FINANSTILSYNET
THE FINANCIAL SUPERVISORY
AUTHORITY OF NORWAY

RISK OUTLOOK
DECEMBER 2018

Risk Outlook

Finanstilsynet analyses and assesses stability in the Norwegian financial system. Its assessments are published in the report *Risk Outlook* twice yearly, in June and December.

RISK OUTLOOK DECEMBER 2018

SUMMARY

Cut-off date: 4 December 2018

SUMMARY

In September 2008, the fourth largest investment bank in the United States, Lehman Brothers, filed for bankruptcy. The international financial crisis was triggered, resulting in large losses in the real economy. In some countries the public authorities had to take over banks' obligations to avoid a collapse of the financial system. A number of countries conducted expansionary monetary and fiscal policies for several years to mitigate the effects of the crisis. The repercussions are still felt in many countries in the form of spare capacity, low interest rates and high public and private debt levels.

Norway was less affected by the crisis than many other countries. One of the reasons for this was that Norwegian banks were relatively well capitalised and had limited exposure to international bonds whose value dropped significantly. In addition, the Norwegian authorities established support schemes to secure funding for the banks ("swap scheme") and the supply of equity (State Finance Fund). This helped to preserve confidence in the Norwegian banks and to maintain the supply of credit to firms and households.

In the years following the financial crisis the capital requirements for financial institutions have been raised, and quantitative liquidity requirements have been introduced. The new framework is designed both to enhance the resilience of all financial institutions and to curb systemic risk in the financial services industry.

Strong profitability, partly due to low loan losses, has enabled Norwegian banks to meet higher capital requirements largely through retained profits. Lower risk weights have also contributed to increasing measured capital adequacy. Norwegian banks have also raised their leverage ratios after the financial crisis. The banks meet the liquidity buffer requirements and have increased their long-term market funding. Norwegian banks are therefore better positioned to provide credit in the event of an economic setback and increased losses.

A number of Norwegian banks, especially the largest ones, still obtain their funding in the Norwegian and international money and capital markets. This makes the banks vulnerable to market turbulence. There has been a significant increase in banks' residential mortgage lending in recent years, both in absolute terms and as a share of total lending. This increase is largely financed through the issue of covered bonds (OMF). In addition, banks have invested heavily in covered bonds issued by other banks. Developments in house prices thus have a strong bearing on the banks' credit and liquidity risk. Finanstilsynet's stress testing of the liquidity of seven major banks illustrates how vulnerable the banks are should the covered bond market dry up.

The EU's capital requirements directive (CRD IV) and regulation (CRR) are expected to be incorporated into the EEA Agreement before long. The SME supporting factor will accordingly be introduced, and the floor for risk-weighted assets will be removed for banks using internal models to measure risk (IRB). Seen in isolation, the formal capital adequacy ratio will thus increase, though actual capital adequacy will not. In Finanstilsynet's assessment it is important to ensure that the implementation of CRR/CRD IV does not contribute to a general weakening of Norwegian banks' actual capital adequacy. When approving and following up internal models, Finanstilsynet will attach importance to robust calibration with satisfactory safety margins. When setting Pillar 2 add-ons, Finanstilsynet will also ensure that they cover risk that is not fully covered under Pillar 1. When assessing banks' capitalisation, Finanstilsynet places emphasis on the leverage ratio and will seek to ensure that the banks' financial position on this measure is not impaired in the period ahead.

The capital adequacy of life insurers has been strengthened, and they are compliant with the new solvency requirements (Solvency II) that came into effect in 2016. The low interest rate level has posed a challenge to institutions' ability to achieve the guaranteed return on their investments. Adapting to the new requirements has proven particularly challenging for life insurers with a large proportion

of guaranteed liabilities. The transitional measure for technical provisions has been particularly significant for these institutions.

Finanstilsynet is concerned that the solvency rules should not encourage arbitrage-motivated transfers of loans between banks and insurers. Some assets are subject to relatively low capital requirements under Solvency II, including residential mortgages with a low loan-to-value ratio. The Norwegian authorities may, however, set a lower limit for estimated loss given default to ensure that insurers are subject to approximately the same capital requirements as banks for their exposure to mortgage loans. In October 2018, the Ministry of Finance asked Finanstilsynet to consider whether and, if so, how this scope of action should be used. The Ministry has asked Finanstilsynet to present its assessment and, if relevant, a consultation document and draft amending regulations by end-March 2019.

In June 2018, the Ministry of Finance established new solvency requirements for pension funds, which will enter into force in 2019. The new requirements are a simplified version of Solvency II aimed at capturing risks across the entire business. Overall, the pension funds are well positioned to meet the new solvency requirements.

The transition from defined-benefit to defined-contribution pension schemes with no guaranteed rate of return entails that the return risk is transferred from employers or pension institutions to the individual member covered by the pension scheme. It is important that institutions give their customers detailed information about expected returns, risk and costs related to the defined-contribution schemes. The transition to defined-contribution schemes may have consequences for the household saving rate if there is a fall in value of securities and real estate. If households increase their saving rate in connection with a cyclical downturn or falling values in securities markets to compensate for a reduction in the market value of their pension assets, this may have stronger negative effects than in a defined-benefit pension system.

House prices and household debt in Norway are at historically high levels, which is partly due to ample access to credit at low interest rates. Household debt growth has for several years been significantly higher than income growth, making the debt burden higher than ever. There is a risk that household debt will continue to grow faster than disposable income in the coming years. If so, this will further increase the debt burden.

Households are vulnerable to declining incomes and rising interest rates. A high debt burden means that even a relatively moderate rise in interest rates will lead to significantly higher interest expenses. As most loans carry floating interest, an interest rate rise will almost immediately reduce households' disposable income.

Finanstilsynet conducts an annual survey of new residential mortgages among a selection of banks (residential mortgage lending survey). The survey conducted in the autumn of 2018 shows a significant increase in the average debt burden of borrowers who have taken out new mortgages. Compared with last year's survey, there was a certain increase in both the proportion of new instalment loans raised by borrowers whose total debt exceeds five times gross annual income and the proportion of loans with a loan-to-value ratio above 85 per cent. The greatest increase is registered for borrowers in the younger age groups. These proportions are nevertheless lower than before the residential mortgage lending regulations were tightened in January 2017.

In Finanstilsynet's view, the residential mortgage lending regulations have generally worked well. The tightening of the regulations as from January 2017 has contributed to tighter lending practices. Even so, the growth in household debt has remained high. The Ministry of Finance issued new residential mortgage lending regulations in June 2018, which were a continuation of the previous regulations with a few minor changes. The regulations will remain in force until 31 December 2019.

Consumer loans, i.e. unsecured loans to personal borrowers, are actively marketed by banks and financial institutions. The increase in consumer lending has slowed somewhat, but is still high. There is a risk that financially vulnerable households will take out consumer loans at high interest rates that they are subsequently unable to service. This could result in a heavy personal burden for the individual borrower, and in loan losses and loss of reputation for banks. In June 2017, Finanstilsynet issued guidelines on consumer lending practices and sent a consultation document with a draft regulation, based on these guidelines, to the Ministry of Finance in August 2018. The Ministry of Finance has circulated the matter for comment. The deadline for response is 6 December 2018.

The prices of high-quality commercial properties at prime locations have risen significantly over several years, especially in the Oslo region. A substantial share of property companies' financing is provided by banks. More recently, the companies have based a larger share of their financing on the issue of bonds, while the share of bank loans has been somewhat reduced. Nevertheless, bank lending to commercial property companies still represents approximately 40 per cent of the corporate market portfolio. Higher interest rates will weaken the earnings of property companies and reduce the value of creditors' collateral. In the autumn of 2018, Finanstilsynet is conducting a thematic inspection to identify banks' exposure to commercial property. The results from the thematic inspection will be used when following up the individual banks.

A number of international risk factors may, if they materialise, exacerbate market conditions for Norwegian financial institutions. The risk factors may also lead to a strong rise in interest rates, a correction in property prices and a marked deterioration in many households' financial situation. A decline in disposable income may lead to a sudden and strong financial consolidation among households. An experience gained from the banking crisis is that such a development leads to reduced consumption, weaker earnings for parts of the business community and heavy losses on banks' corporate loans.

According to the International Monetary Fund (IMF), the downside risk for global growth has risen of late, while there is less potential for positive surprises. An important risk factor concerns trade barriers and future growth in international trade. The United States has already started pursuing protectionist trade policies, and China has responded. There is a danger that this may develop into a more comprehensive trade war that could have serious consequences for global trade.

Another risk factor relates to developments in the financial markets. The market may experience a sharp correction if, for example, trade tensions escalate or the Federal Reserve increases its key policy rate more than expected. The latter could be a response to unexpectedly high price inflation, and could lead to reduced share and property prices, higher risk premiums in the bond markets and the outflow of capital from emerging markets.

Reduced global trade and financial turmoil will have consequences for the Norwegian economy, with a negative impact on both the earnings of non-financial firms and households' disposable income. There might be an appreciable reduction in the prices of shares, bonds and real estate, which could contribute to a further economic setback. Lower activity levels and higher unemployment may cause a marked increase in banks' loan losses as borrowers' debt servicing capacity deteriorates parallel to a reduction in value of collateral pledged to the banks. In such a situation, it will take time for households to reduce their debt burden and for the demand for goods and services to pick up again. The household sector's historically high debt burden may therefore contribute to reinforcing and prolonging a downturn in the Norwegian economy.

Climate change and the transition to a low-emission society entail risk for the financial services industry. There is a link between climate risk and credit, counterparty and market risk as climate change affects the profitability of certain types of businesses or the value of assets. Climate risk may also subject firms to reputational risk if investors and customers

start questioning their corporate image and business model. Climate risk is particularly relevant for non-life insurance companies and for lending and asset management operations.

Financial supervisory authorities play an important role in preventing disruptions to the financial system caused by climate change. As in the case of other risk factors, this is handled primarily through the supervision of financial institutions' risk assessments and capital adequacy. Increased uncertainty generally requires higher buffers. The Government Budget for 2019 states that Finanstilsynet will be responsible for charting and analysing the possible consequences of climate change for the financial services industry as well as related risks.

PART I: ECONOMIC BACKGROUND AND RISK AREAS

Part I describes developments in the Norwegian and international economies that are likely to have a bearing on financial institutions and markets.

Chapter 1 deals with recent economic developments internationally and in Norway, forecasts from key institutions and developments in the money and capital markets.

Chapter 2 reviews the main risk areas for financial stability and discusses household debt and prices of residential and commercial property. The vulnerability of the Norwegian financial system is largely related to the heavy debt burden of Norwegian households and to high property prices. A significant share of Norwegian banks' lending is channelled to commercial property companies. Norwegian insurers have invested in bonds and shares issued by these companies and have sizeable direct investments in commercial properties.

CHAPTER 1 REAL ECONOMY AND FINANCIAL MARKETS

The global economic recovery is continuing, although growth is subdued and there are major differences between the various countries. Unemployment has decreased and is lower than prior to the financial crisis in a number of countries. The growth in prices and wages has picked up somewhat, but is still relatively low. Several countries have raised their key policy rates, and long-term interest rates have increased somewhat, but from very low levels. Equity prices fell from a high level during autumn.

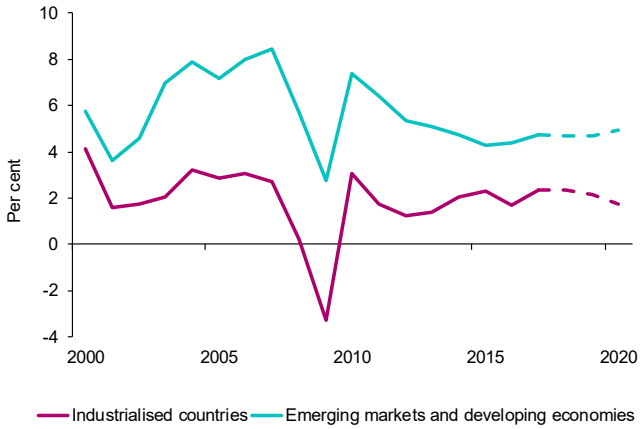
The Norwegian economy is still in the midst of a moderate cyclical upturn, driven partly by higher oil investments. Economic activity is expected to be above trend over the next couple of years. Norges Bank's interest rate forecast indicates a gradual increase in the key policy rate, and the average residential mortgage rate is estimated to rise from 2.4 per cent in September 2018 to just under 4 per cent in 2021.

INTERNATIONAL ECONOMY

Continued upturn in the international economy, but growth is slowing

The upswing in the global economy continued in the first half of 2018. Growth abated somewhat, and there were large differences between countries. While GDP growth in the USA rose markedly, there was slowing growth in a number of European countries. The rate of growth in emerging economies is twice as high as in industrialised countries, although there are wide differences between these countries. Higher oil prices have improved the situation in several oil exporting countries. Rising interest rates in the USA and a stronger US dollar combined with problems in specific countries have contributed to an outflow of capital, higher funding costs and depreciating exchange rates in some emerging economies. Trade conflicts dampen growth prospects.

1.1 GDP growth and forecasts



Source: IMF

In October, the IMF projected global GDP growth to be 3.7 per cent in both 2018 and 2019 (chart 1.1), on a level with 2017. This is a slight downward revision from April. The growth prospects for countries of Latin America, the Middle East and North Africa in particular have weakened, though the overall estimate for the industrialised countries has also been revised downward. The main reason for this is that the IMF now assumes that economic activity in Europe has peaked, and growth projections for Germany, France and Italy have been revised down significantly. Growth projections for the United Kingdom have also been marked down. US growth is expected to remain high 2019, partly driven by an expansionary fiscal policy. There are significant differences among emerging economies. China is projected to experience somewhat weaker growth over the next two years, and the IMF maintains that India will take over as the world's fastest growing economy.

As a consequence of the cyclical upturn, unemployment is down throughout the OECD and is now at a lower level than before the financial crisis (chart 1.2). The IMF expects the unemployment rate to decline further over the next couple of years.

Wage growth has picked up somewhat in some countries, but less than during previous cyclical upturns. Higher oil prices have contributed to increasing consumer prices, but underlying price growth is still low in most countries. Rising energy

prices and a tighter labour market in several countries could result in somewhat higher wage growth and inflation. It is uncertain how much idle production capacity exists in the global economy, and to what extent a further tightening of the labour market will lead to pressure on wages, consumer prices and interest rates.

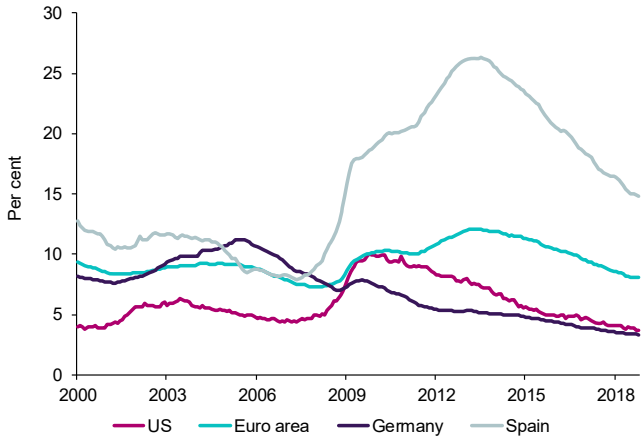
Widely different interest rate paths

As a result of increased activity and lower unemployment, the Federal Reserve has raised the federal funds rate eight times since the end of 2015, to a 2.0-2.25 per cent target range. In addition, the central bank has reduced its large holdings of bonds purchased between 2008 and 2014 (quantitative easing). Along with higher inflation and expectations of further interest rate increases, this has contributed to a slight rise in long-term interest rates in the USA (chart 1.3).

There was also a rise in long-term interest rates in Europe in the autumn of 2017 and into 2018. Italian government bond yields rose significantly in the early summer following political unrest, a change of government and the issuance of new sovereign debt. Signs of an economic slowdown in Germany and signals from the European Central Bank that a rise in the key policy rate will be some time ahead led to a decline in bond yields during the summer. German long-term interest rates remained low throughout the autumn. In the United Kingdom, price inflation is above the inflation target, and the Bank of England has raised its policy rate twice, most recently in July, to 0.75 per cent. Long-term interest rates in the United Kingdom have also risen somewhat.

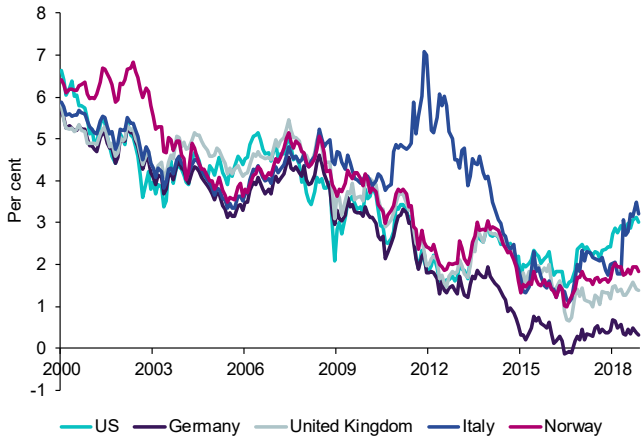
For several emerging economies, the cost of funding has risen over the past six months. A stronger recovery in the USA than in other industrialised countries has led to wider interest rate differentials and a strengthening of the US dollar. In countries with high foreign debt in US dollars, a weak economy and great political uncertainty, such as Argentina and Turkey, government bond yields have increased since the summer.

1.2 Unemployment in selected countries



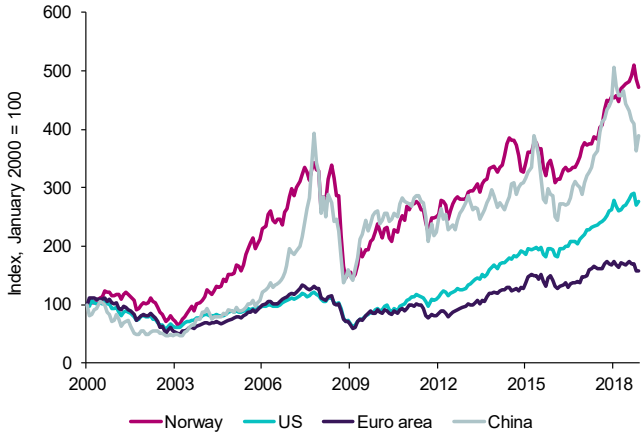
Source: Thomson Reuters

1.3 10-year government bond yields



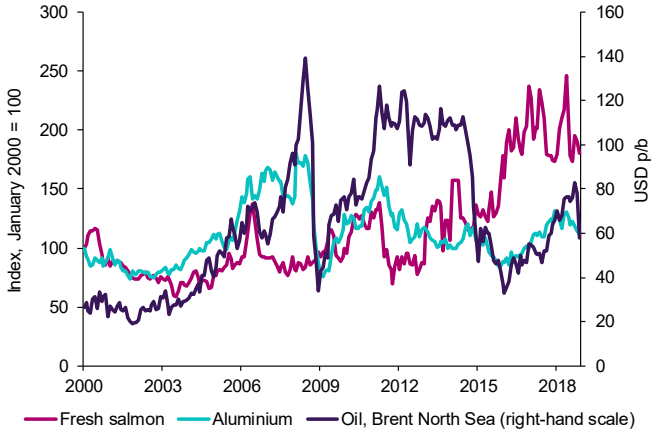
Source: Thomson Reuters

1.4 Share indices*



*MSCI Inc. Total Return. Source: Thomson Reuters

1.5 Commodity prices



Source: Thomson Reuters

Divergent stock market trends

Equity prices in the USA have increased thus far in 2018, while equity prices on European stock exchanges have fallen during the period (chart 1.4). Prices in the Norwegian stock market have also risen thus far this year. October saw market turbulence and falling equity prices, triggered by expectations of earlier and more frequent interest rate increases by the Federal Reserve, weaker growth figures for Europe and the escalation of the trade conflict between the USA and China. This had a particular impact on the Chinese stock market, which experienced a decline of just over 13 per cent during the first eleven months of 2018.

Higher oil prices, but lower prices on aluminium and fresh salmon

Owing to extensive exports of oil, aluminium products and salmon, price developments for these commodities are of major significance to the Norwegian economy. Brisk growth in global oil consumption, production cuts in a number of countries and new sanctions against Iran helped to raise the price of oil from approximately USD 30 per barrel at the beginning of 2016 to close to USD 85 per barrel at the beginning of October (chart 1.5). On account of sizeable oil stockpiles and less fear of a decline in oil supplies, the oil price fell to USD 62 per barrel on 3 December. Forward prices point to a level just under USD 60 per barrel over the next couple of years. The price of aluminium has also risen strongly in recent years, but declined slightly after peaking in April this year. The price of fresh salmon increased through the first half of 2018, but has in recent months declined to the level seen at the beginning of the year. Frozen salmon showed a somewhat weaker price trend in the first quarter, but prices were stable throughout the summer and now exceed the price of fresh salmon. Overall, Norwegian exporters in these industries enjoy a healthy level of profits.

NORWEGIAN ECONOMY

Continued cyclical upturn in the Norwegian economy

There has been moderate growth in the Norwegian mainland (non-oil) economy since the autumn of 2016. This can largely be attributed to the upswing in the international economy, low interest rates, enhanced competitiveness and higher oil prices. The expansionary fiscal policy has also provided considerable stimulus. The sharp decline in oil investments following the oil price fall in 2014 has been replaced by an increase. Employment is rising and unemployment has receded to a historically low level. Inflation has increased, due in particular to higher electricity prices. Adjusted for indirect taxes and energy prices, inflation shows more subdued growth. The Ministry of Finance, Norges Bank and Statistics Norway all expect Mainland Norway's GDP to expand by about 2.5 per cent in 2018 and 2019.

Lower housing investments, but increasing petroleum investments

Housing investments, which have helped to lift growth in the mainland economy for several years, are currently on the decline. Forecasts point to a fall of approximately 10 per cent in housing investments in 2018 and a further decline in 2019. This is offset by rising oil investments. Lower costs and expectations of relatively high oil prices make more field developments profitable. Investment in mainland industries is also expected to expand over the next few years, due in particular to a number of sizeable individual projects. While lower housebuilding activity and weaker growth in public investment projects put a damper on activity

levels in the building and construction industry, the manufacturing industry is experiencing an upturn. This is due to the fact that a number of manufacturing companies have realigned their production to new markets after the drop in demand from the petroleum industry. Due to higher interest rates, a stronger Norwegian krone and modest international growth, Norwegian economic growth is nonetheless expected to be moderate compared with previous cyclical upturns (chart 1.6).

Continued increase in private consumption

Private consumption rose markedly in 2017. So far this year, consumption has been on a relatively weak trend. Norges Bank, Statistics Norway and the Ministry of Finance expect higher employment, rising wage growth and lower inflation to sustain the growth in consumption over the next couple of years. Higher interest rates are assumed to curb consumption growth somewhat, the main reason being that a high debt burden and the expected interest rate hike will reduce households' disposable income.

Less expansionary monetary and fiscal policy

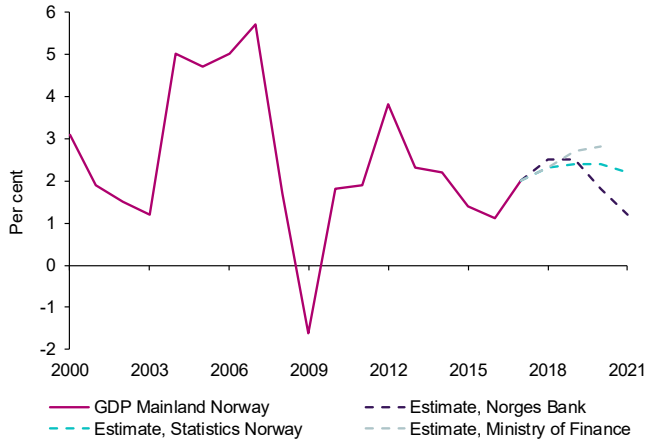
Low interest rates and an expansionary fiscal policy helped to ensure relatively strong growth in the Norwegian economy after the fall in the oil price in the second half of 2014. Based on the higher growth in the Norwegian economy, there has been a shift in economic policy towards a less expansionary stance. According to the National Budget for 2019, the government plans to uphold a neutral fiscal cyclical stance.

Norges Bank raised its key policy rate by 0.25 percentage points in September, to 0.75 per cent, after keeping the rate unchanged since March 2016. At its executive board meeting in September, Norges Bank signalled that the key policy rate will likely be raised again in the first quarter of 2019 and thereafter step by step to about 2 per cent in 2021.

Declining debt growth among firms and households

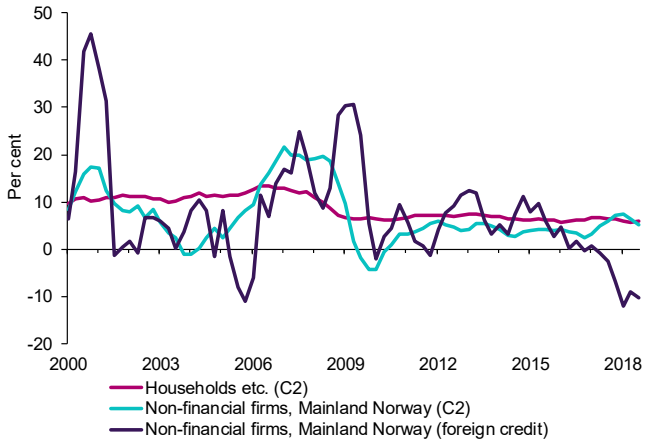
Growth in overall credit to Mainland Norway (C3) declined during the first half of 2018 and is now below the nominal rate of growth in the mainland economy. Credit from foreign sources is the main contributing

1.6 GDP Mainland Norway. Growth from the previous year



Sources: Statistics Norway, Norges Bank and Ministry of Finance

1.7 Twelve-month growth in domestic and foreign credit

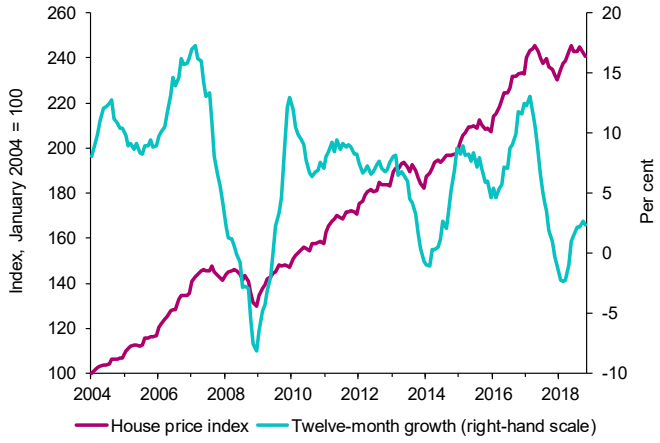


Source: Statistics Norway

factor (chart 1.7). Developments must be viewed in light of lower debt incurrence within the oil and shipping industries. Two-thirds of overall credit to non-financial firms in Mainland Norway derives from domestic sources. Twelve-month growth in domestic credit to non-financial firms was 5.8 per cent in October 2018, which is lower than at the end of 2017. Norges Bank's loan survey from the third quarter of 2018 showed that non-financial firms' demand for loans was virtually unchanged and that the banks expect no significant changes in the period ahead.

As bond debt has been reduced, converted or cancelled for restructuring reasons, there has been a decline in corporate debt. Developments in the debt-weighted

1.8 House prices



Source: Thomson Reuters

probability of default indicate that credit risk of non-financial firms in Mainland Norway slowed down somewhat in 2017, see chart 8 in theme chapter III Retail industry.

Household debt, consisting mainly of residential mortgages, has risen markedly for several years. Debt growth has slowed by 0.7 percentage points since the end of 2017, to 5.7 per cent in October, which is still higher than the rise in households' disposable income. The decline can probably be partly attributed to the fall in house prices in 2017. Thus far in 2018, house prices have increased again, and twelve-month growth was 2.4 per cent in October (chart 1.8). Norges Bank's lending survey showed that household demand for residential mortgages was unchanged in the third quarter, and that the banks expect little change in household demand for loans in the fourth quarter. Finanstilsynet's survey of banks' residential mortgages is described in further detail in theme chapter I. As a consequence of the accumulation of debt in recent years, households' debt burden (debt in per cent of disposable income) is at a very high level. This has made households highly vulnerable to declining incomes, a sharp fall in house prices and rising interest rates.

CHAPTER 2 RISK AREAS

This chapter focuses on the main risk areas for the Norwegian economy and financial stability.

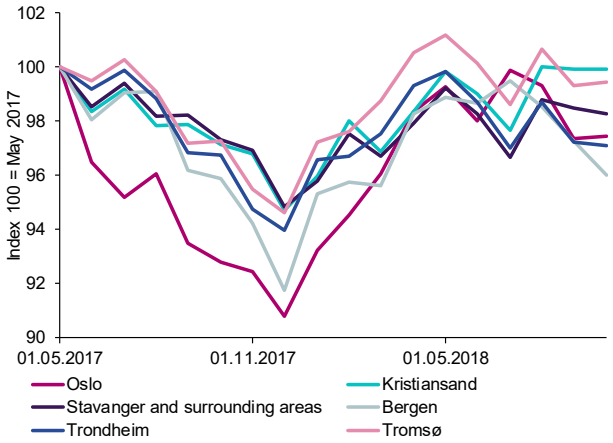
House prices and household debt in Norway are at historically high levels. Household debt is still growing at a higher rate than household income. This heightens the potential fall in the event of an economic setback. Loans to households represent a large share of banks' lending, most of which are secured on residential property. Developments in house prices and household debt pose a significant risk. Households are more vulnerable to declining incomes and rising interest rates than ever before.

There has been a sharp rise in prices of commercial property for several years, coupled with a high transaction volume. Financial institutions are both directly and indirectly exposed to this industry through investments and loans. Prolonged high price and debt growth may cause imbalances to build up, increase the potential fall in commercial property prices and increase the risk of losses in banks.

The repercussions of the financial crisis are still evident in a number of countries. Record-low interest rates over a long period have contributed to increasing the debt burden and raising property prices, while risk premiums are low and the pricing in important stock markets is high. Many countries, enterprises and households are particularly vulnerable to higher risk premiums and rising interest rates. International trade may be affected by increased protectionism, and there is considerable uncertainty associated with developments in the financial markets as and when interest rates start to rise.

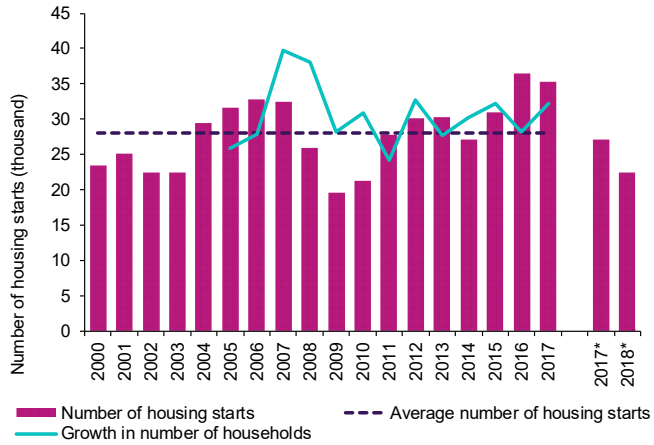
Climate change and the transition to a low-emission society are sources of risk for the financial services industry. Climate risk is considered to be particularly relevant for non-life insurance, lending and asset management operations, and also raises issues related to consumer protection.

2.1 House price growth in Norway's largest towns



Sources: Real Estate Norway, Finn.no and Eiendomsverdi

2.2 Number of housing starts and increase in number of households



* Up to the third quarter. Source: Statistics Norway

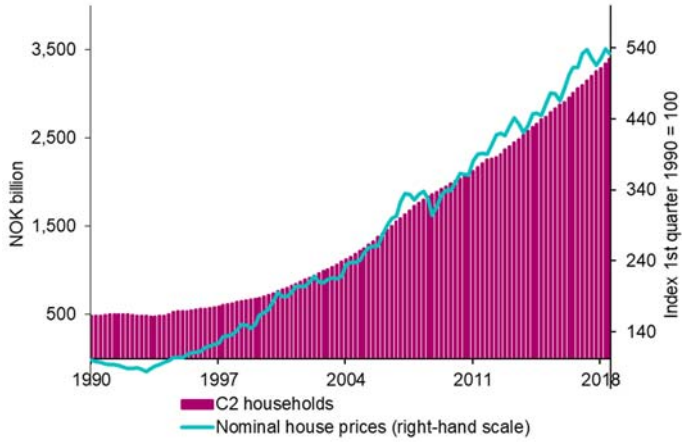
HOUSEHOLDS' FINANCIAL VULNERABILITY

High house prices

After a correction in house prices in 2017, there was a renewed upward trend in the first half of 2018. In October, 12-month growth was 2.4 per cent. Prices in and around major cities have showed a similar trend over the past year (chart 2.1). The level of house prices is high both in historical terms and compared with other countries.

A high level of activity persists in the housing market. So far this year, the number of properties put on the market is approximately the same as in the corresponding period last year, while the number of

2.3 Household debt and house prices

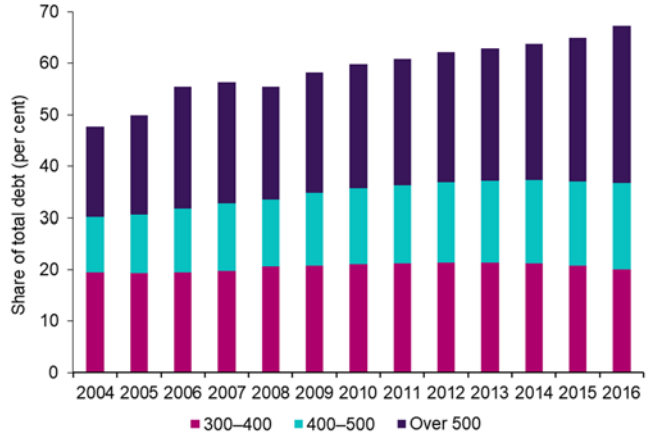


Sources: Statistics Norway and Finanstilsynet

2.4 Households' debt burden and interest burden

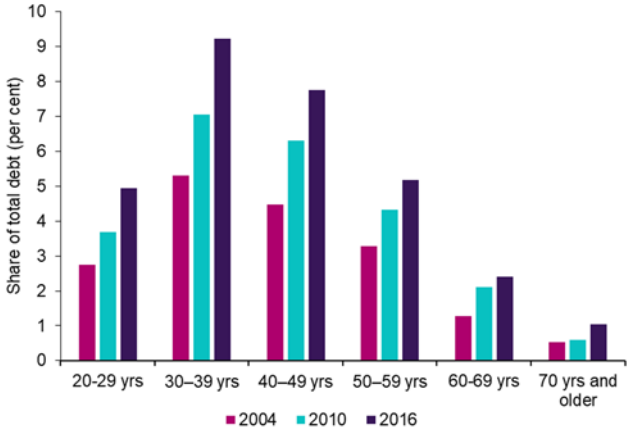
Source: Statistics Norway and Finanstilsynet

2.5 Households with debt exceeding three times post-tax income. Share of total debt



Sources: Statistics Norway and Finanstilsynet

2.6 Households with debt exceeding five times post-tax income. Share of total debt by main income earner's age



Sources: Statistics Norway and Finanstilsynet

properties sold is 4.6 per cent higher. The number of housing starts in 2017 was well above the average for the 2000s (chart 2.2). While there has been relatively stable growth in the number of households during the last few years, the number of housing starts has exceeded the number of new households the last two years. Forecasts from Economics Norway show a high rate of housing completions over the next few years. A large number of new homes may in isolation reduce the pressure in the housing market.

Higher debt burden and uneven distribution of debt

The majority of Norwegian households own their own home. The greater part of household debt, around 85 per cent, comprises residential mortgages. Residential mortgages account for just over 60 per cent of banks' and mortgage companies' total lending to Norwegian borrowers. House price levels and household debt have moved in tandem in recent decades (chart 2.3). Higher prices give many homeowners scope to increase their mortgages, while higher property values give the banks a basis for granting larger loans.

Household debt growth has slowed somewhat recently, but remains higher than income growth. Consequently, the debt burden is still rising from an already high level (chart 2.4).

Household debt and wealth are unevenly distributed. Households with a high debt burden are particularly

vulnerable to changes in interest rates. This group also has the smallest liquidity buffers. The group whose debt exceeds five times post-tax income[1] has increased over the last few years and comprised 254 000 households (10 per cent of all households) in 2016. The total debt of these households represented close to one-third of total household debt (chart 2.5). This proportion has increased by nearly 7 percentage points from 2004. The most vulnerable households, whose main income earner is in his/her 30s, held more than 9 per cent of total household debt in 2016 (chart 2.6).

Households' investments in mutual funds

An increasing proportion of households are exposed to fluctuations in the financial markets through investments in mutual funds. A factor contributing to this is the transition from defined-benefit to defined-contribution private occupational pension schemes, which transfers the risk from the employer to the employee. In most cases, funds earned in a defined-contribution scheme will be placed in mutual funds in line with a general investment profile determined, among other things, by the customer's risk tolerance. Alternatively, customers may choose the mutual funds to be included in their portfolios.

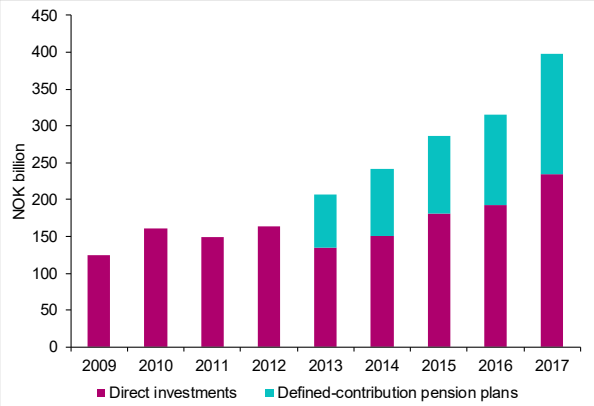
The growth in mutual fund investments through defined-contribution pension schemes has outstripped the growth in households' direct savings in funds (chart 2.A). Mutual fund investments through defined-contribution pension schemes and other pension products where the customer chooses the allocation, now account for approximately 44 per cent of households' total exposure to fixed-income and equity funds.

Total household investments in mutual funds, directly or indirectly through pension savings where the customer selects the allocation, amount to just over NOK 400 billion. This corresponds to about one-third of households' bank deposits, but is growing fast. In 2017, investments rose by more than NOK 80 billion.

The transition to defined-contribution pensions entails that households with limited investment experience now have to choose between providers' investment profiles and a large number of individual funds.

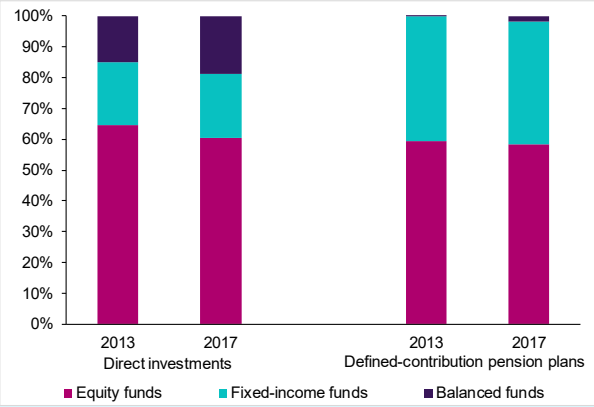
The risk in households' fund portfolios largely depends on the proportion of equity funds in the

2.A. Households' holdings of mutual funds



*Up to and including 2012, defined-contribution pension plans were included in personal customers' direct holdings.
Source: Norwegian Fund and Asset Management Association

2.B. Asset allocation, households' direct investments and defined-contribution pensions



Source: Norwegian Fund and Asset Management Association

[1] Here, post-tax income is used as an approximation to disposable income.

