new pension products where the rate-of-return risk and the risk of increased longevity is distributed between policyholder and pension provider in a more balanced manner than is the case with existing defined benefit and defined contribution schemes. Transitional rules from today's defined-benefit schemes to new pension products will also be looked into.

Today's low-interest-rate scenario presents challenges to which there is no rapid, simple solution in Norway or elsewhere. Although existing customer buffers can be increased somewhat in the period to the entry into force of Solvency II, life insurers will probably need to strengthen their capital regardless. Any change in the regulatory framework that improves insurers' ability to handle rate-of-return risk will facilitate the increase of equity capital. This will benefit policyholders in the form of expectedly higher long-term return on pension assets.

Theme I: Households' financial position

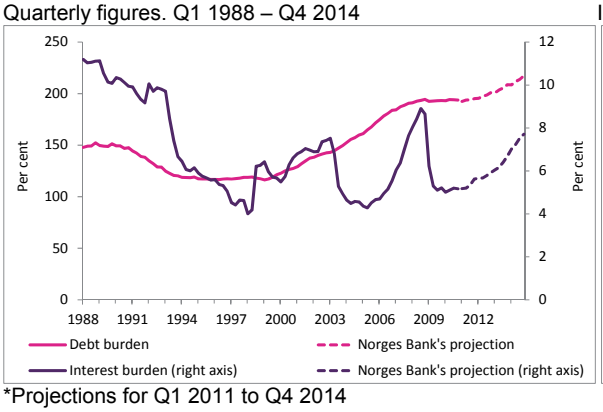
Norwegian households have in aggregate twice as much debt as income. The share with the highest debt burden has risen in recent years, and comprises above all younger, lower income households. The debt trend largely shadows house prices, for which forecasts point to a continuing rise. Growth in household incomes being outstripped by credit growth suggests a further increase in the debt burden ahead. The interest burden is currently low, but the finances of debt-burdened groups are sensitive to interest rate hikes. Household saving has risen in recent years and the sector's wealth position is substantial. However, the financial wealth is very unevenly distributed, and the bulk consists of future pension claims. Most of the sector's overall wealth is in housing. Experience shows that poor residential lending practices are of significance for financial stability, in particular through the indirect effects arising when housing markets plummet and households need to consolidate their financial position. Surveys of bank lending for residential purposes have shown high loan-to-value ratios and widespread use of interest-only facilities. Finanstilsynet has therefore introduced guidelines for prudent home mortgage lending practices. In addition to loans secured by real property, households have other repayment loans and unsecured consumer loans. However, these loans account for a very small portion of overall household debt.

Households' debt and interest burden

Households' credit growth was very high from the mid-1990s onwards, but in the wake of the international financial crisis in 2008 it was almost halved. However, the crisis led to only a brief setback in the Norwegian economy, and debt growth picked up again rapidly. In January 2012 annual growth was 7.2 per cent. See chapter 1 for discussion of the credit market. With household credit growing considerably faster than household income for most of the period, the sector's debt burden (debt divided by disposable income) has reached a historically high level. Forecasts indicate a further rise (chart 1.1).

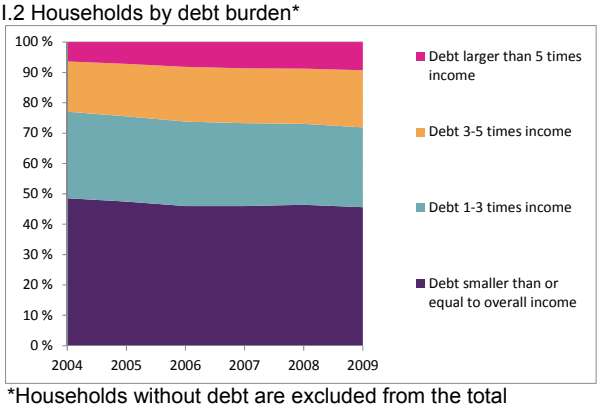
The debt burden of more and more households has risen to a level at which an interest rate hike or lapse of income renders them vulnerable. Between 2004 and 2009 the number of households with aggregate debt more than three times income rose substantially (chart I.2). In 2009 this group held about 39 per cent of households' aggregate debt. Given the trend in debt and house prices it can be assumed that this share has not fallen in the past two years.

I.1 Households' debt and interest burden*
Quarterly figures. Q1 1988 – Q4 2014



*Projections for Q1 2011 to Q4 2014
Source: Norges Bank

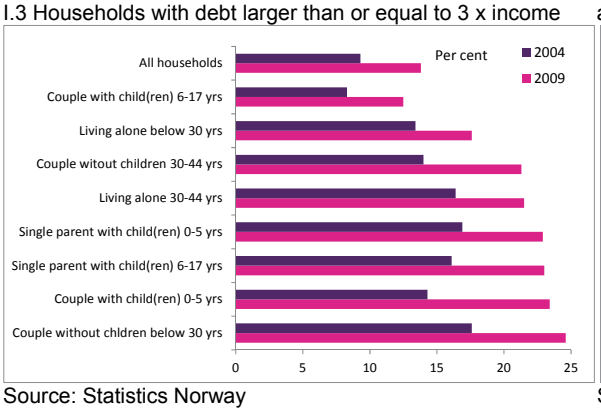
I.2 Households by debt burden*



*Households without debt are excluded from the total
Source: Statistics Norway

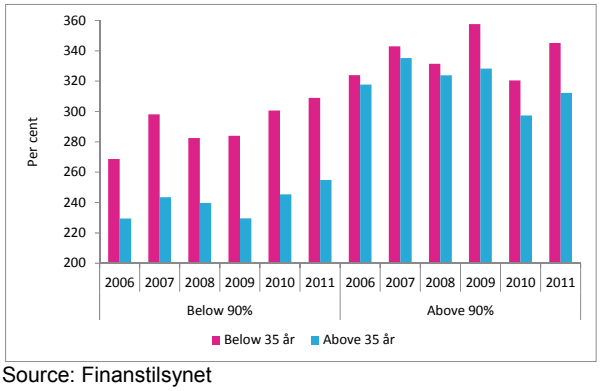
The debt burden is highest in the younger part of the population (chart I.3). This is due both to borrowing behaviour and income level: young adults incur sizeable debt on their first house purchase at the start of their occupationally active life stage when employment income is at its lowest. While the debt burden has risen markedly in all age groups, the income statistics show that the increase has been strongest among young couples, couples with small children and single providers. Whereas fewer than 10 per cent of households in these groups held debt in excess of three times income in 2000, the figure had risen to 23 per cent in 2009. This is a matter of concern.

I.3 Households with debt larger than or equal to 3 x income



Source: Statistics Norway

I.4 Borrowers' gearing. Loan-to-value ratio below and above 90%



Source: Finanstilsynet

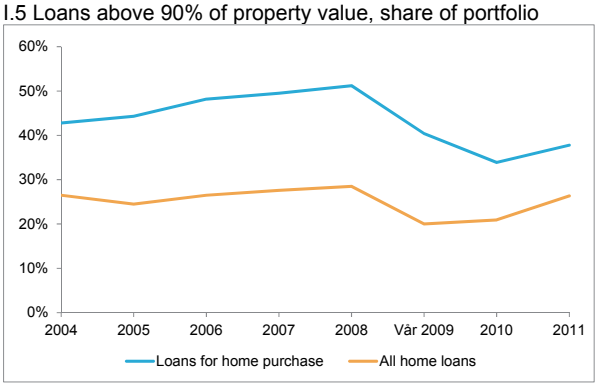
At the end of 2011, 85 per cent of households' overall outstanding debt to credit institutions of about NOK 2,000bn was related to home equity credit lines and repayment loans secured by dwellings. About 12 per cent comprise other repayment loans which are granted not against a mortgage on housing property but against a mortgage on recreational property, car or boat, and include lease financing, mainly of cars.

Finanstilsynet has since 1994 conducted an annual survey of a sample of recent home mortgage loans to review banks' credit practice. The survey also shows that leverage (defined as debt divided by gross income) is highest among young adults (chart I.4). Both the high level of households' debt burden and an increasingly skewed distribution between groups suggest that risk in the household segment has increased in recent years.

In the last decade the home loan survey has uncovered structural changes in households' new mortgage borrowing in the form of higher loan-to-value ratios, longer loan terms and more use of interest-only facilities. At the same time new loan products have been introduced enabling homeowners to tap into their homes' built up equity in the housing market.

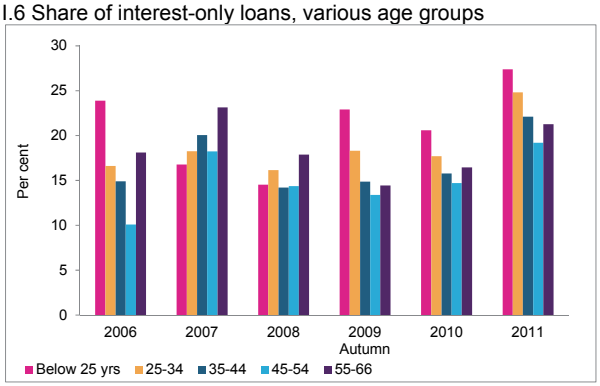
The latest survey conducted in autumn 2011 showed that just over 26 per cent of the reported portfolio in the home loan survey, also including refinancing loans, had a loan-to-value ratio in excess of 90 per cent (chart I.5). This was an increase of just over 5 percentage points compared with the autumn 2010 survey. For loans intended for house purchase, 38 per cent of the portfolio was above 90 per cent, an increase of 4 percentage points compared with the autumn 2010 results.

I.5 Loans above 90% of property value, share of portfolio



Source: Finanstilsynet

I.6 Share of interest-only loans, various age groups



Source: Finanstilsynet

The use of interest-only loans is also continuing to rise (chart I.6). In autumn 2011 almost one in four home loans was interest only, the highest recorded level in the history of the home loan survey. The average length of the interest-only period also rose, to just over four years. The youngest borrowers groups had the highest proportion of interest-only loans.

The interest burden is low, but rising (chart 1.1). The interest rate has been low for some time, affording households ample debt-servicing capacity. Households must expect a higher interest burden in the longer term. According to Norges Bank's forecasts based on assumptions from October 2011, the interest burden will rise ahead but probably not to the same level as in autumn 2008. The forecasts incorporate the assumption of some increase in both interest rates and household debt incurrence. However if banks' high funding costs persist or rise further, and banks raise the interest rates charged to their customers, the interest burden may rise more than indicated. Moreover, household finances are more sensitive to interest rate changes when the debt burden is high.

Debt-exposed households can assure a more stable trend in their interest expenditure by opting for a fixed-interest mortgage. The proportion of fixed interest mortgages is very low, and very few households have a lock-in period above five years.

Sensitivity analysis of households' interest burden

Since autumn 2003, on commission from Finanstilsynet, Statistics Norway has provided model projections of households' debt and interest burden. About 10 per cent of households (just over

200,000) are covered by the model data. The model starts out from volume figures for household debt, interest payments and wealth for 2009 taken from the household income statistics. The projections are based on historical data as of the third quarter 2011, where available, while the forecasts for wage growth and bank lending rates are taken from Economic Survey (Statistics Norway, September 2011). The tax programme in the model comprises 2012 rules and, as a purely technical assumption, this is continued for 2013. The analysis is not intended to forecast households' interest burden, but is a sensitivity analysis of households' financial vulnerability in the event of interest rate increases.

Since September Statistics Norway has adjusted down its forecasts for the Norwegian economy, but expects continued moderate growth in the period to 2013. At the same time, house prices rose sharply in 2011. According to forecasts published by Statistics Norway in February 2012, house prices will rise by about 5.5 per cent in both 2012 and 2013. Analyses have shown that growth in credit to households follows the growth in house prices with a certain lag. Hence the calculations include the assumption that households' overall credit growth will remain at the current level of 7 per cent in 2012 and edge down to 6.7 per cent in 2013. Using tax assessment data included in the model, the interest paid by households on their mortgages is calculated at 4.5 per cent in 2009. In the calculation period the interest rate is assumed to follow the same trend as in Statistics Norway's forecasts. The interest rate used in the model accordingly declines to 4.1 per cent in 2010 and thereafter rises gradually to 4.7 per cent in 2013 (table I.1).

Table I.1 No. of households and share of total debt by interest burden

	2009, interest rate 4.5 per cent		2011, interest rate 4.4 per cent		2013, interest rate 4.7 per cent		2013, stress test: interest rate 6.7 per cent	
Interest burden (per cent of disposable income)	No. (thou-sands)	Per cent of total debt	No. (thou-sands)	Per cent of total debt	No. (thou-sands)	Per cent of total debt	No. (thou-sands)	Per cent of total debt
0.1 – 19.9 %	1 579	73	1 605	75	1 608	70	1 374	49
20 – 30 %	122	15	114	14	148	17	275	26
Above 30 %	59	10	55	9	71	11	179	24

Sources: Statistics Norway and Finanstilsynet

Whereas households are in a relatively favourable financial position overall, some groups are more vulnerable to interest rate changes than others. Households are classified in three main groups on the basis of interest burden (defined as interest rate expenses divided by disposable income). Based on the distribution of debt, income and wealth in 2009, the model projects the number of households falling within each of the three groups in 2011 and 2013, as well as each group’s share of total household debt (table I.1). The estimate for overall credit growth underlies the projections for all groups. Further, a stress test has been carried out in which the interest rate is assumed to rise by 2 percentage points by the end of 2013.

The key policy rate was substantially lowered in the wake of the financial crisis. After being raised again on several occasions from October 2009 onwards, the interest rate was lowered anew, to 1.75 per cent, in December 2011. Lending rates to households were also at a low level. This is reflected in calculations showing that in 2011 only just under 170,000 households had an interest burden above 20 per cent, whereas the corresponding figure for 2008, when the interest rate stood at 6.7 per cent, was

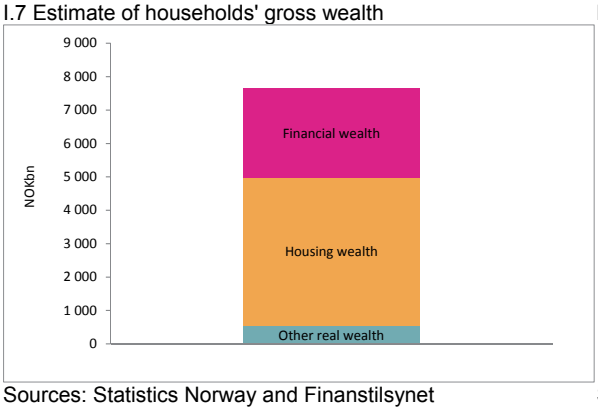
400,000. As a result of the downturn in the large industrialised countries, key policy rates in Norway as elsewhere are expected to remain low in the calculation period. Hence the projections incorporate the assumption of a weak rise in household borrowing rates over the next two years (table I.1). Since debt continues to rise more rapidly than incomes, there will nonetheless be a clear-cut rise in the number of persons with an interest burden in excess of 20 per cent in 2013.

Of late banks have paid more for market financing while mortgage lending rates have for some time been under pressure. Hence the possibility that banks' lending rates will increase ahead relative to the key policy rate cannot be ruled out. Should lending rates increase, the most vulnerable household groups will be heavily impacted. A stress test has therefore been carried out which assumes an interest rate of 6.7 per cent at the end of 2013, corresponding to the interest rate in 2008. In that scenario the number of households with a high interest burden would more than double, with 454,000 households facing an interest burden in excess of 20 per cent. Around 40 per cent of the latter would have an interest burden above 30 per cent. These two groups would account for half of overall household debt. The calculations include figures for household wealth which show that groups with the highest debt burden have the lowest financial wealth.

Household saving

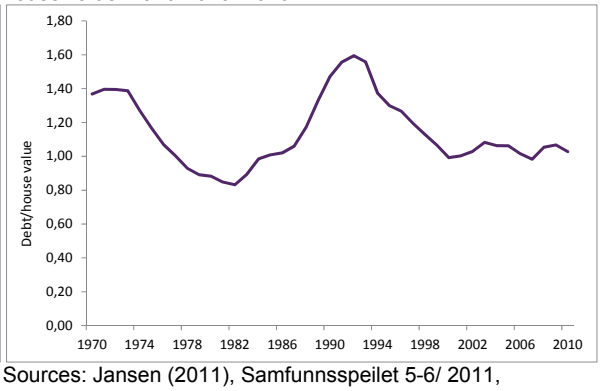
Were households to be exposed to an economic setback, for example a sharp interest rate hike or lapse of income, wealth would play an important role as a cushion. Not only the size, but also the composition, of household wealth is of significance. Gross wealth consists of both real and financial assets, and is affected inter alia by household saving through financial and real investments.

I.7 Estimate of households' gross wealth



Sources: Statistics Norway and Finanstilsynet

I.8 Households' gross wealth in relation to overall house value. 1970-2010. 2010=1



Sources: Jansen (2011), Samfunnsspeilet 5-6/ 2011, Statistics Norway

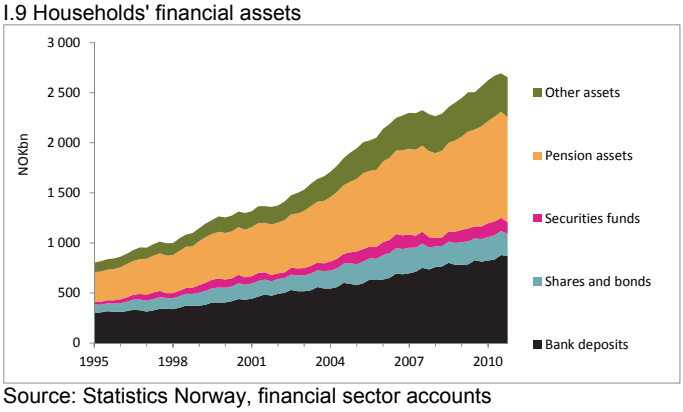
Household real investments are mainly in residential and recreational property and represent about 90 per cent of households' real capital. Estimating the market value of overall housing wealth is difficult given the large difference between value for tax purposes and market value. In 2009 Statistics Norway put overall housing wealth at NOK 3,567bn. If market value is projected using Statistics Norway's investment and price statistics for the housing market, households' gross wealth can be estimated as

shown in chart I.7. About 65 per cent of gross wealth is tied up in real assets which are little suited as a financial buffer if and when needed.

Households' residential capital concurrently functions as security for their debt. Calculations show that the ratio of household sector gross debt to house value has remained relatively stable since the turn of the millennium, in other words the rise in value of residential capital has been matched by the increase in debt in the period (chart I.8). Although higher house prices do not necessarily increase households' aggregate net wealth, growth in house prices affects the distribution of wealth among groups.

Financial assets are important for households' ability to handle higher interest rates or lapse of income. However, a large proportion of their wealth in in the form of illiquid pension assets (chart I.9). Various types of life and pension insurances made up about 37 per cent of their total assets at the end of the third quarter of 2011, while bank deposits made up about one-third.

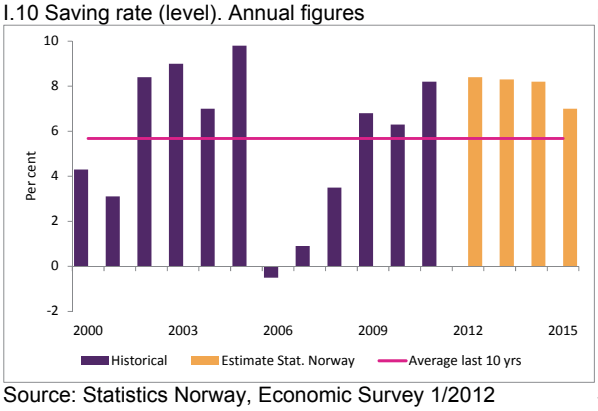
I.9 Households' financial assets



Source: Statistics Norway, financial sector accounts

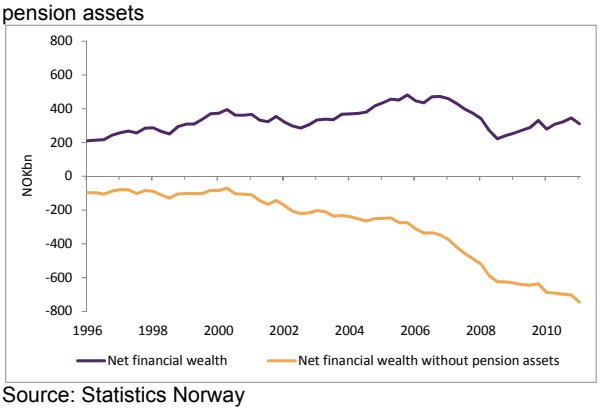
Households' direct exposure to the securities market is low (chart I.9). Altogether shares, bonds and securities fund units account for just under 13 per cent of their financial assets. Households are accordingly little exposed to securities market fluctuations.

I.10 Saving rate (level). Annual figures



Source: Statistics Norway, Economic Survey 1/2012

I.11 Households' net financial wealth with and without pension assets



Source: Statistics Norway

After the international financial crisis in 2008 the household saving rate (overall saving divided by disposable income) has been high, as shown in chart I.10. Even so, their net financial wealth (financial

assets less debt) has risen only slightly, reflecting the fact that households do their saving essentially in dwellings. A large portion of households' financial wealth consists of pension schemes tied up in long-term agreements. Disregarding these pension assets, households' net financial assets fell steeply in the last 10 years (chart I.11). This trend must be viewed in light of several factors. First, a large number of single-person households means that more persons borrow in order to buy a dwelling, and higher house prices contribute to higher borrowing. Further, more use is being made of interest-only loans. Other loan products, such as home equity credit lines allowing households to tap into their housing wealth, have also contributed to high indebtedness. Favourable house taxation and high return on debt-financed housing investment since the start of the 1990s incentivise households to invest in dwellings rather than financial assets in all phases of life.

Consumer loans and the debt collection trend

A substantial share of loans for consumption is probably secured on dwellings. In addition, both banks and finance companies offer consumer loans which are generally unsecured. Since 2005 Finanstilsynet has surveyed the activity of a sample of companies engaged in consumer finance. The sample comprises 20 companies: nine finance companies and eleven banks. Both Norwegian companies and foreign branches are included. Consumer loans include card-based loans and other consumer loans without collateral. These companies offer a variety of products, including credit cards with varying credit ceilings and unsecured loans ranging from NOK 10,000 to NOK 400,000. The effective interest rate on these loans is consistently high and varies widely depending on loan size and repayment period. The companies apply stringent credit assessment, and 40-90 per cent of applications are refused.

The volume of consumer loans in Norway is relatively small, making up about 2 per cent of households' overall borrowing at the end of 2011. Growth in consumer lending was high in the years leading to the financial crisis in 2008, but fell substantially in 2009, as shown in table I.2. As from 2009 growth has once again quickened, yet was still low at end-2011, and lower than banks' and finance companies' overall growth in lending to households.

Table I.2 Consumer loans at a selection of companies

	2005	2006	2007	2008	2009	2010	2011
Consumer loans (NOKm)	26 276	31 057	36 925	43 352	43 936	48 913	51 417
Growth in % (12-month)	15.1	18.2	18.9	17.4	1.4	3.0	5.1
Book losses (NOKm)	382	253	339	953	1 371	1 311	795
Losses in % of consumer loans (annualised)	1.5	0.8	0.9	2.2	3.1	2.7	1.5
Net interest in % of average total assets (annualised)	11.6	11.2	9.8	8.8	11.8	12.0	11.5
Result of ordinary operations in % of average total assets (annualised)	7.6	7.6	5.5	3.3	5.4	5.7	6.2
Gross defaults, 90 days, in % of consumer loans	5.5	4.9	5.0	6.5	6.1	5.9	5.4
Gross defaults, 30 days, in % of consumer loans						10.0	8.8

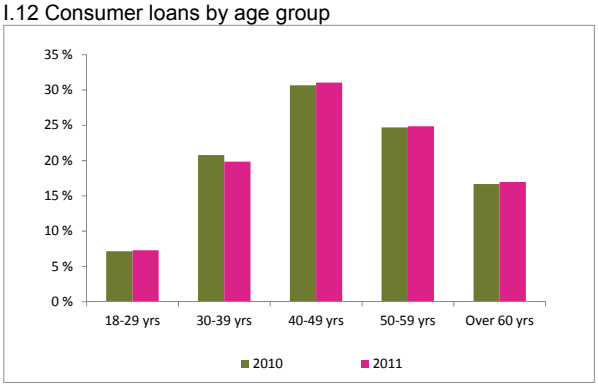
Source: Finanstilsynet

There was clear-cut increase in defaulted loans and loan losses in 2008 and 2009, followed by a new decline in 2010 and 2011. Book losses and loan defaults amounted, respectively, to 1.5 per cent and 8.8 per cent of the loan portfolio in 2011, which is considerably higher than in the case of banks and finance companies in general. Net interest revenues are at a high level relative to total assets, indicating that companies charge a price for the risk associated with consumer loans.

Supplementary data have been obtained from the eight largest companies in the sample with a combined market share of about 80 per cent. Chart I.12 shows that only a small proportion of consumer loans go to younger borrowers. At end-2011 the under-30s accounted for only 7 per cent of the portfolio, about the same as one year earlier. Borrowers in the 40-49 age group account for the largest share of consumer loans, a share that has risen somewhat compared with one year back.

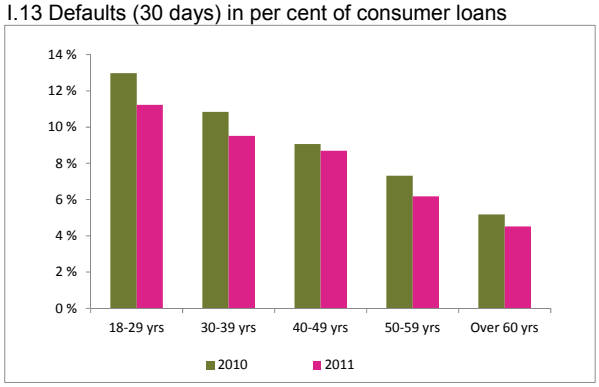
Defaults are highest among the under-30s and decline with rising age. Defaults have fallen in all age groups compared with end-2010 (chart I.13).

I.12 Consumer loans by age group



Source: Finanstilsynet

I.13 Defaults (30 days) in per cent of consumer loans



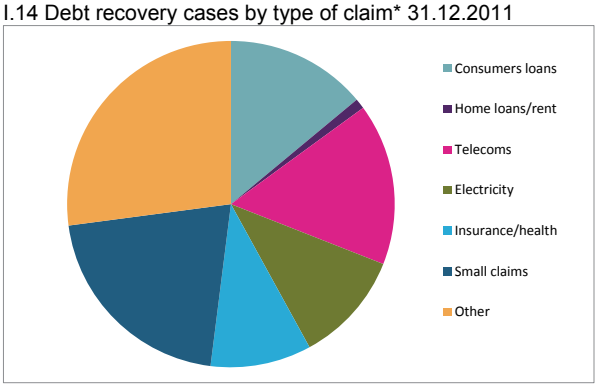
Source: Finanstilsynet

In January 2012 Finanstilsynet polled six of the largest debt collection agencies to gain a better overview of the distribution of debt recovery cases across claims and age groups. As of mid-2011 the agencies surveyed had an overall market share of 59 per cent in terms of debt recovery claims in process, while the market share of agencies as a whole was 70 per cent in terms of principal (original debt) for recovery.

Of debt recovery cases in process, only 14 per cent involved consumer loans at end-2011 compared with 13 per cent in 2010 (chart I.14). As regards home mortgage loans, only a marginal proportion had been referred for recovery. The bulk of debt collection cases related to small claims, for example parking fines and mail order sales.