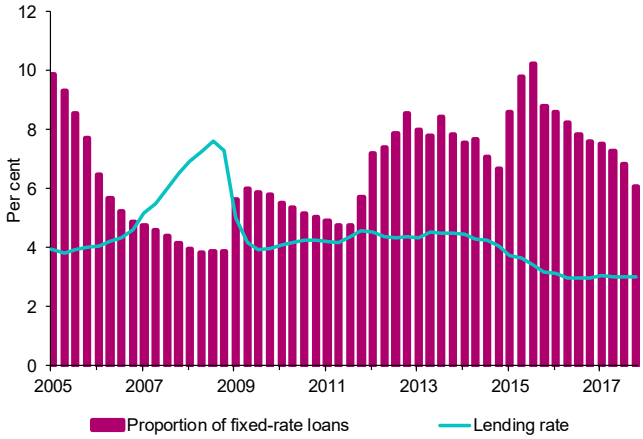
portfolio. In defined-contribution schemes and other pension products where the customers choose the allocation themselves, this proportion is 60 per cent (chart 2. B). In comparison, the proportion of equities in life insurers' collective portfolios for defined-benefit pensions is approximately 18 per cent, while the proportion of equities held by pension funds is 37 per cent. A high equity exposure may be appropriate for people with many years to retirement, but also increases their exposure to fluctuations in the stock market. A significant fall in the value of equities and corporate bonds in the high-yield segment may affect households' saving and consumption patterns and reinforce a decline in consumption in spite of a long investment horizon.

Mutual funds are of growing importance to household savings. In Finanstilsynet's view, it is vital that fund managers provide correct and complete information about costs and the funds' return and risk profile. Over the past few years, Finanstilsynet has issued guidelines and interpretations concerning balanced funds, the use of indices when comparing returns, customer information about costs, the use of swing pricing (a mechanism for covering costs in connection with substantial subscription volumes or redemptions) etc.

Low share of fixed-rate residential mortgages

Lending rates in Norway have been low for a long period and declined further after the oil price fall in 2014 (chart 2.7). Households' interest burden[2] is also historically low even though debt levels are higher than ever (chart 2.4). Despite the fact that the interest burden is low, the debt servicing capacity (percentage of income used to pay interest and normal instal ments) is historically high. According to Norges Bank,

2.7 Proportion of fixed-rate loans and average lending rate, households



Sources: Statistics Norway and Finanstilsynet

the debt servicing capacity of Norwegian households is now on a par with the level during both the financial crisis and the banking crisis in the 1990s[3].

Norges Bank raised its key policy rate in September and has announced a further rate hike in March next year. Rising market rates will in due course lead to higher lending rates in banks and thus increase households' interest burden. Given a stable development in the Norwegian economy in the period ahead, in line with forecasts from Statistics Norway and Norges Bank, Finanstilsynet's calculations show that Norwegian households' interest burden will gradually rise to over 10 per cent of disposable income in 2021. This is an increase of more than 3 percentage points compared with 2017.

Changes in interest rate levels will quickly be reflected in households' interest payments since most mortgages carry floating interest rates. The proportion of household debt with fixed interest rates has declined in recent years. At the end of 2017, 6 per cent of household mortgages had an interest lock-in period. This is historically low, and also low compared with a number of other European countries (chart 2.8).

The average weighted debt-to-income ratio (debt as a percentage of gross annual income) for borrowers who choose a fixed interest rate is slightly higher than

[2]Interest burden is defined as households' interest expenses in per cent of disposable income before payment of interest expenses.
[3] Monetary Policy Report 3/18 - Norges Bank.

for those who choose floating rates[4]. However, fixed-rate loans make up a very small percentage of new residential mortgages of only 5 per cent in 2018. Consequently, there are few indications that vulnerable households are more prone to hedge against future interest rate increases than less vulnerable households. The average lock-in period for new fixed-rate loans is just under five years, while the repayment period for all new instalment loans averages 25 years.

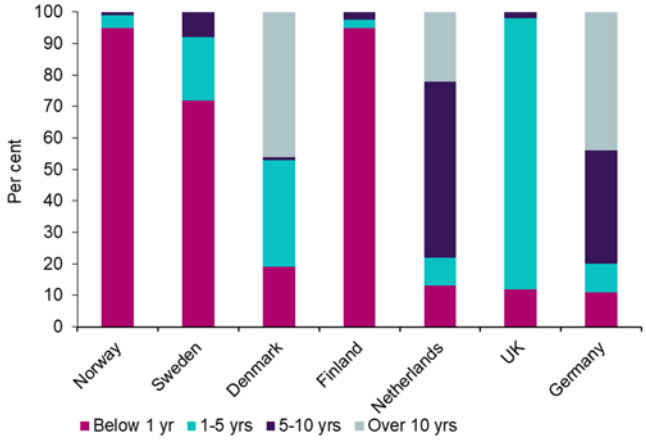
Increased vulnerability among households

House prices and household debt are historically high, household debt is growing at a higher rate than income, and house prices are rising again. Calculations made by Finanstilsynet show that a decline in house prices alone will probably have a relatively limited effect on economic growth and unemployment rates in Norway. However, a fall in house prices will reduce housing wealth and dampen expectations of future growth, and will eventually lead to somewhat weaker growth in debt and consumption[5].

On the other hand, weaker international growth combined with higher than expected interest rate increases may quickly lead to financial consolidation among both households and firms. The interest burden will rise markedly and result in lower consumption and investment demand, as well as higher unemployment. This may have a significant impact on the Norwegian economy.

Although a serious economic setback will prompt households to take on less new debt, the debt burden will remain high for a long time; see the stress test of the Norwegian economy and Norwegian banks in Risk Outlook June 2018. Increased financial savings will at the same time contribute to amplifying the downturn. Weaker corporate earnings may lead to higher losses among banks and lower capital ratios, which in turn may result in tighter credit policies. This may contribute to a further reduction in investments and consumption.

2.8 Lock-in period for residential mortgages in selected countries. Per cent



Source: European Mortgage Foundation and Statistics Norway

During the banking crisis at the start of the 1990s, the banks' losses on loans to businesses were significantly higher than losses on loans to personal customers. It is likely that this will also be the case in the event of a serious downturn in the Norwegian economy, although losses on loans to households could be higher than previously observed. Households' debt burden is now significantly higher than prior to the banking crisis. This makes households vulnerable to declining incomes and rising interest rates.

The residential mortgage lending regulations have brought about tighter lending practices

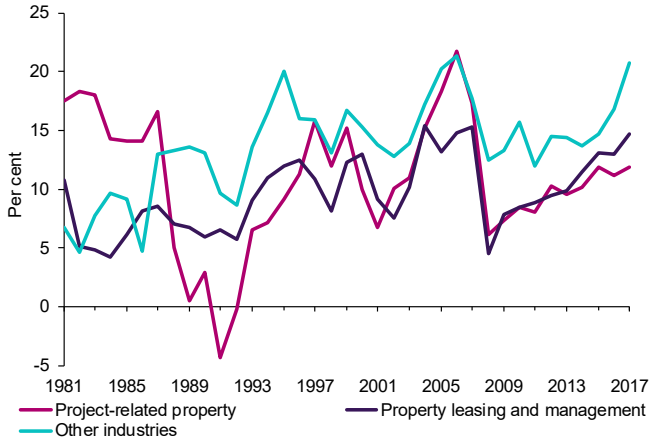
In June 2018, the residential mortgage lending regulations were retained by the Ministry of Finance. The purpose of the regulations is to promote financial stability by limiting the amount of new debt incurred by vulnerable households. The regulations have resulted in tighter lending practices among banks, especially through the introduction of the requirement limiting overall debt to five times gross annual income. The regulations may also have helped to dampen house price growth somewhat through lower demand.

According to reports from the largest banks, varying use is made of the flexibility incorporated in the regu-

[4] Based on calculations from Finanstilsynet's residential mortgage lending survey for the last three years.

[5] See Finanstilsynet's consultation document about changes in and the continuation of the residential mortgage lending regulations, February 2018 (in Norwegian only).

2.9 Debt servicing capacity of Norwegian property companies and in other industries*



* Excl. oil and gas. Sources: Companies' financial statements, Bisnode and Finanstilsynet

lations[6]. For loans granted outside Oslo, just over 6 per cent of lending volume (measured as a weighted average) was in breach of one or more requirements of the regulations in the third quarter. This proportion has been fairly stable over the past year. For loans granted in Oslo, use made of the 'flexibility quota' has increased over the past quarters and was just below 7 per cent in the third quarter.

This year's residential mortgage lending survey shows that the average debt-to-income ratio for new instalment loans is 334 per cent, which is 19 percentage points higher than last year. The average loan-to-value ratio rose by 1 percentage point. See theme chapter I for further details of the residential mortgage lending survey.

COMMERCIAL PROPERTY

Banks and insurers are heavily exposed to commercial property companies[7]. Life insurers and pension funds, which are often part of the same group as the bank, also have significant exposures to commercial property through direct investments in property and as holders of bonds issued by commercial property companies. As in other industries, the profitability of commercial property companies reflects cyclical fluctuations. A weak trend among commercial property companies could lead to increased loan losses on the part of banks, and to reduced profit ability at life insurers. Credit risk associated with commercial property lending depends on developments in rental income and funding costs, which affect the institutions' profitability and property prices. Some segments have seen a strong increase in commercial property prices in recent years. One reason is that interest rates have been historically low for several years.

Improved profits and financial strength in property companies

The profitability and financial strength of property companies are affected by developments in rental income, operating expenses and funding costs, which are important items in the companies' financial statements and also form the basis for the valuation of commercial property. These companies recorded strong earnings in 2017. The growth in earnings, including property revaluations, in companies engaged in property leasing and management, exceeded debt growth. Both equity ratios and debt servicing capacity increased (charts 2.9 and 2.10). There was a slight reduction in equity ratios in the project-related property[8] segment in 2017. At the end of 2017, property companies engaged in management and leasing had an equity ratio of approximately 50 per cent, while this ratio was around 42 per cent for companies engaged in property project planning (chart 2.10).

Lease prices up and office vacancy rate down in Oslo

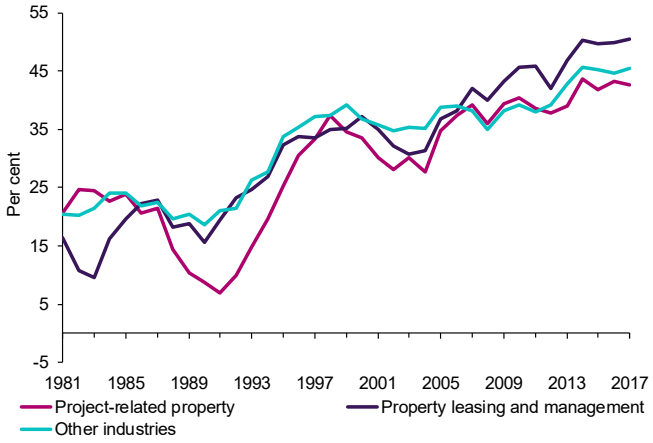
Lease prices are influenced by commercial property supply and demand, which largely reflect developments in the real economy. Vacancy rates in the office market have fallen in Oslo and in most other major towns in recent years. A lower office vacancy rate and

[6]Financial institutions' scope for lending to borrowers that are not in compliance with the regulations' main precept is limited to 10 per cent of lending volume per quarter (8 per cent of lending volume for loans in Oslo).

[7] As at 31 December 2017, banks' lending to commercial property companies, including co-operative housing associations, represented approximately 40 per cent of approved credits to non-financial firms.

[8] In this report, property companies are divided into two segments: management and leasing and project-related property, respectively. Project-related property includes the development of building projects, purchase and sale of property and construction of buildings. The segment accounts for about 30 per cent of property companies' total assets, external debt and earnings.

2.10 Equity ratio of property companies and in other industries*



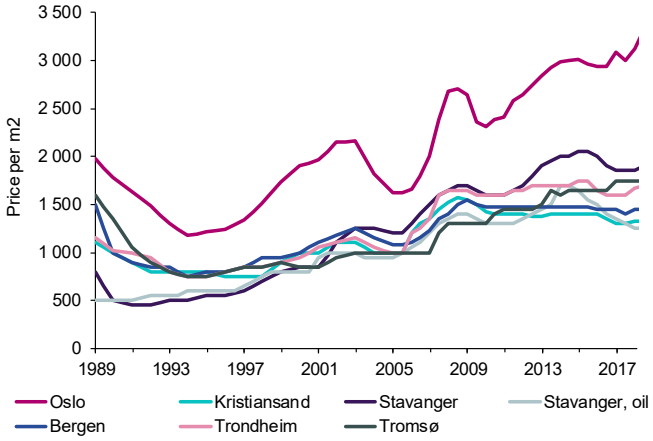
* Excl. oil and gas. Source: Companies' financial statements, Bisnode and Finanstilsynet

improved prospects for the Norwegian economy have contributed to higher lease prices in most Norwegian towns thus far in 2018 (chart 2.11). Several actors expect the office vacancy rate in Oslo to decline further up until 2019 and to push up lease prices an extra notch. A flatter price trend. is expected in other towns.

Continued high selling prices for office property, but fewer transactions and lower turnover

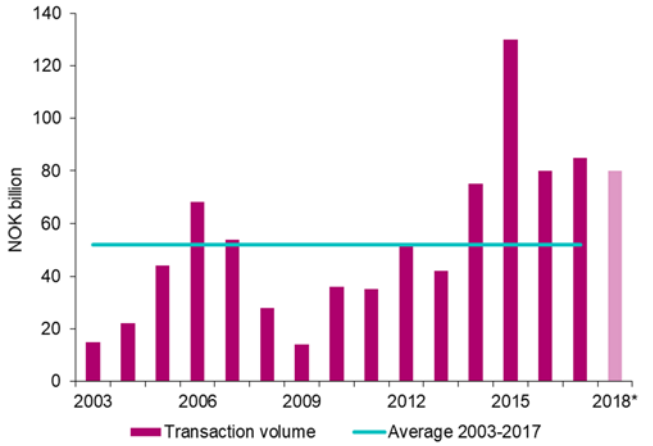
During the first three quarters of 2018, the number of transactions and sales values fell compared with the same period of 2017 (chart 2.12). The level of activity remains high compared with previous years. The decline can probably be partly explained by a lack of investment objects and reduced interest among foreign buyers. Office property has predominated on the transaction side in recent years, accounting for about 45 per cent of the transaction volume. The office segment has accounted for a lower share of transactions so far in 2018 (31 per cent of the transaction volume) compared with the same period of 2017. Developments in the retail industry, where online trading is increasing, have resulted in reduced sales of commercial property and increasing sales of warehousing and logistics properties.

2.11 Developments in lease prices for office premises in Norwegian towns*



* Break in the index for Oslo in June 2017. Prior to June 2017: average for upmarket premises, high standard and city centre. After June 2017: average for upmarket premises east and west and office premises in the inner and outer city. Good standard: Trondheim, Bergen, Kristiansand and Tromsø. High standard: Stavanger. Source: Dagens Næringsliv

2.12 Sale of commercial property in NOK billion

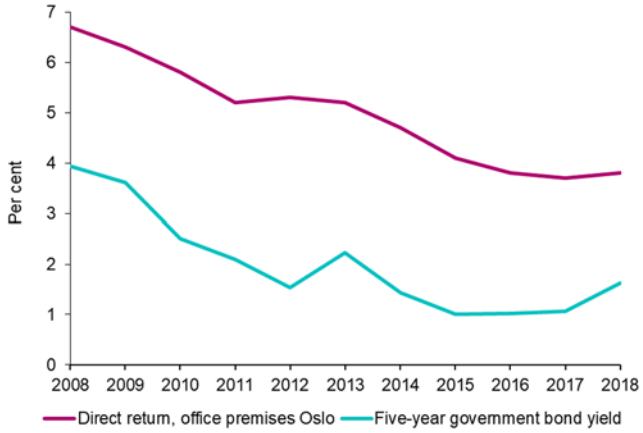


* Forecast 2018. Source: DNB Næringsmegling

The demand for upmarket premises, especially in Oslo, has been high for a long time. This has pushed prices markedly upwards and direct returns[9] down. According to Entra (October 2018), several of the leading market analysis entities estimate the direct return on upmarket premises in Oslo to have reached a low point in 2017 (chart 2.13). The difference between the risk-free interest rate and the direct return on upmarket premises narrowed over the past year. The

[9] Direct return is often defined as net rental income during a future period divided by the purchase price. The direct return is affected by the general interest rate level, the risk premium in the market and expectations of future rental income levels.

2.13 Direct return on high-standard office property in Oslo and five-year government bond yield



Source: Thomson Reuters and Entra consensus report, October 2018

2.14 Share of bond and short-term paper debt* at property companies and in other industries**

* Bond and short-term paper debt in per cent of external debt. ** Excl. oil and gas. Sources: Companies' financial statements, Bisnode and Finanstilsynet

gap between the direct return on upmarket premises and normal property in Oslo has also narrowed. A low direct return relative to the borrowing cost for upmarket premises has turned lower quality properties into more interesting investment objects. This has resulted in higher prices and lower direct returns also on this type of property. For most office segments, the direct return is about 1 percentage point lower in Oslo than in other large Norwegian towns.

Prolonged strong price growth increases the potential fall

Banks regard both residential and commercial property as high-quality collateral. Prices in certain commercial property segments have been high for several years. When the value of collateral increases, the loan-to-value ratio declines, giving borrowers the opportunity to increase their debt. In turn, this may give rise to higher market prices. Prolonged high price and debt growth may cause imbalances to build up and increase the potential fall in property prices and the risk of losses in banks.

Commercial property is more in the nature of an investment medium than dwellings. Thus, the incen tives or ability to hold onto an investment through a downturn may be reduced compared with the housing market. In bad times, commercial property prices have fallen by a wider margin than house prices. For the banks, losses on loans to commercial property companies have been far higher than losses on residential mortgages. Interest rates are expected to increase in the period ahead. This may contribute to dampened growth in commercial property prices and, in more serious cases, to price falls. On the other hand, a strong development in the real economy and increased demand for commercial property may help to raise rental income and property prices.

More diversified funding structure in property companies

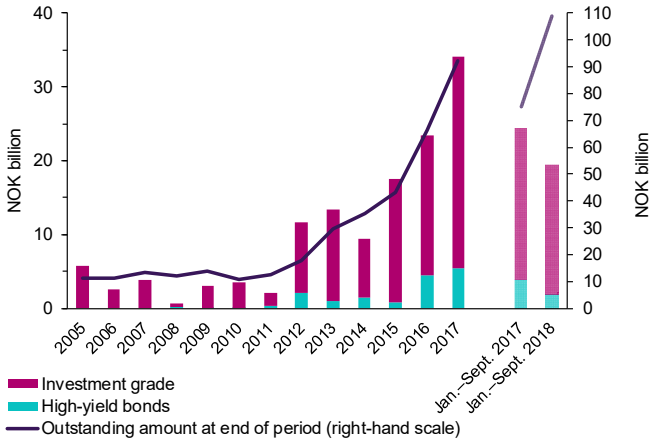
Property companies' funding structure is dominated, to a larger degree than in many other industries, by bank financing, but has become more diversified over the past few years. In 2017, bank debt accounted for more than 60 per cent of external debt for leasing companies and 54 per cent for project-related companies. For other industries, the corresponding share averaged less than 35 per cent. In 2012, the proportions of bank debt in rental companies and project-related companies were 63 and 59 per cent, respectively. Over the past few years, there has been an increase in the proportion of bond debt in commercial property companies (chart 2.14). In the period from 2012 to 2017, the share of bonds and commercial paper rose from 3 to 8 per cent of interest-bearing debt of leasing companies. For project-related companies, this share increased from 2 to 5 per cent

during the corresponding period.

At end-September 2018, the outstanding volume of commercial property bonds was close to NOK 110 billion, which represents a marked increase over the past five years. In 2013, the outstanding volume was approximately NOK 30 billion. Total issues rose from NOK 23 billion in 2016 to around NOK 35 billion in 2017 (chart 2.15). Thus far in 2018, issue volume has been slightly lower than in the same period last year. Most issues this year are classified as investment grade, but there have also been a number of issues of high-yield bonds. A higher percentage of bond funding helps to ensure a more diversified funding structure in commercial property companies, while credit risk is distributed on a wider range of investors. The increase in market funding may be due to the fact that the cost of bank financing in relative terms has been higher than financing in the bond market for several actors in recent years. According to UNION's[10] bank survey for the third quarter of 2018, however, banks' margins on commercial property loans narrowed during the first three quarters of the year.

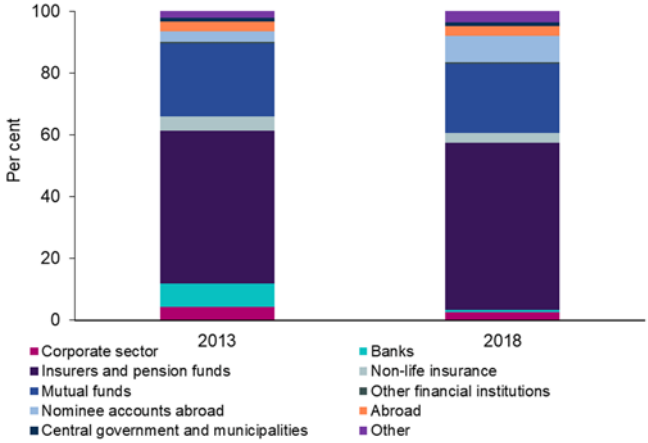
Insurers, mainly life insurers, are also heavily exposed to commercial property. Investments in commercial property in the form of shares, direct investments and loans represented approximately 14 per cent of total assets in the first half of 2018. In addition, life insurers are the largest owners of bonds issued by commercial property companies in Norway (chart 2.16). Holdings of property bonds have increased from 1 to 3 per cent of total assets over the past five years. Developments in property companies therefore have strong impact on life insurers' profits. Life insurers' share of outstanding property bonds has been relatively stable in recent years and was just over 40 per cent at end-June 2018. Mutual funds have also invested heavily in property bonds and hold approximately 20 per cent of the total outstanding amount.

2.15 Outstanding and issued volume of property bonds



Source: Stamdata

2.16 Holdings of outstanding property bonds in 2013 and 2018



Sources: Stamdata, Norwegian Central Securities Depository, Bisnode and Finanstilsynet

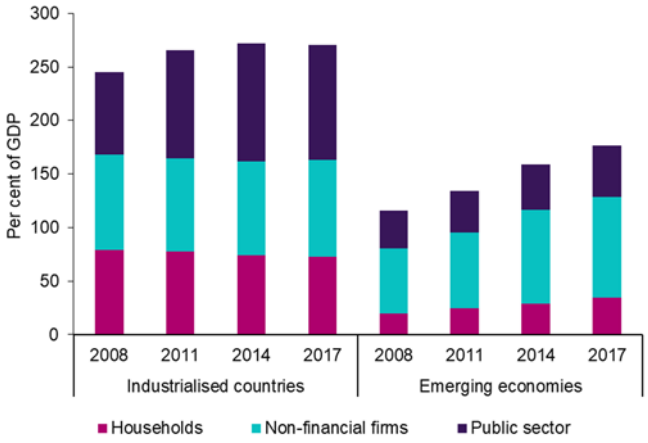
RISK FACTORS IN THE GLOBAL ECONOMY

Substantial vulnerabilities in the global economy

The latest estimates from the IMF (International Monetary Fund) show stable growth over trend in the global economy over the next couple of years; see Chapter 1 for further details. However, there is a high level of uncertainty. In its latest report, the IMF points out that the uncertainty regarding future develop ments has risen over the past six months, partly due to the escalating trade conflict between the United States and China. In addition, no agreement has so far been

[10] The competition between banks is increasing/UNION market report, autumn 2018 (in Norwegian only)

2.17 Global debt



Source: Bank for International Settlements (BIS)

2.18 Valuation of companies (Shiller P/E), S&P 500*

*Market price divided by the average of ten years of earnings.
Source: Robert Shiller

concluded in connection with the UK's withdrawal from the EU[11]. The IMF also stresses that there is significant uncertainty related to developments in financial markets. The international financial crisis has had serious repercussions, and ten years of record-low interest rates have led to increased public and private debt in both industrialised countries and emerging economies (chart 2.17).

High public and private debt

The debt levels of households and non-financial firms have increased significantly, exceeding income growth in several countries, especially those that were not seriously affected by the financial crisis. Ample access to and strong demand for credit among households, partly due to low interest rates, have contributed to a sharp rise in asset prices. Due to the low interest rate level, many investors have also chosen to enter emerging markets, where the earnings potential has been better. Experience shows that such capital flows are volatile, and several emerging economies are vulnerable to capital flight.

Public debt levels have also increased in a number of countries over the last ten years. This is partly due to lower tax revenues and increased expenses following the economic setback. Some countries also initiated rescue operations for the banking sector, while others conducted an expansionary fiscal policy to temper the downturn in the wake of the financial crisis. Low interest rates contribute to limiting the room for manoeuvre in monetary policy, while higher public debt has the same effect on fiscal policy.

Stock markets at risk of bigger fall

During the second half of 2018, several of the major stock exchanges reached historical peak levels. In November 2018, the stock markets in the United States (S&P 500), Germany (DAX) and Oslo (OSEBX) had risen by between 220 and 320 per cent from the trough in the wake of the financial crisis in 2008. This corresponds to an annual average return of between 12 and 16 per cent. In the US, the market capitalisation of the companies relative to their underlying earnings (P/E ratio) is now higher than before the stock market crash of 1987 and the financial crisis of 2008 (chart 2.18). The pricing is still somewhat lower than during the internet bubble around the year 2000, when several high-priced companies were in a start-up phase with low or no earnings. In recent years, share values have risen strongly parallel to an increase in corporate earnings to historically high levels (chart 2.19). Other stock markets have seen a more moderate rise in share values. Experience shows that periods of high P/E ratios are often succeeded by price corrections in the

[11] See Finanstilsynet's website for more information: https://www.finanstilsynet.no/tema/brexit/ (in Norwegian only)

stock market. There is reason to believe that a stock market decline in the US will cause a drop in prices also in other countries' stock markets.

The difference between companies' earnings in excess of total market capitalisation (earnings yield, E/P) and the risk-free interest rate in the US has declined from close to 5 percentage points in 2012 to approximately 1 percentage point in the autumn of 2018. This may be an indication that the risk premium in the US stock market has been strongly reduced. After the financial crisis, long-term interest rates in the US and Europe have been kept low through the central banks' support purchases. These purchases have already been reduced. Market players expect interest rates to increase in the period ahead. In such a situation, less risky investments will appear more attractive in light of the highly priced stock market.

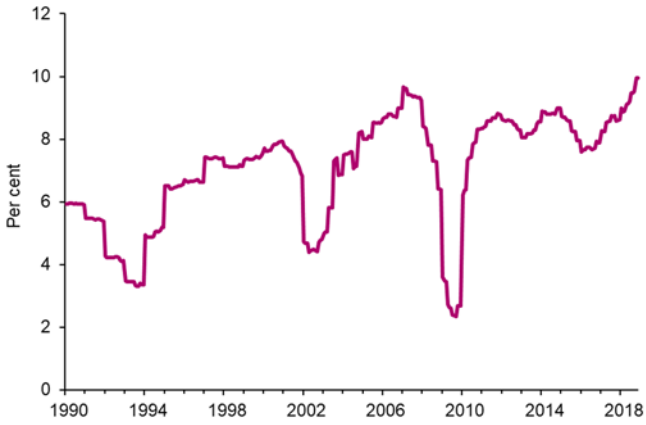
There has been very low volatility in many stock markets for a long time, as was also the case before the financial crisis (chart 2.20). High average returns and little variation in returns over time may lead to excessive optimism, underestimation of risk and too low risk premiums. Studies[12] show that long periods of low volatility may heighten the risk of financial crises.

Compressed risk premiums in the fixed-income markets

Low risk premiums and a high level of optimism are also reflected in the fixed-income markets, where differences in the interest rate margin between investment grade bonds and high-yield bonds are currently very low (chart 2.21).

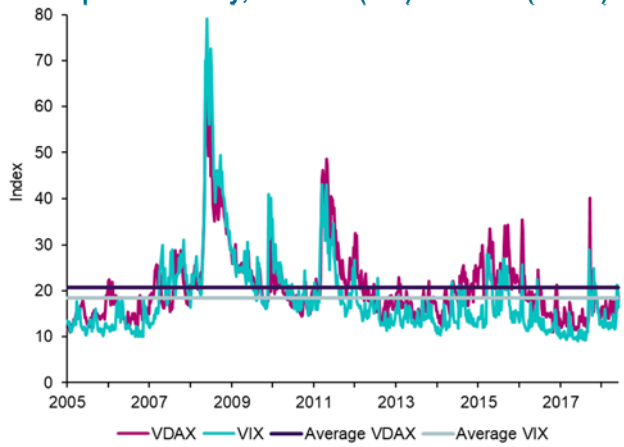
The gap between long and short-term interest rates in the US has also narrowed significantly (chart 2.22). Empirical studies show that this often takes place prior to periods of low economic growth. Significant quantitative easing and low key policy rates have most likely contributed to reducing term premiums. These factors have not been seen earlier and are thus not reflected in the studies.

2.19 Companies' average profit margin in the US stock market



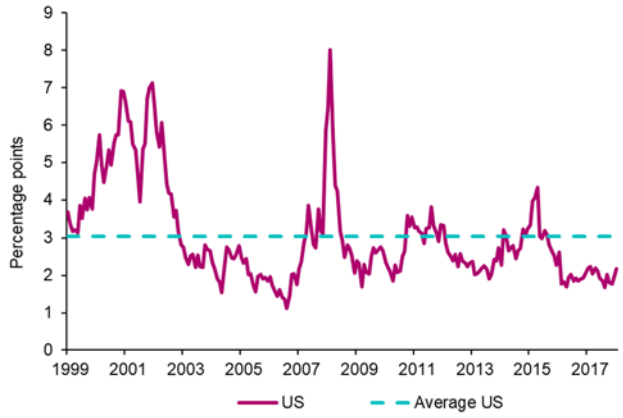
Source: Thomson Reuters

2.20 Implied volatility, S&P 500 (VIX) and DAX (VDAX)



Source: Thomson Reuters

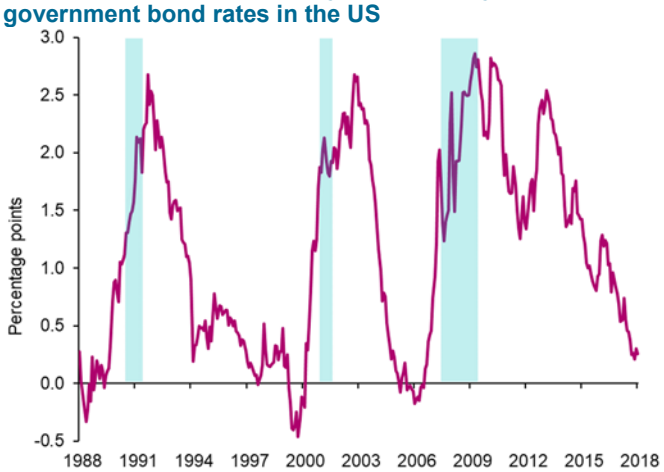
2.21 Interest rate margin (difference between high-yield bonds and investment grade bonds) in the US



Source: Thomson Reuters

[12] See, for example, Jon Danielsson et al (2018), Learning from History: Volatility and Financial Crises

2.22 Difference between ten-year and two-year government bond rates in the US



Recessions are shaded. Source: Thomson Reuters

Several incidents may trigger a downturn

Economic developments and market trends may reverse relatively quickly. International trade is threatened by protectionism, and there is an ongoing trade conflict between the US and China. Around 85 per cent of Chinese imports from the US and close to 50 per cent of US imports from China are now subject to additional import tariffs. According to the IMF, the measures that have already been implemented and incorporated in the baseline scenario, will mainly affect China, although the US will also experience slightly lower growth. The IMF has calculated the effect in five different scenarios. In the most serious scenario there is an assumption of higher import tariffs, and account has been taken of the potential impact on confidence levels in the business sector and of a subsequent decline in investments, as well as the fact that lower earnings will increase the risk premi-ums on corporate bonds. Given these assumptions, global GDP is expected to weaken by around 0.8 per cent over the next two years. This will have its most pronounced impact on emerging economies. China will be hardest hit, and GDP will be around 1.6 per cent under the no-trade-barriers scenario in 2020. The corresponding decline in the US GDP is around 1 per cent.

Statistics Norway has made calculations that illustrate the effects of increased trade barriers on the Norwegian economy. The assumptions are somewhat different from those used in the IMF's calculations. Statistics Norway assumes that import growth among Norway's trading partners will be 2 percentage points lower as from 2019, that international stock markets will experience a 20 per cent fall in value and that money market rates in the euro area will climb to 1 per cent. Based on these assumptions, GDP for Mainland Norway will be 0.6 per cent lower in 2021 than in the baseline scenario. If it is also assumed that the oil price will decline to USD 25 per barrel, Statistics Norway's calculations show that Mainland Norway's GDP will be 0.8 per cent lower in 2021 than in the forecast scenario. The key policy rate has been reduced in both scenarios to ensure that the interest rate differential against the euro area remains virtually stable. While the krone exchange rate is roughly unchanged in the first scenario, it depreciates considerably when the oil price falls. Fiscal policy remains unchanged in both scenarios.

The trade conflict has varying effects for the sectors in the Norwegian economy. Since it primarily has a negative effect on exports, the manufacturing industry in particular will experience a setback. If the oil price drops, it will have the most serious consequences for the petroleum industry and the supplier industry. In addition, a reduction in international trade can be expected to have a negative impact on Norwegian shipping. Norwegian banks have a significant exposure to these industries.

The US economy is experiencing the longest period of recovery since the second world war, and there are now probably few idle resources in the economy. At the same time, large tax cuts and increased government spending have been adopted, which together provide a significant growth impetus to the US economy in 2018 and 2019. In 2018, positive economic news has on several occasions prompted fear of a rise in the central bank's key policy rate and higher volatility in the securities markets. The central bank may also raise its policy rate in response to higher than expected inflation. Higher interest rates could lead to lower share and property prices, higher risk premiums in the bond markets and capital outflow from emerging economies. Such capital outflow will

most likely result in significant currency depreciation and interest rate hikes in these countries.

Nor can a reduction in investors' risk willingness be ruled out. This could lead to large portfolio shifts and significantly lower prices on shares, corporate bonds and real estate. A strong fall in international stock markets and/or increased risk premiums in the fixed-income markets will also have negative effects for Norwegian companies, households, banks and institutional investors; see also chapter 5.2.

CLIMATE RISK

In the autumn of 2015, the United Nations member states adopted 17 sustainable development goals requiring that environmental, economic and social developments be viewed in conjunction**.** At the Climate Change Summit in Paris in 2015, 170 countries agreed to keep the global temperature increase well below 2 degrees compared with pre-industrial levels, and to strive to keep the increase below 1.5 degrees. According to the Paris Agreement, financial flows should be consistent with a pathway towards such a low-emission future.

Climate change and the transition to a low-emission society entail risk for the financial services industry. The supervisory authorities' role in the transition to a low carbon society is limited and aimed primarily at safeguarding against the negative effects of climate change on the financial system. Other authorities adopt regulations, direct and indirect taxes and other measures to reduce greenhouse gas emissions.

Descriptions of climate risk and financial stability generally draw a distinction between physical risk, which is related to the physical effects of climate change, and transition risk, which reflects changes in regulations, the willingness to invest, technology and attitudes. Non-life insurance is the most obvious example of financial institutions' exposure to physical risk, but there is also a connection between physical risk and credit, counterparty and market risk as the profitability of certain types of businesses or the value of assets is affected by climate change. Transition risks may affect profitability and asset value in the same way as physical risk, but it can also affect enterprises directly if investors and customers question their corporate image and business model (reputational risk). The classification of physical risk and transition risk is not exhaustive or unambiguous. For example, increased risk within liability insurance as a result of compensation claims against actors who have not done enough to prevent or communicate climate effects, is classified as both a physical risk and a transition risk. Climate risk is considered to be particularly relevant within non-life insurance, lending operations and asset management operations.

Climate risk also raises issues related to consumer protection. The risk run by enterprises will to some extent be passed on the customers, for example through more limited access to insurance for properties in exposed areas, with stricter terms and higher premiums. Increased uncertainty related to property values may also have a bearing on the banks' collateral requirements. Many actors offer "green" products, such as "green loans" for energy-efficient buildings, car insurance that rewards climate-friendly driving and mutual funds that invest in climate-friendly operations. However, there is great uncertainty about both the climate effect and the value of investments and measures, and customers may thus be exposed to significant transition risk.

International initiatives

In December 2015, the Financial Stability Board established the Task Force on Climate-related Financial Disclosure (TCFD), aiming to develop a set of disclosure recommendations enterprises can use to give investors, lenders and insurers information about their financial risk. The TCFD had 32 participants from various industries and countries. The recommendations that were given included standardised reporting within four main themes: governance, strategy, risk management and metrics and targets. The recommendations have received wide support.

On 8 March this year, the European Commission presented an action plan on financing sustainable growth[13] and emphasises that the plan sends a strong signal about the necessity of a transition to a low-carbon, resource-efficient and circular economy. The measures mentioned in the plan include EU labelling of green products, disclosure requirements in line with TCFD recommendations and requirements to incorporate sustainability considerations in capital adequacy requirements – for example in the form of lower capital requirements for sustainable investments. The last-mentioned idea has been met with much scepticism among experts. In May 2018, the European Commission presented concrete proposals as a follow-up to its action plan. The proposed regulations are intended to ensure that ESG factors[14] are integrated in investment and advisory processes, that ESG factors are made more transparent to end-users and that there is a common understanding of what sustainable investing actually means. The Commission's proposals are under political consideration by the Council and the European Parliament.

National initiatives

In October 2017, the Norwegian government appointed an expert commission to assess the significance of climate-related risk factors for financial stability and how governments and financial institutions can build up the expertise needed to handle climate risks. The Climate Risk Commission will deliver its recommendation by 14 December 2018.

Finance Norway has published a "road map for green competitiveness in the financial services industry"[15]. The background to the road map is the adjustments that need to be made to reach the emission target to which Norway is committed under the Paris Agreement and in relation to the EU. The report identifies challenges facing the financial industry and recommends measures. It serves as input to the government's Climate Risk Commission.

The role of the financial supervisory authorities

Financial supervisory authorities play an important role in guarding against the negative effects of climate change on the financial system. As in the case of other risk factors, this is handled primarily through the supervision of the financial services industry's risk assessments and capital adequacy. Increased uncertainty generally requires higher buffers.

In recent years, international supervisory authorities have engaged in more discussions about the implications of climate risk for financial stability. In the United Kingdom, the Bank of England has published several articles and speeches about the central bank's work on climate risk[16]. Finanstilsynet participates in European and international cooperation on the follow-up of climate risk.

The Swedish Financial Supervisory Authority has for several years been required to follow up sustainability issues and consider how supervision and regulation can contribute. Several reports on this subject have been published[17]. According to the Swedish Financial Supervisory Authority, climate and sustainability development goals should be handled within the framework of the general goals regarding financial stability, consumer protection and well-functioning markets.

International organisations, such as the European Systemic Risk Board[18] and the Financial Stability Board, have recommended that the supervisory authorities include climate risk scenarios in stress tests of the financial system. Thus far, little experience has been gained from such stress tests. The Dutch central bank has recently conducted a stress test that illustrates how an abrupt shift towards a low carbon

[13] Action Plan on financing sustainable growth: Fact sheet / European Commission, March 2018
[14] Environmental, social and corporate governance.
[15] Road map for green competitiveness in the financial services industry / Finance Norway, June 2018 (in Norwegian only).
[16] See The Bank of England's response to climate change / Bank of England, Quarterly Bulletin 2017 Q2
[17] See About the Financial Supervisory Authority's assignment for the environment and sustainability / Swedish Financial Supervisory Authority
[18] Too late, too sudden: Transition to a low-carbon economy and systemic risk/ESRB Advisory Scientific Committee Report No. 6 2016

society could affect the financial sector. In 2018, EIOPA conducted a stress test of European insurance groups which included a set of scenarios featuring a wide range of market shocks. The results of the stress test will be published in mid-December 2018. In Finanstilsynet's letter of allocation for 2018, the Ministry of Finance pointed out that the management of climate risks should be followed up by on-site and off-site inspections within banking and finance[19]. The Government Budget for 2019 states that "Finanstilsynet's remit includes charting and analysing the possible consequences of climate change for the financial services industry as well as related risks".