The 30-39 and 40-49 age groups account for the largest proportion of debt collection cases involving consumer loans. The youngest accounted for only 14 per cent of total debt collection cases involving consumer loans. A slight reduction has been seen in younger borrowers' proportion of debt collection cases compared with end-2010, and some increase in the case of older borrowers (chart I.15).

I.14 Debt recovery cases by type of claim* 31.12.2011



*Telecoms: mobile and landline, broadband and TV subscriptions. Small claims: road tolls, parking fines, postal orders and internet sales. Source: Finanstilsynet

I.15 Debt recovery cases, consumer loans, by age group

Source: Finanstilsynet

A marked increase has been seen in the number of debt collection cases in recent years. There are several reasons, including tighter procedures in business and industry as a result of which claims are referred for recovery at an earlier stage, often without prior reminders inasmuch as reminders are not statutory. In addition, businesses outsource debt collection to a far greater degree than previously. As a result defaults are now reported to Finanstilsynet as part of the debt collection agencies' reporting obligation whereas previously debts were recovered by the creditor firms themselves and were unreported. Hence the registered increase in debt collection cases does not necessarily reflect an actual increase.

While the number of debt collection cases is rising, reports filed with Finanstilsynet also show a strong increase in concluded cases. Moreover, payment often takes place early in the recovery process. For example, in the first half of 2009 28 per cent of cases referred to debt collection agencies were concluded before a demand for payment was sent, compared with 34 per cent in the first half of 2011. The fact that such a substantial proportion of cases (985,000 in the first half of 2011) are concluded at an early stage of the recovery process suggests, in the case of a large number of debtors, that defaults are not rooted in serious payment problems.

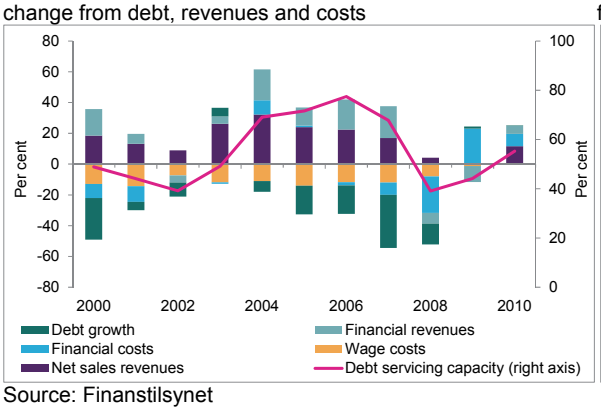
Theme II: Banks' risk exposure to the corporate sector

Risk present in firms

Firms' debt servicing capacity (profit in per cent of bank and bond debt) has strengthened in recent years due to increased sales revenues, lower financial costs and reduced debt growth (chart II.1). An improvement is noted in most sectors. Turnover has not increased by the same margin as in the years following the cyclical trough in 2002, reflecting a weaker consumption trend and weaker recovery in the wake of the international financial crisis. Increased spreads on bank lending in combination with some quickening of debt growth will in isolation reduce firms' debt servicing capacity in the period ahead. Statistics Norway's forecasts assume modest growth prospects for the Norwegian economy, which will probably dampen the contribution from net sales revenues ahead.

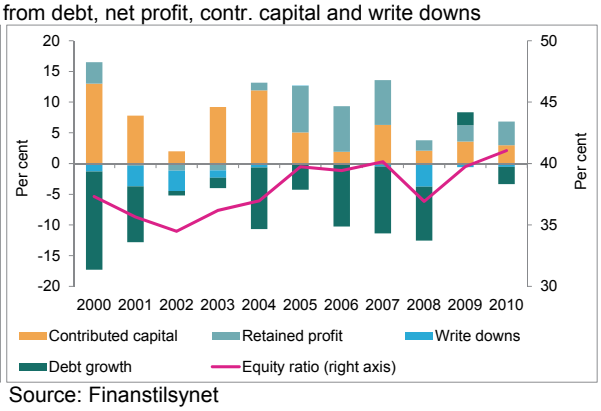
The trend in Norwegian mainland firms' equity ratio indicates that Norwegian firms are financially sound overall (chart II.2). Fresh equity capital has pushed up the equity ratio in recent years, although the increase has been smaller than was the case in the years following 2002.

II.1 Debt servicing capacity. Level and contribution to change from debt, revenues and costs



Source: Finanstilsynet

II.2 Equity ratio. Level and contribution to change from debt, net profit, contr. capital and write downs



Source: Finanstilsynet

Finanstilsynet has in recent years risk classified the corporate loan portfolio of the 18 largest banks in Norway. Using the corporate model SEBRA (see separate account), bank lending is distributed on credit quality steps. About 70 per cent of banks' corporate portfolio is included in the risk classification. The portion which cannot be risk classified consists mainly of foreign firms the bulk of which are shipping companies (see the section on banks' exposures to commercial property and shipping). The model was developed to estimate credit risk on an individual loan, and probabilities of

default are calculated. Probability of default, defined as the probability of a firm going into default in the course of the coming year, is a measure of a loan portfolio's credit quality.

Table II.1 Corporate market portfolio by risk categories low, medium and high risk as of 31.12.2011, percentage shares, and change in probability of default (PD)

Industry	Low risk	Medium risk	High risk	Probability of default		
	PD below 0.75 %	PD between 0.75 % - 3.0 %	PD above 3.0 %,	31.12.2011	31.12.2010	Change
Primary	62	33	5	1.4	1.6	-0.2
Oil and gas extraction	55	39	6	1.6	2.7	-1.0
Manufacturing	83	12	5	1.1	1.1	-0.0
Electricity etc.	74	25	0	0.7	0.6	0.1
Construction	79	17	4	1.2	1.2	0.0
Retail trade	74	22	4	1.3	1.5	-0.2
Transport and warehousing	79	19	2	0.9	1.2	-0.3
Lodging and food services	22	59	19	4.2	4.2	-0.1
Information and communication	42	56	2	1.4	1.5	-0.1
Real estate activities	71	24	5	1.0	1.2	-0.2
Service trades	66	30	4	1.5	2.2	-0.7
Total – all industries	72	24	4	1.1	1.3	-0.2

Exposure as of 31.12.2011 is risk-weighted by probability of default calculated from the accounting year 2010, while exposure as of 31.12.2010 is risk-weighted by probability of default calculated from the accounting year 2009.
Source: Finanstilsynet

The bulk of the banks' corporate portfolio, 72 per cent, was classified in the category low risk, with a mere 4 per cent in the high risk category (table II.1). Compared with 2010, probabilities of default have declined somewhat as a result of a somewhat improved economic trend. There has been a decline in most sectors. Probabilities of default vary from one sector to the next, from 0.7 per cent in the power industry to 4.2 per cent for the hotel and restaurant trade. Risk appears to be low for the corporate sector as a whole.

A weakness of the SEBRA model is that it only limitedly reflects impaired growth prospects for the international economy, and possible negative effects for the domestic economy. On the other hand, the model provides valuable insight into firms' financial position. Strengthened debt servicing capacity and higher equity ratios put firms in a better position to meet a new downturn than was the case at the end of 2010. Debt servicing capacity is nonetheless lower than in 2008. This may indicate that Norwegian firms are more vulnerable now than prior to the international financial crisis when debt servicing capacity and equity ratios of Norwegian firms were both unprecedentedly high.

Further details of the SEBRA model

Norges Bank and Finanstilsynet have for several years used the SEBRA corporate model in analyses of banks' exposure to credit risk posed by the corporate sector. SEBRA models the probability of default by means of key figures and ratios describing a firm's earnings, financial soundness and liquidity. These key figures are central indicators for a firm's ability to honour its payment obligations. Alongside financial ratios, the model includes information on a firm's size and age. The data underlying the analyses are annual financial statements of all limited liability companies in Norway from and including 1988. Estimated probability of default for each firm is multiplied by the firm's bank debt which is then summated for all firms. This gives an estimate of banks' potential loan losses

assuming that the entire loan amount is lost upon default. The model is used to assess the trend in firms' credit risk by sector and in assessing banks' financial soundness.

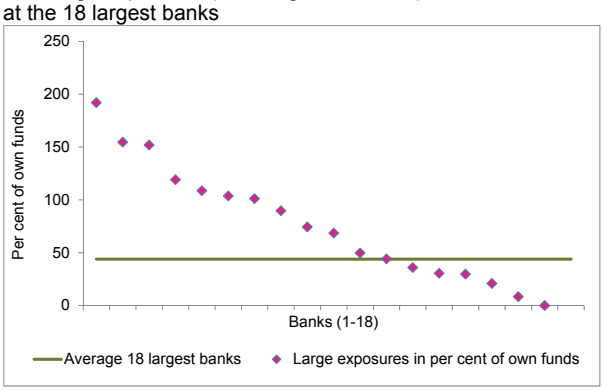
For a further description of the SEBRA model, see "Modelling credit risk in the enterprise sector – further development of the SEBRA model", Bernhardsen and Larsen (2007) Norges Bank: Economic Bulletin 3/2007.

Most Norwegian banks have similar models. In addition to measuring credit risk, these models are often used to price loans. As part of its oversight of banks' credit risk in the corporate market, Finanstilsynet also analyses banks' exposure portfolio by means of the SEBRA model. The 18 largest banks in Norway report detailed information to Finanstilsynet on their corporate customer exposures in excess of NOK 500,000. For each loan, a bank is required to disclose the loan amount granted and drawn down, credit limits utilised, any guarantee limits, average lending rate, assessed collateral values and internal rating (credit quality step).

Banks' concentration risk

Unexpected events may render a bank unable to fully guard against difficulties among its customers and counterparties. The rules governing large exposures set upper limits for counterparty exposures to curb the harmful effects associated with a negative event. A large exposure is defined as representing 10 per cent or more of a bank's own funds. No single exposure may constitute more than 25 per cent of a bank's own funds. Where the counterparty is another financial institution, the regulations provide a derogation allowing overall exposure to exceed 25 per cent of own funds. This presupposes that the bank's aggregate exposure to the financial institution does not represent more than 100 per cent of the bank's own funds.

II.3. Large exposures (risk weighted volume) at the 18 largest banks



The main rule is 100 per cent risk weighting, except as otherwise provided by regulations on large exposures.
Source: Finanstilsynet

Table II.2 Large exposures (risk weighted) by sector at the 18 largest banks

Sector	Risk-weighted volume		
	Volume	In per cent of total	In per cent of own funds
Public administration	434	0 %	0 %
Financial institutions	13 176	13 %	6 %
Corporate customers	67 330	66 %	29 %
Retail customers	121	0 %	0 %
Foreign	20 490	20 %	9 %
Total	101 551	100 %	44 %

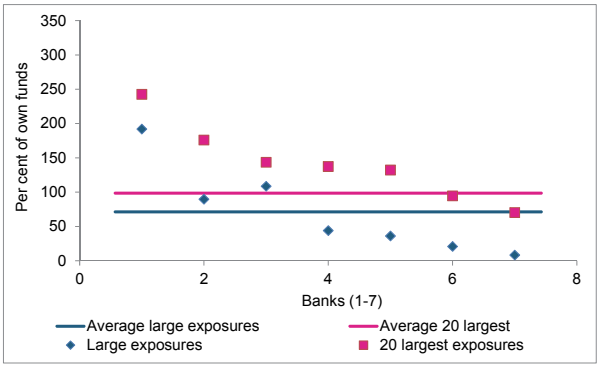
Source: Finanstilsynet

Concentration risk, in terms of large exposures, has decreased among the largest banks in recent years. At the end of 2011 large exposures averaged 44 per cent of banks' own funds. Most banks have a relatively modest volume of large exposures, but there is a large spread (chart II.3).

Corporate customers account for the bulk of the banks' portfolio of large exposures (table II.2). About 66 per cent of Norwegian banks' large exposures are to Norwegian corporates, the majority being loans to commercial property, manufacturing and the transport sector. When foreign non-financial firms are included, the share rises to 72 per cent. Calculations done using the SEBRA model showed that the portfolio of large exposures has a somewhat lower probability of default than banks' total corporate market portfolio.

Banks that use their own models to measure capital (IRB banks) report their 20 largest exposures, including instances where each such exposure represents less than 10 per cent of own funds and is not a large exposure as defined by the rules. Concentration risk increases significantly when the latter exposures are included for the IRB banks (II.4). The increase is particularly large for those banks where the proportion of large exposures relative to own funds was small at the outset. The largest exposures are mainly loans to corporates, the bulk of which are loans to commercial property, manufacturing and the transport sector (table II.3).

II.4 Large exposures and the 20 largest exposures. Seven IRB banks



Source: Finanstilsynet

Table II.3 20 largest exposures (risk weighted) by sector. Seven IRB-banks

Sector	Risk-weighted volume		
	Volume	In per cent of total	In per cent of own funds
Public administration	665	0 %	0 %
Financial institutions	11 044	6 %	6 %
Corporate customers	160 873	84 %	82 %
Retail customers	171	0 %	0 %
Foreign	19 780	10 %	10 %
Total	192 533	100 %	99 %

Source: Finanstilsynet

Banks' exposures to commercial property and shipping

Commercial property and shipping account for more than half of Norwegian banks' loans to the corporate market. The further development of the world economy is highly uncertain, and a severer international setback will increase banks' credit risk exposure to the two industries. The 10 largest banks in Norway have reported to Finanstilsynet their exposures to commercial property and the shipping industry by sub-segment and risk category as of the third quarter of 2011.They have also disclosed impairment write-downs on the exposures. Exposures included in the categories low, medium and high risk are based on the bank's internal risk classification systems and assessments. Exposures with a default probability between 0 and 0.75 per cent are assessed as low risk, default probabilities between 0.75 and 3 per cent are assessed as medium risk, while default probabilities above 3 per cent are assessed as high risk.

Both commercial property and the shipping industry were hit by the cyclical turnaround in the wake of the financial crisis. After a period of considerable decline in rental prices and sale prices of commercial

property, prices again rose through 2010 and 2011, and interest in commercial property investment has picked up. In shipping, however, problems have persisted with a weak trend in rates and ship values in most segments. Some shipowners have been in breach of loan terms and have restructured their funding by deferring instalment payments and/or raising new equity capital. Impairment write-downs on shipping exposures have risen in the past two years or so, and the industry has the highest level of write-downs relative to outstanding loans. See chapter 1 for a further account of the market for commercial property and shipping.

Exposures to commercial property

Loans granted to commercial property totalled NOK 446bn at the end of the third quarter of 2011, of which NOK 388bn is the volume drawn down (table II.4). Loans granted measured 244 per cent of the banks' own funds. Banks were in particular exposed to the office segment, which accounted for 39 per cent of loans granted. The category "Other" includes hotels, industrial premises and warehousing/logistics which together with retail trade accounted for about 36 per cent of banks' loans granted. The profitability of property investments is greatly affected by developments elsewhere in Norwegian business and industry.

The growth in lending to commercial property (loans granted) was 1.9 per cent at the end of the third quarter of 2011, while the 12-month growth in drawdowns was 8.3 per cent at the same point in time. Loans to the hotel segment were the main contributor to growth.

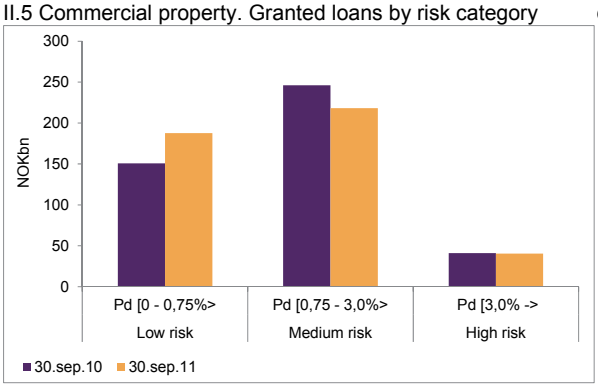
Table II.4 Banks' exposures to commercial property by sub-segment, Q3 2011

	Loans granted		Volume drawn down		Loans granted in % of own funds	Loans granted in % of tier 1 capital
	NOKbn	12-month growth (%)	NOKbn	11-month growth (%)		
	30 Sep 11	30 Sep 11	30 Sep 11	30 Sep 11	30 Sep11	30 Sep 11
Office	173	-13.7	147	-0.8	95	114
Commerce	53	8.4	48	7.4	29	35
Housing cooperatives etc.	48	3.4	47	10.3	26	32
Housing projects	63	22.1	49	20.3	35	42
Other	108	20.7	97	18.3	59	71
Total	**446**	**1.9**	**388**	**8.3**	**244**	**292**

Source: Finanstilsynet

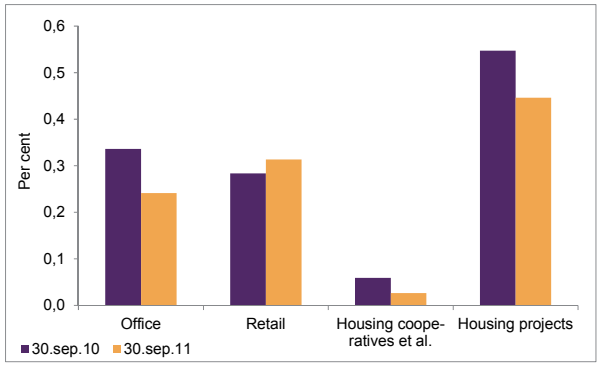
Banks' reporting shows that risk present in the property portfolio was reduced overall in 2011. Exposures assessed at low risk rose markedly, while a decline was seen in exposures regarded as medium risk (chart II.5). This may be because risk related to existing customers has declined as a result of low interest rates, but also because new loans are going to highly creditworthy customers. Increased property prices can also be assumed to have reduced loan-to-value ratios for previously contracted loans, causing risk to appear lower in banks' own risk assessments. In the same period, individually assessed write-downs in per cent of drawdowns have fallen from 0.88 to 0.77 per cent, a decline that is broad-based (chart II.6). Collectively assessed write-downs have also fallen in the period. The risk ahead relates mainly to the increased uncertainty regarding the international economy and repercussions for Norway's economy.

II.5 Commercial property. Granted loans by risk category



Source: Finanstilsynet

II.6 Commercial property. Write downs in per cent of drawn down volume



Source: Finanstilsynet

Exposures to shipping

Primarily the two largest banks in Norway have large loans to the shipping industry, although some medium-sized banks also have substantial exposures. All in all, loans granted by banks totalled NOK 285bn at the end of the third quarter of 2011, of which NOK 210bn was drawn-down volume. Loans granted measured 156 per cent of own funds.

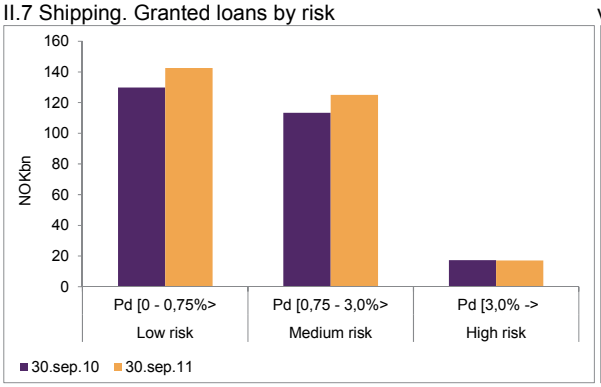
Table II.5 Banks' exposures to shipping by sub-segment, Q3 2011

	Loans granted		Volume drawn down		Loans granted in % of own funds	Loans granted in % of tier 1 capital
	NOKbn	12-month growth (%)	NOKbn	12-month growth (%)		
	30 Sep 11	30 Sep 11	30 Sep 11	30 Sep 11	30 Sep 11	30 Sep 11
Dry bulk	37	5.9	28	4.0	20	24
Tankers	32	15.7	25	7.7	18	21
Containers	26	38.2	20	16.2	14	17
Chemicals	21	10.8	18	7.5	12	14
Refrigerator ships	1	-42.5	1	-13.0	1	1
Gas	26	3.3	15	-35.5	14	17
Offshore	95	12.3	36	-45.1	52	62
Other shipping	45	-4.7	68	74.6	25	30
Total	**285**	**9.7**	**210**	**-0.9**	**156**	**186**

Source: Finanstilsynet

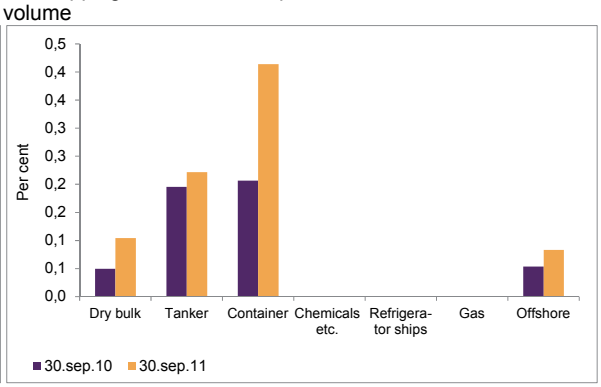
Banks were in particular exposed to the offshore segment, where loans granted accounted for 33 per cent of total loans to the shipping industry. The offshore segment consists inter alia of rig, seismic, subsea/construction and anchor handling vessels along with platform supply vessels. Exposures to the more traditional shipping segments such as the dry bulk, crude oil tanker, container, chemicals and product tanker and gas segments were around 10 per cent to each segment. Loans to shipping (drawdowns) fell by 0.9 per cent in the past year, while the annual growth in loans granted was 9.7 per cent at the end of the third quarter of 2011. Exchange rate movements had little effect on the growth in lending.

II.7 Shipping. Granted loans by risk



Source: Finanstilsynet

II.8 Shipping. Write downs in per cent of drawn down volume



Source: Finanstilsynet

Banks' reporting shows that risk in the shipping portfolio changed little compared with 2010 (chart II.7). The volume of exposures assessed at low and medium risk rose in step with overall growth in loans granted. The volume of exposures assessed at high risk was relatively stable overall. However, risk on offshore exposures was reduced somewhat while for some other segments, particularly dry bulk, tanker and container, risk increased. This development is reflected in impairment write-downs (chart II.8). All in all, individually assessed write-downs in per cent of drawdowns rose from 1.17 per cent to 1.2 per cent of outstanding loans. Lower collectively assessed write-downs pulled in the opposite direction. Overcapacity is a structural problem in parts of the industry, and persistent low freight rates represent a risk to profitability at several shipping companies. Should international trade subside and the oil price plunge, profitability will be further squeezed, and increasing losses must be expected.

Theme III: Macroprudential supervision, capital requirements and risk weighting

Major changes are under way in the rules governing financial institutions, many of them prompted by weaknesses brought to light during the financial crisis. A lesson learned from the crisis was that authorities in many countries were insufficiently aware of systemic risk and the need for steps to mitigate such risk. Macroprudential supervision and regulation is designed to curb systemic risk in financial markets. Higher capital requirements can affect banks' lending rates and credit growth in the economy. Calculations show that such effects will be moderate in the long term. Capital accumulation in upturns is important for maintaining robust banks in downturns. The capital adequacy regime permits banks to use internally developed risk models to measure risk weighted assets for the purpose of determining capital charges. A weakness of risk modelling is potential flaws in the empirical basis. Moreover, many risk factors are affected by financial institutions' behaviour and market developments, which often change over time, making it difficult to estimate risk on the basis of historical data. This underscores the importance of ongoing macroprudential supervision, on-site inspection, model approval procedures and Pillar 2 assessments by Finanstilsynet.

International regulatory development

The EU Commission published on 20 July 2011 its proposal for a new solvency framework for credit institutions and investment firms, CRD IV. The proposal builds on the Basel Committee's recommendations regarding new capital and liquidity standards, Basel III. The Commission recommends full harmonisation of parts of the framework, thereby restricting national authorities' ability to impose stricter requirements. The new regime will enter into force on 1 January 2013, but important aspects will be introduced gradually in the period 2013 to 2019. Part of the rationale for the changes is to increase robustness against new crises in the financial sector and to assure functional financial institutions and markets. The new rules change the framework conditions for financial institutions.[1]

The financial crisis showed that a number of banks (including investment banks) in Europe and the US were insufficiently capitalised, and that capital quality was in many cases poor, often because parts of the business were not subject to ordinary capital and regulatory requirements. In many cases banks

1 See Financial Outlook 2011 (September 2011), Finanstilsynet, for a thorough review of CRD IV.

underestimated the risk present in loan and securities portfolios. In other cases loan portfolios were securitised and taken out of the banks' books. When the crisis broke it turned out that the banks in some cases were actually responsible for the credit risk in these portfolios, and in other cases opted to cover the losses to protect their reputation.

The capital requirements apply to common equity tier 1 capital, tier 1 capital and own funds. Put simply, common equity tier 1 capital is equity capital less goodwill and intangible assets. The difference between tier 1 capital and common equity tier 1 capital comprises roughly speaking hybrid capital, while the difference between own funds and tier 1 capital largely consists of subordinated loan capital.[2] The new framework raises the minimum requirement on common equity tier 1 capital and tier 1 capital. It also imposes stricter qualitative requirements on the forms of capital. In the case of hybrid capital and subordinated loans a requirement is that loan agreements do not incentivise redemption. The rules are designed to ensure that also these types of capital are available to cover losses without this leading to bankruptcy or bankruptcy proceedings (loss absorbing capacity).

The new regime also introduces a requirement for capital buffers beyond the minimum capital adequacy requirements. This capital conservation buffer aims to ensure that banks build up capital in good times for use in bad times, and that capital does not fall below the minimum requirement in severe downturns. The buffer will comprise common equity tier 1 capital and measure 2.5 per cent of risk weighted assets. A countercyclical capital buffer is also proposed, described below.

It is recommended that the risk weighted minimum capital requirements be supplemented with a minimum required unweighted tier 1 capital ratio, defined as the ratio of tier 1 capital to an exposure measure. This measure covers total assets and off-balance sheet risk exposure. The requirement will help to prevent exaggerated debt build-up, and to curb risk inherent in banks' use of models to estimate risk weighted assets with regard to own funds. See separate account of risk models.

The table below shows at what times the respective requirements will be phased in.

Table III.1 Phase-in of capital provisions of CRD IV *

(1 January)	2013	2014	2015	2016	2017	2018	2019
Common equity tier 1 capital (equity capital)	3.5 %	4.0 %	4.5 %	4.5 %	4.5 %	4.5 %	4.5 %
Tier 1 capital (common equity tier 1 capital and hybrid capital)	4.5 %	5.5 %	6.0 %	6.0 %	6.0 %	6.0 %	6.0 %
Own funds (tier 1 capital and supplementary capital)	8.0 %	8.0 %	8.0 %	8.0 %	8.0 %	8.0 %	8.0 %
Capital conservation buffer				0.625 %	1.25 %	1.875 %	2.5 %
Countercyclical buffer	Follows the conservation buffer, but can be pushed forward in countries with strong credit growth						

* There is also a phase-out of instruments that do not meet the new requirements on hybrid and supplementary capital in the period 2013-2023. Source: Finanstilsynet

The Basel Committee and the European Banking Authority (EBA) are conducting a quantitative impact study known as "Basel III implementation monitoring". The study will continue until Basel III

2 Hybrid capital is a cross between a share and bond. In a bankruptcy, hybrid capital has higher priority than equity capital and lower priority than subordinated loan capital.

is phased in. The results are used to assess effects of, and for possible adjustments to, the proposed framework. The last impact study was carried out in autumn 2011.

Macroprudential supervision and countercyclical buffer

A lesson learned from the financial crisis was that the authorities in many countries have insufficient focus on systemic risk and the need for measures to mitigate this risk. The object of macroprudential supervision and regulation is to curb systemic risk in financial markets and institutions. Strong macroprudential supervision and good macroprudential regulation can help to curb the costs (reduced activity level and increased unemployment) associated with financial crises.