[19] Finanstilsynet – Letter of allocation 2018/ Ministry of Finance (in Norwegian only)

PART II: FINANCIAL INSTITUTIONS AND THE SECURITIES MARKET

Part II covers developments in banks, pension institutions and the securities market.

Chapter 3 includes a discussion of the banks' profitability, capital adequacy and liquidity risk. There is also a description of the growth in consumer lending to Norwegian customers.

Chapter 4 describes the financial position of life insurers and pension funds, as well as the rate of return and risk in pension customers' portfolios.

Chapter 5 discusses developments in the securities markets as a source of capital for non-financial firms and as a savings and investment option.

In Chapter 6, certain important regulatory changes affecting enterprises in the financial sector are discussed. This includes the new recovery and resolution framework for credit institutions, capital requirements for pension funds, amendments to the Securities Trading Act, and the Money Laundering Regulations.

CHAPTER 3 BANKS

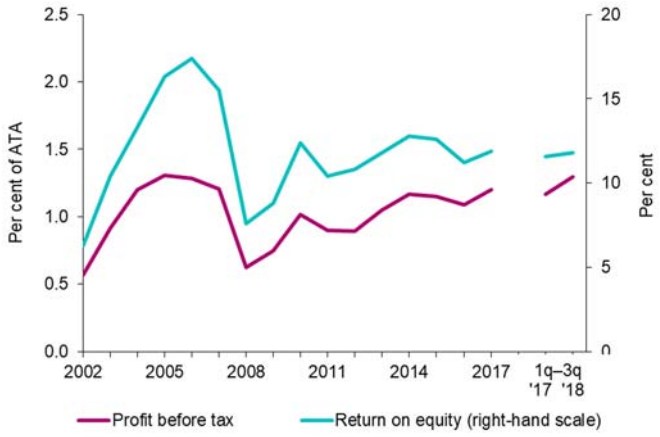
Norwegian banks have strengthened their financial position in recent years. This is in line with the stricter capital adequacy and liquidity reserve requirements introduced after the financial crisis. Banks' common equity Tier 1 capital ratios are significantly above pre-crisis levels, reflecting both retained profits and lower average risk weights on bank lending. Non-risk-weighted capital ratios have also risen, but not to the same extent as risk-weighted ratios. The banks have increased their long-term funding and are compliant with new liquidity reserve requirements. A large part of the banks' market funding still stems from foreign sources, rendering banks vulnerable to international market turbulence. At the same time, investments in covered bonds issued by other banks constitute a significant share of the banks' liquidity reserves, which could make the banking system vulnerable should it come under pressure. The growth in consumer lending to Norwegian customers has slowed somewhat over the past year, but remains far higher than general credit growth.

PROFITABILITY AND CAPITAL ADEQUACY OF NORWEGIAN BANKS

The banking industry has recorded strong profit levels in the years since the international financial crisis. Pre-tax profits have risen as a share of average total assets and are now at roughly the same level as prior to the international financial crisis (chart 3.1). The level of profits remains high thus far in 2018. The trend in return on equity is not quite as favourable as in pre-tax profits, which must be viewed in light of a significant increase in equity. The strong profitability reflects higher net interest income, low loan losses and streamlining of operations (chart 3.2). Figures from the European Banking Authority, EBA, show that Norwegian banks are efficient compared with banks in most other European countries. Digitalisation and an increasing share of customer-driven processes have helped keep costs down.

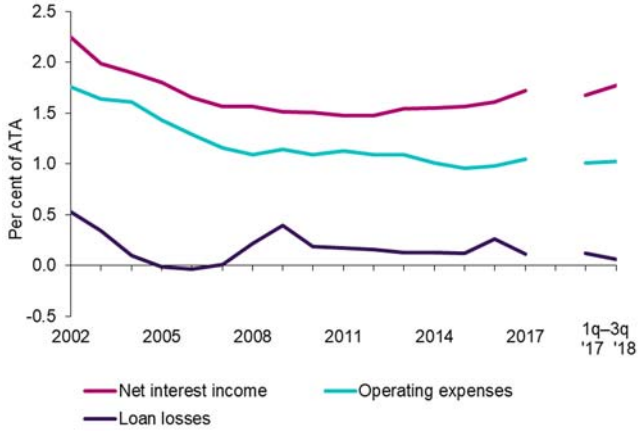
The decline for oil-related sectors after the fall in oil

3.1 Profit and return on equity



Source: Finanstilsynet

3.2 Net interest income, operating expenses and loan losses

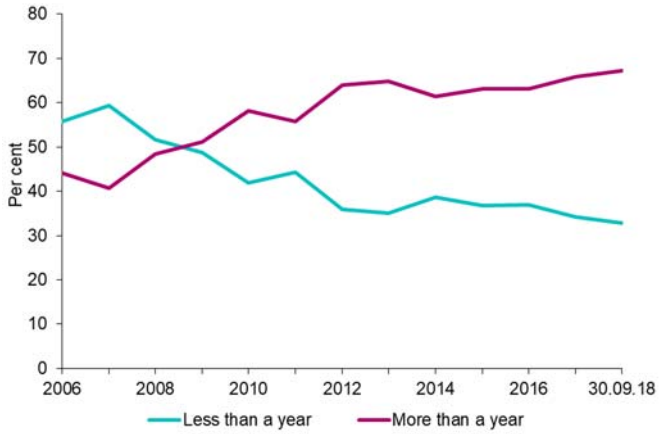


Source: Finanstilsynet

prices in 2014 caused an increase in loan losses in 2016, although the losses were concentrated in some of the largest banks, which had significant direct exposure to the offshore industry and other suppliers to the oil industry. There have been limited negative ripple effects for other industries, and total loan losses have been low over the past few years (chart 3.2).

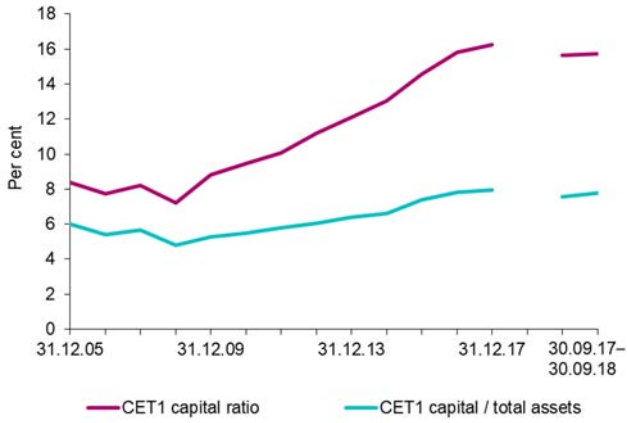
The turmoil in international markets had a profound impact on Norwegian banks' funding during the financial crisis, and for some time banks were dependent on the 'swap scheme' introduced by the authorities (covered bonds were exchanged for government bonds) to obtain liquid funds. In the years following the financial crisis, new regulations have contrib-

3.3 Term of funding



Source: Finanstilsynet

3.4 CET1 capital ratio



Source: Finanstilsynet

uted to an increase in the share of long-term funding (chart 3.3), and covered bonds have become an important regular funding source for the banks. New liquidity reserve requirements have also been introduced to make the banks more robust in the face of financial market turbulence. Norwegian banks meet these requirements. According to the regulations, covered bonds can be included in liquidity reserves, as a result of which the banks have invested heavily in covered bonds issued by other banks. Consequently, developments in the banking system have a direct bearing on a significant share of the banks' liquidity reserves.

Norwegian banks have improved their financial position in recent years. In the wake of the financial crisis, stricter requirements were also introduced for the quality and level of loss-absorbing capital. Due to the strong performance of Norwegian banks in recent years, they have largely been able to meet the new requirements through profit retention. As shown in chart 3.4, banks' combined common equity Tier 1 ratio has risen considerably since the financial crisis, to 15.7 per cent at end-September 2018. The increase is partly due to the fact that average risk weights have declined during the period as a result of particularly brisk growth in low-risk-weighted lending and the introduction of IRB models. In relative terms, there has been a smaller increase in common equity Tier 1 capital as a share of total assets than in the risk-weighted capital ratio.

LIQUIDITY RESERVES AND FUNDING STRUCTURE

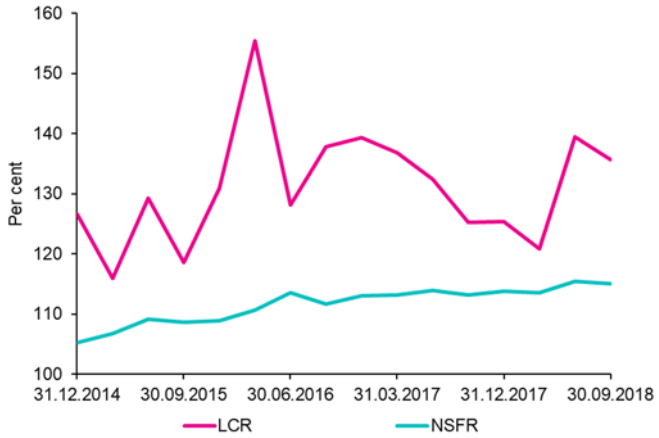
The international financial crisis in the autumn of 2008 showed that declining confidence and increased uncertainty can cause the money and capital markets to dry up. A high proportion of short-term funding in the international money market made Norwegian banks vulnerable to market turmoil. After the financial crisis, new regulations and new policy instruments have been introduced to reduce this vulnerability.

Liquidity risk reduced due to liquidity reserves and increased long-term funding

To make banks less vulnerable to periods of market stress, as in the autumn of 2008, a minimum liquidity coverage ratio, LCR, has been introduced in the wake of the crisis. The LCR entails a requirement on the banks' stock of liquid assets relative to the estimated net liquidity outflow over the next 30 days under given stress assumptions. The minimum requirement is 100 per cent.

To reduce long-term refinancing risk, it is important to ensure stable financing of long-term assets. The NSFR (Net Stable Funding Ratio) measures banks' available stable funding relative to the required stable funding. In a proposal for changes in the CRR/CRD IV, the European Commission has recommended the introduction of a minimum NSFR requirement of 100 per cent.

3.5 LCR and NSFR, weighted average



Source: Finanstilsynet

3.6 Ratio of deposits to total loans

Source: Finanstilsynet

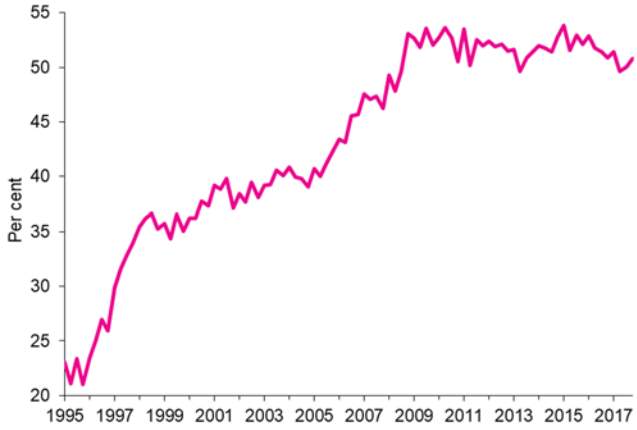
Norwegian banks meet the minimum LCR requirement. In recent years, their share of long-term funding, as measured by the NSFR, has also exceeded 100 per cent (chart 3.5).

Stable ratio of deposits to loans

Banks' funding mainly comprises deposits from customers and funding in the money and capital markets. Deposits have been a stable source of funding for Norwegian banks also in periods of market turbulence. Surveys of deposits[20] in a selection of Norwegian banks during the financial crisis in 2008 showed that none of the banks experienced any dramatic reduction in deposits. The deposits covered by the Norwegian deposit guarantee scheme in particular are considered to be stable. The scheme guarantees deposits up to NOK 2 million per customer per bank. At end-June 2018, approximately 60 per cent of total deposits in Norwegian banks were covered by the deposit guarantee scheme, up from about 55 per cent in the third quarter of 2008. If a limit of EUR 100 000 is introduced, as in the European Union, 43 per cent of existing deposits will be covered by the guarantee scheme.

There was a sharp fall in the ratio of deposits to loans in Norwegian banking groups in the years up to 2010 (chart 3.6). Over the last few years, the ratio has been stable at approximately 60 per cent. Measured as a share of total funding, market funding has been relatively stable over the last ten years at a historically high level (chart 3.7).

3.7 Market funding – share of total funding

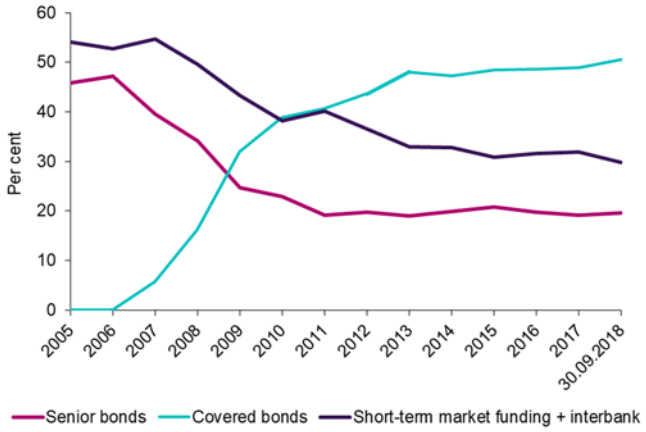


Sources: Finanstilsynet and Norges Bank

It is mainly the largest banks that turn to international markets inasmuch as size and credit ratings are prerequisites for obtaining funding from foreign sources. Small banks are indirectly exposed through borrowings from the large banks in the interbank market.

[20] See the article Finanstilsynet's survey of deposits during the financial crisis – a brief summary/Aud Ebba Lie, Finanstilsynet (in Norwegian only)

3.8 Trend in market funding of banks and covered-bond-issuing entities, by type of funding



Source: Finanstilsynet

When institutions obtain their funding in the market, they have an ongoing need for refinancing in the money and capital markets, and previous crises have demonstrated that professional investors are reluctant to refinance loans in times of crisis. To make the banks more robust when faced by this kind of market turbulence, it has been important to increase the maturity of the funding.

Covered bonds have ensured market funding with longer maturities, but increase the banks' exposure to the housing market

After banks were given the opportunity to issue covered bonds through mortgage companies in 2007,

unsecured senior bonds, short-term market funding and interbank funding represent a smaller share of total funding (chart 3.8). Covered bonds represent about half of the banks' market funding and just over one fifth of the banks' total funding.

Increased use of covered bonds has ensured the banks more stable funding with longer maturities at favourable prices. The proportion of market funding with a residual maturity of more than one year has increased from around 45 per cent prior to the financial crisis to 66 per cent in the second quarter of 2018; see chart 3.3 for maturities above and below one year. Seen in isolation, the increase in the maturity of banks' market funding implies lower liquidity risk.

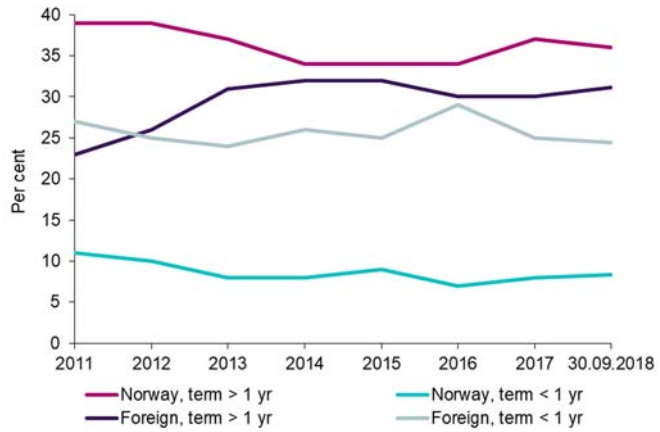
A large share of the banks' liquidity reserves consists of covered bonds, which represent a total of 26 per cent of the banks' liquidity buffers. This share is higher for small and medium-sized banks. In isolation, however, the high proportion of covered bonds, both as a source of funding and as a liquidity reserve, results in increased systemic risk through cross-ownership and links banks' liquidity risk to a greater degree than previously to the housing market. The fact that the banks maintain large holdings of covered bonds as a part of their liquidity reserve could give rise to difficulties in a situation in which they all need liquid assets and are keen to divest covered bonds. Increased issuance of covered bonds also reduces the quality of the banks' remaining assets since a large proportion of the best secured residential mortgages is transferred to mortgage companies for inclusion in their cover pools of covered bonds. This increases the risk for the banks' unsecured investors. It is therefore important that the banks do not become too dependent on covered bond funding.

Banks are directly exposed to international financial markets

Norwegian banks are better positioned to meet a liquidity crisis than they were in 2008. The banks have increased their long-term funding and their ability to withstand market stress. The requirement to maintain a liquidity reserve in significant currencies reduces the risk associated with market stress in foreign currencies.

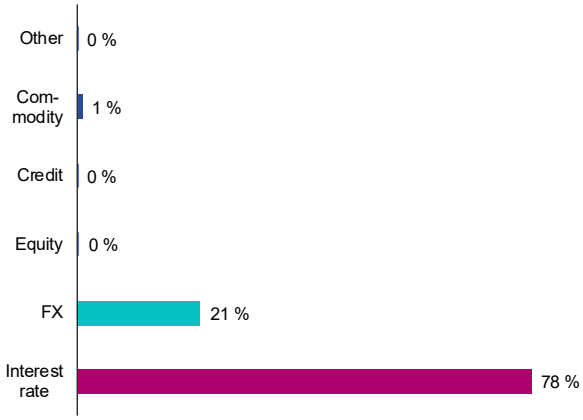
Although Norwegian banks have increased the maturity of their market funding, a significant proportion of short-term funding is still from foreign sources (chart 3.9). 56 per cent of total market funding stemmed from foreign sources at end-September 2018. Close to half of this had a maturity of less than a year. On the other hand, the banks' assets, which mainly consist of loans, have considerably longer maturities and are generally denominated in Norwegian kroner. Norwegian banks are thus still vulnerable to international market turmoil, which may affect prices and access to funding.

3.9 Trend in market funding of banks and covered-bond-issuing entities, by domestic/foreign funding



Source: Finanstilsynet

3.10 Derivatives distributed on underlying assets. Notional values as at 30 Sept. 2018



Source: Finanstilsynet

Finanstilsynet and Norges Bank have established a framework for liquidity stress testing. Developments in banks' liquidity during a period of stress in the international financial markets similar to that witnessed in the autumn of 2008, are discussed under theme II. The results show that the banks will cope relatively well in such a scenario.

Derivatives help to reduce banks' interest rate and currency risk

Norwegian banking groups use derivatives for various purposes. The main purpose is to reduce interest rate and currency risk. Such risk arises, for example, if banks' floating-rate loans are financed by fixed-rate loans or loans in Norwegian kroner are financed by foreign currency loans. Several of the largest banks are also derivative counterparties for their customers in interest rate and currency swaps.

At end-June 2018, the banks had derivative contracts whose underlying assets had a notional value of NOK 5 327 billion[21]. This corresponds to 132 per cent of these banks' total assets, and principally comprises interest rate and foreign exchange (FX) derivatives (chart 3.10). Interest rate and FX derivatives are generally traded bilaterally in the OTC market, where trades are conducted directly between the parties and not on exchanges. According to figures for 2017 from ESMA (European Securities and Markets Authority), 85 per cent of interest rate derivatives and 99 per cent of currency derivatives are traded bilaterally[22]. Few data are available on the banks' use of derivatives prior to the financial crisis, and it is therefore difficult to assess whether there have been any changes in the use of derivatives over the last ten years.

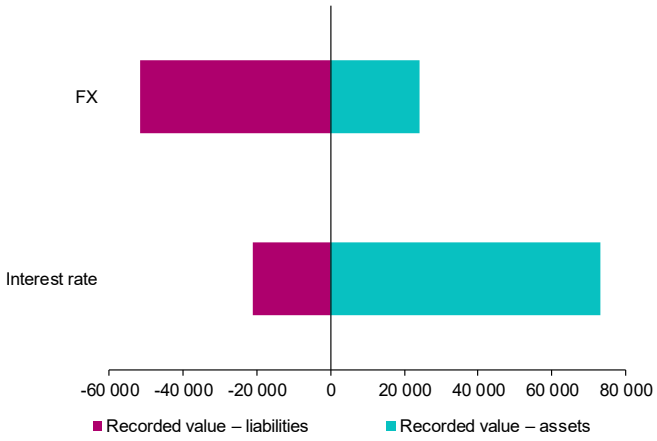
The notional value is based on the value of the derivative contracts' underlying assets (e.g. interest) and gives an indication of the size of the market. With respect to interest rate derivatives, the notional value also includes the principal on which the interest payments are based, even though the parties never exchange the actual principal.

Chart 3.11 shows the recorded market value of derivative contracts. This constantly changes, for example due to changes in the prices of underlying assets, and may vary between positive and negative over the term of the derivative contract. The gross recorded market values (total liabilities and assets) of interest rate and currency derivatives represent only 2 and 7 per cent, respectively, of the notional value of derivative contracts for these banks. Any loss or gain from derivative contracts depends on the market value of the underlying at the expiry of the contract. If the derivative has

[21] Based on the banking groups that report FINREP. 24 groups in the second quarter of 2018.

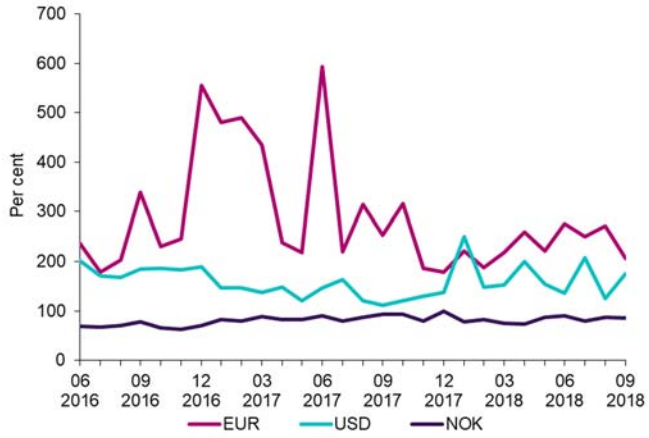
[22] See EU derivatives markets — a first-time overview / ESMA Report on Trends, Risks and Vulnerabilities No. 2/2017

3.11 Recorded market value of derivative contracts. NOK million as at 30 Sept. 2018



Source: Finanstilsynet

3.12 LCR in selected currencies. Large banks



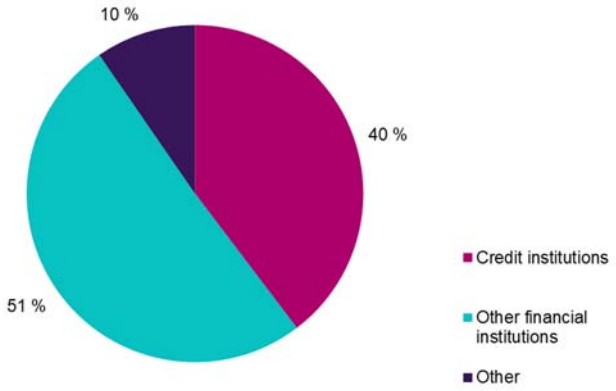
Source: Finanstilsynet

been used to hedge an asset or liability, any loss on the derivative contract will be offset by a corresponding gain on the hedged asset and vice versa.

Norwegian banks and covered-bond-issuing entities are dependent on a well-functioning currency swap market

When banks and covered-bond-issuing entities fund their NOK-denominated assets in foreign currencies, an exchange rate risk arises along with a need to convert foreign currency to Norwegian kroner. Covered-bond-issuing entities have very limited opportunity to incur risk due to regulatory restrictions, and therefore make use of basis swaps with a term identical to that of the underlying foreign currency funding. The counterparties in covered-bond-issuing entities' basis swaps are often the parent bank or other large Norwegian and Nordic banks that are active in the foreign currency market. The market for basis swaps is normally less liquid than the market for other currency swaps. This may be partly due to a limited number of counterparties with natural access to and willingness to lend Norwegian kroner on a long-term basis. Banks, more so than covered-bond-issuing entities, are exposed to refinancing risk since they roll over currency swaps with a shorter maturity than that of the underlying foreign currency funding.

3.13 Reported counterparties in OTC derivative contracts. As at 30 Sept. 2018



Source: Finanstilsynet

Large Norwegian banks hold much of their liquidity reserves in foreign currencies both in order to meet their foreign currency liquidity needs and on cost grounds. In order to avoid Norwegian krone liquidity stress, they also need to maintain liquidity reserves in Norwegian kroner. For institutions having the euro or the US dollar as a significant currency, a minimum LCR requirement in Norwegian kroner of 50 per cent applies. At end-September 2018, the large banks' LCRs in US dollars and euros were 175 per cent and 206 per cent, respectively, while the LCR in Norwegian kroner was 85 per cent (chart 3.12).

Requirements for extra collateral reduce counterparty risk but increase liquidity risk in periods of market turbulence

More than 90 per cent of the banks' counterparties in derivative contracts are credit institutions or other financial institutions such as insurers (chart 3.13).

Other counterparties are generally customers wishing to enter into interest rate and/or currency hedging contracts.

Counterparty risk is the risk that the counterparty will be unable to meet its contractual obligations. Price changes in the market can make it expensive to replace the trade in the market (replacement cost). This replacement cost is reflected in the derivatives' market value (chart 3.11). As the risk of significant market fluctuations and uncertainty related to the counterparty's ability to deliver increase with longer maturities, counterparty risk is regarded as higher the longer the maturity of the derivative contract.

After the financial crisis, much attention has been focused on the counterparty risk in derivative contracts. CSA (credit support annex) agreements are part of the ISDA Master Agreement[23], which covers bilateral derivative trading. The CSA regulates counterparty risk in derivative contracts from the trade date to the settlement date. The market value of the derivative contract is calculated, and the parties provide collateral to the counterparty, mainly in the form of cash. This reduces replacement costs if the counterparty breaches the contract.

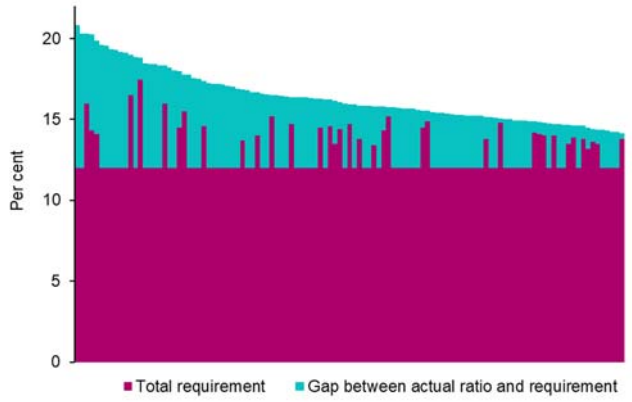
After the introduction of EMIR (the European Market Infrastructure Regulation) in Norway on 1 July 2017, clearing through a central counterparty is required for some OTC derivative contracts. Central counterparties are enterprises that interpose themselves between counterparties to a derivative contract, becoming the buyer to the seller and the seller to the buyer. Thus, the parties no longer depend on each other for the contract to be honoured. In addition, requirements for risk-mitigating measures for OTC derivatives that are not cleared, have been introduced. Among other things, the parties must determine the value of ongoing contracts on a daily basis and obtain collateral from each other in order to reduce potential losses in the event of default (margining). This can be achieved through the use of CSA agreements.

The measures have helped reduce the counterparty risk of derivatives. However, daily margining gives rise to liquidity risk in the event of significant changes in the market value of interest rate and currency swaps.

Covered-bond-issuing entities are not permitted to post collateral for derivative contracts, and therefore enter into unilateral agreements on the provision of collateral. Hence a covered-bond-issuing entity is not itself required to post collateral in the event of a fall in the market value of its currency swaps, whereas the counterparty must provide collateral. This is possible because covered-bond-issuing entities have good ratings and the counterparty risk is considered to be limited. Banks enter into agreements on bilateral collateralisation. In connection with significant changes in exchange rates, banks may risk having to post sizeable amounts as collateral. The market for Norwegian kroner is relatively small. Liquidity has been drastically impaired, and there have been major price fluctuations during periods of financial turmoil. In the months after Lehman Brothers' failure the krone weakened by almost 25 per cent against the euro. The LCR regulations require banks that are active in the foreign currency market to hold liquid assets corresponding to the largest net outflow of collateral noted in a period of 30 days over the preceding two years. Based on the LCR reporting at end-September 2018, these assets totalled NOK 90.7 billion for the banks combined. For banks that report derivatives, this represented approximately 3 per cent of net payments during the same period. The relatively low percentage can be explained by the fact that the banks, in the course of a 30-day period, both receive and cede collateral. At the same time, the LCR does not necessarily adequately capture this risk, as the method of calculation takes only the past two years into account. It is therefore important that the banks make their own calculations based on their derivative positions and include possible additional payments in internal stress tests of liquidity, including payments related to both the position and the margining. Stress testing of liquidity is included in Finanstilsynet's module for liquidity risk, and the quality of liquid funds, including

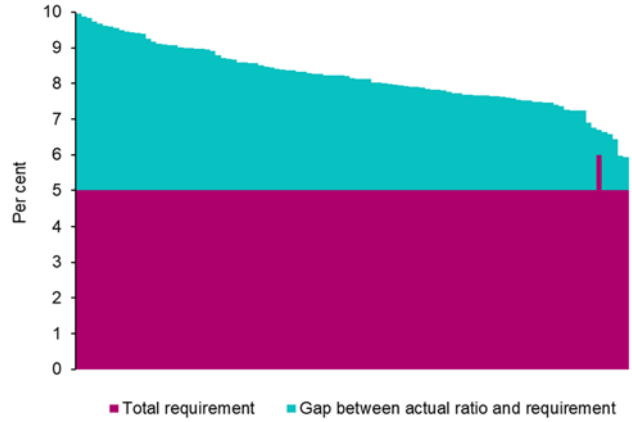
[23] ISDA – International Swaps and Derivatives Association

3.14A CET1 capital ratio in banks/banking groups as at 30 Sept. 2018



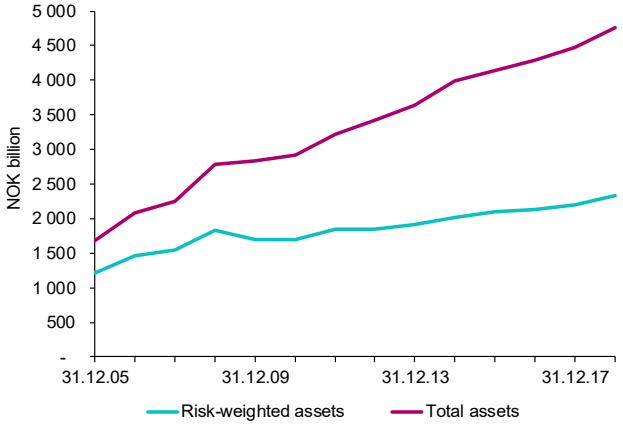
Banks/banking groups with ratios above 21 per cent are excluded.
Source: Finanstilsynet

3.14B Leverage ratio in banks/banking groups as at 30 Sept. 2018



Banks/banking groups with ratios above 10 per cent are excluded.
Source: Finanstilsynet

3.15 Total assets and risk-weighted assets of Norwegian banks and banking groups



Source: Finanstilsynet

assumptions relating to additional collateral, is evaluated in on-site inspections.

CAPITALISATION OF NORWEGIAN BANKS AFTER THE FINANCIAL CRISIS

Banks have strengthened their capital adequacy in the period since the financial crisis in terms of both CET1 ratios and leverage ratios. All the banks are compliant with the increased requirements on capital, including buffers. Some banks' capital ratios are well above the requirements, including the Pillar 2 requirements; see chart 3.14 where banks are ranked by highest CET1 capital ratio. The small savings banks in particular have significantly higher common equity Tier 1 capital ratios and leverage ratios than stipulated in the requirements.

Increased measured capital adequacy reflects recapitalisation and lower average risk weights

The capital adequacy of Norwegian banks in terms of common equity Tier 1 capital ratios has improved since the financial crisis (chart 3.4). The banks have enjoyed strong profitability during this period, and a relatively large share of profits has been retained. Despite the strong increase in the CET 1 capital ratio, CET 1 capital relative to total assets has not increased much since the mid-1990s. The difference between the two indicators reflects a decline in average risk weights. This is illustrated by developments in total assets and risk-weighted assets in chart 3.15.

A key element in the supervision of banks is to ensure that the level of loss-absorbing capital is sufficient to enable the banks to handle periods with heavier losses. Close follow-up of the IRB banks (banks that use internal models to calculate risk weights for credit exposures) and SREP reviews (Finanstilsynet's review of risk and capital requirements), including stress testing of banks, are important parts of this work.

INCORPORATION OF THE CRD IV AND CRR IN THE EEA AGREEMENT

The CRD IV and CRR are expected to be incorporated into the EEA agreement shortly. The regulations are already largely in place in Norwegian law, although the

consultation document on the incorporation of the CRR[24] points out that the Basel I floor (for IRB banks) and the exemption from the so-called "SME supporting factor" cannot be retained without special adjustment texts.

The introduction of the SME supporting factor will have the greatest effect for small banks

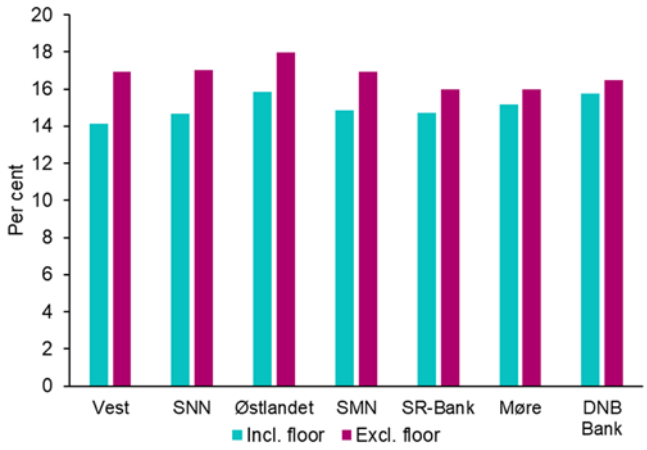
The SME supporting factor entails that the capital requirement for limited exposures to small and medium-sized enterprises will be reduced by a factor of 23.8 per cent. The SME supporting factor is intended to ensure easier access to capital for small and medium-sized enterprises and does not reflect lower credit risk for this type of counterparty. While small banks generally have a larger proportion of SMEs as customers, their corporate portfolios are smaller than those of large banks. In consequence, the reduction in the capital requirement for the banking sector as a whole is limited, although there are significant effects for individual banks.

The removal of the Basel I floor has an impact on the capital requirements of all IRB banks

The Basel I floor limits the effect available to the IRB banks from the internal models they use to calculate risk weights for credit exposures. Risk-weighted assets cannot be lower than 80 per cent of risk-weighted assets under the previous regulations (Basel I). Once the CRR and CRD IV are incorporated into the EEA Agreement, this requirement will no longer apply. Chart 3.16 shows the CET 1 capital ratios of the IRB banks as at 30 September 2018 calculated with and without the Basel I floor. The proposed amendments to the European capital adequacy regulations will include the introduction of a new floor from 2022, with transitional rules up until 2028. The floor will be based on the revised standardised approach proposed by the Basel Committee in 2017.

Both the SME supporting factor and the removal of the Basel I floor will help to increase banks' reported capital adequacy, although their financial soundness will remain unchanged. In Finanstilsynet's assessment it is important to ensure that bringing Norwegian capital adequacy rules into line with the CRR/CRD IV does not contribute to a general weakening of financial soundness. When approving and following up internal models, Finanstilsynet will attach importance to robust calibration with satisfactory safety margins. When setting Pillar 2 add-ons, Finanstilsynet will also ensure that they cover risk that is not fully covered under Pillar 1. In addition, Finanstilsynet will contribute to enabling the banking industry to avoid impairment of its financial position, measured by the leverage ratio.

3.16 CET1 capital ratio in Norwegian banking groups (IRB) as at 30 Sept. 2018



Source: The banks' quarterly reports

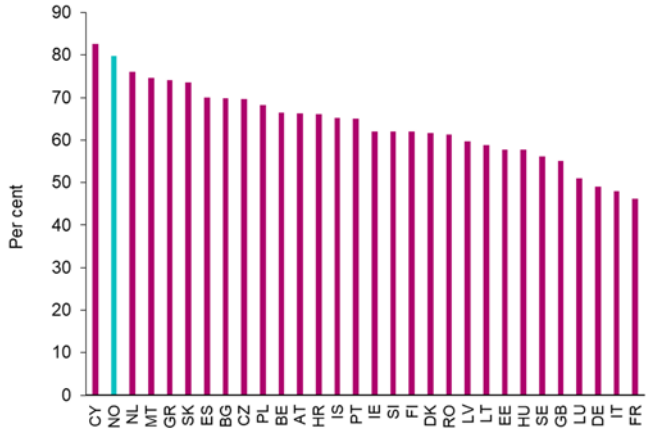
NET INTEREST INCOME AND OTHER OPERATING INCOME

For the large majority of Norwegian banks, net interest income represents the bulk of their total operating income. Compared with banks in other European countries, Norwegian banks have a higher proportion of net interest income, while net commission and fee income is correspondingly low (charts 3.17 and 3.18)[25].

[24] See Norwegian implementation of the EU's solvency framework (CRD IV/CRR) (in Norwegian only)

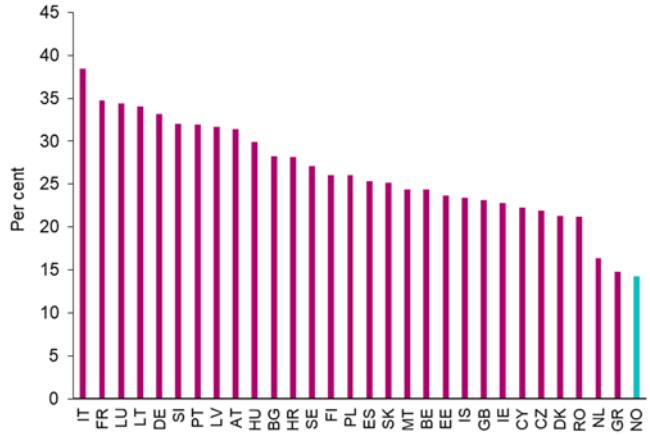
[25] Source: EBA Risk dashboard. Largest banks in each country, for Norway: DNB Bank, Sparebank 1 SR Bank, Sparebank 1 SMN

3.17 Net interest income as a share of operating income, first half of 2018



Source: EBA

3.18 Commission and fee income as a share of operating income, first half of 2018

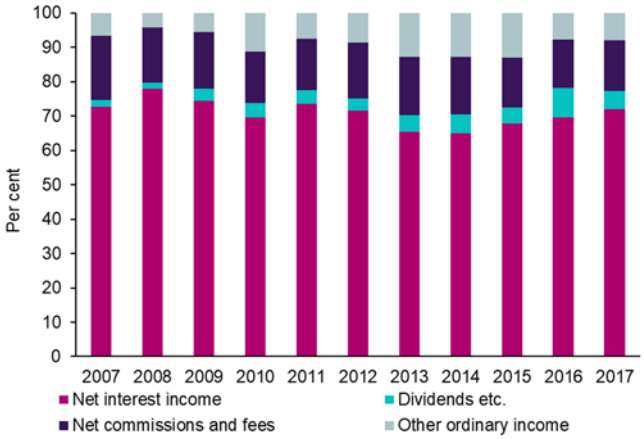


Source: EBA

For all Norwegian banks, net interest income represents just below three-fourths of total operating income. Values of financial instruments are highly volatile and are therefore not included in the calculations. Net interest income as a share of operating income declined somewhat up until 2014, but has risen in recent years (chart 3.19). Income from holdings in subsidiaries and associated companies has increased slightly in recent years, affected by increased activity in group-owned companies.