At least two dimensions of systemic risk are relevant in macroprudential supervision. One is the time dimension – the development over time of strong credit growth, high property and equity prices and reduced risk premiums. After a period of strong expansion a loss of confidence may arise with ensuing credit contraction, reduced property and share prices and a steep increase in risk premiums. The second dimension covers risk distribution in the financial system at a given point in time (the cross-section dimension) – complexity and lack of transparency in group structures, interconnectedness, mutual dependence in the form of similar risk exposure and vulnerability to the same type of shock. Macroprudential supervision and regulation have interfaces to several policy areas, including monetary policy, fiscal policy and microprudential supervision and surveillance.

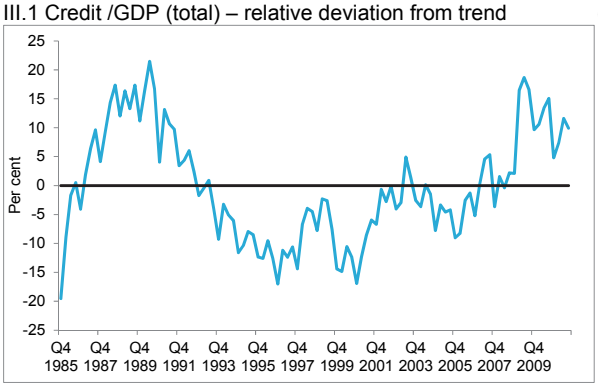
A relevant instrument of macroprudential regulation is the proposed countercyclical capital buffer. Its primary purpose will be to bolster the banking system's solidity in periods of particularly strong credit growth so that banks are in a better position to withstand losses in a downturn. The buffer, consisting of common equity tier 1 capital, will be configured on a national basis and will apply to all loans in the country, including those granted via branches of foreign banks.

Under CRD IV any decision to introduce the buffers will be based on movements in the credit/GDP ratio and/or on other indicators to be developed by the European Systemic Risk Board. Where the indicator exceeds the trend ratio, the countercyclical buffer will be gradually phased in (chart III.1)[3] . The buffer requirement will vary between 0 and 2.5 per cent of risk weighted assets. The phase in will only start when the indicator deviates from trend by at least 2 percentage points. When deviation from trend reaches 10 percentage points, the buffer requirement reaches its maximum of 2.5 per cent of risk weighted assets (chart III.2). Under certain assumptions the buffer requirement can be set higher than 2.5 per cent. Once a decision to introduce a countercyclical buffer has been taken, banks will have to comply within one year. The proposed rules require the authorities to assess the need to introduce a countercyclical buffer on a quarterly basis. Under the proposal, institutions operating with less common equity tier 1 capital than the sum of the minimum requirement and the capital conservation and countercyclical buffer requirements, will face restrictions on dividend payments, share buybacks, variable remuneration etc. The wider the gap, the greater the share of the profit must be retained.

3 The trend ratio is estimated using a Hodrick-Prescott filter, as recommended in documents prepared by BIS.

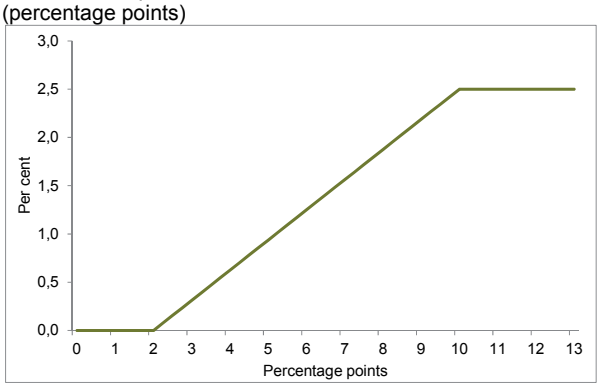
If a bank has insufficient common equity tier 1 capital to meet the minimum requirement and the capital conservation and countercyclical buffer requirements, the institution must after 10 days forward a recapitalisation plan to the supervisory authority for approval. The plan must cover projected revenues, costs and balance sheet, measures to increase capital adequacy, a schedule for full compliance with the requirements and other information relevant to the supervisory authority's assessments. If the plan is not approved, the authorities may issue an order to increase capital to a specified level within a set period, or order retention of profit beyond the statutory level.

III.1 Credit /GDP (total) – relative deviation from trend



Sources: Statistics Norway, Finanstilsynet

III.2 Buffer requirement. Deviation from trend (percentage points)



Source: Finanstilsynet

The capital adequacy framework consists of three pillars. Pillar 1 covers minimum capital requirements. Pillar 3 deals with required information to market actors. Pillar 2 requires institutions to have in place a process for assessing overall capital need in relation to risk profile and a strategy for maintaining the level of capital. The supervisory authorities will monitor and evaluate the institution's judgement of its capital need and attendant strategy, and take steps if the bank's process is not regarded as satisfactory. The supervisory authorities must require capital adequacy to exceed the minimum requirement, and intervene at an early stage to prevent capital from falling below a minimum level.

In its Pillar 2 assessments, Finanstilsynet attaches much importance to financial institutions' capacity to withstand a serious economic downturn and their ability to raise capital under difficult market conditions. Macroeconomic considerations and systemic risk are a part of this perspective. Finanstilsynet's regulatory Pillar 2 practice is based on the assumption that banks' management boards, after a prudential assessment, will, when setting the bank's capital target, ensure the bank's ability to withstand a situation of a large, unexpected income reduction and unexpected heavy losses. Such a situation may arise as the result of a bank-specific event, or as a result of general economic developments.

In the new Basel III/CRD IV regime there will be an overlap between the assessments that are already part of Pillar 2 and the countercyclical buffer. The degree of overlap may vary over time, depending on the cyclical situation. Both the assessments made by the banks themselves in their Internal Capital Adequacy Process (ICAAP) and by the supervisory authority in its Supervisory Review Process (SREP) will vary with the cyclical situation and outlook for the future. This will require coordination of the countercyclical buffer with the forward looking risk and capital assessments done under Pillar 2.

International organisations, supervisory authorities and central banks are discussing instruments in addition to countercyclical buffers. Many of these are familiar instruments already used by supervisory authorities, but with a slightly different alignment in the context of macroprudential supervision. An issue in several instances is whether they should vary with the temperature of the economy. Finanstilsynet's guidelines for home mortgage lending recommend that mortgages should normally not exceed a ceiling of 85 per cent of property value, partly to support financial stability. A time-varying ceiling would imply a reduced ceiling in periods of strong credit growth. Other instruments that could be made time-varying are requirements on debt servicing capacity, banks' net currency positions and liquidity risk, and institutions' credit growth. Also under discussion is a tax on banks' market financing, and the use of time-varying risk weights under the capital adequacy framework whereby risk weights would increase in periods of economic expansion when risk accumulates in the financial system.

The instruments of macroprudential supervision may be applied singly or collectively. They may be broad based or directed at selected target groups, and their force may be constant or time varying. Decisions regarding their use could be based on simple, verifiable rules, on discretionary judgement or a combination. Coordinating the instruments with fiscal and credit policy would be desirable.

Capital requirements and lending growth

The introduction of a countercyclical buffer requirement means that some banks may need to increase their equity capital in periods of strong credit growth. The capital conservation buffer, on the other hand, requires a permanent strengthening of equity capital. Market participants (banks' creditors and shareholders) may demand a capital ratio above the regulatory minimum.

It is argued that higher capital requirements cause banks' weighted cost of capital (funding cost) to rise because shareholders' required rate of return is higher than bank creditors' required rate of return.[4] When the cost of funding rises, banks seek to pass on the cost to the borrower. They do this by raising their lending rate, thereby inhibiting credit growth. This is often presented as a cost attending higher capital requirements.

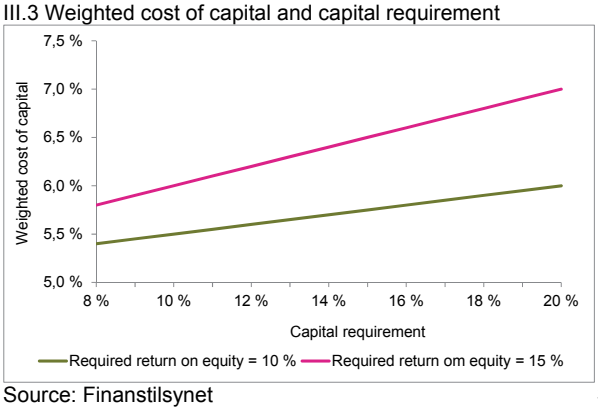
Banks' competition for borrowers, and in particular the competition from alternative funding sources such as the securities market, may limit the margin by which banks can raise their lending rates. Two further factors are relevant: the effect, if any, of higher capital requirements on lending rates independently of the competitive situation, and the connection between the equity ratio and investors' required rate of return.

When assessing the effect of higher capital requirements on lending rates, it is useful to start out from an example. Chart III.3 shows the connection between capital requirements and weighted cost of capital, while chart III.4 show the connection between capital requirements and a rise in interest rates.

4 Shareholders' required rate of return is higher than that of creditors because a share investment in a bank is more risky than a loan to the bank.

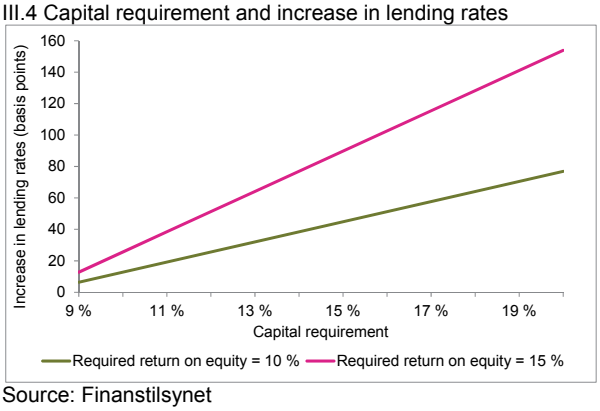
The calculations disregard tax. The calculations are performed under two different assumptions regarding shareholders' required rate of return: 10 and 15 per cent respectively. A further assumption is that neither the shareholders' nor creditors' required rate of return is affected by changes in the equity ratio. The average interest rate on the banks' debt is set at 5 per cent. When the equity ratio rises from 8 to 9 per cent, the weighted cost of capital rises by 5 basis points given a shareholders' required rate of return of 10 per cent, and by 10 basis points given a required rate of return of 15 per cent. If it is assumed that the banks' borrowers cover the entire increase in the cost of funding, lending rates will rise by 6 and 13 basis points respectively in the two examples.[5]

III.3 Weighted cost of capital and capital requirement



Source: Finanstilsynet

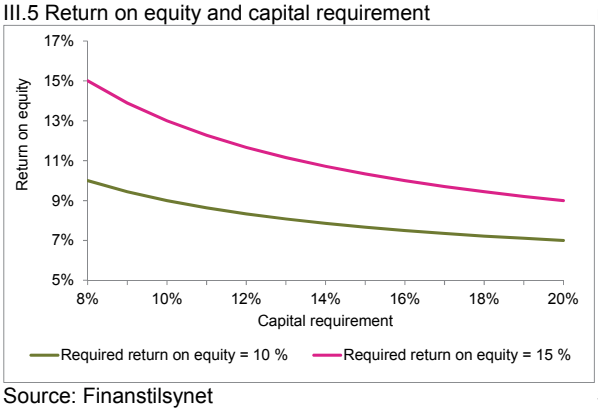
III.4 Capital requirement and increase in lending rates



Source: Finanstilsynet

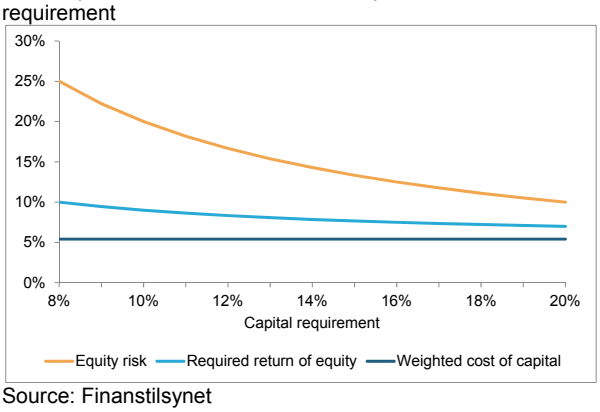
The connections are linear. Under these assumptions an increase in the capital requirement of 2.5 percentage points, which is the maximum for the countercyclical buffer, will lead to an increase in lending rates of 16 and 32 basis points respectively. The calculations ignore the fact that banks' risk weighted assets with respect to own funds are significantly lower than total assets. When this is adjusted for, the impact on lending rates diminishes. The impact on lending rates is in any event moderate. The fact that different types of loan carry different risk weights is ignored.

III.5 Return on equity and capital requirement



Source: Finanstilsynet

III.6 Required rate of return, risk and capital requirement



Source: Finanstilsynet

Given that lending rates are not significantly affected by higher capital requirements, one would expect the same to be true of demand for credit. However, capital requirements may affect credit growth if

5 In Norway loans represent just under 80 per cent of banks' total assets.

fresh capital is in short supply. In normal periods and with well-functioning stock markets there is little reason for banks to be unable to raise fresh equity capital so long as banks' loan projects have a positive net present value. It may nonetheless be dearer for banks to raise new equity capital from markets than to retain large parts of their net profit. One reason is that investors may interpret stock issues as a negative signal of a bank's state of health and value.[6] Once all banks are subject to a countercyclical buffer requirement, the signal affect will probably be of little significance. In situations where the markets are not functioning well, it may be difficult for banks both to raise new equity and to refinance debt falling due.

Suppose for example that, due to the competitive situation, banks are unable to compensate for higher funding costs by raising lending rates, then a higher capital requirement will reduce return on equity (chart III.5). The higher shareholders' required rate of return at the outset, the larger the reduction. The strong increase in international banks' debt-equity ratio in the years leading up to the financial crisis fuelled a substantial increase in return on equity. This was in a period in which return on total assets was under pressure. However, arguing that a reduction in return on equity reduces shareholders' wealth position needs clarification. An increase in the equity-to-assets ratio reduces shareholders' financial risk, which is naturally followed by a reduction in shareholders' required rate of return (chart III.6). A lower gearing ratio may also tend to lower bank creditors' required rate of return since the risk associated with lending to banks diminishes.