Commission and fee income as a share of operating income has declined over the past few years, but nevertheless represented 15 per cent in 2017. Banks'

3.19 Operating income decomposed



Source: Finansitilsynet

income from payment transfers is influenced by technological developments and has been significantly reduced in recent years (chart 3.20). Income from the sale of insurance products rose slightly up until 2012, driven by increased activity in group-owned companies, but has represented a stable share of total operating income in subsequent years. Commission and fee income from securities management and trading has increased somewhat in recent years. A high level of activity within services for both corporate and personal customers has contributed to the increase.

The largest banks have a higher percentage of other operating income than medium-sized and small banks. Higher commission and fee income is the main contributing factor. As can be seen from chart 3.21, the largest banks have a higher percentage of net commissions and fees in most service areas. Commissions from the sale of insurance services, where the smallest banks have a high level of income, represent the most significant exception.

After many years of strong lending growth to personal customers, the latter's share of total customer lending has risen from 57 per cent just before the financial crisis to 64 per cent as at 30 September 2018. Personal customers are thus of great significance to banks' earnings. Despite the strong growth in consumer lending in recent years, residential mortgages still represent close to 90 per cent of banks' lending to personal customers.

The introduction of the EU's Payment Services Directive, PSD2, will set the stage for new types of financial sector actors, which may challenge banks' traditional sources of income. Access to customer data will enable both new and traditional players to offer new types of services that could put pressure on the banks' earnings. Bank aggregators, which are tools that collect data about a customer's various bank connections on one (and the same) platform, may reduce customers' loyalty to specific banks and thus the value of long-term customer relationships. This may also lead to increased price competition, especially on simple, standardised products.

CONSUMER LENDING

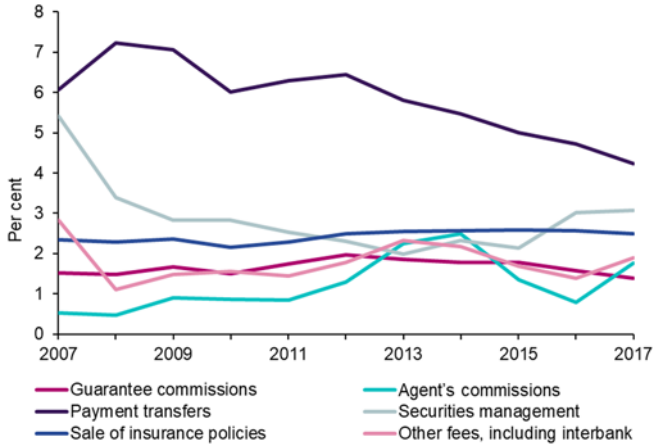
There has been strong growth in consumer loans (unsecured loans) for several years. This growth principally stems from specialised consumer loan banks, the majority of which have been established over the last ten years. Consumer loans represent just over 3 per cent of Norwegian household debt. However, the increase in such loans is significantly higher than general credit growth. In addition, interest expenses on consumer loans account for a clearly higher proportion of households' overall interest expenses than consumer loans' proportion of overall debt.

Developments in consumer loans

Finanstilsynet has surveyed the business of a selection of 30 banks and finance companies engaged in consumer finance. The selection covers the bulk of the Norwegian market. Consumer loans from these insti tutions to Norwegian borrowers totalled NOK 111 billion at end-September 2018. Foreign branches accounted for close to a quarter of these loans.

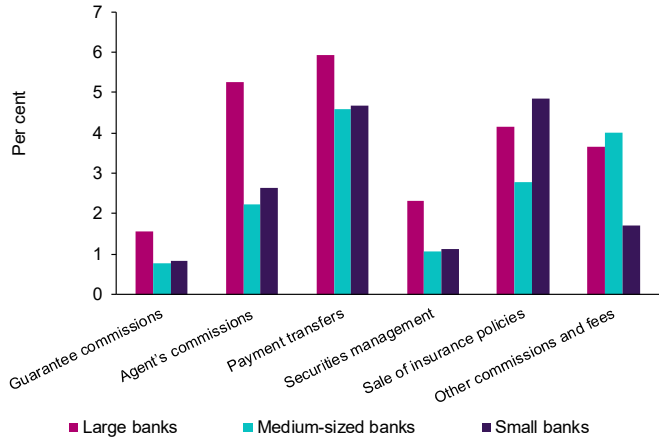
The twelve-month rate of growth in the Norwegian market was 10.5 per cent, while households' overall debt rose by 5.8 per cent in the same period (chart 3.22). Adjusted for the banks' sale of loan portfolios, banks' consumer loans to Norwegian customers grew by approximately 12 per cent. Consumer loans to Norwegian and foreign customers from the 30 institutions in the survey totalled NOK 157 billion at end-

3.20 Commission and fee income as a share of operating income



Source: Finanstilsynet

3.21 Commission and fee income as a share of operating income in 2017 – banks grouped by size



Source: Finanstilsynet

September 2018, up 13.5 per cent over the preceding12 months. Several of the Norwegian institutions in the survey have experienced strong growth in the other Nordic countries.

Newly established institutions, and the institutions that have grown the most in recent years, focus less on credit cards than on other types of consumer loans. Credit card loans accounted for about 45 per cent of aggregate consumer loans in Norway at end-Septem ber 2018, compared with 48 per cent one year earlier.

Can new players in the residential mortgage market change the competitive situation?

New technology and financial innovation affect the competitive situation in the financial markets. Such structural changes can be positive for customers and society at large, provided that the changes in both product types and market actors contribute to well-functioning markets and do not jeopardise financial stability and customer protection requirements. This is not always the case. For example, it would be unfortunate if actors gain a competitive advantage by not being subject to the same capital requirements as banks. According to Norwegian regulations, all lending business operations are in principle licensable and subject to ordinary capital requirements.

In Sweden, several actors have established businesses offering residential mortgages outside the traditional credit market. In the summer of 2018, Finansinspektionen (the Swedish FSA) communicated clear expectations to newcomers to the mortgage market, both to protect and to promote financial stability*. Particular emphasis was placed on matching the maturity of the newcomers' financing of mortgages with the mortgages' expected maturity and on ensuring secure, long-term customer relationships for borrowers.

* Preconditions for mortgage-based business activities / Finansinspektionen

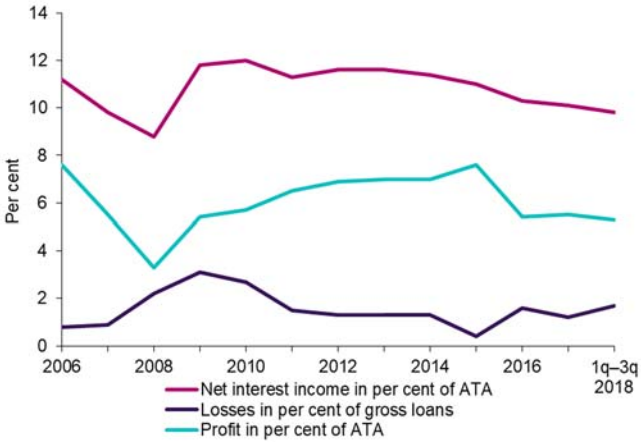
Approximately 67 per cent of the credit card debt was interest-bearing. Consumer loan default levels are clearly higher than for other types of loans and have increased over the past year.

Interest rates on consumer loans are high compared with secured loans. The entities concerned may therefore have relatively high losses on consumer loans and nonetheless achieve good profits (chart 3.23). The high level of profitability over a long period has made consumer lending an attractive segment for both new and established providers. Losses on consumer loans have been rising over the past year and corresponded to 1.7 per cent of gross loans at end-September 2018.

3.22 12-month growth in consumer lending

Sources: Finanstilsynet and Statistics Norway

3.23 Profit trend, consumer lending



Source: Finanstilsynet

Sale of loan portfolios and debt recovery

In recent years, there has been an increase in sales of portfolios of consumer loans from the original lender to other finance companies. During the first three quarters of 2018, consumer loan portfolios totalling approximately NOK 3.9 billion were sold, compared with NOK 3.6 billion during the same period last year. The sale of non-performing loan enables the original lenders to reduce risk and capital requirements and improve their liquidity. The portfolios are generally transferred to finance companies, which often use an ordinary debt collection agency in the same group to

recover acquired claims. Pursuant to the Norwegian Debt Collection Act, finance companies may recover acquired claims themselves without having a debt collection licence. In connection with such recovery of own claims, the amount that can be claimed from the debtor is a small, fixed amount irrespective of the amount of the claim. In most cases, however, finance companies use debt collection agencies to recover purchased claims. The debt collection agency can thus demand payment of an amount that is significantly higher than when creditors recover own claims. The debt collector's fee is calculated on the basis of the size of the claim. The fact that the debt collection agency is organised in the same group as the finance company does not preclude charging debt collector's fees to the creditor. When choosing such a recovery model, the group's total earnings on a purchased claim will increase as revenues are generated both from the actual debt recovery and in the form of debt collector's fees. This contributes to stronger competition for claims portfolios and raises the prices of the portfolios.

Norway has traditionally had strong creditor protection, where the government has helped to enforce unpaid claims. A comprehensive and nationwide network of claims enforcement officers ensures attachment of any assets and future wage payments of the debtor. Such legal recovery increases the costs related to the claim. These costs must normally be paid by the debtor, which reduces the creditor's cost risk. A "no cure no pay" agreement is often entered into with a debt collection agency, which further reduces the creditor's cost risk. The last few years have seen a marked increase in the number of attachment petitions, which indicates that the debt collection agencies now increasingly avail themselves of this opportunity.

As a result of digital payment solutions, an increasing number of debt collection demands are met, and claims are paid early in the recovery process. Data reported to Finanstilsynet at end-June 2018 showed that 36 per cent of incoming new debt collection cases had been paid and completed before a payment demand was dispatched.

On 17 October 2018, the Ministry of Justice and Public Security appointed a working group that will consider issues related to the Debt Collection Act. The working group was appointed to follow up on Finanstilsynet's letter of 7 September 2017, which called for a revision of the Debt Collection Act. The subjects to be covered are the organisation of debt collection activities, treatment of client funds, coverage of costs incurred in connection with out-of-court recovery, processing of personal data and generally accepted debt collection standards. The working group is chaired by the Ministry of Justice and Public Security and draws representatives from Finance Norway, the Norwegian Consumer Council, Virke Inkasso (trade organisation for debt collection agencies) and Finanstilsynet. The working group will submit its report to the Ministry of Justice and Public Security by 1 January 2020.

Regulations on prudent consumer lending practices

in June 2017, Finanstilsynet issued guidelines on prudent consumer lending practices and announced that institutions were expected to start the process of conforming to the guidelines immediately. In the first quarter of 2018, Finanstilsynet surveyed institutions' compliance with the guidelines at the end of 2017. The survey showed that many institutions were not compliant with the guidelines, and some institutions reported that they would not be compliant until 2019. On commission from the Ministry of Finance, Finanstilsynet prepared in the autumn of 2018 a consultation document with draft regulations on prudent consumer lending practices. The document was circulated for comment on 27 September with the deadline for response set at 6 December 2018. The draft regulations include the same provisions as the guidelines. Among other things, the loan agreement shall include requirements for instalment payments and maximum loan terms, and specify that no loans with a term of more than five years should be granted. Moreover, no exemption from these rules will be approved. The regulations are intended to help reduce the risk of consumers incurring debt that might subsequently leave them in severe financial straits. The regulations also aim to promote sound financial institutions through reduced risk of losses, as well as financial

stability through lower borrowing by vulnerable households.

During 2018, Finanstilsynet has carried out on-site inspections in six banks with consumer loans as an important area of operation. One of the purposes of the inspections has been to chart the banks' compliance with Finanstilsynet's guidelines on prudent consumer lending practices. Key themes have been the banks' systems for measuring customers' debt servicing capacity and their conformance to the provisions regarding instalments on new and refinanced loans. In addition, the banks' sale of non-performing loans and routines for impairment of loans have been reviewed. The on-site inspections have also covered issues related to overall management and control and measures to prevent money laundering and terrorist financing. The preliminary assessment is that several of the banks have not, or have only recently, adapted to important provisions of the guidelines, and that the banks in many cases overestimate their customers' debt servicing capacity whereby customers who according to the guidelines should not be granted consumer loans, nevertheless are granted such loans. It has also been revealed that some banks offer customers loans in excess of what they have applied for. The inspection also revealed deficiencies in some banks' compliance with the Money Laundering Act. Preliminary comments from the inspections will be sent to the banks around the turn of the year, with the aim of preparing and publishing the final comments in the first quarter of 2019.

CHAPTER 4 INSURANCE AND PENSIONS

Overall, pension institutions have recorded strong profits over the past few years. The international financial crisis ten years ago had some spillover effects on pension institutions' financial performance and capital adequacy. Extensive losses were recorded on pension institutions' securities portfolios, but the financial crisis had few other implications for the institutions. In the wake of the crisis, low interest rates and increased life expectancy have posed challenges for pension institutions. Nevertheless, strong profits have provided scope for increasing buffer funds and helped to strengthen the institutions' solvency ratios.

Several companies have their pension schemes in their own pension funds. In June 2018, the Ministry of Finance decided that pension funds should be subject to a new and more risk-sensitive solvency capital requirement as from 1 January 2019. Some adjustments have been made to conform the solvency requirement as far as possible to the solvency capital requirement for life insurance companies under Solvency II. Overall, pension funds are well positioned to meet the new solvency requirement, but will also be vulnerable in a situation of prolonged low interest rates.

The low interest rate level and increased life expectancy have made traditional defined-benefit schemes more expensive for employers and resulted in an increase in defined-contribution schemes with no guaranteed rate of return and paid-up policies over the past few years. During the past year, an inter-departmental working group headed by the Ministry of Finance with participants from Finanstilsynet has reviewed the rules for guaranteed pension products and considered the merits of changes that are clearly to the policyholders' benefit. Among other things, the working group recommends introducing a common buffer fund to cover negative returns and allowing institutions to offer policyholders compensation when transferring from ordinary paid-up policies to paid-up policies with a choice of investment profile (unit-linked).

The financial crisis in 2008 revealed a high level of risk in the derivatives market, which was both complex and not transparent. In the wake of the financial crisis, there was broad agreement that more stringent regulation of derivative markets was required. Derivatives are a natural part of pension institutions' asset management, and foreign exchange and interest rate derivatives in particular are in wide use. This chapter accordingly closes with a closer look at life insurers' use of derivatives.

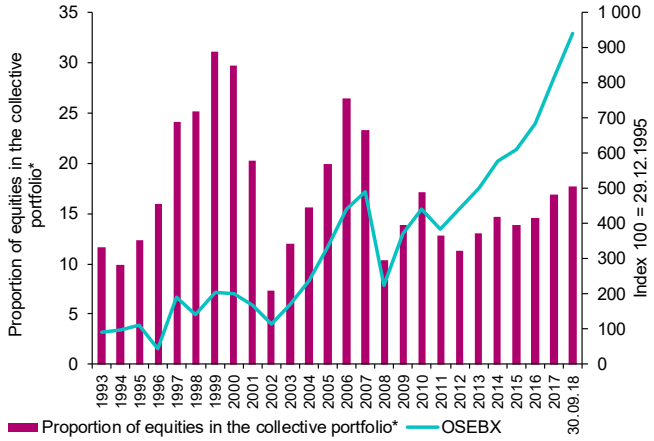
PENSION INSTITUTIONS' PROFITABILITY AND FINANCIAL SOUNDNESS

Developments in interest rates and stock markets are of great significance to pension institutions

Overall, pension institutions have achieved returns in excess of the average guaranteed rate or return and recorded healthy profits in recent years. This is despite the fact that the low interest rate level has made it challenging for pension institutions to achieve excess returns on guaranteed return products. The increase in long-term interest rates from the record-low level in the autumn of 2016 has contributed to somewhat better prospects for pension institutions, although the low interest rate level still presents a challenge.

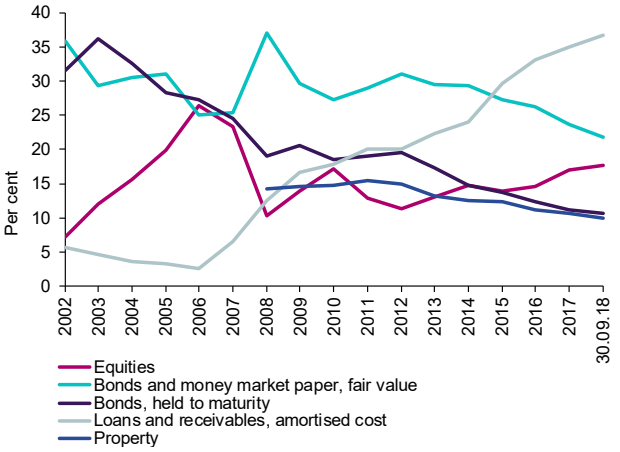
The strong stock markets upturn prior to the financial crisis gave a boost to life insurers' profits and buffer capital. The proportion of equities increased substantially during the 2000s before falling sharply in 2008 (charts 4.1 and 4.2). Like the Norwegian banks, Norwegian life insurers had limited direct exposure to high-risk residential mortgages (subprime) through structured credit products or hedge funds. Due to the strong turbulence in the fixed-income and stock markets, however, there was a decline in life insurers' profits and a significant reduction in buffer capital. After the stock price fall, only one small insurer had capital left in its fluctuation reserves at year-end

4.1 Life insurers' proportion of equities and share price developments on Oslo Børs



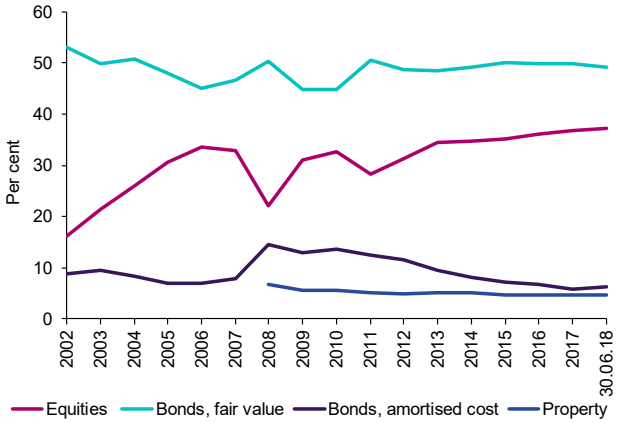
* Share of total assets prior to 2008. Sources: Thomson Reuters and Finanstilsynet

4.2 Investments in the collective portfolio* – life insurers



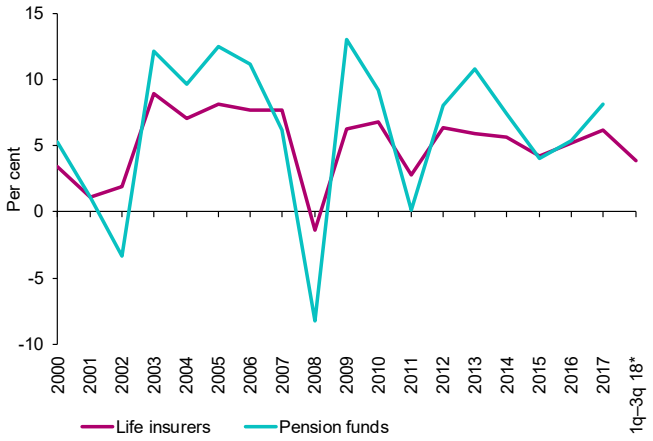
* Share of total assets prior to 2008. Source: Finanstilsynet

4.3 Investments in the collective portfolio* – pension funds



* Share of total assets prior to 2008. Source: Finanstilsynet

4.4 Pension institutions' adjusted return



* Annualised. Source: Finanstilsynet

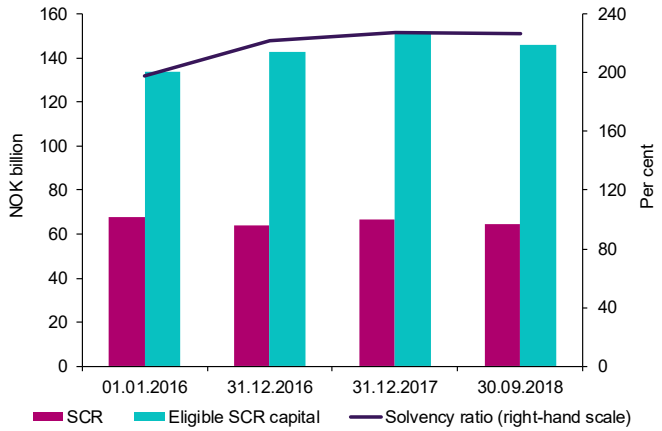
2008, and several insurers used large parts of their supplementary provisions to cover policyholders' guaranteed rate of return.

New business rules came into effect on 1 January 2008 and resulted in changes in the pricing of and profit sharing for guaranteed products. For premium-paying schemes, profit sharing (i.e. sharing of returns in excess of the guaranteed return and any positive insurance result) was replaced by a regime with advance pricing of guaranteed rates of return. Hence, although life insurers lost part of the upside of such products, they now had the opportunity to achieve a stable level of income regardless of market developments. For non-premium-paying schemes, such as paid-up policies, the institutions retained an element of profit sharing.

In 2008, life insurers had to divest parts of their equity portfolios to avoid being subjected to greater risk than permitted by their available buffer capital. The upturn in the securities markets in 2009 and 2010 helped to raise insurers' profits despite a lower proportion of equities. The intensifying market turmoil in the summer of 2011 once again reduced life insurers' returns and buffer capital. Although they had limited exposure to the most debt-burdened euro countries, general uncertainty resulted in higher market risk.

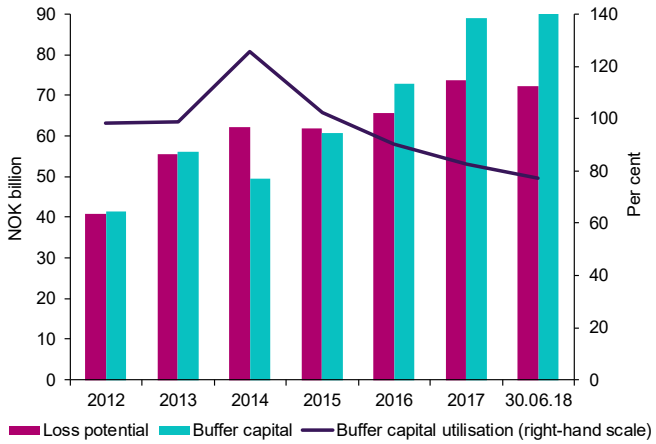
Pension funds were also affected by the financial

4.5 Life insurers' financial soundness



Source: Finanstilsynet

4.6 Pension funds' financial soundness



Source: Finanstilsynet

crisis. In the autumn of 2008, roughly one-fourth of the pension funds faced serious solvency challenges and needed capital injections from their employer undertakings to meet the capital adequacy requirement. Thanks to capital injections from their employer undertakings, the pension funds were not compelled to sell equities to the same extent as life insurers. Due to the pension funds' large proportion of equities, their profits and adjusted returns were weaker than those of life insurers in 2018 (charts 4.3 and 4.4). In the years following the financial crisis, developments in equity markets have enabled pension funds to achieve higher return than life insurers with the exception of the years 2011 and 2015.

Increased life expectancy in the population has resulted in a need to strengthen technical provisions. New mortality tariffs were introduced from 2008, nearly 40 years after the previous adjustment. As a result of good investment results in 2007, much of the increase in provisions could be completed immediately. Before long, however, the increase was regarded as inadequate. In 2013, new mortality tariffs were therefore worked out. Pension institutions were permitted to devote policyholder surpluses to meeting up to 80 per cent of the increased need for provisioning and to apply for a provisioning period of seven years. The positive development in the stock markets during the ensuing period has ensured that pension institutions' provisioning is now generally in line with the mortality basis established in 2013.

Pension institutions have strengthened their financial soundness

The Solvency II framework came into effect on 1 January 2016. In a period of historically low interest rates and increased life expectancy, this entailed significantly higher capital requirements. Norwegian life insurers have handled the transition to the new regulations by applying transitional rules and making internal adjustments, and have strengthened their financial position after Solvency II became effective (chart 4.5). Life insurers' solvency ratio, including the effect of the transitional rules, was 227 per cent at end-September 2018. Eight life insurers have been given permission to apply the transitional measure to technical provisions, thereby enabling any increase in value of insurance liabilities upon the transition to Solvency II to be phased in gradually over a period of 16 years. In the face of increasing market rates, fewer life insurers will benefit from applying the transitional measure to technical provisions. As at 30 September 2018, the transitional rule had effect for five of these institutions. Without the use of the transitional measure the overall solvency ratio would have been 212 per cent. Pension funds' financial strength has also improved in recent years (chart 4.6).

Insurers' significance in terms of systemic risk has increased in the period since the financial crisis

Traditional insurance operations are generally associated with less systemic risk than banking operations. During the international financial crisis, however, it became apparent that insurers may in certain situations both generate and heighten systemic risk. The insurance sector's significance for systemic risk and financial stability has probably increased since the financial crisis. This is partly due to the fact that this sector is increasingly exposed to the same risk factors as banks and that there is a stronger interconnectedness between the insurance sector, the banking sector and the capital and derivative markets. EIOPA and the European Systemic Risk Board (ESRB) have worked on recommendations regarding macroprudential instruments for the insurance sector. In July 2018, EIOPA published the third paper of a series that discusses potential sources of systemic risk in the insurance sector and possible measures to reduce this risk. In the paper, EIOPA assesses measures outside the Solvency II framework, including liquidity and capital-based tools, such as liquidity requirements and maximum leverage ratios. These, as well as several other measures, will be further considered. Any proposals will be viewed in light of the forthcoming review of the Solvencv II framework.

Overall, the pension funds are well positioned to meet the new solvency requirements.

There is no pan-European risk-sensitive solvency requirement for pension funds, and the risk sensitivity of the current solvency requirement for Norwegian pension funds is limited. From year-end 2012, however, all pension funds have reported Finanstilsynet's stress test I, which is a simplified version of the Solvency II framework. This had not been a binding regulatory requirement, but has been used as a supervisory tool by Finanstilsynet. On 8 June 2018, the Ministry of Finance therefore established a new solvency requirement for pension funds ("simplified solvency capital requirement") based on stress test I, which will become effective as of 1 January 2019.

Calculations based on the pension funds' stress test reporting as at 30 June 2018 show that two of a total of 85 pension funds had insufficient buffer capital to meet the new solvency requirement. The two pension funds' capital shortfall was approximately NOK 70 million. In the calculations, there is no volatility adjustment[26] of the interest rate curve. Such an adjustment normally has a positive effect and would have improved the solvency ratios of the vulnerable pension funds. In addition, Finanstilsynet has made calculations based on a scenario in which the stock market falls by 20 per cent. The calculations show that in this scenario, seven pension funds would have had insufficient buffer capital to meet the new solvency requirement, while the capital shortfall would increase, but not significantly.

In a letter to all pension funds dated 9 November 2018, Finanstilsynet writes that the pension funds should consider their financial position based on the new solvency capital requirement and if necessary implement measures to ensure compliance with the requirement as from 1 January 2019. Pension funds with a narrow margin to the simplified solvency capital requirement should draw up a plan for building a satisfactory margin to the requirement. Pension funds that do not meet the simplified solvency capital requirement without applying the transitional rule are expected to prepare a plan on how to fulfil this requirement in the longer term.

CHANGES IN THE MARKET FOR PRIVATE OCCUPATIONAL PENSIONS

Low returns in excess of the guaranteed rate

The low interest rate level and increased life expectancy have made defined-benefit schemes more

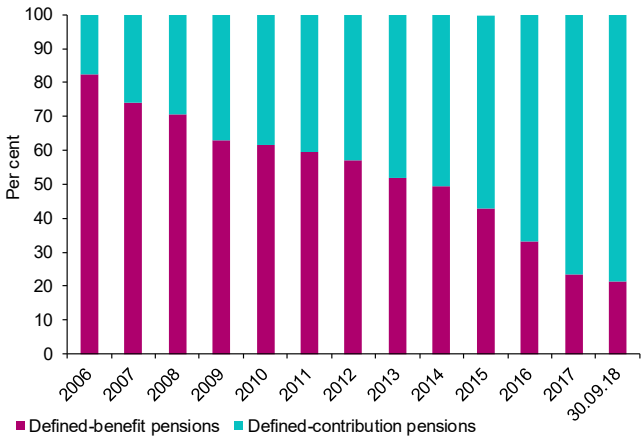
[26] Volatility adjustment is an addition to the risk-free interest curve used to discount insurance liabilities.

expensive for employers as they have to pay higher premiums to maintain the level of pension benefits. From the mid-1980s until 2011, market rates were higher than average guaranteed rates of return. Even with relatively low risk in the portfolio, this gave a high return in excess of the guaranteed rate for quite some time. In consequence of the low interest rate level in recent years, there is a considerably lower return in excess of the guaranteed rate than in the past. This has prompted many employers to replaced defined-benefit schemes with defined-contribution schemes with no guaranteed rate of return (chart 4.7).

In the autumn of 2017, the Ministry of Finance established an interdepartmental working group headed by the Ministry of Finance with participants from Finanstilsynet to review the rules for guaranteed pension products. The working group's mandate was to describe the management of capital related to guaranteed pension benefits, consider whether it is possible to make changes to the business rules that are clearly to the policyholders' benefit and assess whether pension providers should have the opportunity to add funds from equity as a concession for opting out of the guaranteed rate of return. Furthermore, the working group should consider the consequences of any proposed changes to the regulations for the transfer market, the competitive situation and the pension funds' financial strength.

The working group presented its proposals in the report "Guaranteed pension products" on 28 September 2018. The basis for the working group's assessments was that the defined-benefit schemes were established at a time when interest rates were considerable higher than today, and the guaranteed rates of return were set at a high level. Defined-benefit schemes have gradually been wound up, and employees have changed jobs, whereby large parts of this pension capital have been converted into paid-up policies. Paid-up policies are based on salary and service period on the date of issue, and the employer no longer pays premiums on the contracts. This means that the paid-up policies must generate returns in excess of the guaranteed rate if payments are to keep

4.7 Gross premium written in private collective (i.e. defined-contribution and defined-benefit) pension schemes



Source: Finance Norway

up with wage inflation. This is challenging in a situation of low market rates. The introduction of new mortality tariffs as from 2014 also prepared the ground for partial financing of the necessary increase in provisioning by means of policyholder surpluses.

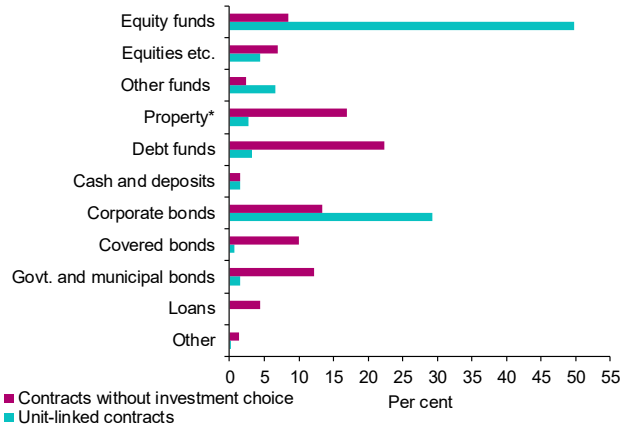
The working group maintains that the introduction of a common buffer fund comprising the fluctuation reserves and supplementary provisions may have positive net effects for policyholders. The buffer fund will be allocated to the policyholders and may be used to cover negative returns. The working group further believes that granting policyholders compensation, within regulatory limits, for relinquishing the guaranteed rate of return under a paid-up policy, will be clearly to the policyholders' benefit. The working group is also favourable to changing the regulations to give policyholders greater freedom to opt for faster disbursement of paid-up policies with low benefits. The report is now under consideration by the Ministry of Finance.

LIFE INSURERS' INVESTMENTS AND USE OF DERIVATIVES

Low share of index funds in the unit-linked portfolio

The unit-linked portfolio, which consists of defined-contribution pensions, pension capital certificates, unit-linked paid-up policies and individual savings,

4.8 Composition of life insurers' investments as at 30 June 2018



* Property includes 'real estate' (CIC 9), 'equity of real estate related corporations' (CIC 32), 'real estate funds' (CIC 45), 'real estate exposure related to collateralised securities' (CIC 65) and 'mortgages' (CIC 84) as well as NACE codes F41 and L, which inter alia include property bonds. Source: Finanstilsynet, Solvency II quarterly reporting at solo level.

comprises funds for which the policyholder chooses his/her investment profile by opting for either an open investment choice in the insurance agreement or a predefined investment profile. Unit-linked products account for about 20 per cent of life insurers' total investments. There are both group and individual unit-linked products. A characteristic of these products is that the policyholder carries the return risk. The risk in the policyholders' investment profiles depends primarily on the proportion of equities in the portfolio.

The equity proportion in unit-linked contracts totals 54 per cent, which is significantly higher than in contracts with a guaranteed rate of return, where this proportion is only 15 per cent (chart 4.8). A total of 86 per cent of investments in unit-linked contracts are mutual fund holdings, while the proportion for guaranteed-rate contracts is 24 per cent. 7 per cent of investments in unit-linked contracts represents mutual funds other than equity and bond funds. Private equity funds account for NOK 3.7 billion (1 per cent) and are generally based in Norway.

Now that future pensions and savings are based to a greater extent on the policyholder's individual choice, it is important to ensure that market participants do not exploit policyholders' lack of awareness of the risks inherent in investment products. Insurers must give policyholders sufficient information about costs and the risks associated with the various investment choices. Policyholders' interests should be protected when choosing mutual funds and fund alternatives. Finanstilsynet has previously observed that insurers offer a low share or no index funds in unit-linked portfolios[27]. Management fees for actively managed mutual funds are significantly higher than in passively managed funds. These expenses are borne by the policyholders. Due to higher management fees in actively managed funds, higher excess returns are required to ensure that policyholders record a gain. According to the Norwegian Fund and Asset Management Association, index funds represented 11 per cent of equity fund investments for unit-linked pensions at year-end 2017.

Life insurers have large alternative investment portfolios

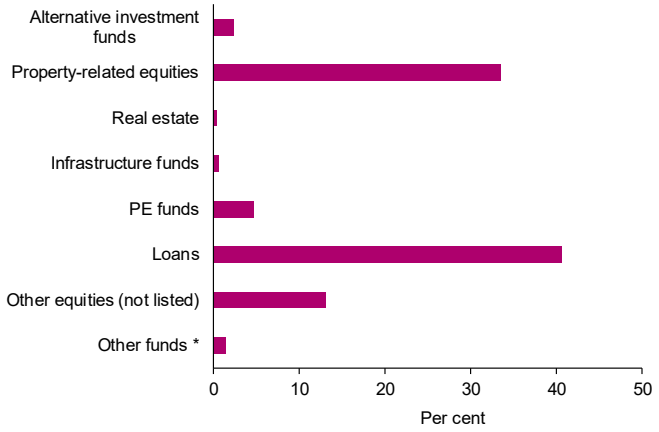
Lower capital requirements for certain alternative investment have been introduced or proposed under Solvency II, including investments in infrastructure projects and unlisted equities. Part of the rationale for introducing lower capital requirements for such investments is to remove barriers to growth and facilitate small and medium-sized enterprises' access to financing, and to create new jobs[28]. An unfortunate consequence, however, is that capital requirements do not necessarily reflect the real risk of the investment.

Alternative investments may provide higher potential returns than traditional investments, but also entail higher risk. Furthermore, alternative investments tend to be more complex and less liquid than traditional investments. Ongoing valuations are demanding, and potentially highly uncertain as they are not based on market prices.

[27] Circular 14/2016: Information and advice provided to purchasers of unit-linked life insurance (in Norwegian only), published on 13 July 2016

[28] See the European Commission's "Action plan for financing"

4.9 Composition of life insurers' alternative investments as at 30 June 2018



* Other funds include property funds among others, but not bond and equity funds. Source: Finanstilsynet, Solvency II quarterly reporting at solo level.

EIOPA defines alternative investments as all assets other than equities, bonds, deposits and cash. Alternatively, such investments can be defined as assets that are not traded on a public market. 24 per cent[29] of life insurers' investments are traded outside public markets and can be classified as alternative investments. These consist of investments in real estate, private equity funds, loans, infrastructure as well as other mutual funds and unlisted equities (chart 4.9).

As at 30 June 2018, 17 per cent of Norwegian life insurers' investments were in property, which is a high share compared with insurers in other European countries. Property investments primarily comprise property-related equities managed through subsidiaries and related undertakings. Loans also constitute a significant share, including residential mortgages with low LTV ratios that are treated favourably under Solvency II. Over the last few years, the largest life insurers have taken over portfolios of residential mortgages from banks in the same group. Finanstilsynet is concerned that the solvency rules should not encourage arbitrage-motivated transfers of loans between banks and insurers. The Norwegian authorities have the opportunity to establish rules to ensure that the capital requirement for mortgage loans matches banks' capital requirements for such loans. The Ministry of Finance has asked Finanstilsynet to consider whether and, if so, how this scope of action should be used. See a further account in chapter 6 Regulation.

The volume of alternative investments may increase as the way has been opened for European long-term investment funds. The regulation on European long-term investment funds (ELTIF) was adopted by the EU in 2015 and sets lower capital requirements for such investments. The purpose of the regulation is to help raise capital for long-term investments in the real economy, including infrastructure projects. The regulation contains rules on long-term investment funds, which will be a sub-category of alternative investment funds. Alternative investment funds currently represent approximately 1 per cent of life insurers' total assets. Investments in ELTIFs may provide stable returns for pension institution with long-term obligations.

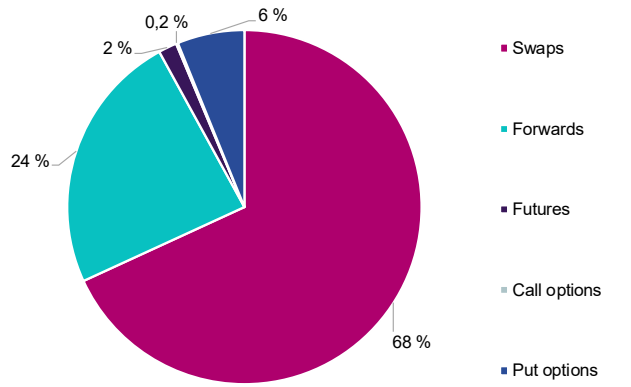
Insurers' infrastructure investments remain modest

In line with Finanstilsynet's recommendation from June 2017, the Ministry of Finance tabled a bill on 8 June 2018 permitting insurers (and pension funds) to invest more in business unrelated to insurance, including power, road and other infrastructure projects. See a further account in chapter 6 Regulation. It is above all the long time horizon of infrastructure investments that enables the investments to reflect life insurers' obligations.

A few insurers had invested in infrastructure projects as at 30 June 2018. Total infrastructure investments come to about NOK 21 billion. This corresponds to approximately 1 per cent of insurers' total investments. The average for European insurance companies is about 2 per cent. Norwegian insurers' infrastructure investments are mainly in the form of loans and corporate bonds. Commission Delegated Regulation (EU) 2017/154 amended Delegated Regulation 2015/35, which gives lower capital requirements for exposures

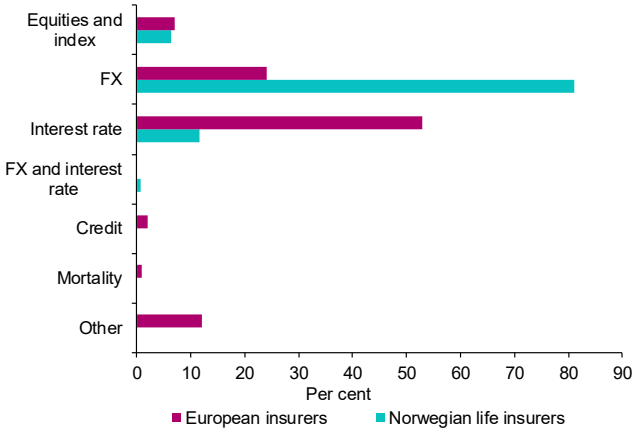
[29] Excluding unit-linked contracts. Includes only XL (assets that are not listed on a stock exchange) and XT (assets that are not exchange tradable) from CIC codes, and excludes cash and deposits, bonds and equity and bond funds.

4.10 Life insurers' derivative contracts in terms of the notional value of the derivatives as at 30 June 2018



* Source: Finanstilsynet, Solvency II quarterly reporting at solo level.

4.11 Underlying assets in derivatives used by Norwegian life insurers and European insurers



Sources: Finanstilsynet and EIOPA, Solvency II quarterly reporting at solo level. As at 30 June 2018 for Norwegian insurers and as at 31 Dec. 2017 for European insurers

to infrastructure corporates that meet specified criteria. The amendments have yet to be incorporated into the EEA Agreement.

Life insurers use derivatives mainly for currency hedging

The financial crisis in 2008 revealed the complexity of and lack of transparency in the derivative markets. Central banks and financial supervisory authorities had limited insight into market actors' exposures. After the financial crisis, more stringent regulation of the derivatives markets was introduced, including regulation of derivative contracts that are not traded on regulated markets (OTC derivatives). In 2009, the G20 countries made a commitment to take measures to enhance transparency in the derivatives market. Increased transparency in the derivatives market should help reduce risk and avoid future crises.

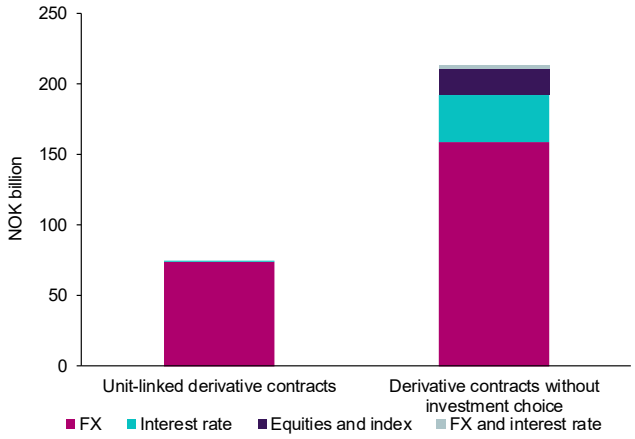
Derivatives are a natural part of life insurers' asset management, and can, based on the requirement for prudent asset management, be used only to reduce the risk inherent in insurers' assets or to streamline asset management. The derivatives' gross notional value, i.e. the value of the derivative contracts' underlying assets, gives an indication of the scope of life insurers' use of derivatives. The gross notional value of open derivative contracts was NOK 286 billion as at 30 June 2018, equivalent to 19 per cent of insurers' total investments. In comparison, the notional value of European life insurers' derivative contracts represented 35 per cent of total investments as at 31 December 2017.

The most commonly used derivatives among Norwegian life insurers are swaps and forwards, whose notional amounts were NOK 195 billion and NOK 68 billion, respectively (chart 4.10). Underlying assets are mainly in the form of foreign currency. The situation is different for derivative contracts entered into by European insurers (chart 4.11). European insurers make more extensive use of interest rate derivatives. At the same time, European insurers have certain derivative contracts with underlying assets that are not used by Norwegian life insurers, including credit derivatives and derivatives for transferring mortality risk[30].

Life insurers use derivatives to manage products both with and without investment choice. Measured as nominal amounts, NOK 213 billion is spent on the management of contracts without investment choice, while the corresponding figure for products with investment choice is NOK 74 billion. In the derivative

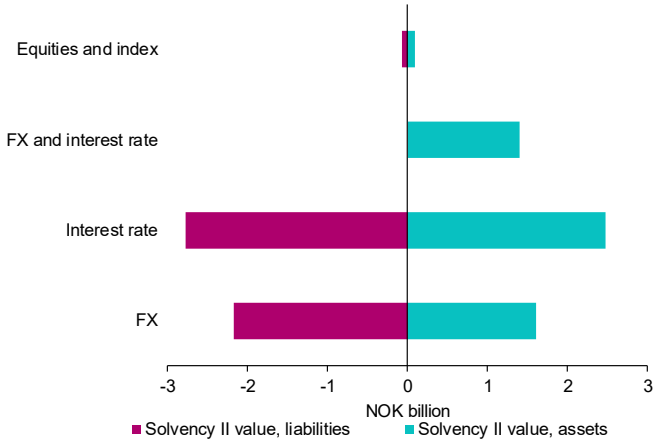
[30] Mortality derivatives are financial contracts where the value depends on the difference between observed and expected mortality.

4.12 Life insurers' derivative contracts distributed on underlying assets and investment choices, in terms of the derivatives' notional value as at 30 June 2018



Source: Finanstilsynet, Solvency II quarterly reporting at solo level.

4.13 Underlying assets in derivative contracts, measured by Solvency II value as at 30 June 2018



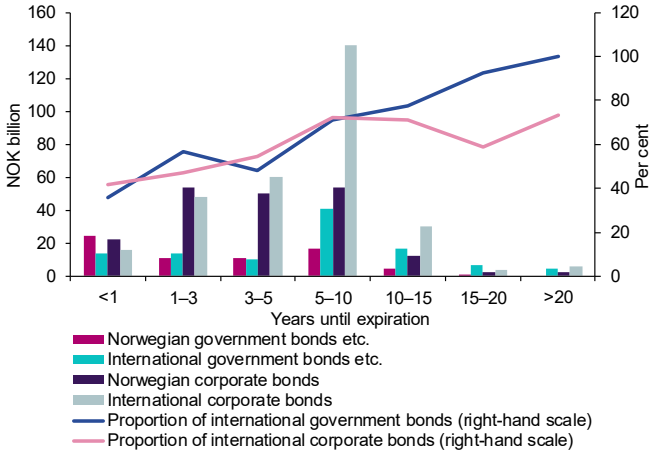
Sources: Finanstilsynet, Solvency II quarterly reporting at solo level.

contracts linked to products offering an investment choice, the underlying is almost exclusively foreign currency, while the picture is more diverse for contracts without investment choice (chart 4.12).

The contracts' Solvency II value (mark-to-market value) represents the preliminary returns generated by the derivative contracts. Derivatives are considered assets if their Solvency II value is positive and liabilities if the value is negative. The aggregated Solvency II values are shown in chart 4.13. The gross Solvency II value (total assets and liabilities) of foreign exchange and interest rate derivatives represents 2 and 16 per cent, respectively, of the notional value of these contracts. The total Solvency II value of all derivative contracts represents 4 per cent of the contracts' notional value.

Norwegian life insurers use derivatives to currency hedge foreign fixed-income securities, among other purposes. In consequence of a limited offering of bonds in Norwegian kroner with long maturities, life insurers invest in foreign long-term fixed-income securities that to some extent reflect their obligations. A significant share of insurers' investments is placed in foreign fixed-income securities, and the proportion of foreign bonds increases the longer the maturity (chart4.14). 61 and 55 per cent, respectively, of life insurers' investments in government and corporate

4.14 Life insurers' holdings of Norwegian and international bonds by maturity as at 30 June 2018

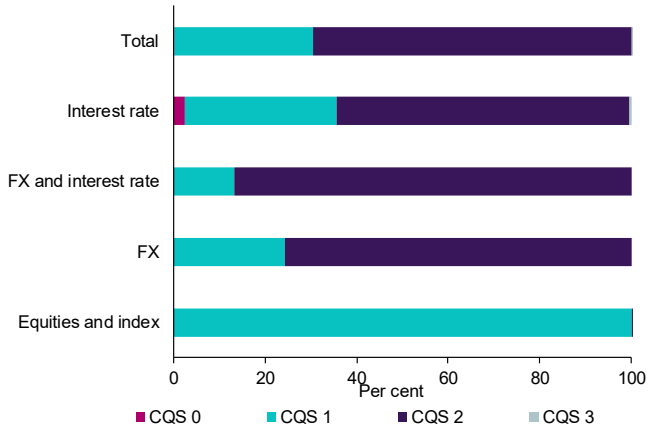


Sources: Finanstilsynet, Solvency II quarterly reporting at solo level.

bonds was placed outside Norway as at 30 June 2018. A small percentage is invested in emerging economies.

Insurers' use of derivatives also entails a risk of loss if the counterparties to derivative contracts fail to live up to their obligations (counterparty risk). Counterparty exposure will depend on whether the insurer uses OTC derivatives that are adapted to the individual trade. With respect to OTC derivatives that are not cleared with a central counterparty, the parties are required to implement risk-mitigating measures. The counterparty risk of bilateral exchange traded standardised derivatives or derivative trades can be

4.15 Credit quality steps (CQS) as a share of aggregate credit quality steps for various underlying assets. Measured by the derivatives' notional value as at 30 June 2018



Sources: Finanstilsynet, Solvency II quarterly reporting at solo level.

managed by using CSA agreements with counterparties, which regulate the collateral[31]. This means that the counterparties have to provide financial collateral that limits the risk associated with derivative contracts.

The credit quality (credit quality step) of counterparties to derivative contracts varies to some degree depending on the type of underlying assets (chart 4.15). Credit quality steps range from 0 to 6, where 0 corresponds to an AAA-rating, while 4 and higher correspond to a BB or weaker rating ("non-investment grade"). Derivative counterparties are generally in credit quality steps 1 and 2, which correspond to an AA and A rating, respectively. A negligible share of derivative contracts is in credit quality step 3, which corresponds to a BBB rating. There are some variations based on the type of underlying assets and contract, though the counterparties generally have satisfactory credit quality.

[31] See a further account of CSA agreements (Credit Support Annex) in chapter 3.

CHAPTER 5 SECURITIES FINANCING AND INVESTMENT

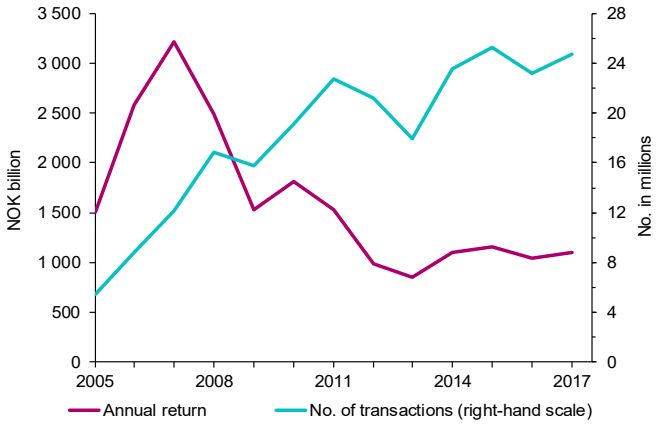
Regulation and supervision of the securities markets aim to promote the proper functioning of those markets as a source of capital for business and industry and as a savings and investment vehicle for households and firms. Reliable information and secure, well organised and efficient trading in financial instruments are a necessary prerequisite. Finanstilsynet supervises trading venues and settlement systems, investment firms and mutual fund management companies, as well as managers of alternative investment funds.

In the period since the financial crisis, non-financial firms in the international arena have to a larger degree than previously obtained their funding outside the banking sector. This trend is related to the reduction in lending growth by many banks in the period, due in part to a marked impairment of financial soundness. In the industrialised countries the banks' share of non-financial firms' and households' funding dropped from 54 per cent in 2007 to 50 per cent in 2017. In the euro area, where the banks have traditionally played a more dominant role than for example in the US, the banks' market share fell from 66 per cent to 56 per cent in the same period[32]. Norwegian banks, on the other hand, have expanded their lending since the financial crisis. Even so, the securities markets have acquired increased significance in recent years as an investment medium for Norwegian institutional investors and households.

THE NORWEGIAN STOCK MARKET

The turnover velocity[33] of shares on the Oslo Børs fell from around 150 per cent in the years 2006-2008 to just over 50 per cent in the last few years. In the period following the financial crisis the stock markets were marked by impaired liquidity and lower turnover.

5.1 Turnover and volume of equity capital instruments on Oslo Børs



Source: Oslo Børs

Concurrently increasing competition was seen from for-eign stock exchanges and alternative trading venues, including multilateral trading facilities subject to less stringent information and transparency requirements than stock exchanges. Norwegian equities' share of the turnover on alternative trading venues rose from virtually zero in 2009 to about 40 per cent in 2013. Since 2013 the market share of alternative trading venues has largely varied between 35 and 45 per cent.

Increased turnover of equity capital instruments on alternative trading venues that are less transparent as to bid and offer prices and order depth was part of the rationale for the introduction of a new EU regulatory regime for financial instruments as from 2018 (MiFID II/MiFIR). The new regime aims among other things to increase market transparency. See "Volume limitations – effect on trading in equity instruments" (see box).

While the volume of trading on the Oslo Børs has been reduced, the number of transactions in equity instruments has risen substantially over the past 10 years (chart 5.1). The reduction in average transaction size may be related to an increased element of robot trading, lower transaction costs and reduced minimum transaction volume requirements.

[32] Source: BIS. See also Financial Stability Board, Global Shadow Banking Monitoring Report 2017

[33] Measured as the average of annualised return per month divided by the market value at each month-end.

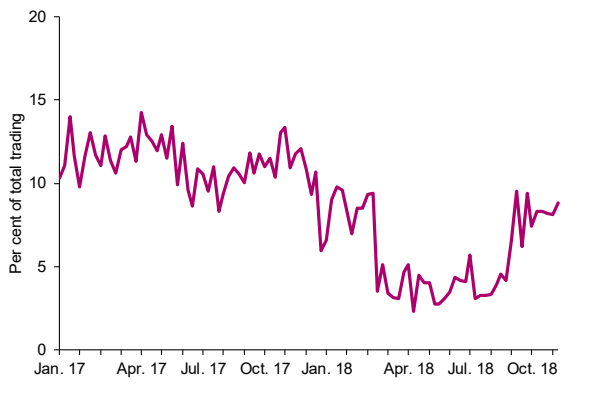
Volume limitations – effect on trading in equity instruments

The Markets in Financial Instruments Directive, MiFID II, and the Markets in Financial Instruments Regulation, MiFIR, were introduced in the European Economic Area on 3 January 2018. The new framework is a result of the European Commission's review designed to strengthen the regulation of financial instruments. It encompasses both investor protection and trade in financial instruments.

One of the objects of the new framework is to make the markets more transparent by requiring trading venues to publish bid and offer prices and order depth as part of their normal procedure. Exemptions may be granted. Such exemptions are part of the basis for dark pools and dark trading in which important information about a trade only accrues to the market after the event. The MiFIR Regulation introduces restrictions on the volume of trades in dark pools (the 'double volume cap mechanism'), whereby trades in excess of certain thresholds trigger suspension of the opportunity to invoke derogation from the Regulation for a period of six months. Suspension occurs where more than 4 per cent locally and 8 per cent in the EEA, respectively, of overall trading in an equity instrument takes place in dark pools reckoned over the last twelve-month period.

For the most liquid equity instruments quoted on the Oslo Børs, the volume limitation mechanism has affected the pattern of trading. Thus far about 50 instruments are involved. In summer 2018 the mechanism was suspended for 19 of the 25 most traded instruments. The mechanism has contributed to less dark trading in these securities in the period of suspension. Once the period of suspension is over, however, dark trading increases in volume until a new suspension is imposed (chart 5.A). The same pattern is observed at the other trading venues in the Nordic region and in the United Kingdom, although it is less prominent in other EU countries.

5.A Development in dark trading in equities quoted on Oslo Børs



Sources: Cboe Global Markets and Oslo Børs

While more information on bid and offer orders has accrued to market practitioners prior to order execution as a result of the volume limitation mechanism, lasting effects on the pattern of trading are not in evidence. This is partly because order execution is controlled by automated routers that rapidly steer trades towards dark pools once the period of suspension is over. Moreover, major institutional investors may in any case wish to avail themselves of dark trading to prevent information on their purchase and sale orders from being exploited by other market participants or from significantly influencing prices.

Lower turnover on the Oslo Børs may be a sign of impaired liquidity in the Norwegian stock market. On the other hand, the volume limitation mechanism and other new regulation have brought greater transparency to the market, and transaction costs, in particular for small investors, are reduced. The liquidity of smaller stock markets, like the Norwegian, is generally lower than that of the major international stock markets. Low liquidity, especially in turbulent times, a large element of companies being exposed to

commodity price developments and to the international economy and a generally less diversified business sector, may explain why the share prices of Norwegian companies on average show wider variation over time than is the case in comparable countries.

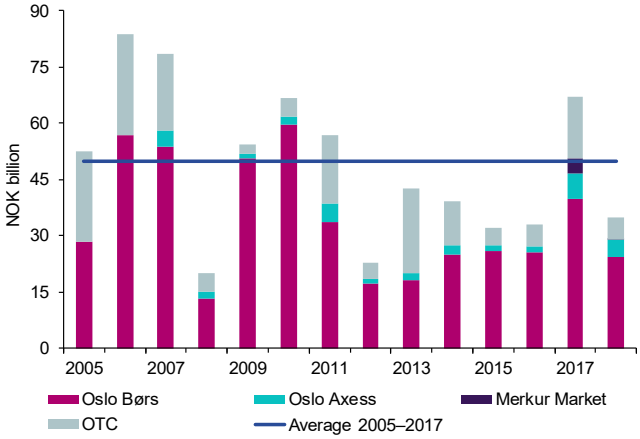
Equity capital worth NOK 35 billion has been raised on Oslo Børs trading venues as at the end of the third quarter of 2018, compared with NOK 67 billion in the full year 2017 (chart 5.2). Twenty-four new limited liability companies have been admitted to trading so far this year, compared with 26 in 2017. Based on the issue volume so far this year, companies look set to raise less new capital in 2018 than in 2017.

THE NORWEGIAN BOND MARKET

Outstanding Norwegian bonds and short-term paper debt amount to just over NOK 2,100 billion, equivalent to 65 per cent of GDP (chart 5.3). The arrangement whereby banks were invited to exchange covered bonds for Treasury certificates (the 'swap arrangement'), which was introduced during the financial crisis, increased the outstanding volume of both Treasury certificates and covered bonds. Interbank lending and other short-term market funding by the banks concurrently declined. The swap arrangement was terminated in 2014. In the last three years, bond and short-term paper holdings have again grown somewhat more than GDP.

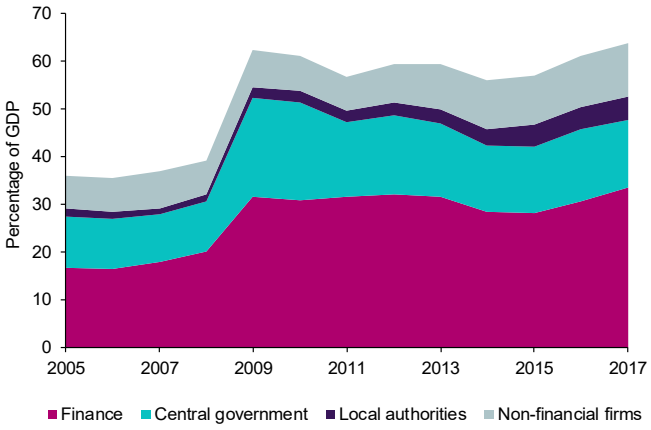
Bonds and short-term paper in the Norwegian market, i.e. bonds and short-term paper issued under Norwegian legislation, are in all essentials quoted/registered on Oslo Børs and Nordic ABM. Virtually all loans are registered in the shareholder register of the Central Securities Depository (VPS). The instruments are issued mainly in Norwegian kroner (98 per cent of the total) by Norwegian issuers (86 per cent). Norwegian banks, mortgage credit institutions and non-financial firms also issue bonds in markets other than the Norwegian. About half of the covered bonds issued by Norwegian mortgage credit institu-tions are denominated in euro outside the Norwegian market, primarily targeting foreign investors.

5.2 Stock issues on Oslo Børs' trading venues



Source: Oslo Børs

5.3 Outstanding short-term paper and bond debt by issuer sector

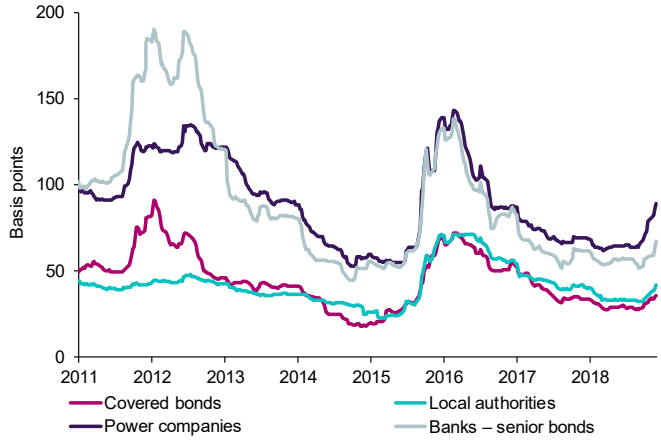


Source: Stamdata

Whereas equity trading largely take place in the exchange's trading systems, normally allowing market actors to see the best bid and offer prices, bond trading largely takes place via direct contact between buyer and seller. Executed trades are reported to the VPS and, in the case of quoted securities, to Oslo Børs. Where quoted bonds are concerned, publication of trades is deferred such that bid and offer prices are not shown sequentially in the exchange's trading system (apart from in the case of government bonds.

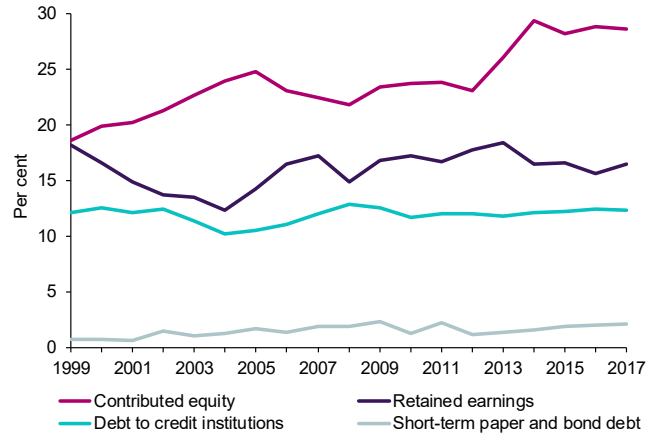
Financial institutions' issuance of bond and short-term paper debt accounts for about 50 per cent of the Norwegian bond and short-term paper market. The bulk of covered bonds (OMF) and senior bonds carry floating interest rates tied to Nibor.

5.4 Risk premiums in the Norwegian bond market



Source: Nordic Bond Pricing

5.5 Types of funding, non-financial limited companies. Share of total funding (liability side). Non-consolidated accounts



Source: Finanstilsynet

Risk premiums in the Norwegian bond market are low (chart 5.4), as in international bond markets. Low interest rates and search for yield have have sharpened the demand for high-yield bonds and lowered risk premiums. Improved economic prospects have pulled in the same direction. Repricing of risk in the international financial markets is expected to lead to increased risk premiums in Norway as elsewhere, as during the financial crisis and the European sovereign debt crisis in 2012.

After the oil price fall in 2014 there was much concern about increasing defaults[34] on bonds issued by the offshore industry. With the exception of 2016, defaults in the bond market have been relatively modest. In 2016 defaults totalled NOK 41 billion (9 per cent of the outstanding volume), almost exclusively in the oil sector. This was equivalent to more than 30 per cent of outstanding bonds loans to the offshore industry. For the period to end-September 2018, defaults total NOK 9 billion. The decline in defaults is related to the write-down of bond debt and conversion to equity in the preceding years.

FIRMS' FUNDING STRUCTURE

Non-financial firms are funded by a combination of contributed equity, retained profits and debt, including bank loans and short-term paper and bond loans. Equity ratios of Norwegian listed and unlisted non-financial limited companies have risen from 40 per cent in 2007 to 45 per cent in 2017 (chart 5.5). This is due both to an increase in contributed equity at such companies and increased profit retention[35]. Stock issues on Oslo Børs contributed NOK 172 billion in equity capital to such companies in the period 2007–2017, equivalent to 25 per cent of aggregate contributed equity at all companies in this period.

By far the majority of Norwegian firms are too small for bond and short-term paper funding to be a genuine option. As in the rest of Europe, bank funding is the predominant type of finance for non-financial firms. The European funding structure differs markedly from that in the US, where bond loans account for more than 70 per cent of firms' debt finance.

Accounting data for Norwegian non-financial limited companies (excluding extraction of oil and gas) show that an increasing proportion of firms' external funding[36] is obtained via the short-term paper and bond markets. Whereas short-term paper and bond funding accounted for about 10 per cent of firms' external funding in the years 2005–2014, this share

[34] 'Default' covers bankruptcy, non-payment of interest or instalments when due or any agreement to defer interest or instalment payments.
[35] Contributed equity includes listed and unlisted equities, both upon the establishment and through subsequent stock issues. Contributed equity also includes equity contributed by entities within the same group.
[36] Defined as the sum of loans from financial institutions and loans on the short-term paper and bond markets.

had risen to 15 per cent in 2017.

A debate has long had been under way on the advantages and disadvantages of bank funding as opposed to market-based funding in the form of equity instruments and short-term paper and bond funding. In the years since the financial crisis a number of analyses have argued that financial systems that are dominated by banks generate more systemic risk than systems with a large element of market funding[37]. This is due to a number of factors, one being that banks generate systemic risk due to implicit government guarantees and pro-cyclical credit practices (moral hazard). This tends to amplify imbalances in good times and to intensify downturns in financial crises. Bank-dominated financial systems also show stronger interconnectedness between financial institutions than systems dominated by market-based funding. In the period since the financial crisis, a new body of regulation has been introduced designed to curb the systemic risk posed by banking operations. There is also concern about risks related to shadow banking, which is subject to little regulation. This type of activity is not widespread in Norway.

It is established market practice to group bond issuers and bond loans into two overarching rating categories: investment grade and high yield. Investment grade includes issuers and bonds in the highest rating categories, while high yield covers issuers and loans with a lower rating[38]. The difference in credit risk between the two categories is reflected in the interest rate on the loans. For outstanding loans at the end of the first half of 2018, the average risk premium relative to NIBOR was less than 1 percentage point for investment grade bonds, and on average about 5 percentage points for high yield bonds.

The Norwegian market for non-financial corporate bonds is marked by a high proportion of high yield bonds. The proportion of about 50 per cent of the outstanding volume is significantly higher than in the European and North American markets. This should be viewed in the context of a Norwegian industry structure featuring a large element of entities in relatively volatile sectors such as oil services and shipping. Such entities will normally have a lower rating than entities with more stable earnings. These industries typically obtain their funding through a combination of mortgaged bank loans and unsecured bond issues.

The high proportion of high yield bonds shows that the Norwegian bond market is not confined to large institutions or the most stable sectors. The use of unofficial ratings along with the trustee system has probably contributed to this. EU rules on credit rating agencies mean that brokers and banks can no longer offer shadow (i.e. unofficial) ratings. The EU rules require credit rating agencies to be duly registered, as a result of which shadow rating largely ceased in the autumn of 2016. Up to that point shadow ratings were very widespread in the Nordic bond market, and it was considered essential for the bond market that this activity could continue. However, the disappearance of shadow rating does not appear to have affected the ability to raise investment grade capital or high yield bonds to any appreciable extent. It is now the norm for investors to make their own credit assessment to determine the risk posed by a bond issuer.

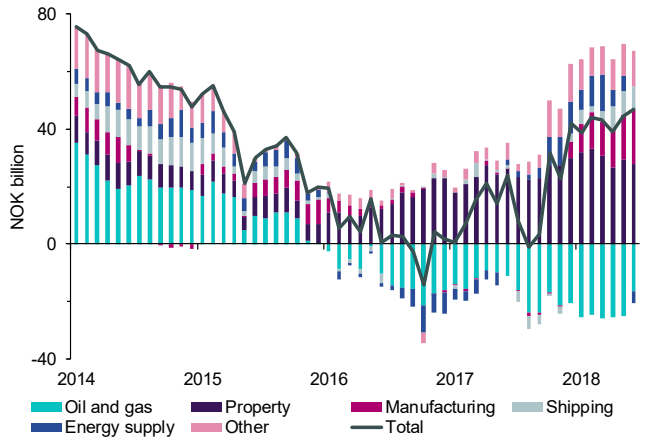
New, duly authorised, credit rating agencies have been established in Scandinavia. In the long term this could lead to increased competition and reduce the costs associated with credit ratings. A new Norwegian credit rating agency covering the Nordic market has been registered in 2018.

Issues of corporate bonds edged down after the oil price fall in 2014. The decline was particularly marked in the case of bonds issued by companies engaged in the extraction of oil and gas and of supplier companies in this sector (chart 5.6). For a period the market for

[37] See "Bank-based versus market-based financing: implications for systemic risk", Joost Bats and Aerdt Houben, De Nederlandshe Bank, 2017.

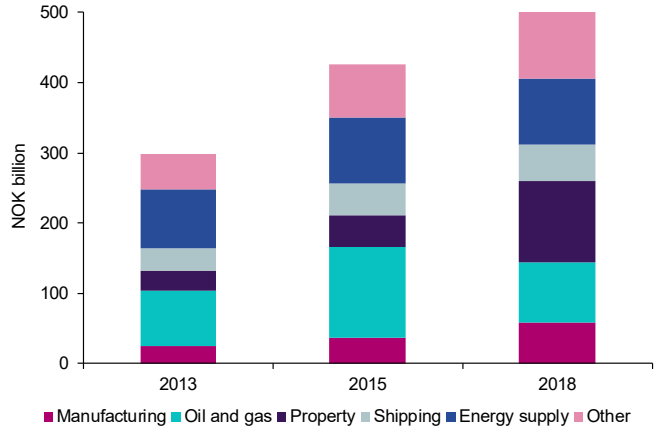
[38] Usual practice is that bonds with a credit rating below BBB from Standard and Poor's or below Baa3 from Moody's are classified as high yield bonds. The remainder are investment grade. Non-credit-rated issues are grouped in the high yield category.

5.6 Corporate bonds. Growth in holdings last 12 months



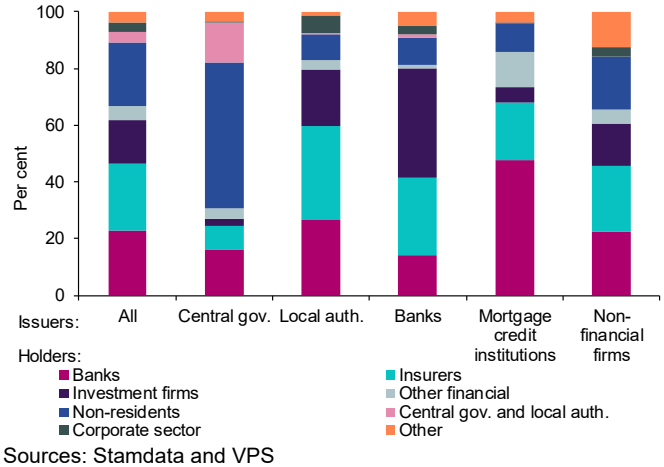
Source: Stamdata

5.7 Corporate bonds. Outstanding volume by issuer sector



Source: Stamdata

5.8 Issuers and holders in the Norwegian short-term paper and bond market



Sources: Stamdata and VPS

high yield bonds was in effect closed to such companies. As from 2106 the level of activity has picked up again. However, the outstanding volume of oil-related bonds was 30 per cent lower in June 2018 than at the start of 2015. Outstanding oil-related bonds are almost exclusively high yield. 60 per cent are issued by foreign companies and two-thirds are denominated in US dollars.

The outstanding volume of property bonds has more than doubled since the start of 2015 (chart 5.7). Property bonds are generally of good credit quality. 90 per cent are investment grade and 60 per cent are fixed rate. Rapid growth in house and commercial property prices and a high rate of building starts probably explains much of the growth in property bonds.

INVESTORS IN THE NORWEGIAN BOND AND SHORT-TERM PAPER MARKET

The largest investors in the Norwegian bond and short-term paper market are Norwegian banks, insurance undertakings and mutual funds along with foreign investors (chart 5.8).

Non-residents hold a little over 60 per cent of Norwegian government bonds. As to treasury bills, Norwegian life insurers and banks are major investors. Municipal bonds are largely owned by insurance undertakings, banks and mutual funds.

While mutual funds and insurers are the predominant holders of Norwegian bank bonds, Norwegian banks hold about 50 per cent of covered bonds issued in Norwegian kroner by mortgage credit institutions. The latter also issue covered bonds in foreign currency, mainly targeting foreign investors. See chapter 3 for an account of the covered bond market and the banks' mutual fund holdings.

A breakdown of holders of bonds issued by the four largest bond-issuing industries in the Norwegian bond market is shown in chart 5.10. Insurance companies are major holders of bonds issued by companies in the energy supply and commercial property sectors (chart 5.9). These sectors issue long-term fixed-rate bonds to

a greater degree than other sectors. This type of bond is well suited to life insurers carrying a high proportion of long-term liabilities with guaranteed benefits. Non-resident investors are the predominant group of holders of bonds issued by shipping companies and, in particular, of bonds issued by companies in the oil and gas sector. A large proportion of issuers in these industries are non-residents.

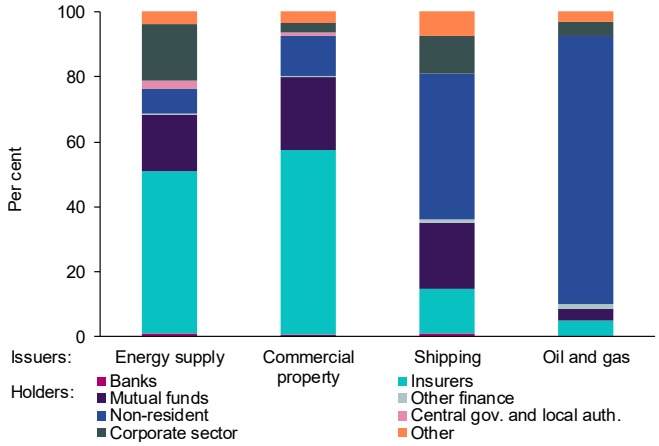
In the Norwegian market the outstanding volume of investment grade bonds represents about 50 per cent of total outstanding corporate bonds. Banks, insurance companies, mutual funds and non-resident investors are all major investors in this segment. High yield bonds, which are largely issued by entities in the oil and gas, shipping and manufacturing segments are held largely by non-resident investors (54 per cent) (chart 5.10). Norwegian insurers, mutual funds and non-financial firms' account for about 11 per cent in this segment.

MUTUAL FUNDS AS A SAVINGS VEHICLE AND SOURCE OF CAPITAL FOR BUSINESS AND INDUSTRY

Mutual funds are an important savings option for institutional investors and households, and are major participants in the securities markets. As an alternative to direct investment in individual equities or specific bonds, funds are managed collectively by a management company on behalf of the customers. Shared management contributes to professionalising the investment process and makes it easier for non-professional investors to achieve satisfactory diversification of their investment portfolios. Mutual funds established under the main EEA framework (Undertakings for the Collective Investment of Transferable Securities, UCITS), are subject to stringent requirements as to instrument eligibility, investment diversification and disclosure. Risk can vary from relatively secure fixed-income funds invested in government bonds to niche funds where unit values are liable to vary widely over time.

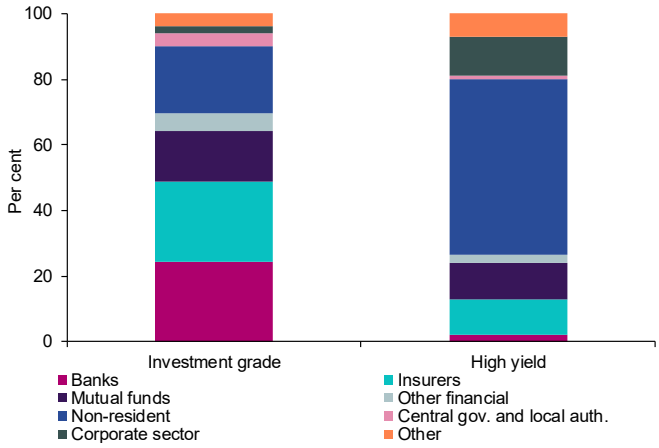
Since the start of 2009, new investments worth more than NOK 400 billion in mutual funds have contributed

5.9 Owner distribution of Norwegian corporate bonds



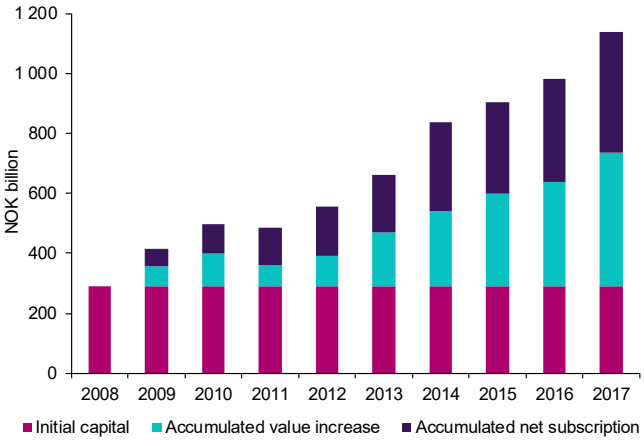
Sources: Stamdata and VPS

5.10 Norwegian corporate bonds by credit quality and owner distribution



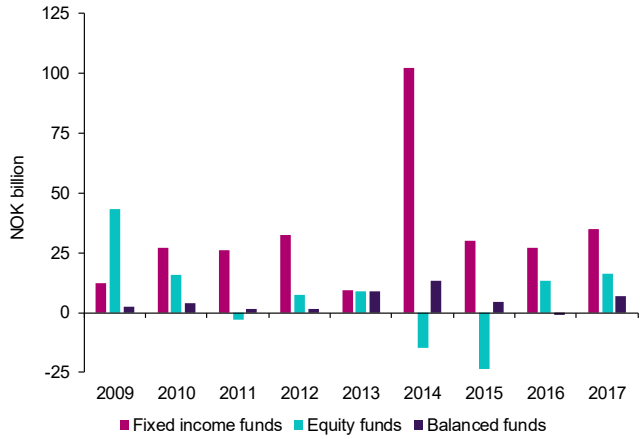
Sources: Stamdata and VPS

5.11 Total assets of funds managed by Norwegian companies



Sources: Norwegian Fund and Asset Management Association and Finanstilsynet

5.12 Net subscription of mutual funds by type of fund, Norway

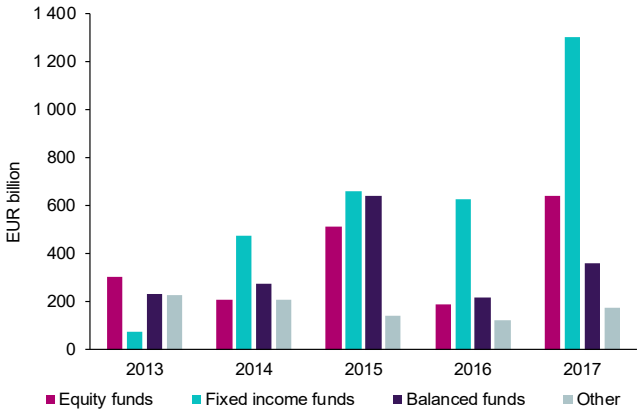


Sources: Norwegian Fund and Asset Management Association and Finanstilsynet

5.13 Redemptions relative to total assets by type of fund and client group

Sources: Norwegian Fund and Asset Management Association and Finanstilsynet

5.14 Net subscription of mutual funds by type of fund, globally



Source: European Fund and Asset Management Association

to 138 per cent growth in assets managed by Norwegian management companies. New subscription and value accretion of more than NOK 440 billion have enabled capital under management to grow to almost NOK 1,200 billion by autumn 2018 (chart 5.11). This is equivalent to almost 50 per cent of total bank deposits in Norway. Several drivers may have contributed to the vigorous growth of mutual funds. The low interest rate level may have led to capital that would otherwise have been invested in bank deposits being placed in mutual funds. This presumption is supported by particularly strong growth in new subscription of fixed income funds (chart 5.12). Viewed as a whole, net subscription of equity funds in Norway over the past seven years has been very low.