In order to assess how investors' required rate of return depends on the equity-to-assets ratio, it may be useful to start with an assumption that the value of a firm, and hence also the weighted cost of capital, is independent of the firm's gearing ratio.[7] Chart III.6 shows that the risk reduction consequent on increased equity capital brings a reduction in shareholders' required rate of return.[8] This presupposes that risk pricing is rational and that no arbitrage opportunities exist.

There are several reasons why the gearing ratio can have a bearing on the cost of capital. One example, as mentioned, is rationed access to capital. Where a tax benefit is associated with debt financing, it will be an advantage for shareholders if the firm has a low equity-to-assets ratio. Expected bankruptcy costs pull in the opposite direction since such costs reduce the value of creditors' claims in a bankruptcy. That leads to an increase in creditors' required rate of return. The same will be true if creditors' position risks being weakened by investment decisions taken by the shareholders/management. The two latter factors both favour a high equity-to-assets ratio. The implication of a theory based on "new" shareholders having less information about the firm's future prospects than the management is that investments and growth are financed first by retained profits, thereafter by debt and lastly by new share capital. In such a context, equity is neither cheap nor costly because the cost depends on whether the firm retains profits or raises new equity to finance its operations.

6 See for example: Admati, DeMarzo, Hellwig, Pfleiderer: "Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Expensive", Stanford GSB Research Paper No. 2063, October 2010. This article contains a number of relevant references and discussions.
7 F. Modigliani & M. Miller, "The cost of capital, corporation finance and the theory of investment", American Economic Review, No. 48, 1958.
8 In the chart the debt is assumed to be risk-free. The literature shows that the same conclusion can be drawn where debt is risky.

The banks' vital functions in the economy mean that creditors can expect central government to support the banking system's solidity in order to avoid systemic crises. Creditors accordingly see less credit risk involved in lending to banks. This lessens creditors' need to monitor the banks and serves to lighten banks' funding costs.

Several studies have examined the above issues.[9] They conclude that the decline in shareholders' required rates of return as a result of banks' higher equity-to-assets ratio, is substantial, and that the increase in lending rates as a result of the increase in banks' weighted cost of capital will be modest. A Swedish study considers the effect on banks' funding costs related to the reduction in the funding benefit due to higher capital requirements to be extremely moderate.[10] The study by Miles, Marcheggiano and Nang shows that there is no connection between banks' equity-to-assets ratio and GDP growth in the United Kingdom. The data set covers the period from 1882 the mid-2000s. This study also shows no connection between equity-to-assets ratio and lending margins in the US in the last century. Hence both theory and empirics offer sound arguments indicating that higher capital requirements are unlikely to have any significant negative bearing on growth in credit and GDP in the long term.

Internal risk models and capital requirements

Under the capital adequacy framework banks can apply for permission to use internally developed risk models to compute capital charges. Models both for loans and securities portfolios can be used to that end. The lower the risk calculated by the models, the lower will be the capital requirement.

The Basel Agreement of 1988 (Basel I) aimed to harmonise the regulation of banks, and set minimum requirements on banks' capital. For ordinary credit risk the capital charge was set at 8 per cent of the loan, for well-secured home mortgage loans at 4 per cent and for loans to nation states at 0 per cent. Total equity capital had to exceed the sum of the charges associated with the various types of loan.

In 1993 the Basel Committee drew up a recommendation aiming to widen the capital adequacy framework to cover market risk arising from banks' securities portfolios. After extensive changes a supplement was adopted to the capital adequacy agreement of 1996 which covered market risk and enabled banks to use their own models to determine the regulatory capital requirement. The Basel II Agreement from the mid-2000s allowed banks a similar possibility for credit risk.

The unweighted equity-to-assets ratio in the banking sector was reduced in the years leading to the financial crisis, and several major international banks entered the crisis with equity capital no larger than 2 per cent of their total assets. The capital adequacy rules had shortcomings which Basel III (2010) and CRD IV seek to rectify. The new rules widen risk weighted assets to cover further types of risk, set higher requirements on the quality of own funds, and increase the capital requirement.

9 See for example 1) ECB, "Common equity capital, banks' riskiness and required return on equity", Financial Stability Review, Special Features, December 2011. 2) A. Kashyap, J. Stein, S. Hanson, "An analysis of the impact of "substantially heightened" capital requirements on large financial institutions", University of Chicago Booth School of Business and Harvard University, 2010. 3) D. Miles, G. Marcheggiano, J. Nang, "Optimal bank capital", CEPR Discussion Paper Series, No 8333, 2011.
10 Reimo Juks, "Why banks prefer leverage?", Penning- og valutapolitik 3/2010, Sveriges Riksbank.

A potential weakness of risk modelling is an unsatisfactory empirical basis. Time series used to compute the various parameters are often very short. Some time series are non-stationary, making it difficult to estimate underlying processes. This is particularly serious when it comes to estimating variation in asset value over time, and covariation of value changes. A further factor respecting credit risk is the infrequency of bankruptcies, making it hard to estimate the likelihood of bankruptcy with any precision.

Many risk factors are influenced by financial institutions' behaviour and market trend. Both behaviour and market trends, and the connections between behaviour and markets, change over time. These changes cannot be observed and therefore cannot be estimated. Crises may compel institutions to sell assets in order to maintain capital adequacy. This may set in train a self-augmenting downward spiral where developments in the various institutions are controlled by the same (few) risk factors. It may be fear alone that is driving developments, leading to steadily falling prices and reduced values. Such factors make it difficult to estimate risk on the basis of historical data.[11]

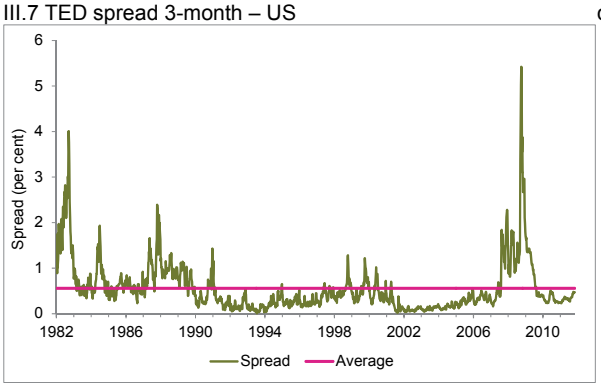
The financial system is complex, and correlations alter over time. Some contend that regulation of such systems should be as simple and robust as possible, see for example the references in footnotes 11 and 12. The existing capital adequacy regime is detailed and complex, and its complexity has increased. To be robust, regulation must incorporate tolerance for errors where the workings of the system are unknown or uncertain. It is difficult to assess how far model uncertainty affects capital adequacy calculations. In 2010, in the United Kingdom, the Financial Services Authority conducted a survey asking a number of banks to compute capital requirements for the same hypothetical loan portfolio to the corporate market. Capital requirements on loans were shown to vary very widely from one bank to the next. In the United Kingdom the losses on banks' trading portfolio during the financial crisis were up to 6 times larger than the capital charge set for the same portfolio. Both factors are indications that model risk is substantial.[12] Hence it is important for banks and supervisory authorities alike to make allowance for this uncertainty in their Pillar 2 assessments and in the approval process. The Basel Committee, EU and Nordic supervisory authorities have set in train surveys to identify differences in risk models in order to promote uniformity.

Some challenges to risk modelling relate to uncertainty in the underlying probability distribution. Charts III.7 to III.10 show some statistical characteristics of the TED spread for three-month maturities (the difference between the eurodollar rate and the rate on short US government securities), which is often used as an indicator of the trend in credit and liquidity risk in the money market. The first chart shows the trend in the TED spread in the period from 1982 to the present, based on weekly observations. During the financial crisis the spread widened substantially. Chart III.8 shows the number of standard deviations from the average the changes in the spread represent. During the financial crisis, the increase corresponded to 8 standard deviations, which under particular assumptions regarding the underlying probability distribution represents a virtually inconceivable event. The first histogram (chart III.9) covers the entire period, while the second covers the period from 1983 to September 2008. Both empirical probability distributions (the histograms) are skewed, which is typical

11 Martin Hellwig, "Capital regulation after the crisis: business as usual?" Preprints of the Max Planck Institute for Research on Collective Goods, Bonn 2010/31.
12 "Capital discipline", Andrew G Haldane, Bank of England, 2011.

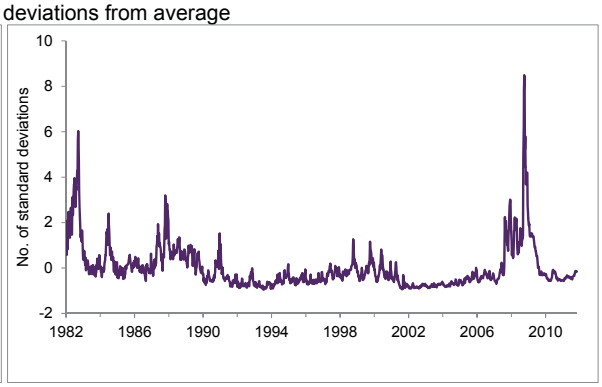
for credit instruments. However, the skewness is significantly larger when the financial crisis is included in the data sample. Skewness is difficult to model precisely. If risk is computed with a basis in the last histogram, risk weighted assets will be significantly smaller than if a larger data set had been used. The financial crisis was an unexpected and unusual event which few financial institutions or market participants foresaw. Safety margins need to be incorporated in regulation in order to make the financial system more robust to unexpected events that are not captured by risk models.

III.7 TED spread 3-month – US



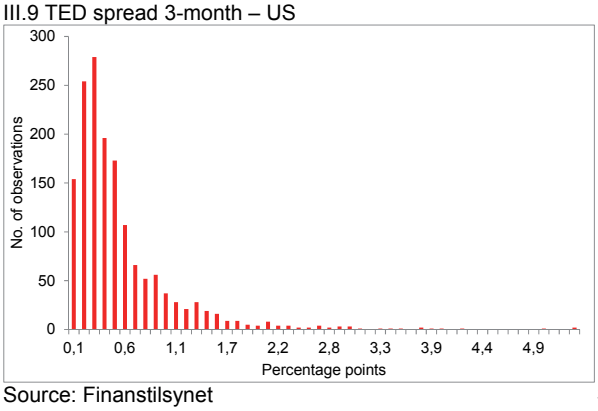
Source: Thomson Reuters Datastream

III.8 TED spread 3-month – no. of standard deviations from average



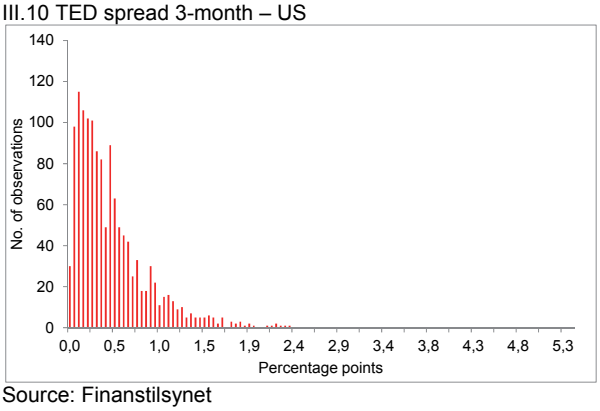
Source: Finanstilsynet

III.9 TED spread 3-month – US



Source: Finanstilsynet

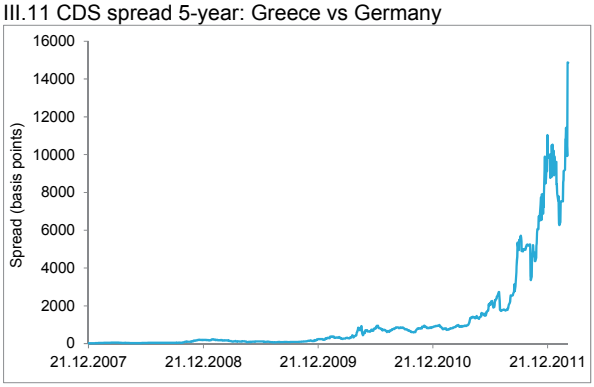
III.10 TED spread 3-month – US



Source: Finanstilsynet

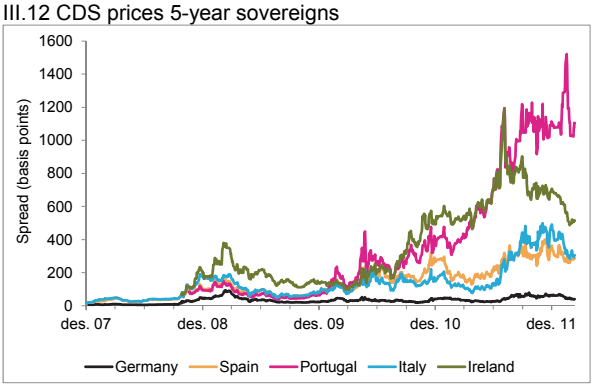
The price of a credit default swap (CDS) expresses what an investor needs to pay to insure against loss on bonds. Chart III.11 illustrates the trend in the difference in CDS spreads on bonds issued by Greece and Germany respectively. This difference is relatively small and non-volatile until far into 2009. It then rises first to 10 percentage points and in 2011 to far above 50 percentage points. A similar, albeit not quite so dramatic, development is shown in chart III.12, which shows CDS prices for Spain, Portugal, Italy, Ireland and Germany.

III.11 CDS spread 5-year: Greece vs Germany



Source: Thomson Reuters Datastream

III.12 CDS prices 5-year sovereigns

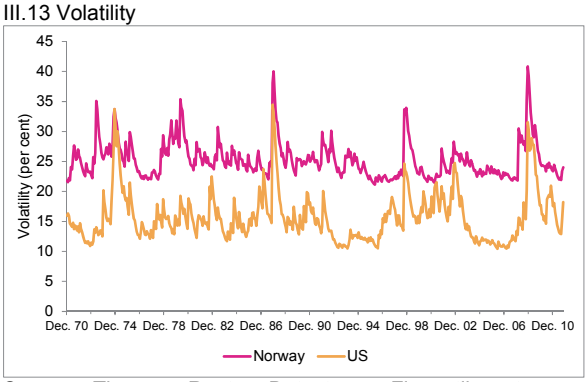


Source: Thomson Reuters Datastream

The charts illustrate how demanding it is to model risk on credit derivatives and also on the underlying bonds on which the CDSs are written.