Redemptions as a percentage of managed assets are considerably higher in the case of fixed-income funds than equity funds (chapter 5.13). This may indicate that fixed income funds are opted for as an alternative to bank deposits to some extent. Fixed income funds that are part of a defined contribution pension plan are, as would be expected, redeemed less frequently inasmuch as they are long-term investments that are normally locked in until retirement age. In the case of equity funds that are part of a defined contribution pension plan a similar effect is not in evidence, either because the funds are reinvested between different geographical areas or sectors based on market conditions, or due to a switch from equity funds to fixed income funds designed to retain a stable risk profile in a situation of rising stock market values.

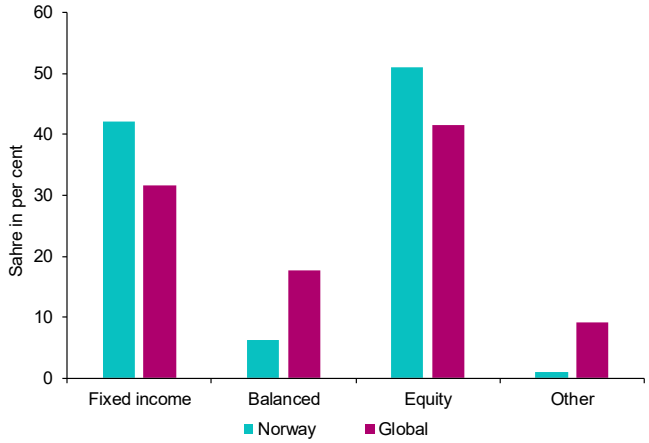
The keen interest in fixed income funds is consistent with global developments although, internationally, new subscription of equity funds has also been positive in recent years (chart 5.14).

In Norway, the market value of equity funds accounts for 51 per cent of the overall market value of mutual funds, which is higher than the global figure (chart 5.15). Balanced funds are of relatively less significance in Norway than internationally. The proportion of equity funds in Norway has been fairly stable since 2014 despite the fact that new subscription has largely

focused on fixed income funds (chart 5.16). This is related to a marked price increase in the equity markets, and may indicate that some of the new subscription of fixed income funds has been designed to maintain a desired risk profile and to avoid major changes in the portfolios' equity components.

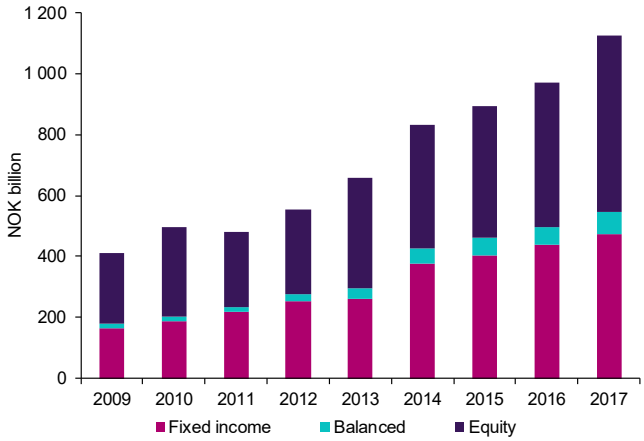
Alongside the general increase in investments in fixed income funds, managed assets in high-yield funds as a share of all types of fixed income funds have risen from 13 per cent in 2011 to 17 per cent at the end of 2017. Assets under management in high-yield funds in September 2018 totalled about NOK 93 billion compared with NOK 28 billion in 2011 (chart 5.17). These funds can invest in fixed-income securities with a low or no credit rating, and may be more risk-prone than other fixed income funds. Several Norwegian high-yield funds fell more than 10 per cent in value, and some by more than 20 per cent, during the financial crisis in 2008 and around the time of the oil price fall in 2014. A larger element of high-yield funds indicates that investors are focusing on riskier investments in order to achieve higher expected return. Portfolio shifts of this type are probably largely ascribable to the low interest rate level. About NOK 59 billion (63 per cent of the high-yield funds) are owned by Norwegian institutional clients, while Norwegian personal customers own fund units worth about NOK 22 billion (25 per cent).

5.15 Share of mutual funds by type of fund



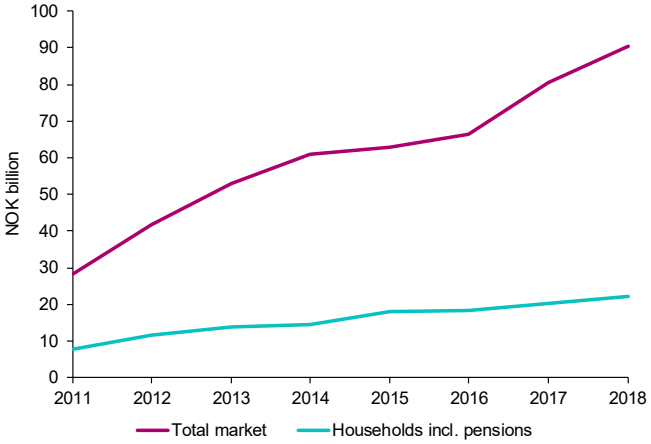
Sources: Norwegian Fund and Asset Management Association, European Fund and Asset Management Association and Finanstilsynet

5.16 Allocation of mutual funds by type of fund, Norway



Sources: Norwegian Fund and Asset Management Association and Finanstilsynet

5.17 Assets under management in other fixed income funds (mainly high yield funds), Norway



Sources: Norwegian Fund and Asset Management Association and Finanstilsynet

Investments in crypto assets

Crypto currencies have received much attention in the press and attracted relatively large investments from private individuals. In Norway about 8,000 individuals have declared investments totalling about NOK 5 billion in crypto currencies in their income tax returns for 2017, although the Norwegian Tax Administration believes this to be a substantial underreporting.

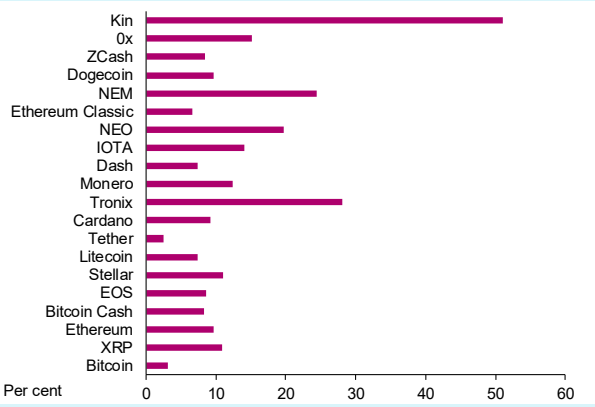
Since the introduction of Bitcoin in 2009, a number of virtual currencies been introduced with a basis in blockchain technology. This technology has also been used to introduce other structures and instruments where the motivation has been to raise finance for the development of a company or specific products, rather than to establish the latter as an alternative means of payment to traditional currencies. 'Crypto assets' is a generic term applied to all crypto currencies, tokens and other forms of assets and dividend rights based on blockchain technology. The European Securities and Markets Authority (ESMA) distinguishes between three different forms of crypto assets – currency tokens, utility tokens and investment tokens – which are described more fully below. A number of crypto assets may fall under more than one definition. Crypto assets are a new, and rapidly evolving, class of assets. Both the actors and the products in this market are likely to change and evolve further. When assessing the utility and risk attending crypto assets, it is important to view them separately from the underlying technology. A distributed ledger – made possible by, for example, blockchains – offers large opportunities for registers of ownership of assets, and could conceivably be used to store data on securities, collaterals, properties, vehicles or movables. The technology's utility value does not receive mention here.

Currency tokens

Up to the present the most familiar forms of crypto assets have been virtual currencies. They represent a digital asset that has not been issued by a central bank or a regulated financial institution, but is conceived as an alternative to established currencies. Hence the value of virtual currencies builds in large measure on other actors' willingness to exchange them for goods, services or other currencies without a guarantor. In contrast to ordinary currencies, they do not, as currently structured, fulfil the three main functions of money:

1. Means of payment: Virtual currencies are at present not generally accepted as a means of exchange. Due to the computing power required, several of the best-known virtual currencies are subject to high transaction costs and slow processing/verification of the payment process. Virtual currencies are therefore currently an inexpedient means of payment for ordinary purchases of goods and services.
2. Saving: The value of most virtual currencies has fluctuated widely since they were introduced (chart 5.B). Substantial uncertainty attending their future value means that they will not for the time being serve as a savings vehicle for the general public, even if they might in some cases form a part of a diversified portfolio.
3. Unit of measurement of value: Money is a recognised unit of measurement of the value of goods and services, and can normally serve as a unit of account. Large, frequent variations in value, along with low acceptance by the general public, render virtual currencies little suited as a monetary unit of measurement of value at present. Given a more stable value and increasing acceptance, virtual currencies may come to be used as a unit of measurement in the future.

5.B 14-day price variation against the USD for the 20 largest crypto currencies, September 2018



Source: Cryptovolatility.net

Utility tokens

Some crypto assets aim to provide a form of utility beyond that of a means of payment. This may be the right to purchase, or utilise, a good or service developed by the issuer, for example a computer game or a database. It is also possible to envisage utility tokens being used to automate money settlement processes, for example in connection with property transfers. There are many examples of entities in their start-up phase issuing utility tokens in an Initial Coin Offering (ICO to finance the development of a service to which the issued token gives the investor access once development of the service is completed.

Investment tokens

Some crypto assets have characteristics similar to those of financial instruments, often in the form of the right to a share of the issuer's future earnings or net profit. This can on the one hand represent a cost-effective means of raising risk capital for firms in a development phase; on the other hand, participation in ICOs offers little of the investor protection available to participants in traditional equity issues. Further, false ICOs have been launched, or the purpose of raising the capital has changed after the issuance. The Bank of International Settlements estimates that close to 25 per cent of all ICOs feature one or more elements of fraud. ESMA states that ICOs of investment tokens are covered by the current framework governing equity capital issues, and is studying, on commission from the European Commission, alternative solutions for regulating the ICO market as a step in the development of efficient markets providing adequate investor protection.

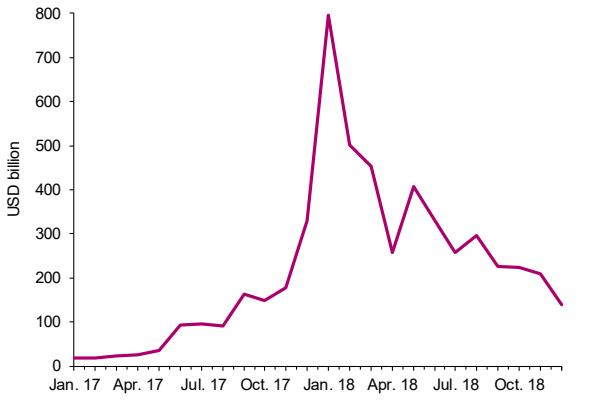
Risk picture

At present, crypto assets are only limitedly subject to the established framework governing other sections of the financial market. Crypto assets have shown value fluctuations far in excess of those normally shown by traditional asset classes, and they do not offer equivalent investor protection.

Should crypto assets make considerable headway, they could potentially pose a risk to financial stability and well-functioning markets. Beyond the direct effects of turbulence in the market for crypto assets, the literature highlights a number of other channels of indirect influence on the financial system. These are in the first instance loss of confidence which may feed through to other parts of the financial market, but also negative consequences for financial institutions or investment funds that are heavily exposed, either directly or indirectly, to crypto assets. Wide value fluctuations may also affect investments and consumption by firms and households that are exposed to crypto assets.

In autumn 2018, the overall global market value of crypto assets approached USD 140 billion, compared with almost USD 800 billion at the start of the year (chart 5.C). By way of comparison, the aggregate market value of all listed companies worldwide is almost USD 80,000 billion. While the market value of various crypto assets varies widely, Bitcoin continues to account for more than half of the overall market.

5.C Overall global market value of crypto assets



Source: CoinMarketCap.com

According to Coinschedule, 789 ICOs worth a total of about USD 20 billion were carried out in the first nine months of 2018. This is about four times higher than the 2017 figure, and is considerable when compared with a figure of USD 189 billion in the case of IPOs of 'traditional' companies in 2017.

Crypto assets have received much press coverage, and private individuals have invested relatively large amounts in this asset class. International investment funds have been established to invest in crypto assets. Even so, a number of international organisations, including the Financial Stability Board and the three pan-European financial supervisory authorities (EBA, EIOPA and ESMA), do not consider crypto assets to pose a substantial threat to financial stability or well-functioning markets at present. Concerns focus more on the lack of investor protection, bubble tendencies and the potentials for fraud, tax evasion and terrorist financing*. In that context amendments were recently made to the anti-money-laundering regulations. Attention is also drawn to consumer warnings published on Finanstilsynet's website and to Finanstilsynet's Risk and Vulnerability Analysis 2017.

*G20 commitment to implement FATF standards and support for work on crypto assets / FATF Report to G20 Finance Ministers and Central Bank Governors – July 2018.

CHAPTER 6 REGULATION

The financial crisis in 2008 demonstrated the need to strengthen the regulation of the financial services industry and that effective regulation requires international standards and extensive coordination between supervisory authorities. New regulation has been introduced, and the existing regulatory framework has been improved and adapted to new market areas. In the European Economic Area, most of the changes have been drawn up by the European Commission and supplemented by technical standards from the three European Supervisory Authorities EBA, EIOPA and ESMA. Over the next few years, refinements will continue to be made where necessary, although most of the changes are expected to be revisions of the current framework.

Inasmuch as legislation on the EU's financial supervisors was only incorporated into the EEA Agreement in the autumn of 2016, a large number of EU rules have yet to be included in the agreement. It will be some time before the legislative process needed to give effect to all these regulations and directives in Norway is completed. However, Norwegian legislation is already aligned with EU rules in important areas. This chapter describes some important changes to the regulations for supervised institutions[39].

BANKS

CAPITAL ADEQUACY REQUIREMENTS

Norway's capital adequacy framework is aligned with the EU's Capital Adequacy Directive (CRD IV) and Capital Requirements Regulation (CRR). These legal acts build on the Basel Committee's standards. The directive and the regulation are expected to be incorporated into the EEA Agreement in the near future. On commission from the Ministry of Finance, Finanstilsynet prepared a consultation document in the spring of 2018 proposing rule changes to prepare for the incorporation of the above legal acts into the EEA Agreement. With the implementation of CRD IV and CRR in Norwegian law, loans to small and medium-sized enterprises will receive lower capital charges ("SME supporting factor"), and the Norwegian floor for risk-weighted assets based on internal risk models ("Basel I floor") will be dispensed with. Finanstilsynet has also proposed that the Pillar 2 requirement should be regarded as part of the minimum capital requirement when determining the level at which automatic restrictions on dividends etc. should be triggered. The proposals are now under consideration by the Ministry of Finance.

The incorporation of the CRR and CRD IV into the EEA Agreement will not affect the principal provisions on capital requirements under Pillar 1. Measured against risk-weighted assets, banks, mortgage companies and finance companies are required by the Financial Institutions Act to maintain a minimum of 4.5 per cent CET 1 capital, 6 per cent Tier 1 capital and 8 per cent own funds. Institutions must in addition maintain a capital conservation buffer of 2.5 per cent, a systemic risk buffer of 3 per cent and a countercyclical capital buffer between 0 and 2.5 per cent. Systemically important institutions are also required to maintain a buffer of 2 per cent. The buffer requirements must be met by CET 1 capital. The requirements apply at entity level and at consolidated level.

The countercyclical capital buffer requirement is set by the Ministry of Finance each quarter. As from 31 December 2017, this requirement has been 2.0 per cent for Norwegian exposures. The requirement is entity-specific and is a weighted average of the rates applying in the countries in which the entity has credit exposures. For countries that have not established a counter-cyclical capital buffer, the Norwegian rate is used when calculating the weighted average.

Banks, mortgage companies, finance companies and financial holding companies that are not insurance groups, and investment firms that are licensed to provide specified investment services, must have a leverage ratio of 3 per cent. All banks are also required to maintain a buffer on top of the

[39] See https://www.finanstilsynet.no/regelverk/ for a more extensive overview of prevailing regulations (in Norwegian only).

requirement of at least 2 per cent. Systemically important banks are subject to an additional buffer requirement of at least 1 per cent. Institutions that fall short of the leverage ratio requirement must draw up a plan for increasing this ratio. The plan must be presented to Finanstilsynet.

Finanstilsynet sets Pillar 2 requirements for the individual bank based on its assessment of risks and capital requirements (Supervisory Review and Evaluation Process, SREP). Circular 2016/12 gives a further description of the SREP process[40]. Finanstilsynet will revise the circular on the basis of the updated guidelines for the SREP process published by the European Banking Authority, EBA, on 19 July 2018.

The Ministry of Finance is each year required, based on Finanstilsynet's advice, to decide which financial institutions are to be regarded as systemically important in Norway. Institutions are defined as systemically important if their total assets exceed 10 per cent of Mainland Norway's GDP or their market share of lending to the private non-financial sector in Norway exceeds 5 per cent. In 2018, DNB Bank ASA and Kommunalbanken AS are defined as systemically important in Norway. In October 2018, Finanstilsynet proposed introducing an additional criterion in the regulations whereby institutions with a market share of corporate lending of at least 10 per cent in one or more regions are also defined as systemically important. Systemically important institutions are subject to an additional CET 1 capital requirement of 2 per cent and an additional leverage ratio requirement of 1 per cent.The proposed amendment has been circulated for comment with the deadline for response set at 22 February 2019.

Nine banks, eight mortgage companies and two finance companies have permission to apply internal models (IRB) to calculate the capital requirement for credit risk. According to current Norwegian legislation, risk-weighted assets cannot, when internal models are applied, be lower than 80 per cent of risk-weighted assets under the Basel I framework. This provision will no longer apply once the CRR and CRD IV are included in the EEA Agreement. However, the Basel Committee has presented a proposal for new standardised approaches to credit risk and operational risk along with a revised output floor for internally modelled capital requirements. The floor is set at 72.5 per cent of risk-weighted assets calculated using the revised standardised approach. There is cause to believe that the EU's regulation will be amended in keeping with the Basel Committee's recommendation concerning a new floor requirement.

On 22 October 2018, Finanstilsynet sent a proposal to the Ministry of Finance regarding changes to the capital adequacy framework. The changes give a more precise definition of non-performance within the limits set in the EU. Under the current rules, an exposure should be defined as non-performing if the amount is significant and the claim is more than 90 days overdue. Finanstilsynet has, within the framework of EU regulation 2018/171, proposed materiality thresholds for exposures. The proposal has been circulated for comment.

PROPOSED CHANGES IN THE CAPITAL REQUIREMENTS REGULATION (CRR) AND THE CAPITAL ADEQUACY DIRECTIVE (CRD IV)

The European Commission published in November 2016 proposed amendments to the CRR and CRD IV. The proposals are a follow-up to previously announced measures to reduce risk in the financial sector and make it more resilient.

The European Commission proposes:

- A Pillar 1 leverage ratio requirement of 3 per cent
- A net stable funding ratio (NSFR) requirement of 100 per cent
- New methods for calculating capital requirements for market risk, counterparty risk and central counterparties (CCPs) that follow the Basel Committee's new standards but permit the use

[40] Assessment of overall capital needs and supervisory follow-up (Pillar 2) / Finanstilsynet's website (in Norwegian only)

of current methods of calculation
- Changes to the Pillar 2 rules with a view to harmonising international practices
- A tightening of the regulations on large exposures through the use of Tier 1 capital (formerly own funds) to calculate the upper limit for the total exposure to a counterparty or group of counterparties

The proposals are under political consideration in the EU and, if adopted, will enter into force two years after adoption. The legal acts are EEA relevant, and Finanstilsynet therefore expects their incorporation into the EEA Agreement and implementation in Norwegian law if they are adopted by the EU.

LIQUIDITY REQUIREMENTS

Norwegian regulations on the liquidity coverage ratio (LCR) implement the EU liquidity rules under the CRR and CRD IV and the Commission Regulation on the LCR.

The Norwegian CRR/CRD IV regulations require institutions at all times to maintain a liquidity coverage ratio of at least 100 per cent for all currencies combined. This means that institutions' liquid assets as a minimum must correspond to the net liquidity outflow in a stressed situation in the money and capital markets over a 30-day period. Furthermore, institutions are required to maintain an LCR in each significant currency of at least 100 per cent (this does not include Norwegian kroner). For banks and mortgage companies having the euro or US dollar as a significant currency, a minimum requirement in Norwegian kroner of 50 per cent applies. The regulations on sound liquidity management include a general requirement that institutions should maintain an adequate share of stable funding. The European Commission has proposed introducing a minimum requirement for stable long-term funding – Net Stable Funding Ratio (NSFR). Institutions currently report NSFR. The proposed amendments to the CRD IV could result in new rules for some elements included in the calculations. In addition, NSFR will become a binding requirement.

Supplementary information about the liquidity regulations[41] can be found on Finanstilsynet's website (in Norwegian only).

REGULATION OF CONSUMER LENDING

On 31 August 2018, Finanstilsynet sent a proposal for regulations on prudent consumer lending practices to the Ministry of Finance. The proposal is based on Finanstilsynet's existing guidelines from 2017. The background for this is the risk of debt problems in vulnerable households and shortcomings in the banks' follow-up of the guidelines. It has been proposed that the regulations should also include foreign institutions doing business in Norway through a branch or cross-border operations. See the regulation proposal for further information[42].

LICENCES FOR DEBT REGISTERS

The Ministry of Children and Equality has given Gjeldsregisteret AS, Norsk Gjeldsinformasjon AS and Experian Gjeldsregister AS a licence to operate as debt information undertakings pursuant to the Debt Information Act. This may give banks and other financial institutions a better overview of loan applicants' consumer debt. Finanstilsynet supervises these firms. See the Ministry's press releases for further information[43].

RECOVERY AND RESOLUTION

EU directive 2014/59 on crisis management (Bank Recovery and Resolution Directive, BRRD) is a set of rules for early intervention to prevent and manage crises at banks, mortgage companies and certain investment firms. The directive aims to help limit government costs related to financial crises and reduce the likelihood that institution-specific financial problems at financial institutions will lead to financial instability. It is an important aim that shareholders and creditors should bear a significant share of the resolution costs.

[41] https://www.finanstilsynet.no/tema/likviditet/
[42] Finanstilsynet proposes regulation of consumer lending. Press release no. 17/2018 (in Norwegian only)
[43] Two firms licensed to provide debt information. Press release from the Ministry of Chidren and Equality 22 June 2018 (in Norwegian only)

On 16 March 2018, the Storting (Norwegian parliament) passed the Act on the Norwegian Banks' Guarantee Fund and the Act on amendments to the Financial Institutions Act etc. The enactments implement the EU's Bank Recovery and Resolution Directive and the Deposit Guarantee Schemes Directive in Norwegian law and will enter into effect on 1 January 2019. The BRRD is incorporated into the EEA Agreement, and incorporation of the Deposit Guarantee Schemes Directive is in process. On commission from the Ministry of Finance, Finanstilsynet has drafted regulations to the new law provisions. A consultation document[44] was published in June, and the final draft regulations were sent the Ministry of Finance in November 2018.

The provisions regarding capital inadequacy and government administration of institutions in the banking sector entail new rules and tasks for institutions and public authorities alike. This includes recovery and resolution plans, rules on write-downs or conversion of own funds and eligible debt to equity and the establishment of a national resolution fund. The Ministry of Finance has designated Finanstilsynet as the Norwegian resolution authority. The Ministry of Finance will, among other things, approve decisions by Finanstilsynet with a bearing on financial stability before they are implemented and make decisions on the resolution of individual institutions. Once the Ministry of Finance has made a decision on resolution, Finanstilsynet will determine the use of one or more resolution measures.

A prerequisite for internal recapitalisation (bail-in) is that institutions have sufficient own funds and eligible liabilities that can be written down or converted to equity. The resolution authority will therefore set requirements for the sum of own funds and eligible liabilities for each institution (Minimum Requirement for Own Funds and Eligible Liabilities, MREL). The MREL shall be calculated as the sum of a loss absorption amount and a recapitalisation amount. The recapitalisation amount shall be determined on the basis of the resolution plan prepared for the institution. Finanstilsynet has proposed that the loss absorption amount should comprise the current capital requirements (Pillar 1 plus Pillar 2) excluding the buffer requirements. The CET 1 capital used to meet the buffer requirements cannot be included in the MREL. Finanstilsynet has also signalled that the recapitalisation amount for the largest institutions initially should correspond to the current capital requirement plus the combined buffer requirements, excluding the counter-cyclical buffer. In Finanstilsynet's assessment, the majority of Norwegian banks should be subject to an MREL requirement that covers more than the loss absorption amount. When considering which institutions should be subject to resolution, it must be taken into account that a crisis situation at one or more small or medium-sized institutions may have a negative impact on society at large as a result of reduced confidence and spillover effects. This is particularly relevant if several institutions are affected at the same time.

A limitation of the resolution rules is that resolution measures cannot be applied if creditors and shareholders thereby achieve poorer coverage of their claims than they would have achieved if the institution had been wound up (the 'no creditor worse off (NCWO) principle'). In the consultation document, Finanstilsynet proposed that all liabilities fulfilling the conditions for MREL funds should have lower priority than other liabilities that are not subject to the MREL requirement. This ensures a clear order of priority. The risk that certain creditors may be entitled to indemnification will be reduced, and the practical implementation of the bail-in will be simplified.

LEVIES TO THE DEPOSIT GUARANTEE FUND AND THE RESOLUTION FUND

As of 1 January 2019, the Norwegian Banks' Guarantee Fund will be split into a deposit guarantee fund (45 per cent) and a resolution fund (55 per cent). The total annual contribution to the deposit guarantee fund is set at 0.08 per cent of total covered deposits while

[44] Regulations to amendments to the Financial Institutions Act and the Act on the Norwegian Banks' Guarantee Fund:consultation document (in Norwegian only)

the total contribution to the resolution fund is set at 0.1 per cent of total covered deposits.

Based on the current method, the levy to the guarantee fund is calculated as a percentage of the individual bank's covered deposits, with a certain differentiation based on the bank's CET1 capital ratio. The law amendments entail that contributions from the individual members will be determined based on the member's share of the total guarantee liabilities of the deposit guarantee scheme. The planned calculation model for member contributions, which is described in Finanstilsynet's consultation document from June 2018, will entail a significant reallocation and make the levy payable by the individual bank more risk sensitive than under the current method. Among other things, banks with a specialised business model and a high share of financing in the form of covered deposits will pay a larger proportion of total contributions than today. Consumer loan banks fall into this category. The levy to the resolution fund will increasingly be charged to banks that are considered to have systemically critical functions and obtain a large share of their funding in the market.

INSURERS AND PENSION FUNDS

CAPITAL REQUIREMENTS FOR PENSION FUNDS

On 8 June 2018, the Ministry of Finance adopted new and simplified solvency capital requirements for pension funds, effective as from 1 January 2019. The overarching provisions were set in the form of amendments to the regulations on pension undertakings, while the detailed provisions on calculation methods etc. were included in Finanstilsynet's regulations of 9 November 2018 providing rules to supplement the simplified solvency capital requirement for pension funds.

The new requirement is in accordance with Finanstilsynet's consultation document from 2016. The requirement is based on stress test I, which all pension funds have reported since the end of 2012. Some adjustments have been made to the stress test to conform the requirement as far as possible to the solvency capital requirement for life insurance companies under Solvency II. A schematic calculation of the loss-absorbing capacity of deferred tax assets will be introduced, implying a downward adjustment of the 15 per cent requirement. Technical provisions (i.e. the value of insurance liabilities) will be calculated by using an interest rate curve subject to volatility adjustment, and a transitional arrangement will be introduced for technical provisions whereby any increase in the provisions compared with the provisions recorded in the financial statements can be gradually phased in up till 1 January 2032. To ensure simplification and equal treatment, the time value of the guaranteed rate of return in the technical provisions will no longer be calculated.

SOLVENCY II REGULATIONS AND CAPITAL REQUIREMENTS FOR LENDING

In October 2018, the Ministry of Finance adopted changes to the Solvency II regulations, which have been incorporated into the EEA Agreement [45]. Changes in the regulations entail that Commission Regulation 2015/35 and the other legal acts will apply directly as Norwegian regulations subject to the adjustments following from the EEA Agreement. The adaptation text gives the Norwegian authorities the opportunity to establish rules to ensure that the capital requirement for mortgage loans largely correspond to banks' capital requirements for such loans. The Ministry of Finance has asked Finanstilsynet to consider, by the end of March 2019, whether and, if so, how this scope for national discretion should be applied[46].

RULES GOVERNING SIGNIFICANT HOLDINGS

The Financial Institutions Act 2015 section 13-1 prohibits insurers and pension undertakings from engaging in business other than insurance and pensions. Other business is often referred to as business unrelated to insurance. According to section 13-9, the prohibition does not apply to "holdings carrying limited liability that represent up to 15 per cent of the

[45] Regulations implemented in the Solvency II framework for insurers. Press release from the Ministry of Finance 29 October 2018 (in Norwegian only)

[46] Implementation of Solvency II legal acts and assessment of special capital requirements for mortgage loans under Solvency II. Letter from the Ministry of Finance 29 October 2018 (in Norwegian only)

capital or the votes of institutions" that are engaged in business unrelated to insurance. On 8 June 2018, the Ministry of Finance presented a proposal to remove the 15 per cent limit, and the matter is now being considered by the Storting. The proposal is in line with Finanstilsynet's recommendation from June 2017.

SECURITIES MARKET

AMENDMENTS TO THE SECURITIES TRADING ACT AND REPEAL OF THE STOCK EXCHANGE ACT

On 4 June 2018, the Storting adopted amendments to the Securities Trading Act and repeal of the Stock Exchange Act. The amendments are based on an extensive review of the Norwegian securities and stock exchange regulations on the basis of the Securities Law Committee's Official Norwegian Report (NOU) 2017:1 on the EU's revised Markets in Financial Instruments Directive (MiFID II) and Regulation (MiFIR). On 16 November 2018, the Ministry of Finance also adopted amendments to the Securities Trading Regulations and the Securities Fund Regulations and repealed the Stock Exchange Regulations. The amendments to the regulations are based on the Security Law Committee's Official Norwegian Report (NOU) 2018:1 on the implementation of supplementary legal acts to MiFID II and MiFIR. The amendments to the regulations generally enter into force on 1 January 2019[47].

NEW PROSPECTUS REGULATION

The most important provisions in the Prospectus Regulation (2017/1129/EU) enter into effect in the EU on 21 July 2019. The purpose of the regulation is to harmonise and simplify the requirements that apply to prospectuses. One of the objectives is to ease requirements for the business community, while ensuring adequate investor protection.

New types of prospectuses will be introduced to make capital more accessible to small and medium-sized institutions. In addition, simplified prospectus requirements and options for faster approval process for issuers already listed on a public market will be introduced.

The Securities Law Committee has proposed rules for the implementation of the regulation in Official Norwegian Report NOU 2018:10 New prospectus rules – implementation of the Prospectus Regulation and the determination of rules for national prospectuses. The regulation has yet to be incorporated into the EEA Agreement. Some exceptions from the obligation to publish a prospectus and changes in the lower limit for the obligation to publish a prospectus have already entered into force in the EU.

SECURITIES FINANCING TRANSACTIONS REGULATION

EU Regulation 2015/2365 (Securities Financing Transactions Regulation, SFTR) encompasses rules on reporting of so-called securities financing transactions. Such transactions include securities lending and the purchase or sale of securities with the right and obligation to sell or buy back securities on a later date (repo transactions). These types of transactions are part of the shadow banking system, which intermediates credit outside the traditional banking system. There is a risk that the relevant securities will not be delivered or sold/bought back as agreed (counterparty risk). Hence, to afford the authorities an overview of the risk in this market, these types of transactions must be reported to transaction registers. Detailed information will be available to the supervisory authorities while aggregated information will be available to the general public.

The regulation also includes rules on the reuse of collateral. Reuse means that the party who has received the collateral, reuses it as collateral for their own or another party's obligations. According to the regulation, reuse should take place only with the consent of the providing counterparty.

In September 2018, Finanstilsynet sent a draft consultation document to the Ministry of Finance

[47] Amendments to the Securities Trading Act and appurtenant regulations. Press release from the Ministry of Finance dated16 October 2018 (in Norwegian only)

on the implementation of the regulation into Norwegian law.

REGULATIONS WHICH APPLY TO SEVERAL TYPES OF FINANCIAL INSTITUTIONS

MONEY LAUNDERING

Both international and national anti-money laundering regulations have been amended. The new Act relating to measures to combat money laundering and the financing of terrorism, etc. (Money Laundering Act)[48] and appurtenant regulations entered into force on 15 October 2018. The rules implement a number of the obligations in the EU's Fourth Anti-Money Laundering Directive and the recommendations of the Financial Action Task Force (FATF) from 2012. The Money Laundering Act with associated regulations is largely a continuation of current law, although a number of adjustments have been made to the duties to be observed by the private sector, including requirements for enhanced customer due diligence of politically exposed persons (PEPs) and clearer requirements for a risk-based approach etc. New groups will be subject to a reporting obligation, such as agents for foreign payment institutions and providers of exchange and storage services for virtual currencies. Finanstilsynet has been granted new authorisations to penalise violations of the regulations, which includes charging non-compliance fees.

International regulatory developments within anti-money laundering are proceeding apace. In May, the EU adopted revisions to the Fourth Anti-Money Laundering Directive (also known as the Fifth Anti-Money Laundering Directive), which, among other things, covers virtual currencies. In addition, the FATF adjusted its global standards to make them applicable to virtual currencies. The European Commission has also proposed a number of measures to step up pan-European anti-money laundering efforts.

PROVISIONS OF THE FINANCIAL INSTITUTIONS ACT REGARDING DIVIDENDS

In October 2018, Finanstilsynet sent a proposal for amendments to the Financial Institutions Act to the Ministry of Finance, specifying that financial institutions are not entitled to distribute dividends based on interim financial statements.

[48] https://www.finanstilsynet.no/globalassets/laws-and-regulations/laws/aml-act-of-1-june-2018-no.-23.pdf

PART III: THEME CHAPTERS

Part III contains analyses, reports and results from studies that are relevant for the assessment of financial stability. The themes discussed in part III vary from report to report.

Finanstilsynet conducts an annual survey of new residential mortgages among a selection of banks (residential mortgage lending survey). In the first theme chapter, important results from the residential mortgage lending survey conducted in the autumn of 2018 are discussed.

In the second theme chapter, a newly developed framework for stress testing of Norwegian banks' liquidity is presented. Finanstilsynet has used the framework to assess seven Norwegian banks' ability to withstand stress in international financial markets.

The third theme chapter contains an analysis of economic developments in the retail industry and of the banks' exposure to this industry.

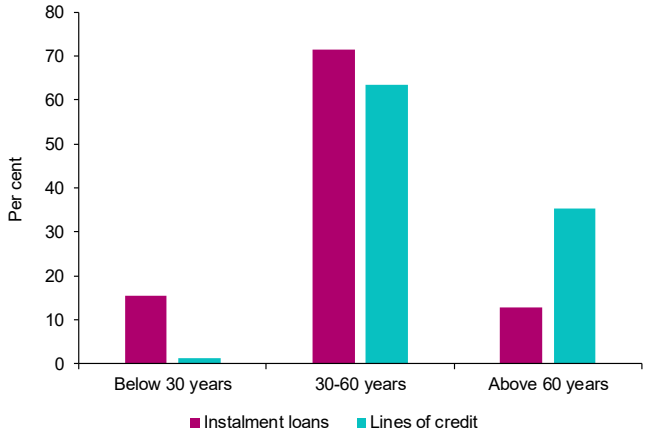
THEME I: SURVEY OF BANKS' RESIDENTIAL MORTGAGE LENDING PRACTICES

This year's residential mortgage lending survey shows a slight increase in new mortgages that are non-compliant with the limits set in the residential mortgage lending regulations. The proportion of borrowers with total debt exceeding five times gross income, an LTV ratio above 85 per cent and inadequate debt servicing capacity if interest rates increase by 5 percentage points has increased slightly compared with last year's survey. There is a clear rise in borrowers' average debt-to-income ratio of 19 percentage points compared with last year's survey. The debt-to-income ratio is also higher than before it was regulated in the residential mortgage lending regulations. Given the high debt level, even a modest interest rate hike will significantly increase the proportion of borrowers who fall short of the mortgage lending regulations' debt servicing capacity requirement. The banks' directors' reports show that their lending practices in the third quarter of 2018 were consistent with the flexibility permitted under the regulations.

THE SURVEY COVERS NEW RESIDENTIAL MORTGAGES IN THE 30 LARGEST BANKS

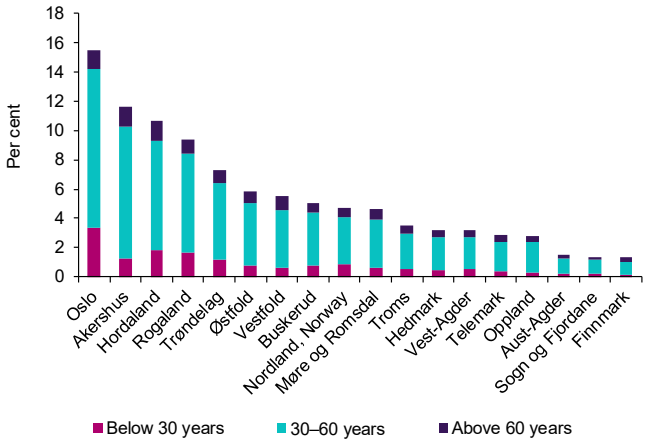
Finanstilsynet regularly examines the banks' lending practices, including their compliance with the residential mortgage lending regulations. In the autumn 2018 survey, 30 of the largest (Norwegian and foreign) banks reported data on close to 8 000 new instalment loans and 4 000 new lines of credit secured on residential property granted after 15 August 2018. The number of reported mortgages has increased by about 50 per cent compared with last year. The banks participating in the survey hold a combined market share of about 90 per cent of residential mortgages in Norway.

I.1 Instalment loans and lines of credit by borrower age. Percentage share of all loans in the survey



Source: Finanstilsynet

I.2 Collateral by county. Percentage share of all instalment loans in the survey



Source: Finanstilsynet

The age distribution of borrowers in this year's survey is shown in chart I.1. Borrowers below age 30 accounted for 16 per cent of the number of new instalment loans, up 2 percentage points from 2017. This share is higher for instalment loans for house purchases, increasing from 25 to 27 per cent. Young borrowers accounted for 14 per cent of the total volume of approved instalment loans, an increase of 1 percentage point from last year. Collateral per county for instalment loans is shown in chart I.2.

Definitions

- Instalment loans: Loans repaid in periodic instalments over an agreed term.
- Lines of credit: Loans in the form of an amount of credit where it is up to the borrower to decide how much to draw within the limit. Lines of credit are interest-only, and interest is charged solely on the drawn amount.
- Refinancing: New loans that come in addition to or replace existing loans secured on the same property. Cannot be used for house purchases.

Table 1 New instalment loans according to purpose. Proportion of the total number of new loans

	2014	2015	2016	2017	2018
House purchase	36	30	35	32	35
– of which purchase of second homes	2	2	2	2	3
Refinancing of mortgage in the same bank	55	60	53	58	55
Refinancing of mortgage from other institutions	9	10	12	10	9

Source: Finanstilsynet

ONE-THIRD OF NEW INSTALMENT LOANS ARE FOR HOUSE PURCHASES

The distribution of the number of new loans between house purchases and refinancing has been relatively stable over the last few years (table I.1). The number of loans for house purchases represented roughly one-third of all new loans in this year's survey. In 88 per cent of these cases, the purchased property served as primary collateral for the mortgage. The proportion of loans used to purchase second homes rose from 1.7 per cent in 2017 to 3.4 per cent in 2018. The share of residential mortgages used to purchase second homes in Oslo rose from 2.2 to 3.1 per cent.

Refinancing includes both transfers of mortgages backed by the same collateral from one bank to another and cases where the customer takes out a new loan with a security interest in the existing property. On average, loan amounts increased by 9 per cent of the property's/properties' appraised value, which is roughly in line with last year's survey.

Residential mortgage lending regulations

The residential mortgage lending regulations were adopted on 1 July 2015. The regulations have been reviewed twice, most recently on 1 July 2018. The regulations aim to encourage a sustainable trend in household debt. The regulations apply to all financial institutions offering residential mortgages in Norway, including foreign undertakings.

The residential mortgage lending regulations set requirements for:

- Loan-to-value ratio: Residential mortgages must not exceed 85 per cent of property value, including additional collateral. Mortgages secured on a second home in Oslo must not exceed 60 per cent of property value.
- Instalment payments: If loans have an LTV ratio above 60 per cent, annual repayments must at minimum amount to 2.5 per cent of the approved loan or to the instalment payments that would have been required on an annuity loan with a 30-year repayment period.
- Debt servicing capacity: The borrower must be able to service the loan and meet normal living expenses after an interest rate increase of 5 percentage points.
- Debt-to-income ratio: When taking out a new residential mortgage, the borrower's total debt (residential mortgage and other debt) must not exceed five times gross annual income.

The regulations which entered into force on 1 July 2018 will apply to the end of 2019. They were a continuation of the previous regulations, with some amendments:

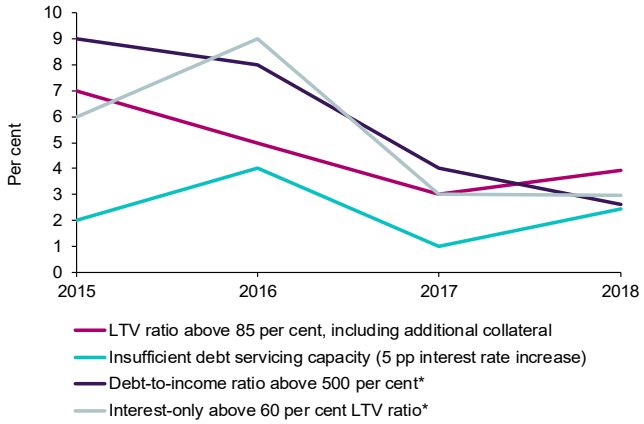
- Tax-exempt stable income can be included in annual income when calculating the debt-to-income ratio.
- Funds in the BSU home savings scheme for young people can be deducted from the loan amount when calculating the LTV ratio.
- Equity release agreements (e.g. senior loans) are exempt from the provisions regarding debt servicing capacity, debt-to-income ratio, instalments and flexibility.

The regulations permit banks to grant a certain percentage of loans that do not meet all the requirements of the regulations. This flexibility quota is 10 per cent of lending volume each quarter, with the exception of Oslo where it is 8 per cent.

SLIGHT INCREASE IN THE PROPORTION OF LOANS THAT EXCEED THE LIMITS SET IN THE RESIDENTIAL MORTGAGE LENDING REGULATIONS

The survey for 2018 shows that banks granted a larger share of new loans with an LTV ratio above 85 per cent and a larger share of new loans to borrowers whose total debt exceeds five times gross annual income than the year before. The proportion of instalment loans where borrowers' debt servicing capacity will be inadequate should interest rates increase by 5 per cent, rose from 1 per cent in 2017 to 2 per cent in this year's survey. For borrowers in the younger age groups, this proportion increased by 4 percentage points, from 1 per cent last year to 5 per cent in 2018. With respect to new instalment loans with an LTV ratio above 60 per cent, the proportion of loans with an agreed interest-only period was reduced, as was the proportion of lines of credit with an LTV ratio above 60 per cent (charts I.3 and I.4). There was a slight increase in the total volume of instalment loans to borrowers with an debt-to-income ratio above 500 per cent, while there was a 1.3 percentage point rise for younger borrowers.

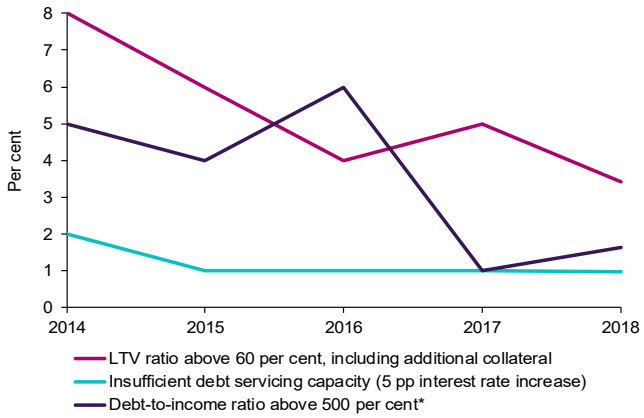
I.3 Proportions of non-conforming instalment loans as a percentage of loans granted



Percentage of loans granted	2015	2016	2017	2018
LTV ratio above 85 per cent, including additional collateral	7	5	3	4
Insufficient debt servicing capacity (5 pp interest rate increase)	2	4	1	2
Debt-to-income ratio above 500 per cent*	6	9	2	3
Interest-only above 60 per cent LTV ratio*	9	7	4	3

* For the years prior to 2017: The share of interest-only loans above 70 per cent LTV ratio. Maximum debt relative to income was not regulated. Source: Finanstilsynet

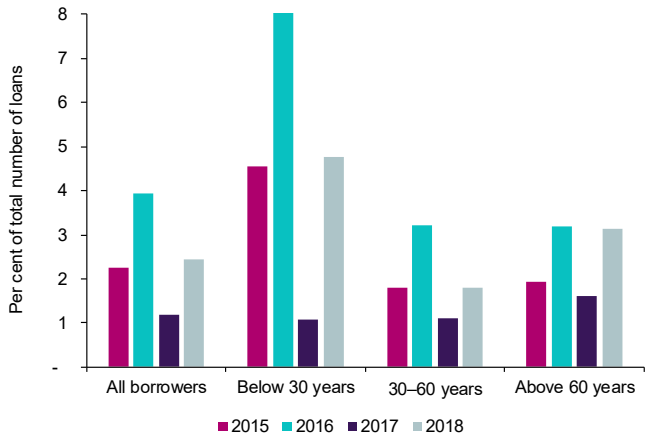
I.4 Proportions of non-conforming lines of credit as a percentage of credits granted



Percentage of loans granted	2015	2016	2017	2018
LTV ratio above 60 per cent, including additional collateral*	6	4	5	3
Insufficient debt servicing capacity (5 pp interest rate increase)	1	1	1	1
Debt-to-income ratio above 500 per cent*	4	6	1	2

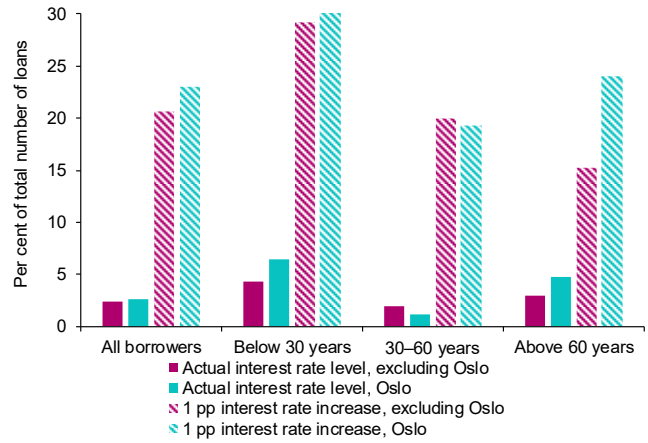
* For the years prior to 2017: LTV ratio above 70 per cent, including additional collateral. Maximum debt relative to income was not regulated. Source: Finanstilsynet

I.5 Share of borrowers with insufficient debt servicing capacity after a 5 pp interest rate increase



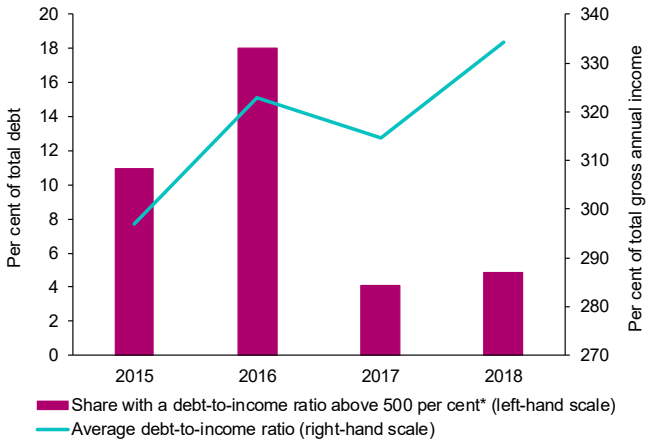
Source: Finanstilsynet

I.6 Share of borrowers with insufficient debt servicing capacity after a 5 pp interest rate increase – actual interest rate level and 1 pp interest rate increase



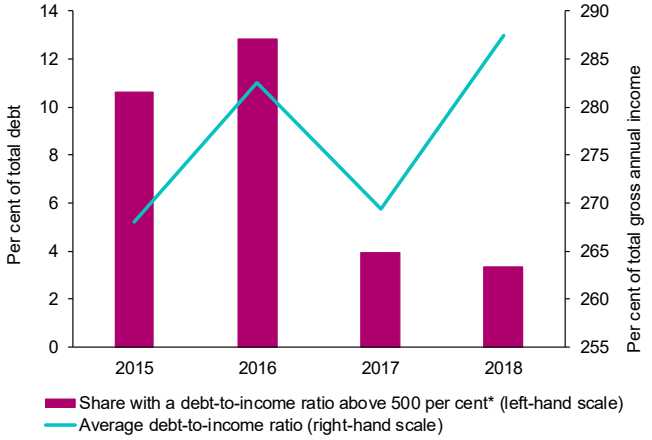
Source: Finanstilsynet

I.7 Average (weighted) debt-to-income ratio and share of borrowers with a ratio above 500 per cent. Instalment loans



*Maximum debt relative to income was not regulated until 1 January 2017. Source: Finanstilsynet

I.8 Average debt-to-income ratio and share of borrowers with a ratio above 500 per cent, in per cent of total debt. Lines of credit



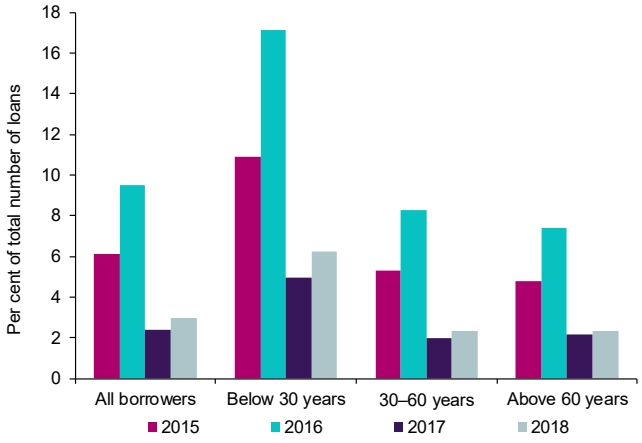
*Maximum debt relative to income was not regulated until 2017. Source: Finanstilsynet

HIGHER SHARE OF NEW INSTALMENT LOANS TO CUSTOMERS WITH WEAK DEBT SERVICING CAPACITY

Increased interest rates will impair loan customers' debt servicing capacity. The residential mortgage lending regulations require banks to assess a borrower's ability to service their mortgage, based on information on the borrower's income and expenses. Banks' calculations of the borrower's surplus liquidity should factor in a 5 per cent increase in the interest rate level. If the borrower lacks sufficient funds to meet normal living expenses after such an interest rate increase, the mortgage should not be granted.

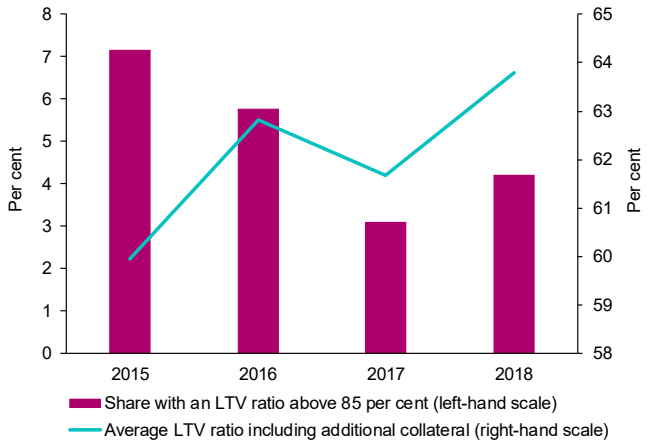
This year's survey shows that the proportion of instalment loans granted to customers who do not meet this requirement increased from 1 per cent in 2017 to 2 per cent in 2018 (chart I.5). There was a rise in all age groups, with the strongest increase for younger borrowers. With the exception of the age group over 60 years, however, the proportions were clearly lower than in 2016.

I.9 Share of borrowers with total debt higher than five times gross annual income, all instalment loans



Source: Finanstilsynet

I.10 Average LTV ratio and share of borrowers with a ratio above 85 per cent, in per cent of total lending volume. All instalment loans



Source: Finanstilsynet

In its Monetary Policy Report for the third quarter of 2018, Norges Bank envisages raising its key policy over the next few years. If interest rates on new instalment loans had been 1 percentage point higher, 21 per cent of new loans in the survey would have been non-compliant with the requirement on borrowers to be able to service their loan should interest rates increase by 5 percentage points[49](chart I. 6). This applies especially to younger borrowers in Oslo, more than one-third of whom would have fallen short of the requirement, against 6 per cent with the current interest rate level.

FURTHER INCREASE IN THE AVERAGE DEBT-TO-INCOME RATIO FOR NEW INSTALMENT LOANS IN 2018

According to the residential mortgage lending regulations effective on 1 January 2017, the cap on a borrower's total debt is at five times gross annual income. The average (weighted) debt-to-income ratio for new instalment loans in this year's survey was 334 per cent, which is 19 percentage points higher than the previous year (chart I.7). This level is also higher than in 2016, i.e. before the debt-to-income ratio came under regulation. The average debt level for borrowers with an LTV ratio above 85 per cent decreased compared with last year's survey, but remains at a very high level. There was a slight increase in the average debt-to-income ratio of younger borrowers with an LTV ratio above 85 per cent. The average debt-to-income ratio for new lines of credit averaged 287 per cent, an increase of 18 percentage points compared with last year's survey last year (chart I.8).

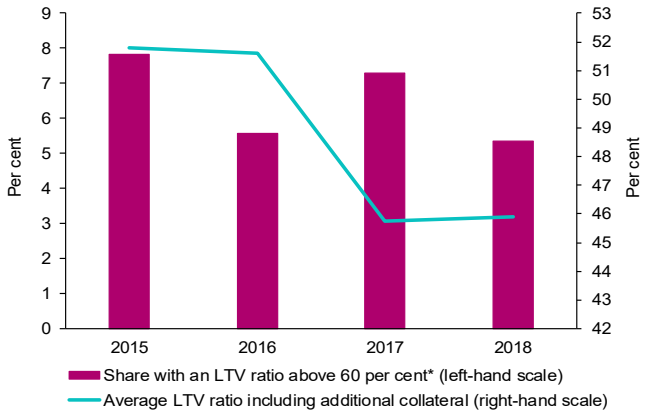
Relative to total debt, 5 per cent of new instalment loans were granted to borrowers with a debt-to-income ratio above 500 per cent. Relative to the total number of loans, 3 per cent were over the limit (chart I.9). This is somewhat higher than in 2017, but significantly lower than before the debt-to-income ratio came under regulation. 6 per cent of younger borrowers with new instalment loans had a debt-to-income ratio above 500 per cent. With respect to instalment loans for house purchases, 4.6 per cent of borrowers had a debt-to-income ratio above 500 per cent, which is roughly on a level with 2017.

SLIGHT INCREASE IN THE AVERAGE LTV RATIO FOR NEW INSTALMENT LOANS

According to the residential mortgage lending regulations, the LTV ratio including additional collateral should not exceed 85 per cent. The average (weighted)

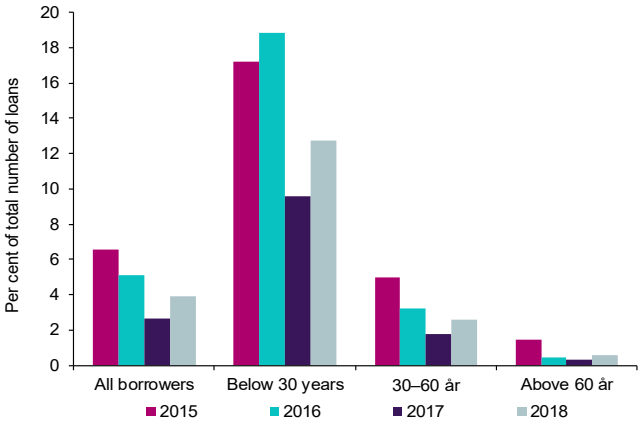
[49]Based on a simplified calculation. The estimated increase in the monthly amount has been deducted when estimating debt servicing capacity.

I.11 Average LTV ratio and share of borrowers with a ratio above 60 per cent, in per cent of lending volume. Lines of credit



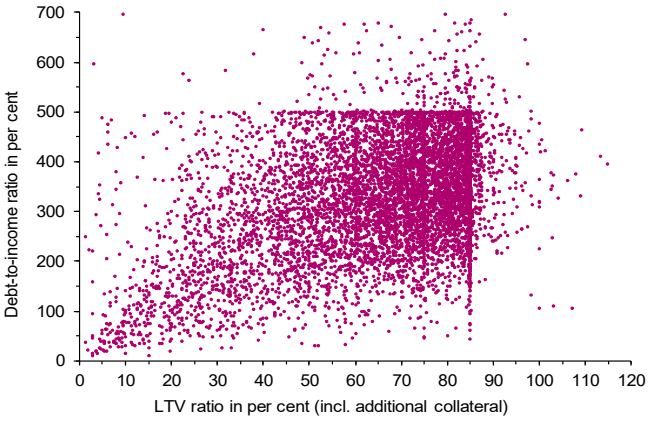
*For the years prior to 2017: Share with an LTV ratio above 70 per cent. Source: Finanstilsynet

I.12 Instalment loans, borrowers with an LTV ratio above 85 per cent (including additional collateral) by borrower age



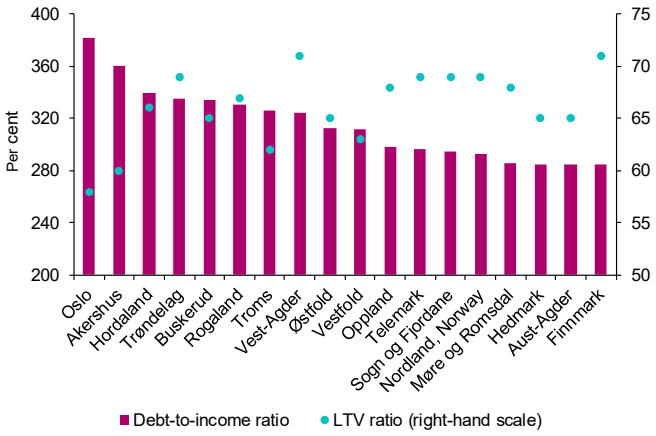
Source: Finanstilsynet

I.13 Distribution of instalment loans for house purchases, debt-to-income ratio and LTV ratio



Source: Finanstilsynet

I.14 Debt-to-income ratio and LTV ratio by county, weighted average



Source: Finanstilsynet

LTV ratio including additional collateral for new instalment loans in this year's survey was 64 per cent, which is 2 percentage points higher than the previous year (chart I.10). The average LTV ratio for new instalment loans for house purchases increased from 66 to 67 per cent. Younger borrowers have a significantly higher LTV ratio than the other age groups. For younger borrowers the average LTV ratio for house purchase mortgages was unchanged from 2017 at 76 per cent. For new lines of credit, the average loan-to-value ratio was 46 per cent, on a level with 2017 (chart I.11).

Instalment loans with an LTV ratio above 85 per cent represented 4 per cent of lending volume. This is marginally higher than the proportion of the total number of loans (chart I.12). For borrowers in the younger age groups, the proportion of the total number of loans increased by 3 percentage points to 13 per cent. For loans used for house purchases, the proportion for younger borrowers was up 6 percentage points to 18 per cent.

0.4 per cent of the instalment loans in this year's survey had both a debt-to-income ratio above 500 per cent and an LTV ratio above 85 per cent. There was a distinct accumulation of granted loans close to the maximum permitted debt-to-income ratio and the maximum permitted LTV ratio (chart I.13). A particularly large number of mortgages secured on residential property in Oslo were close to the maximum debt-to-

income ratio. This indicates that the limits in the residential mortgage lending regulations help to restrict the proportion of loans with very high debt-to-income and LTV ratios. With respect to refinanced instalment loans, there was a clear accumulation near the maximum permitted LTV ratio, and a not-so-clear accumulation close to the maximum debt-to-income ratio.

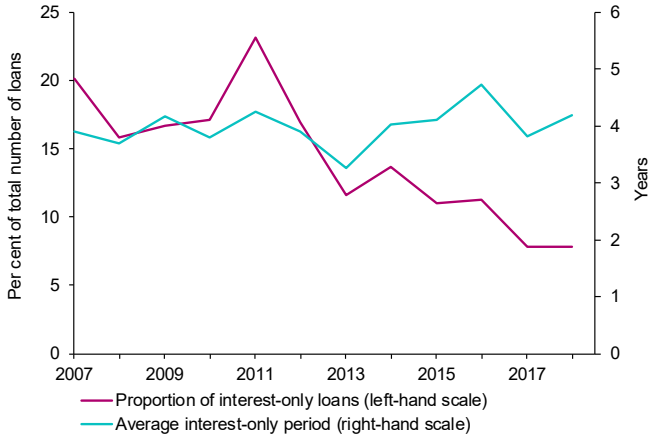
There are considerable geographical variations in average LTV ratios and debt-to-income ratios (chart I.14). New loans secured on residential property in Oslo have a lower LTV ratio than in the rest of the country, at 58 and 64 per cent respectively. However, the debt-to-income ratio is higher in Oslo than elsewhere in the country. In Oslo, 7 per cent of instalment loans had a debt-to-income ratio above 500 per cent. A further 10 per cent had a debt-to-income ratio marginally within the limit (between 490 and 500 per cent). In the rest of the country, 2 and 3 per cent, respectively, were above 500 per cent and marginally within the limit. This probably indicates that the maximum permitted debt-to-income ratio has a more binding effect than the maximum permitted LTV ratio when house prices are high and rising. Strong price growth in Oslo over the past few years may have raised the equity of many borrowers, enabling them to buy a new property with a lower LTV ratio.

UNCHANGED VOLUME OF INTEREST-ONLY MORTGAGES AND LONGER TERMS FOR NEW INSTALMENT LOANS

The residential mortgage lending regulations require instalment repayments on mortgages that exceed 60 per cent of property value. Interest-only mortgages accounted for 3 per cent of new loans with an LTV ratio above 60 per cent, down from 5 per cent last year.

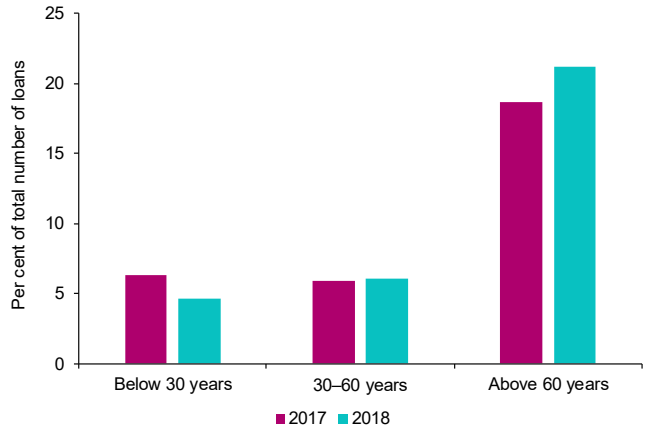
In this year's survey, the proportion of interest-only instalment loans was just under 8 per cent, about the same level as in 2017 (chart I.15). Older borrowers have the highest proportion of interest-only mortgages. More than one in five borrowers over the age of 60 had signed an instalment loan agreement with an interest-only period (chart I.16).

I.15 Proportion of interest-only instalment loans and average interest-only period



Source: Finanstilsynet

I.16 Proportion of interest-only instalment loans by borrower age



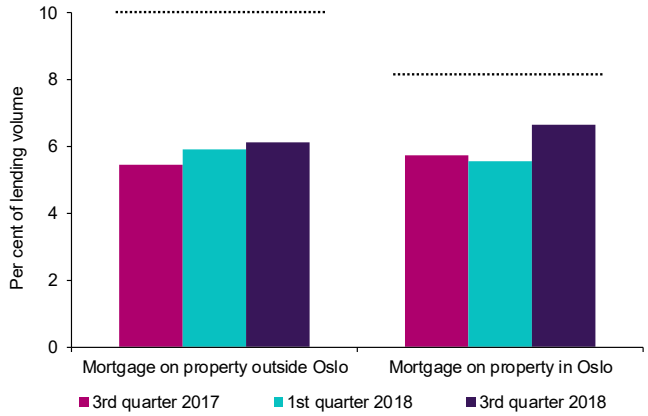
Source: Finanstilsynet

The term of new instalment loans has increased in recent years. The average agreed repayment period was 24.7 years in 2018 and 23.9 years in 2017. The proportion of new fixed-rate instalment loans rose by 1 percentage point from last year, to 5 per cent this year. The average interest rate lock-in period was five years. –

UNCHANGED USE OF THE FLEXIBILITY QUOTA

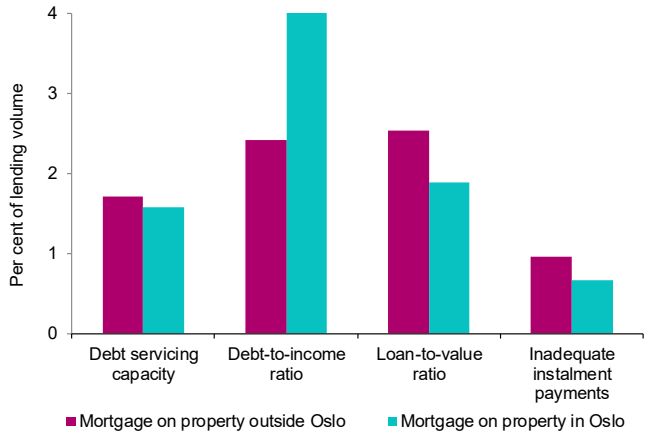
According to the residential mortgage lending regulations, up to 10 per cent of the value of new loans granted during a quarter may deviate from one or more of the requirements of the regulations. The quota for loans secured on residential property in Oslo is

I.17 Proportion of new non-conforming loans



Source: Finanstilsynet

I.18 Proportion of new non-conforming loans per requirement. Third quarter 2018



*The regulations permit banks to grant a certain percentage of loans that do not meet one or more of the requirements in the regulations. The proportions in the chart thus do not sum up to the proportions in chart I.17. Source: Finanstilsynet

8 per cent. Each quarter, institutions are required to report to the board of directors, or to the management of foreign branches, the proportion of granted loans that are non-compliant with one or more of the requirements of the regulations.

Directors' reports for the third quarter of 2018 show that the proportion of new loans deviating from the requirements of the regulations has increased markedly in Oslo compared with the third quarter of last year (chart I.17). This proportion increased moderately in the rest of the country. However, the proportion is higher in Oslo than in the rest of the country. According to the directors' reports, the most common breach is non-compliance with the requirement that total debt must not exceed 500 per cent of gross annual income (chart I.18).

THEME II: STRESS TEST OF BANK LIQUIDITY

The international financial crisis showed that banks are exposed to substantial liquidity risk. After the Lehman Brothers bankruptcy filing on 15 September 2008, banks' access to market funding was severely limited for a period, while the Northern Rock episode showed that the risk of a bank run, with large deposit withdrawals, remains very real.

Norges Bank and Finanstilsynet have developed a framework for stress testing the liquidity of individual banks. The framework is a useful supplement to the liquidity coverage ratio (LCR) and other liquidity monitoring tools, for example when it comes to testing a bank's sensitivity and vulnerability with different stress factors on various time horizons (sensitivity analyses). The LCR, which was developed by the Basel Committee and introduced across the EU through the CRD IV after the financial crisis, sets requirements for banks' liquidity buffer in relation to the net cash outflow over a 30 day stress period. While the LCR is a good basis for stress testing liquidity, it is a minimum requirement. The stress factors and/or the time horizon of stress testing should therefore be more stringent and of longer duration than in the LCR.

The stress test is designed to gauge the individual bank's ability to withstand stress in the financial markets and the real economy. The framework illustrates the isolated impact of the stress on the individual bank, and does not include secondary effects and feedback to the financial market and the real economy. Such feedback is likely to be important in practice.

Norwegian banks have increased the proportion of long-term funding and their liquidity reserves since the financial crisis. They are thus better prepared to tackle renewed turbulence in the international financial markets. Finanstilsynet has applied the liquidity stress testing framework to seven Norwegian banks to assess their ability to weather a period of stress in foreign financial markets. The results show that each bank manages relatively well in the outlined scenario. However, most of the banks are dependent on exploiting their covered bond potential to ensure a liquidity coverage above 100 per cent, i.e. a liquidity buffer sufficient to meet liquidity needs throughout the stress period.

For the banks it is imperative that both the primary and secondary market for covered bonds function satisfactorily in a situation of stress in foreign financial markets.

DESCRIPTION OF THE FRAMEWORK

Stress testing of banks' liquidity has a shorter history than stress testing of capital adequacy, and is a less developed field internationally. Modelling feedback effects and systemic effects is demanding for all types of stress testing. The challenge is particularly large where liquidity stress testing is concerned since a bank's liquidity position is dependent on the situation across the entire financial system. Experience from the financial crisis, for example, shows that access to market funding may virtually disappear throughout the financial system. Such dependencies are uncertain and complicated to model and calibrate, partly due to data inaccessibility and absence of historical data. Models for stress testing liquidity risk are therefore often bank-specific and address one bank at a time.

The framework developed by Norges Bank and Finanstilsynet has its basis in articles, recommendations and studies published by the Basel Committee, the IMF and the ECB among others. The framework was constructed primarily to compare the resilience of banks by measuring their vulnerability to various types of shock. The stress test is performed at non-consolidated level, although the interconnectedness between parent banks and their covered-bond-issuing entities is to some extent taken into account. The model calculates accumulated net liquidity and liquidity coverage in intervals ranging from 30 days up to one year. Net liquidity is defined as the difference between a bank's funding needs in the period and the

bank's liquidity buffer. Liquidity coverage is defined as a bank's liquidity buffer relative to its funding needs.

Funding needs

The model is set up as a cash flow analysis in which inflows and outflows arising from assets, liabilities and off-balance sheet liabilities are estimated. In order to calculate the cash flows, observed balance sheet items are projected based on the behaviour that the bank itself, its depositors and other customers, other banks and other market participants are expected to show in a stressed situation. The sum total of the calculated cash flows constitutes the bank's need for funding.

Liquidity buffers and covered bond potential

In the model, a bank's liquidity buffer is split into a buffer consisting of LCR-eligible securities and an extended liquidity buffer which in addition contains other available securities and deposits with other banks (exc. intra-group deposits). The value of the various elements of the liquidity buffer is reduced based on assumptions of market value reduction under the respective stress scenarios. The model also computes a liquidity buffer that takes into account the potential for new covered bond issuance directly in the market or the use of covered bonds as collateral in loan agreements such as repos. The covered bond potential is calculated based on mortgages already prepared for transfer, and mortgages that can be made ready for transfer, to a covered-bond-issuing entity, as well as the entity's available cover pool. In the domestic stress scenario the effect of house price falls is taken into account when calculating the covered bond potential.

A number of other measures are also available to a bank in a situation in which it needs extra liquidity. They include reducing lending growth and adjusting/repricing deposit and lending rates and terms. These measures are not quantified in the model.

Feedback effects

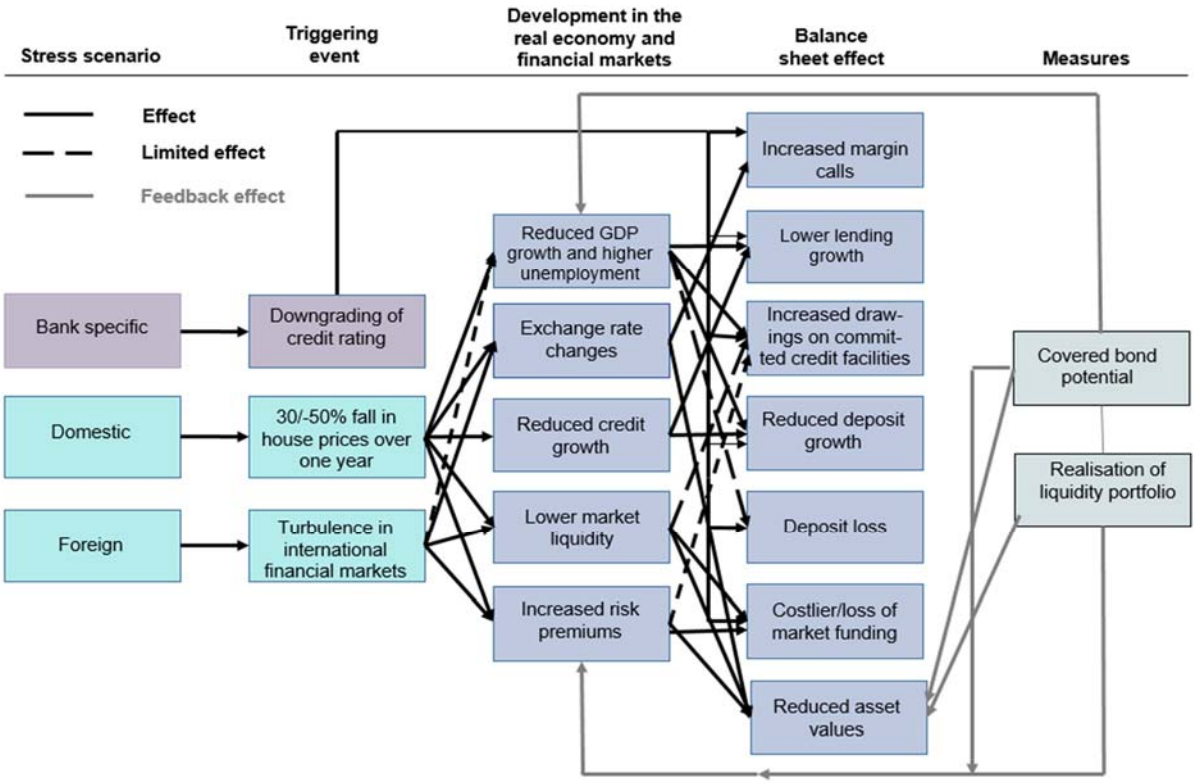
When a market stress event hits a number of banks, the impact on a particular bank will depend on how the other banks are affected and on what type of measures they initiate. These are termed feedback effects in the model. For example, the price of assets and the risk premium on funding are impacted by market turbulence. Should many banks realise their liquidity buffers simultaneously in order to tackle the turbulence, a 'fire sale' may ensue, and asset prices and the risk premium on funding could be further affected. Exploiting the covered bond potential may also have feedback effects to the price of and risk premium on covered bonds. Improvement/repricing of deposit terms may reduce the deposit loss for the individual bank, but the effect will depend on the action taken by other banks. The same is true of raising lending rates which, in isolation, will boost income and reduce refinancing needs. Lower lending growth will in isolation reduce refinancing needs for the individual bank, but may produce feedback effects in the form of lower activity levels in the real economy, lower house prices and increased losses. Such feedback effects are not quantified in the model but may be important and must be included in any assessment of the banks' liquidity situation.

Stress factors

The stress factors and other assumptions employed in the model were developed with a basis in stress testing from the IMF, ECB and other supervisory authorities, LCR, evaluations of the banks' own stress tests and other relevant literature. The stress factors assigned to the individual inflows and outflows apply as a general rule for a 30-day period. The exception is lending growth and deposit growth which are calculated on an annual basis.

Cash flow stress is assumed to recede through the period. The calculations are performed for four points in time: day 30, day 90, day 180 and day 360. The stress factor applied to the first 30 days is also applied to the next 60 days (from day 30 to day 90). After 90 days the stress is assumed to have dissipated, and the stress factor is accordingly 0 for the rest of the stress period. The stress factors and the assumptions must, as mentioned, be interpreted as expected stress factors for a single bank in isolation, and not as an expected effect should all banks be hit simultaneously.

II.1 Stress test model



Sources: Norges Bank and Finanstilsynet

Scenarios

The framework features three main scenarios: bank-specific stress, domestic market stress and foreign market stress (chart II.1). The market stress is divided into a mild stress and a severe stress. For each of the three main scenarios the model starts out from a triggering event, which directly and indirectly affects the bank's balance sheet. The effects following from developments in the real economy and financial markets are in line with the macroeconomic scenario in Norges Bank's stress test (Financial Stability 2017).

HOW WELL WILL NORWEGIAN BANKS WITHSTAND A NEW STRESS EVENT IN FOREIGN FINANCIAL MARKETS

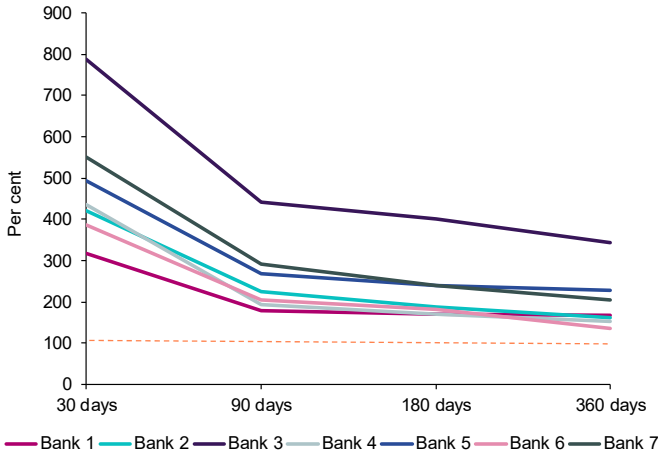
Turbulent international financial markets, as witnessed during the financial crisis ten years ago, remain a relevant and important risk factor. The risk of further trade restrictions, a quicker and larger interest rate increase than expected by market actors and increased risk premiums are factors that could trigger turbulence in the financial markets; see chapter 2 for further details of the risk picture.

Description of the scenario

Turbulence in foreign financial markets is illustrated in the model by higher risk premiums, reduced market liquidity and depreciation of the Norwegian krone. Both the price and supply of market funding are affected. In the mild stress, the bank is assumed to be able to refinance half of its unsecured funding upon maturity and 70 per cent of its secured funding. In the severe stress, the bank's supply of market funding drains completely.

As regards credit facilities, moderate utilisation of credit lines is assumed. Domestic customers are not assumed to draw more heavily on their credit lines than usual, while foreign customers can be envisaged to draw somewhat more if the turbulence abroad has real economic effects in their home countries.

II.2 Liquidity coverage, mild stress



Sources: Finanstilsynet and Norges Bank

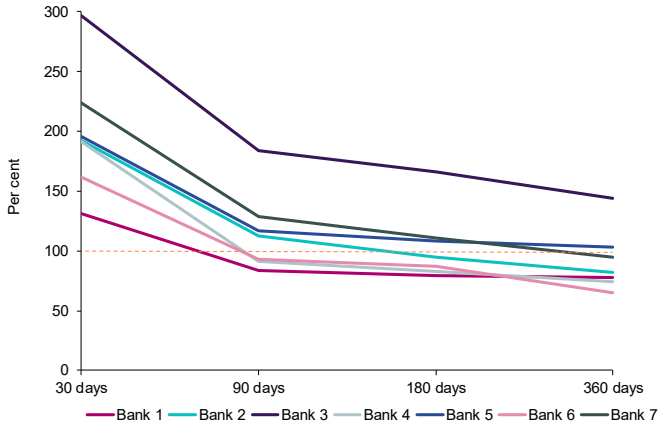
Turbulence in the interbank market is assumed to prompt increased utilisation from credit institutions.