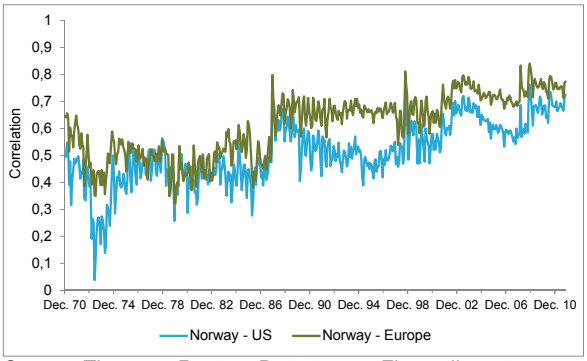
Charts III.13 and III.14 cover the stock markets in Norway and the US. The volatility (standard deviation of return) in stock markets varies widely over time, giving an indication of how difficult it is to estimate risk at a given point in time. In several periods volatility show a large, very rapid, increase. The same applies to correlations, which in general have risen from the 1970s up to the present. Correlations tend to be higher in periods of crisis than in normal periods, suggesting that crises are driven by the same underlying risk factor. Model calculations based on normal periods may indicate a high degree of diversification and limited need for equity capital, whereas the various equity investments in crisis periods show for all practical purposes the same trend. This concern also applies to the connection between the development of various credit instruments and between credit instruments and equity markets. Credit and equity markets are highly correlated in times of crisis.

III.13 Volatility



Sources: Thomson Reuters Datastream, Finanstilsynet

III.14 Correlations



Source: Thomson Reuters Datastream, Finanstilsynet

An important element in the design of regulation is the time dimension. Complex systems are characterised in periods by discontinuities and turning points which arrive suddenly and without warning; see several of the charts above. If financial crises are to be prevented, systems must be in place to identify the build-up of systemic risk at an early stage, and the authorities must have instruments in place to enable them to intervene to prevent a further build-up of risk.

The Basel I system was simple, transparent and verifiable. The minimum requirements supported supervisory discretion and market discipline. Basel II introduced further risk categories and set the stage for use of internal risk models. Basel III continues on this path. The complexity of the regulatory system has increased.[13]

Previously it was customary to employ loss reserves and equity capital as a buffer against identified risk. The risk-weighting and calibration system blurs the distinction between identified and non-identified risk since regulatory capital is reconciled with identified risk. This will be a problem where there is no clear and unambiguous correlation between identified and non-identified risk, as plainly shown by the financial crisis. Non-identified risk was very high and came to the surface in exposures which according to the risk-weighting system were regarded as risk-free.

Since banks employ differing assumptions in their risk modelling it is difficult to compare banks in terms of true financial strength. This applies at the national level, and even more so in international comparisons, and to shareholders, creditors and supervisory authorities alike. In many cases risk modelling influences the pricing of loans.

Basel III and CRD IV will help to strengthen solidity in the banking system. Shortcomings of the previous regime are being addressed. Macroprudential supervision is being built up at both the national and international level, and new instruments are being introduced to reduce systemic risk. On the international level, work is also in progress on changes to the accounting rules in respect of loan losses. In aggregate these measures are likely to dampen the fluctuations in the economy somewhat and lessen the risk of financial crises in the future. Overall the body of rules will be more robust and therefore better suited to tackling unexpected events.

However, uncertainty about the precision of banks' risk modelling and its ability to capture all relevant risk will persist. This underscores the importance of ongoing macroprudential supervision, on-site inspection, model approval processes and Pillar 2 assessments at Finanstilsynet. These four activities and the interplay between them represent a vitally important superstructure in the authorities' efforts to secure financial stability and well-functioning markets.

13 See for example "Capital Discipline", Andrew G Haldane, Bank of England, 2011.

Theme IV: Projections of banks' common equity tier 1 capital adequacy 2012-2014

In recent years most Norwegian banks have been financially sound and have met the minimum capital requirements by an ample margin. In the capital area supervisory practice in Norway has been stringent by European standards. This affords Norwegian banks a solid basis on which to meet an international downturn. However, the possibility that Norwegian banks may be harder hit by a severe setback internationally than was the case in 2008 cannot be ruled out. Finanstilsynet has projected banks' common equity tier 1 capital adequacy with a basis in two scenarios for the Norwegian economy for the period 2012-2014. The data comprises actual accounting figures and capital ratios as of end-2011 for the six largest banks, accounting for 70 per cent of aggregate total assets of Norwegian banks. The projections are based on the Basel II capital adequacy framework, and current floor requirements are applied to the entire period. The projections must not be regarded as forecasts but as one among many sensitivity analyses of banks' financial soundness under stress.

The Norwegian economy in the period 2012-2014

Two macroeconomic scenarios are selected for the Norwegian economy. The baseline scenario starts out from Statistics Norway's forecasts in Economic Survey 1/2012. The stress scenario is based on Finanstilsynet's own estimates.

According to the baseline scenario, GDP growth for Mainland Norway will pick up gradually towards 2014. Weak growth impulses from the international economy are offset by increased growth in domestic demand. Interest rates will remain low despite a gradual increase in the key policy rate as from 2013. Unemployment is expected to increase, but will nonetheless be low viewed in a historical perspective.

Uncertainty regarding the further development of the world economy is greater than for some time (chapter 1). The stress scenario incorporates a substantial setback in the international economy, resulting in reduced GDP and higher unemployment in Norway (table IV.1). It also assumes a markedly tighter supply of credit and equity capital and a further fall in interest rates. However, increased turbulence in international money and credit markets will feed through to Norwegian money markets, bringing increased interest rate mark-ups and lending margins at banks. A substantial fall in commercial property and house prices is also assumed.

Table IV.1 Macroeconomic variables – percentage change from previous year

	Baseline scenario				Stress scenario		
	2011	2012	2013	2014	2012	2013	2014
Real economy							
GDP for Mainland (non-oil) Norway at fixed prices	2.6	2.7	2.8	3.4	-1.0	-2.0	0.0
Unemployment rate	3.3	3.4	3.5	3.5	3.6	5.2	5.7
Interest rates							
Three-month money market (NIBOR)	2.9	2.8	3.1	3.8	2.9	1.9	1.8
Banks' average lending rate	4.7	4.8	5.0	5.5	5.3	4.3	3.8
Prices and wages							
Annual pay	4.3	3.6	3.7	4.4	4.0	2.5	1.5
Consumer prices, CPI	1.2	1.3	1.7	2.1	0.5	0.5	1.0
House prices	8.0	5.5	5.8	5.8	-5.3	-11.8	-9.0
Commercial property prices	16.6	13.0	11.0	11.2	-10.5	-23.5	-18.0
Credit							
Credit to households	7.0	7.0	6.7	6.7	3.9	3.3	0.2
Credit to non-financial firms	3.8	4.3	5.0	5.5	-3.6	-7.5	-1.3

The baseline scenario builds on Statistics Norway's forecasts given in Economic Survey 1/2012. Finanstilsynet has made its own estimates for banks' average lending rates, credit growth and commercial property prices in the baseline scenario. The stress scenario is based on Finanstilsynet's own estimates.

Banks' profit trend

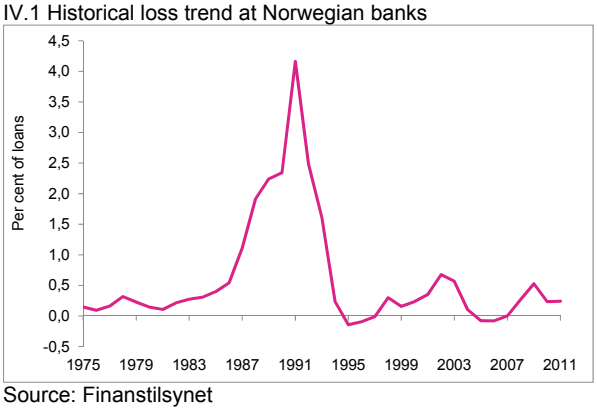
Loans account for the bulk of Norwegian banks' assets, and the trend in credit risk and lending growth largely determines the trend in profit and common equity tier 1 (CET1) capital adequacy in the period 2012-2014. In the stress scenario business and industry earnings are impaired. Corporate debt servicing capacity deteriorates, especially for services segments, commercial property and shipping. Households' high debt level renders them vulnerable to unemployment and income reduction. A setback in the Norwegian economy could contribute to falling house prices while financial consolidation in the household sector would bring lower consumption with negative spillover effects to the rest of the economy. Lending growth in the baseline scenario is on a par with the last couple of years. The stress scenario assumes a steep reduction in lending both to retail and corporate customers bringing low overall lending growth in 2012, and a slight reduction in loan volumes in 2013 and 2014.

Although households' debt burden is at a historically high level, the baseline scenario assumptions of continued low unemployment and buoyant wage growth are assumed to lead to low losses on loans to retail customers in the period to 2014. In the stress scenario unemployment is expected to rise. However, the assumptions of continued moderate wage growth and stable interest rates limits the losses on retail lending in the period. The stress scenario incorporates retail loan losses roughly on a par with those witnessed in the banking crisis of 1990-1992 which peaked in 1991 at 1.7 per cent of outstanding loans.

When computing losses on loans to corporates, a basis is taken in how macroeconomic conditions can be expected to affect credit risk on each of the six banks' individual exposures. This captures the banks' differing commercial exposure and the fact that they may be hit differently by a severe downturn in the Norwegian economy. The estimates in the baseline scenario and the stress scenario for macroeconomic variables such as GDP growth, credit growth and interest rates (table IV.I) are used to project the trend

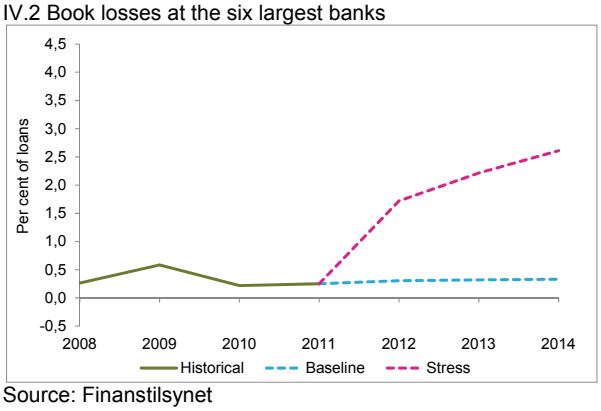
in key figures such as turnover, net profit, liquidity and gearing ratio for each individual firm. Norges Bank has computed the link between macroeconomic assumptions (explanatory variables) and key figures and ratios in the firms' accounts. The corporate model SEBRA, see theme II, is then used to estimate the probability of debt default at each individual firm in the projection period. The method is described in "Stress testing the enterprise sector's bank debt: a micro approach", E. Bernhardsen and B. Dyre Syversten, International Journal of Central Banking. Computed default probabilities for each firm are multiplied by the firms' debt prior to summation for all firms in the banks' loan portfolios. This provides an estimate of potential losses should the entire loan amount be lost. However, potential losses are larger than expected losses since the banks have loan collateral which can be realised and because borrowers' obligations do not cease. Conversion from potential losses to expected losses in the projections is based on the ratio between these two items during the banking crisis in the early 1990s.

IV.1 Historical loss trend at Norwegian banks



Source: Finanstilsynet

IV.2 Book losses at the six largest banks



Source: Finanstilsynet

Total loan losses for the six banks in the stress scenario are put at 2.6 per cent of outstanding loans in 2014, with a gradual increase as from 2011. Average losses are estimated at 2.2 per cent. During the contraction in 2001-2003 losses measured 0.5 per cent of outstanding loans, compared with 3.0 per cent in the period 1990-1992. Losses in the stress scenario are not quite so high, partly because interest rates in the stress scenario are lower than during the banking crisis. Households' interest burden is thus lower than 20 years ago even though their debt burden is currently higher. Firms will be better able to service their loans at a lower interest rate level.

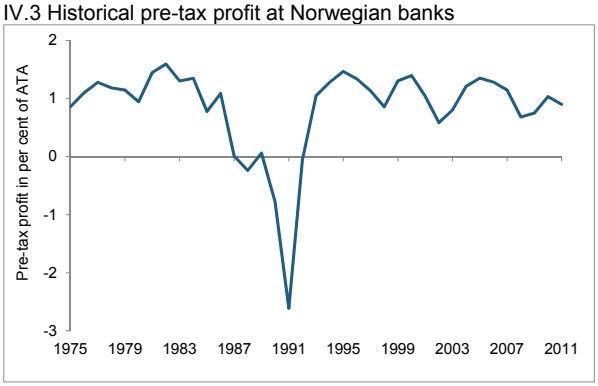
The factor with the greatest bearing on banks' performance is losses. Net interest revenues, which are the banks' largest revenue source, are affected inter alia by interest margins, which have edged down for some time, and growth in lending. The lending margin has been under pressure for many years owing to intense competition between the banks. Margins have fallen to a particularly low level in the case of loans carrying low risk, such as home mortgages. Margins on loans to corporates were very low, and falling, up to the financial turmoil in 2008, but have risen somewhat since then. In a downturn banks are most likely to increase their net interest margin, both because credit risk increases and competition between banks to attract new borrowers is reduced.

Other revenues and expenses are for simplicity's sake assumed to increase in step with growth in total assets. Securities revenues are highly volatile and have proved capable of providing a positive

contribution to profit in bearish markets. It is extremely difficult to estimate such revenues and the assumption made is that they are on a par with recent years' level.

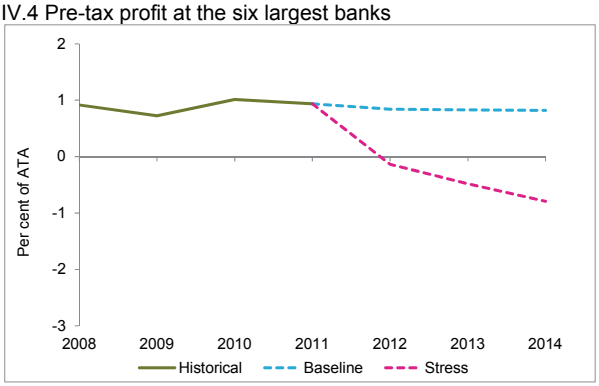
In the baseline scenario the calculations show a marginal reduction in pre-tax profit. In the stress scenario the results for the six largest banks are negative in each of the three years, with -0.8 per cent in 2014 as the poorest result. Average loss for the period is 0.5 per cent. This compares with Norwegian banks' aggregate loss of 1.1 per cent on average during the banking crisis in 1990-1992.

IV.3 Historical pre-tax profit at Norwegian banks



Source: Finanstilsynet

IV.4 Pre-tax profit at the six largest banks



Source: Finanstilsynet

Projections of banks' common equity tier 1 capital adequacy

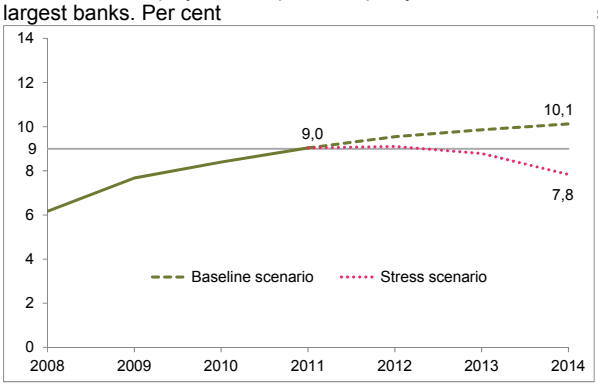
Under the Basel II framework, banks are required to maintain capital equivalent to 8 per cent of risk weighted assets. Internationally attention now increasingly focuses on common equity tier 1 capital adequacy. Common equity tier 1 capital mainly comprises equity capital.

Common equity tier 1 capital increases with the share of profit added each year to equity capital. A cautious dividend payout is assumed for the years 2012-2014 in view of the authorities' and the market's requirements on common equity tier 1 capital. There is no assumption that banks will raise new capital in the markets beyond what is clear at the time of projection.

Risk weighted assets will be affected by credit growth. The effect depends on how the growth is distributed across various segments in the portfolio and on the risk weights used to compute capital charges. It is, however, assumed that portfolio composition stands firm, and that risk weights are kept unchanged. Negative credit growth in the stress scenario brings a fall in risk weighted assets. The calculations incorporate a continuation of the present transitional rules in the form of floor requirements throughout the projection period. The floor is designed to curb any reduction in the capital requirement resulting from use of models to estimate risk weighted assets. Under Basel II risk weighted assets must not be lower than 80 per cent of risk weighted assets under Basel I. Inasmuch as the floor will be binding for almost all six banks throughout the period, migration between risk classes and changes in use or calibration of the models are disregarded.

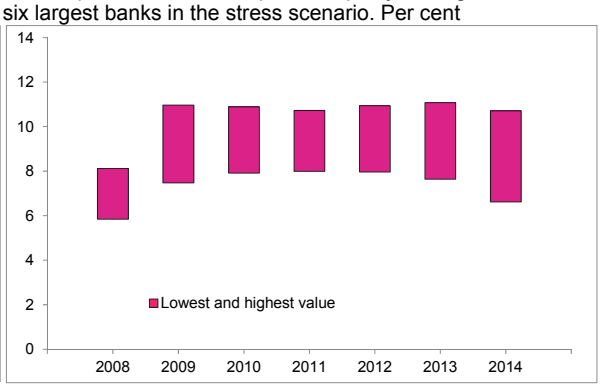
For exposures to public authorities, financial institutions and certain other portfolios, zero growth is assumed. Portfolios relating mainly to firms are assumed to show the same growth rate as non-financial firms. For the bulk of the mass market portfolio, growth is assumed to be the same as the growth in lending to households. The capital requirements, including capital requirements for market risk and operational risk, are kept constant throughout the period.

IV.5 Common equity tier 1 capital adequacy at the six largest banks. Per cent



Source: Finanstilsynet

IV.6 Dispersion in CET1 capital adequacy among the six largest banks in the stress scenario. Per cent



Source: Finanstilsynet

In the baseline scenario average common equity tier 1 capital adequacy for the six largest banks rises from 9.0 per cent at end-2011 to 10.1 per cent at end-2014 (chart IV.5). Banks' results remain positive throughout the period, in part because loan losses remain low. Positive results enable banks' equity capital to rise more rapidly than their risk weighted assets. In the stress scenario results are negative, leading to decline in common equity tier 1 capital adequacy due to the reduction in equity capital. Negative credit growth offsets some of the reduction in common equity tier 1 capital inasmuch as risk weighted assets are reduced. But even in the stress scenario, which assumes a severe downturn and increased losses, the six largest banks' average common equity tier 1 capital ratio is estimated at 7.8 per cent at end-2014. There are variations between the banks in the sample (chart IV.6). Several banks fall below the level of 9 per cent which Finanstilsynet requires to be met by all Norwegian banks by the end of June 2012.

The possibility that Norwegian banks will be harder hit by the international crisis than was the case three years ago cannot be ruled out. Continued strengthening of equity capital is therefore important. Building up capital buffers in good times will put Norwegian banks in a better position to provide credit to Norwegian households and firms in bad times. A new framework (CRD IV) for measuring capital in the EU/EEA is expected to be introduced for Norwegian banks on 1 January 2013. Theme III takes a closer look at the main features of the new body of rules.

Theme V: Structural changes at investment firms

The traditionally most important sources of revenue for investment firms that are not an integral part of a bank are stockbroking and corporate finance (equity issues and assistance with mergers and acquisitions). Given recent years' developments, with intensifying price competition in the secondary markets for equities and other financial instruments, investment firms' revenues from traditional stockbroking have fallen markedly. Growing uncertainty and turbulence in financial markets in 2011, followed by lower activity in the primary market for equities, led to very difficult conditions for investment firms in 2011.

Stockbroking

Developments in the secondary stock market over the past 2-3 years bear the stamp of structural change. New trading patterns, including a marked increase in algorithmic order initiation, have played a major role, and internet broking along with various forms of algorithmic trading are replacing traditional stockbroking. Investment firms and institutional investors are investing in IT-based models that generate orders. There is less need for traditional broking, and revenues in the form of broker's commission and spread are significantly smaller. The most advanced models are based on high frequency trading, generating a considerable number of transactions in a very short space of time. There is also a trend for major investors to gain direct market access through investment firms – a type of self-service in the markets.

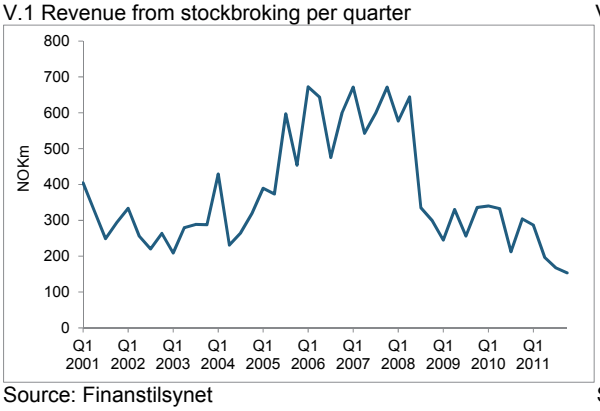
The most traded Norwegian equities are now bought and sold on a number of marketplaces in addition to Oslo Børs. Large investment firms are therefore investing in smart order routing systems. These enable automatically entered orders to be channelled to the marketplace which at the moment in question offers the best price for the financial instrument concerned. Major investors will in due course come to expect such a service offering, requiring investment firms to invest in new systems. Concurrently price competition between brokers is growing, and profit margins are falling.

The new trading patterns have led to lower prices for trades still executed by traditional stockbrokers. At the same time competition for market shares in stockbroking has intensified in recent years, partly owing to an increase in the number of firms engaged in such business. Uncertainty among investors and bearish markets in the second half of 2011 also contributed to lower stockbroking activity.

The above factors brought a sharp reduction in investment firms' revenues from stockbroking in 2011. In the fourth quarter of 2011 their total stockbroking revenues were NOK 154m, the lowest figure since 2000. This compares with stockbroking revenues of NOK 673m in the first quarter of 2006.

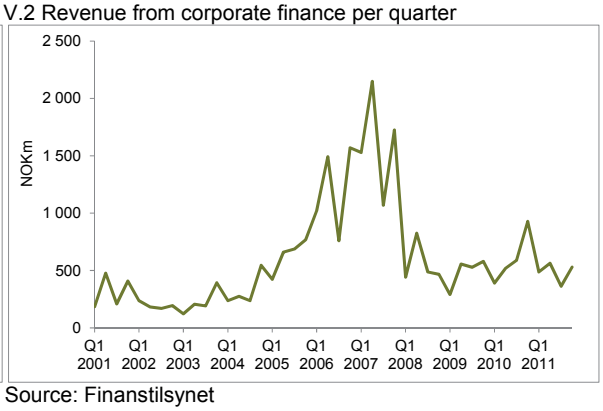
Stockbroking revenues were stably above NOK 400m per quarter in the period from the third quarter of 2005 to the second quarter of 2008 (chart V.1).

V.1 Revenue from stockbroking per quarter



Source: Finanstilsynet

V.2 Revenue from corporate finance per quarter



Source: Finanstilsynet

Corporate finance

Investment firms' revenues from corporate finance business are also highly dependent on the equity and bond markets. In a market affected by investor uncertainty and/or a falling market, a large proportion of companies with stock exchange listing or stock issuance in mind will postpone or cancel issuing fresh capital since prices and other terms are poorer than in a bullish market. Moreover, competition related to such services has grown in recent years.

In the third quarter of 2011 these factors also led to a reduction in revenues from corporate finance business. Revenues from this area totalled NOK 363m in the quarter. Disregarding the first quarter of 2009, this was the lowest level since the third quarter of 2004 (chart V.2). However, fluctuating activity levels are normal for this type of business.

Consequences for investment firms' financial soundness and future business

Declining revenues from investment firms' traditional main business resulted in many cases in negative profit in 2011. As many as 15 investment firms recorded pre-tax losses in excess of NOK 10m in 2011. This has weakened their capital adequacy. Based on the poor performances, Finanstilsynet calculated at end-2011 that 14 firms would be dependent on increases of capital within three months in order to avoid breaching the minimum capital requirement if their negative profit growth continued. The same applies to a further five firms in a six months perspective. These 19 firms have market shares in secondary trading of shares and corporate business of, respectively, 9 and 4 per cent and may be regarded as small and medium sized. They nonetheless represent an average of investment firms in terms of the investment services they provide. Hence firms whose main business is providing investment advice and active asset management services have also been affected by the difficult market conditions.

Three of the loss-making investment firms were among the 10 largest firms in the secondary stock market and corporate finance. Their combined negative pre-tax profit totalled NOK 544m in 2011.

These firms were either supplied with capital over the course of the year, or had sufficiently solid capital buffers at the start of the year to ensure a less precarious situation than that of the 19 firms mentioned above.

The past three to four years have seen some over-establishment of investment firms. That some firms are seeing declining profits is therefore not unexpected. Some mergers and acquisitions have accordingly been noted in the past couple of years, and some firms have been wound up. Further, investment service provision has undergone diversification. Some firms, whose main revenue sources have historically been secondary stock market trading and corporate finance, have started providing asset management and investment advisory services.

The difficult market conditions in 2011 could lead to consolidation and business closures on a larger scale than seen hitherto. It should be noted that in Finanstilsynet's experience, in particular during the market turbulence in 2007 and 2008, investment firms in general have long-term and financially strong owners who accept that earnings are volatile and will vary considerably as a result of market conditions. Owners' willingness and ability to inject capital into investment firms is therefore traditionally relatively high. However, as mentioned, the current trend bears the stamp of a structural change, in the first instance in stock trading in the secondary stock market. The investments required by the structural change and the price competition accompanying it could prompt more owners than previously to terminate their exposures in the securities field, compelling more firms to close down as a result.

Consumer protection

Consumer protection is at centre stage of statutory regulation of the financial market and of supervision of financial service providers such as banks, insurers and investment firms. Consumer protection has a broad compass. Solid, solvent financial institutions and well-functioning financial markets are crucial both to society and the individual consumer. At the same time it is important for consumers who are buying and selling financial products and property to be well protected, and to be able to base their decisions on good information and impartial advice. The international financial crisis underscored the need for consumer protection. Loan bubbles and banking crises have inflicted major losses on societies and individuals. In addition, many private individuals have lost money on complex financial products due to poor investment advice and inadequate information on product costs, risk and potential return. The financial consequences of different investments may be substantial and difficult to gauge for the individual consumer. Investment advisory services are therefore regulated by law and licensable activity is subject to supervision. Finanstilsynet has brought to light a number of gross, systematic breaches of good business practice vis-à-vis customers.

Interest rates are now low, and many individuals desire higher return than that available on bank deposits. At the same time banks and investment firms will seek to replace income lost on traditional securities broking with other revenues. There is a risk that sales of complex, high-risk products will increase as a result. Finanstilsynet will keep a close watch on investment advisory services and apply appropriate sanctions in the event of serious breaches of the customer protection requirements.

Photo front page (from left): Rui Camilo/Scanpix, Ilja Hendel/Scanpix, Johan Wingborg/Scanpix, Hartmut Schwarzbach/Scanpix, Jacob Silberberg/Felix Features.
Photo last page (from left): Ingun A. Mæhlum/Felix Features, Hermann Bredehorst/Scanpix, Ilja Hendel/Scanpix, Robert Harding Images/Scanpix

Cover design: miksmaster.no
Print: RK Grafisk
05.2012/700

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