Deposits in a Norwegian bank are in principle assumed to be less affected by a foreign stress event, although some deposit loss is assumed from larger entities and other credit institutions that are affected by the turbulence abroad and are in need of liquidity. In the severe stress it is assumed that the bank may experience some deposit loss from customers groups other than large entities and credit institutions as a result of impaired confidence in the banking system as a whole.

Substantial market volatility compels the bank to provide extra collateral for existing derivative contracts. Higher risk premiums and lower market liquidity increase the risk of large price movements when banks liquidate their liquidity portfolios.

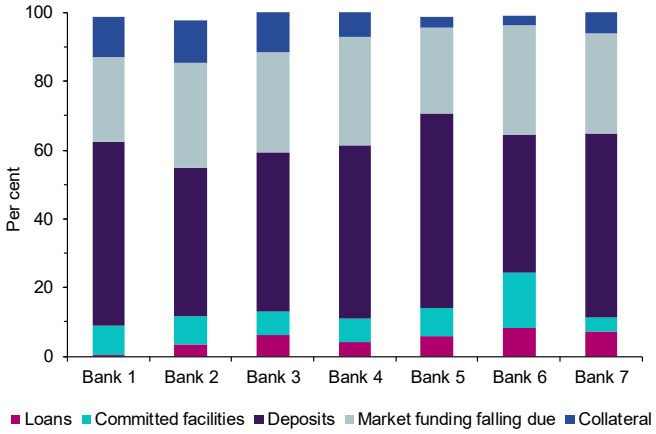
The value of assets in the liquidity buffer is assumed to be reduced by between 0 per cent (government securities) and 25 per cent (non-LCR-eligible securities) in the mild market stress. In the severe market stress the value of assets in the liquidity buffer is assumed to be reduced by between 5 and 50 per cent.

II.3 Liquidity coverage, severe stress



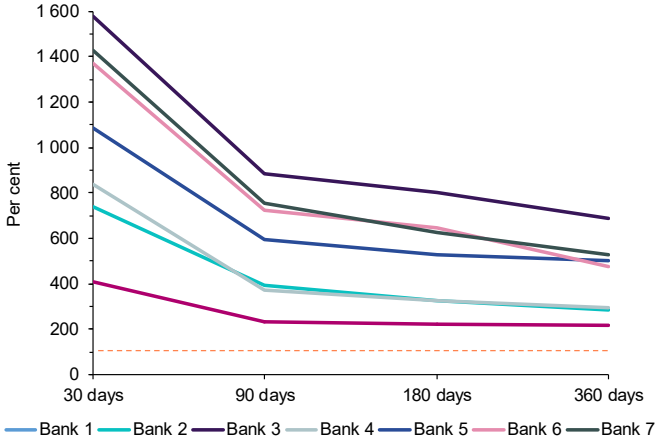
Sources: Finanstilsynet and Norges Bank

II.4 Distribution of net cash flow (after 360 days)



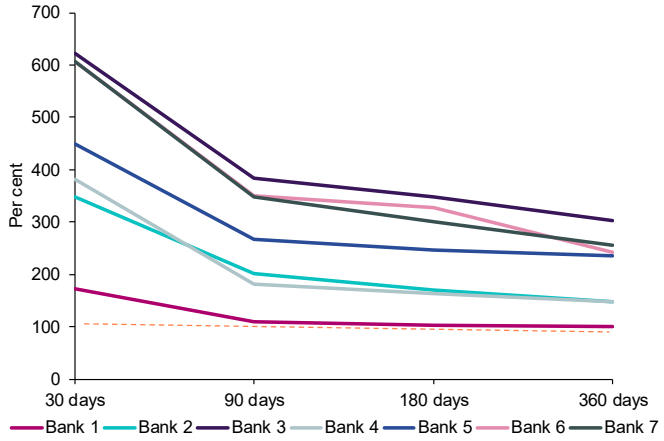
Sources: Finanstilsynet and Norges Bank

II.5 Liquidity coverage incl. covered bond potential, mild stress



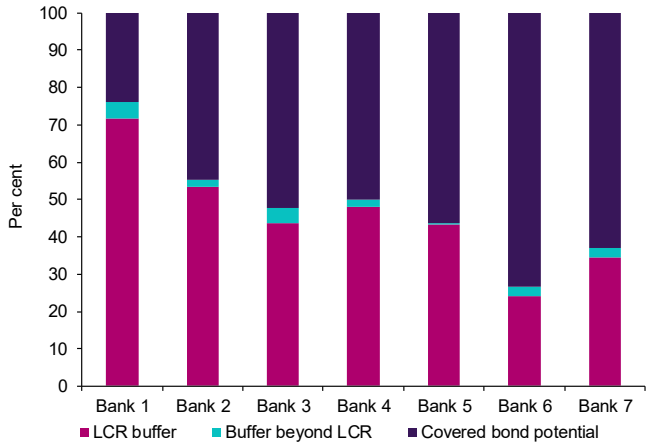
Sources: Finanstilsynet and Norges Bank

II.6 Liquidity coverage incl. covered bond potential, severe stress



Sources: Finanstilsynet and Norges Bank

II.7 Composition of the liquidity buffer



Sources: Finanstilsynet and Norges Bank

Results

In the mild stress, all banks have a liquidity coverage above 100 per cent throughout the stress period (chart II.2). Liquidity coverage is defined as the extended liquidity buffer in per cent of funding needs. The extended liquidity buffer consists of LCR-eligible securities, and other available securities and deposits with other banks (exc. intra-group deposits). In the respective stress scenarios the value of the various elements of the liquidity buffer is reduced based on assumptions of reduced market value. The bank's funding need is the sum total of the bank's cash flows in the respective stress scenarios.

In the severe stress, only two of the banks have a liquidity coverage above 100 per cent over a stress period lasting 360 days. Of the remaining banks, one has a liquidity coverage above 100 per cent for 180 days, one has a liquidity coverage above 100 per cent for 90 days, while the remaining three banks have a liquidity coverage above 100 per cent for a stress period lasting just 30 days (chart II.3).

Deposit loss is the factor which affects the net cash flow most, although maturity of market funding also accounts for a large share (chart II.4). How well the individual bank withstands the stress period is therefore heavily affected by its deposit share, deposit composition, and the proportion of its market funding that matures within a period of one year.

If it is assumed that the individual bank can exploit the covered bond potential inherent in the cover pool in a fully or partly owned covered bond issuing entity, as well as any loans on its own balance sheet that can be transferred to a covered bond issuing entity, all seven banks have a liquidity coverage above 100 per cent for a stress period lasting one year in both the mild and the severe stress (chart II.5 and II.6).

Heavily dependent on covered bonds

The potential for new covered bond issuance directly in the market or use of covered bonds as collateral in loan agreements, for example through repos, represents a large share of the liquidity buffer of many of the banks (chart II.7). Five of the seven banks are dependent on this potential in order to achieve a liquidity coverage above 100 per cent for a stress period lasting one year. Covered bonds also constitute a large share of the banks' additional liquidity buffer (the LCR buffer and the buffer beyond LCR). Hence the banks' dependence on covered bonds is even larger than what is referred to here as the covered bond potential.

Covered bonds are regarded as a stable funding source and are subject to lower volatility than other market funding. As mentioned in chapter 3, covered bonds have provided the banks with more stable, longer-term funding at favourable prices since the financial crisis. However, the market for covered bonds has not

been exposed to a severe crisis affecting either the primary or the secondary market for covered bonds. During the financial crisis in 2008, covered bonds were primarily utilised in the 'swap arrangement' under which the Norwegian government invited the banks to exchange their covered bonds for more liquid government securities.

The substantial dependence on covered bonds represents, as mentioned in chapter 3, a potential systemic risk. Were a number of banks to simultaneously liquidate covered bonds from their liquidity portfolios on a large scale, this could affect banks' opportunities to sell their covered bonds, the price of covered bonds, the opportunities to issue new covered bonds and the premiums on new covered bond issues.

THEME III: THE RETAIL INDUSTRY

The retail industry is of major significance for the Norwegian economy and employment. The industry is undergoing structural change, and e-commerce in particular has contributed to tougher competition. The bankruptcy rate and debt-weighted probability of default in the retail industry have risen over the past year, and are higher than in many other industries. However, levels are low in historical terms. Entities in the retail industry carry little interest-bearing debt relative to turnover and assets. Banks' losses on loans to the industry are consequently on a par with those in many other segments, despite a higher bankruptcy rate and higher probabilities of default. Norwegian banks have limited exposure to the retail industry. However, a negative economic trend in the industry could lead to debt-servicing problems in other sectors, especially commercial property, inasmuch as retail entities are important tenants.

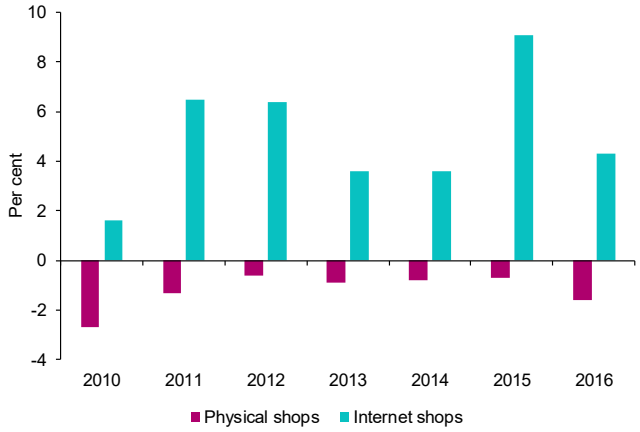
STRUCTURAL CHALLENGES

GENERAL NOTES ON THE RETAIL INDUSTRY

The retail industry is broad-based, ranging from large wholesalers and retail chains to small, local shops. The retail industry in Norway could be facing substantial structural change. According to the Enterprise Federation of Norway (Virke), the main service sector employers' organisation, Norway's retail segment will change more in the coming decade than in the preceding one. This is mainly down to three mutually reinforcing factors: technological developments (digitalisation and changes in consumer behaviour); demography and urbanisation; and stricter environmental requirements.

Norway's retail industry has already undergone considerable readjustment, accompanied by major investments in technology. Thus far this has largely been confined to the wholesale and supply segment. Changing consumer behaviour is an important driver of change in the industry. In most cases, consumers

III.1 Growth in the number of physical shops and internet shops



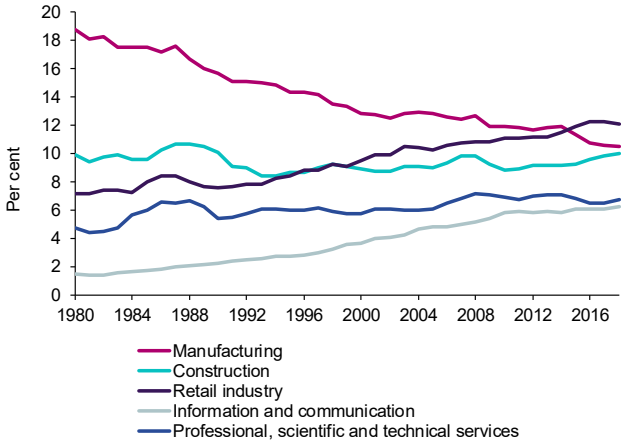
Sources: Statistics Norway and Virke Analyser

can search for information about products and prices, and select their preferred retail channel, on the internet. This spurs competition in the industry, thereby benefiting the consumer. According to the Enterprise Federation, increased competition between physical shops and between internet shops is also in evidence. Moreover, a growing number of businesses with physical shops are offering online shopping. Retailers are at the same time exposed to ever increasing competition from international internet companies and digital platforms.

About 80 per cent of retail trading in Norway still takes place in physical shops, with the remainder distributed across internet commerce, cross-border shopping and other physical shopping abroad. Internet commerce is still limited in scope, but is expanding rapidly. The number of internet shops has risen sharply, while the number of physical shops has declined for several years (chart III.1).

The retail industry is also affected by demographic changes. Despite the growth in the overall populace, the population of many municipalities is diminishing. The number of retirees in the country is rising, the number of persons per household is declining, and centralisation is on the upgrade. For the retail industry this could result in fewer physical shops in rural areas and larger shops in and around towns and regional centres where the customer base is growing.

III.2 Gross product in the largest industries. *Per cent of gross product of non-financial firms in Mainland Norway. 1980-2018 (first half-year)



*Gross product shows value creation and gross income earned from domestic production activity, derived and defined as production minus input costs. See Statistics Norway for a closer definition.
Sources: Statistics Norway and Finanstilsynet

Demographic changes are likely to have a bearing on purchasing habits and product demand.

Heightened environmental requirements from government authorities and greater environmental awareness on the part of consumers could influence the structure of the retail industry in the years ahead. This could prompt a switch from single use products to a more circular economy featuring a high degree of recycling, reuse and product repair.

RETAIL INDUSTRY'S IMPORTANCE TO THE NORWEGIAN ECONOMY

Household consumption is the largest demand component in the mainland (non-oil) economy, corresponding to about 50 per cent of Mainland Norway's GDP in the past decade as compared with about 55 per cent in the 1990s. Consumption has risen considerably over the past 13 years and is now twice as high as in 1990. Household consumption can be split into domestic consumption of goods and services and consumer spending abroad. In addition, Norway's business and industry are affected by non-resident spending in Norway. In the case of the retail industry, consumption of goods is of greatest significance. Consumption of goods accounted for more than half of households' consumption up to 2013, but has tapered off from 2000 onwards. Over the past five years, consumption of services has been the higher of the two, and in 2017 Norwegian households' consumption of goods and consumption of services in Norway accounted for 46 and 49 per cent respectively of total consumption. Norwegians' consumption abroad has also risen sharply in the period, accounting for 9 per cent of overall consumption in 2017. Non-resident purchases in Norway have remained stable at around 3 per cent of consumption throughout the period. (This share does not count as Norwegian consumption in the national accounts).

The retail industry has been impacted by the vigorous growth of the Norwegian economy since the start of the 1990s. Households' disposable income and consumption have both risen sharply in this period. The strong growth in goods consumption has laid the basis for good earnings in the traditional retail industry despite competition from internet-based shops in Norway and abroad and increased direct shopping abroad. The retail industry's share of overall value creation in Mainland Norway has risen since the start of the 1990s (chart III.2). In 2015 the retail industry surpassed manufacturing industry as the largest industry in terms of gross product. Investments in the retail industry have nonetheless been relatively modest, reflecting the fact that a very large number of retail businesses rent the premises they occupy. In 2017 investments in the retail industry accounted for a mere 0.7 per cent of total business investments in Mainland Norway. While retail trade has little direct bearing on investment demand in the mainland economy, it is of major significance for private investment in the mainland economy through the demand it generates for warehousing and business premises.

Household consumption fell somewhat during the financial crisis. As a result, gross product in the retail industry also fell, but by a smaller margin than in many other industries. The retail industry overall was also little affected by the oil price fall and the cyclical setback in 2014-2016. Negative effects were however seen in parts of the retail industry in areas of Norway that were hardest hit, for example Rogaland.

During the banking crisis at the end of the 1980s and start of the 1990s, gross product in the retail industry fell sharply. This should be seen in light of the cyclical downturn that triggered the crisis. Household consumption dropped by close to 4 per cent from 1986 to 1989, while goods consumption fell as much as 11 per cent. Consumption of services concurrently rose by more than 7 per cent. The banking crisis shows that profitability in the retail industry is impaired in severe, long-lasting downturns. The banking crisis is the only extended period of weak economic growth in Norway since World War II.

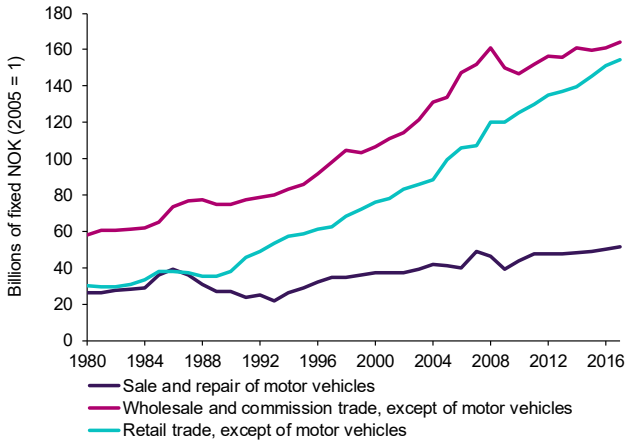
The retail industry comprises many sub-segments. The present analysis starts out from one of the classifications used by Statistics Norway: (i) Sale and repair of motor vehicles, (ii) Wholesale trade and commission trade, except of motor vehicles and (iii) Retail trade, except of motor vehicles. In many cases the same product is traded at the wholesale and retail stage, and entities in the two stages of distribution may have the same owners.

Measured in terms of gross product, 'retail trade', including the major supermarket chains, has shown the strongest growth since the start of the 1990s (chart III.3). The variation in production over time has also been smaller than in the case of the other two sub-segments. 'Sale and repair of motor vehicles' (car importers, car dealers and car repair shops) were harder hit than most segments during the banking crisis, and have grown far less than 'retail trade' and 'wholesale trade and commission trade'.

At the end of 2016, 385,000 persons were employed in the retail industry. This represented 18.9 per cent of overall employment outside the public administration, compared with 20.6 per cent in 2008 (chart III.4). Despite the decline, the retail industry remains the largest employer sector in Norway, followed by 'building and construction' (11.6 per cent) and 'manufacturing' (10.1 per cent).

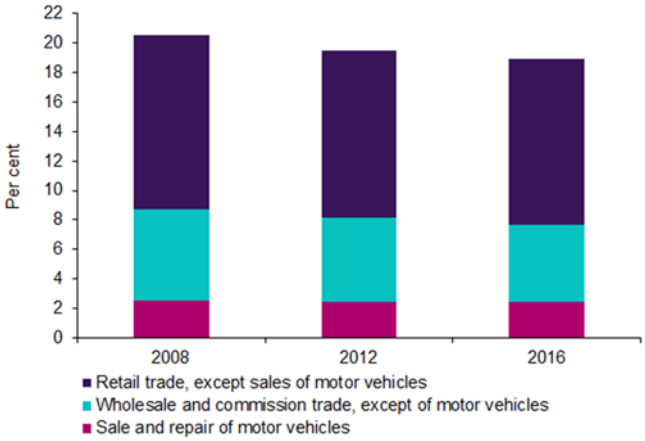
Retail trade accounts for the bulk of employment in the overall retail industry (i.e. including wholesale trade). The share employed by 'retail trade' and by

III.3 Gross product in the retail industry*



*Gross product for the three sub-segments is only available up to 2016. The sub-segments' gross product for 2017 is projected by Finanstilsynet by the same percentage change as for the overall retail industry that year. Sources: Statistics Norway and Finanstilsynet

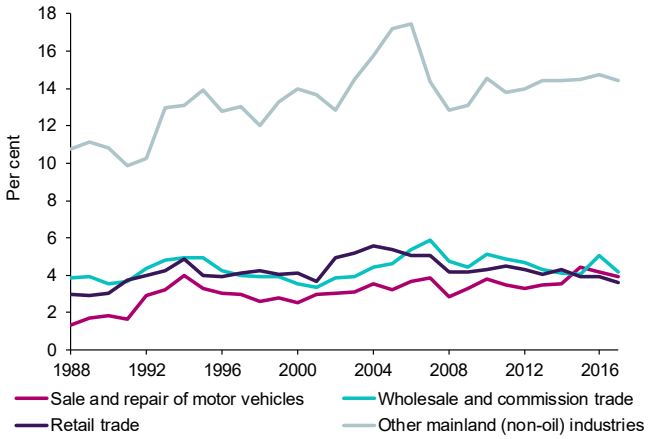
III.4 Employment shares in the retail industry. Per cent of all employees except the public administration



Sources: Statistics Norway and Finanstilsynet

'wholesale and commission trade' has fallen since 2008, while the share accounted for by 'sale and repair of motor vehicles' has remained stable.

III.5 Operating margin. Norwegian-registered non-financial limited companies and cooperatives



Source: Finanstilsynet

THE FINANCIAL SITUATION IN THE RETAIL INDUSTRY[50]

A number of businesses in the retail industry have faced major financial challenges in recent years. Many chain stores have gone bankrupt, been wound up or encountered serious financial problems. Turnover in 'retail trade' and 'wholesale and commission trade' fell marginally from 2016 to 2017, and looks set to do the same in 2018. The bankruptcy rate[51] has risen thus far in 2018, but remains at a relatively low level in historical terms; see the blue shaded text for further details.

EARNINGS FROM OPERATIONS AND OPERATING MARGIN[52]

Earnings from operations must over time at minimum cover payments of interest and instalments on debt, funding of new investments, parts of any increased need for capital, and dividend to shareholders[53]. Since it is difficult to quantify these items solely with a basis in the information from the financial statements, it is also difficult to establish what can be considered to be a satisfactory level for the operating margin. Hence little purpose is served by comparing operating margin levels across different industries. Entities in the retail industry can on average cope on a relatively low operating margin since many of them carry relatively little interest-bearing debt relative to operating earnings, whereas entities in certain other segments are dependent on a high operating margin due to their heavy interest-bearing debt burden (see the section below on debt).

The operating margin fell in all three sub-segments of the retail industry in 2017 (chart III.5). Despite the impairment, operating margins were higher than the historical average for the period 1988-2017. Inventories and accounts receivable have fallen as a share of turnover in all sub-segments since the start of the 1990s, indicating that operating processes in the retail industry have become more efficient. The efficiency gain is probably partly due to the introduction of improved warehousing and logistics systems. All else equal, higher efficiency enables businesses to manage on a lower operating margin.

During the financial crisis ten years ago, the operating margin fell in all main industries. In most industries the impairment was marked, but of brief duration. 'Retail trade' was less affected by impaired operating margins than most other segments. One reason is that a large share of the turnover in 'retail trade' is accounted for by grocery stores and that grocery purchases are usually less sensitive to cyclical fluctuations than are many other consumer goods.

In the period since the financial crisis, the median operating margin has largely shadowed the weighted average of the three retail industry sub-segments. In the case of 'retail trade', however, the weighted

[50] Except where otherwise mentioned, the sample in this part of the analysis includes Norwegian-registered limited companies and cooperatives. Other types of entity, such as independent contractors, are not included. Virtually all limited companies and cooperatives that have delivered annual financial statements are included in the sample.
[51] Number of bankruptcies in per cent of the number of entities.
[52] Earnings from operations (operating earnings) are defined as turnover minus cost of goods sold, wage costs and other operations related costs (exc. depreciation and write-downs). The operating margin is equal to operating earnings in per cent of turnover. Some companies book investments under other operating expenses. This reduces the operating margin.
[53] Some companies may record substantial revenues and expenses from securities and other financial items, which are likely to fluctuate widely in value. Many of these items do not involve a cash flow, but are merely accounting write-ups and write-downs. A realised gain on a disposal of financial assets could bring a cash flow. Such gains are often based on one-time events and entail the company selling parts of its cash generating business. Net income from financial items does not in principle qualify as a long-term source of cash earnings.

average operating margin is considerably higher than the median value. This indicates that the major retail chains have a higher operating margin than smaller retailers.

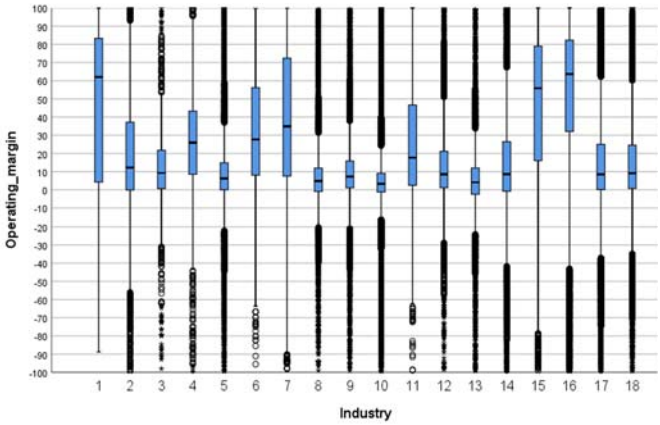
Operating margins in the retail industry are affected by the trend in demand, competition and cost level. In that part of the industry that purchases goods from abroad, the operating margin is also affected by exchange rate changes. Purchased goods are usually paid for in foreign currency, whereas most retail trade is in Norwegian kroner. Many entities in the retail industry hedge against exchange rate changes for a period ahead.

Operating margins differ widely both between and within industries (chart III.6). Half of the limited companies in the retail industry have an operating margin between 10 per cent and minus 1 per cent while 90 per cent have an operating margin between 22 per cent and minus 15 per cent. The 'retail industry' is the industry with highest incidence of negative operating margins, second only to 'lodging and food services'. The operating margin spread is more or less identical across the three sub-segments of the retail industry (not shown in a chart).

RETURN ON EQUITY

Since the banking crisis, return on equity[54] in the three sub-segments of the retail industry has been substantially higher than in the other mainland industries combined (chapter III.7). In the period 1993–2017 the annual return on equity in 'sale and repair of motor vehicles', 'wholesale and commission trade' and 'retail trade' averaged 19, 16 and 14 per cent respectively, compared with 10 per cent in the other mainland industries. One explanation is that the booked equity ratio in the retail industry has been somewhat lower than in the other industries. The equity ratio, as measured here, has risen in almost

III.6 Operating margin spread. Selected industries. Norwegian-registered non-financial limited companies and cooperatives. 2017

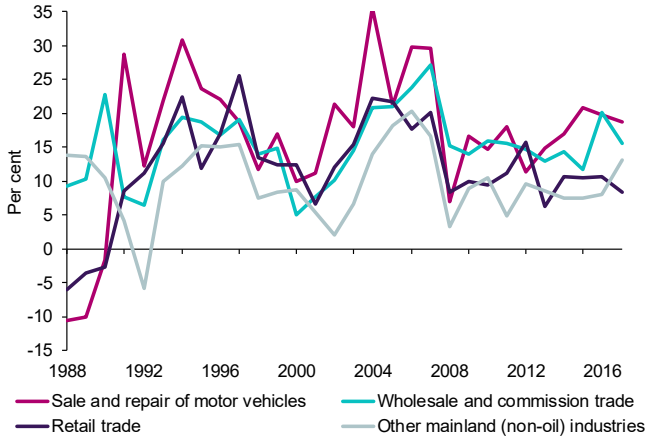


1	Extraction of oil and gas
2	Oil-related sectors
3	Agriculture and forestry
4	Fishing, sealing and whaling (incl. fish farming)
5	Manufacturing and mining
6	Electricity and water supply
7	Development of construction projects
8	Construction of buildings
9	Other construction activity
10	Retail industry
11	Shipping (exc. oil supply)
12	Land and air-based transport
13	Lodging and food services
14	Information and communication
15	Purchase and sale of property
16	Leasing and management of property
17	Private services
18	Education, health and culture

The blue pillar contains one half of the observations in the sample. The vertical, thin lines starting at the top and bottom of the blue pillar respectively show the upper and lower quartile, while the thick sections at the top and bottom of the lines show the 5 per cent of the companies with the highest and lowest operating margin respectively. Operating margins above 100 per cent and below -100 per cent respectively are omitted. The horizontal line in the chart shows the median value. Source: Finanstilsynet

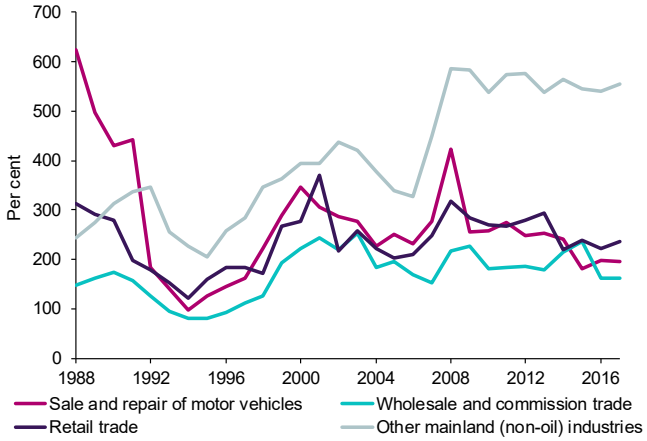
[54] Profit after tax in per cent of booked equity.

III.7 Return on equity. Norwegian-registered non-financial limited companies and cooperatives



Source: Finanstilsynet

III.8 Interest-bearing debt relative to operating earnings. Norwegian-registered non-financial limited companies and cooperatives.



Source: Finanstilsynet

all industries since the start of the 2000s[55]. One of the exceptions is 'sale and repair of motor vehicles' where the equity ratio is approximately unchanged.

In 2017 the equity ratio fell across all three sub-segments. The annual profit in terms of Norwegian kroner fell about 20 per cent from 2016 to 2017 in both 'wholesale and commission trade' and in 'retail trade' whereas it was approximately unchanged in 'sale and repair of motor vehicles'. Equity (the denominator in the equity ratio) rose across all sub-segments. Return on equity in the other mainland industries combined rose sharply in 2017. Services were the only one of the other mainland industries to show a negative trend in return on equity in 2017.

DEBT

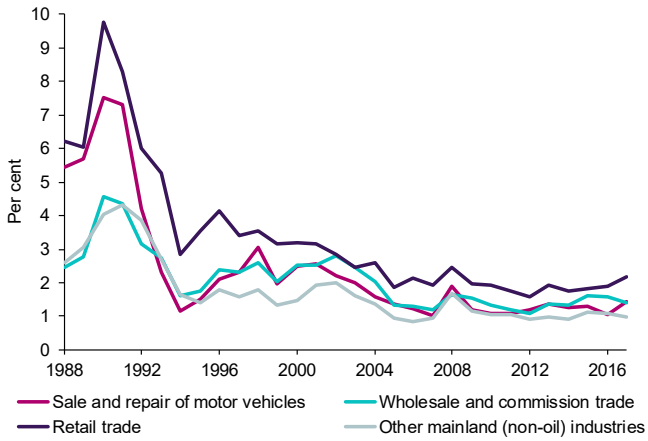
The retail industry has relatively little interest-bearing debt relative to physical assets and operating earnings (chart III.8).[56] One reason is that many entities in the industry rent their premises, either from property companies within the same group or from external property companies. Many businesses in the retail industry accordingly have no need to incur interest-bearing debt to finance buildings and property. It often suffices to debt finance minor investments (warehousing and logistics systems and the like) and to maintain credit facilities for operations. Moreover, the retail industry is to a larger degree than many other industries funded through trade creditors. This is natural inasmuch as retail industry businesses often have substantial inventories and large, frequent deliveries. While such businesses in general have a relatively little interest-bearing debt, they may well be part of a group with substantial interest-bearing debt.

At the end of 2017 the interest-bearing debt of limited companies and cooperatives in the retail industry amounted to NOK 110 billion, which is about the same as prior to the financial crisis. Many of the other industries, in particular commercial property, saw a

[55] The figures are based on non-consolidated accounts in which cross-ownership is not eliminated. Cross-ownership may contribute to overstatement of the equity-to-assets ratio. The booked equity ratio of a selection of retail groups (where cross-ownership is largely eliminated) has also risen in recent years. The level is nonetheless far lower than for the non-consolidated company accounts (33 per cent in the consolidated accounts against 47 per cent in the non-consolidated company accounts). The two selections are not identical, and caution must be shown when drawing comparisons. For example, the group selection includes subsidiaries in sectors other than the retail industry along with subsidiaries abroad. Further, it is mainly large companies that prepare and present consolidated accounts. Hence developments in much of the 'undergrowth' of retail industry businesses are not captured in the group figures.

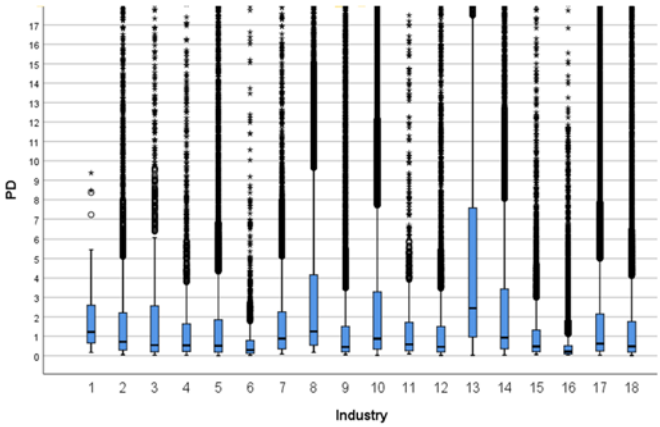
[56] Interest-bearing debt is defined here as debt to credit institutions and short-term paper and bond debt. Physical assets are mainly inventories, accounts receivable, warehouses, shop premises, property and stock and logistics systems. It is more appropriate to view interest-bearing debt in relation to physical assets than in relation to total assets since total assets include intra-group assets such as stakes in subsidiaries, receivables from entities in the same group etc.

III.9 Debt-weighted probability of default (SEBRA model). Norwegian-registered non-financial limited companies and cooperatives



Source: Finanstilsynet

III.10 Probability of default spread (SEBRA model). Norwegian-registered non-financial limited companies and cooperatives. 2017



1	Extraction of oil and gas
2	Oil-related sectors
3	Agriculture and forestry
4	Fishing, sealing and whaling (incl. fish farming)
5	Manufacturing and mining
6	Electricity and water supply
7	Development of construction projects
8	Construction of buildings
9	Other construction activity
10	Retail industry
11	Shipping (exc. oil supply)
12	Land and air-based transport
13	Lodging and food services
14	Information and communication
15	Purchase and sale of property
16	Leasing and management of property
17	Private services
18	Education, health and culture

The blue pillar contains one half of the observations in the sample. The vertical, thin lines starting at the top and bottom of the blue pillar respectively show the upper and lower quartile, while the thick sections at the top and bottom of the lines show the 5 per cent of the companies with the highest and lowest operating margin respectively. Operating margins above 100 per cent and below -100 per cent respectively are omitted. The horizontal line in the chart shows the median value. Source: Finanstilsynet

sharp increase in interest-bearing debt in this period. A likely reason for the disparities is that more and more retail businesses rent their premises from property companies. This may have reduced the businesses' need for debt, but at the same time increased borrowing needs of businesses that offer commercial property. In the wake of the financial crisis, interest-bearing debt has fallen relative to operating earnings in all sub-segments of the retail industry (chart III.8). This indicates strengthened debt servicing capacity. The fall is smaller in the other industries.

PROBABILITIES OF DEFAULT

Finanstilsynet's SEBRA model[57] estimates probabilities of default as a function of limited companies' debt servicing capacity, liquidity and capital adequacy. In 2017 the debt-weighted probability of default[58] rose in 'sale and repair of motor vehicles' and 'retail trade', whereas it fell marginally in 'wholesale and commission trade' (chart III.9).

The debt-weighted probability of default also fell marginally in the other industries combined. Among the other industries, 'fish farming', 'manufacturing', 'lodg-

[57] See E. Bernhardsen and K. Larsen, "Modelling credit risk in the enterprise sector – further development of the SEBRA model", Economic Bulletin (Norges Bank), 3/2007 and E. Bernhardsen and B.D. Syversten, Stress testing the Enterprise Sector's Bank Debt: A Micro Approach", International Journal of Central Banking, September 2009.

[58] The sum of the default probability multiplied by the total debt of the individual company, divided by the total debt of all companies.

ing and food services' and 'building and construction'saw a marginal increase in the debt-weighted probabi-lity of default in 2017, whereas a reduction was noted in the other industries. The debt-weighted probability of default[59] in 2017 was lowest in 'energy supply' (0.36 per cent) and 'commercial property' (0.58 per cent). In 'sale and repair of motor vehicles' the debt-weighted probability of default was 1.42 per cent, in 'wholesale and commission trade' 1.40 per cent and in 'retail trade' 2.16 per cent. Default probabilities are low historically speaking across all main industries.

Debt-weighted probabilities of default were throughout the period 1988–2017 higher in 'retail trade' than in the other mainland industries apart from 'lodging and food services'. In parts of the period 'fish farming' and 'building and construction' showed a higher debt-weighted probability of default than 'retail trade'. 'Retail trade', 'lodging and food services' and 'building and construction' all comprise a large number of small businesses (small shops, restaurants, handicraft businesses and the like) that generally meet relatively low entry barriers combined with strong competition. Hence it is not unnatural for these businesses to show a higher debt-weighted probability of default than other industries. These industries have also shown the highest bankruptcy rate in the past decade; see the relevant box. 'Sale and repair of motor vehicles' and 'wholesale and commission trade' have also shown a higher debt-weight probability of default than the other mainland industries as a whole for most of the period, but not the same extent as 'retail trade'.

The retail industry is among the industries with the highest proportion of entities with a high probability of default; see industry no. 10, chart III.10. One of four retail industry businesses showed a probability of default above 3.2 per cent in 2017, while 5 per cent had a default probability above 7.6 per cent.

Only 'lodging and food services', 'construction of buildings' and 'information and communication' show a larger proportion of companies with a probability of default higher than that of the retail industry. 'Retail trade' is the principal contributor to the large proportion of companies with a high probability of default in the retail industry, although 'wholesale and commission trade' show a higher proportion than most other industries (not shown in a chart). A high probability of default indicates that a company is less robust to hard economic times than companies with a low or mid-range probability of default.

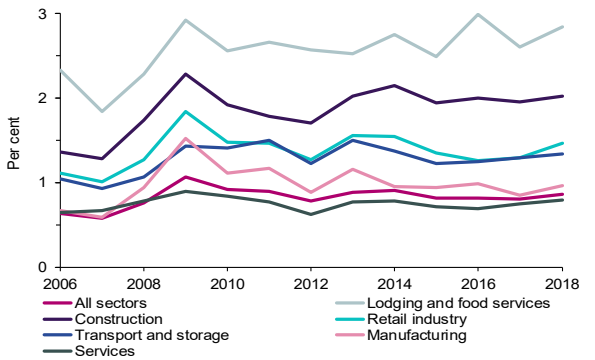
Trend in bankruptcies

The overall number of bankruptcies in the first three quarters of 2018 was about 12 per cent higher than in the same period of 2017. If the trend continues in the fourth quarter the number of bankruptcies in 2018 will exceed the number noted in the financial crisis year 2009. Measured in per cent of the number of entities, the bankruptcy rate is lower than during the financial crisis (chart III.A).*

There is often a considerable time lag between the point at which a company incurs serious financial problems and the point at which it is registered as bankrupt. An increase in the bankruptcy rate in 2018 could be a result of a negative trend in 2017 or even earlier. Moreover, a large proportion of bankruptcies are in small businesses with little interest-bearing debt. For businesses with substantial interest-bearing debt it may be in the lenders' interest to opt for solutions other than bankruptcy. For example, all or parts of the business can be taken over by other entities on a permanent basis or by the bank on a temporary basis. In a severe, protracted downturn the opportunities for such solutions may be limited, among other reasons because carrying out many takeovers simultaneously is both time- and resource-intensive and because the finances and future prospects of the businesses concerned steadily deteriorate the

[59] The default probabilities are weighted by total debt, not just debt to credit institutions. A relatively large share of the debt-weighted probability of default in the retail industry is related to accounts payable.

III.A Number of bankruptcies in per cent of the number of entities in the particular sector (bankruptcy rate). In total and in main industries with the highest bankruptcy rate**



Sources: Statistics Norway and Finanstilsynet

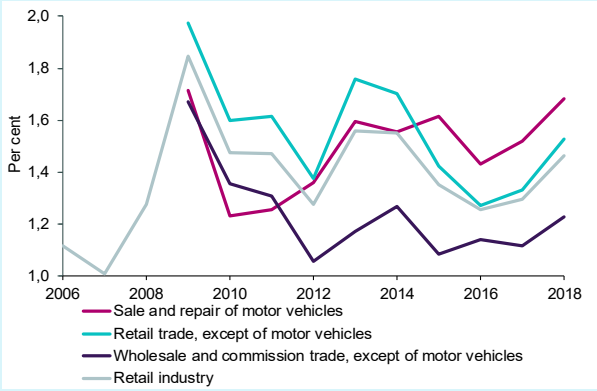
longer the downturn lasts. This may lead to higher default rates.

Bankruptcy proceedings can be resource-demanding. In many cases creditors, including the banks, therefore undertake a cost-benefit analysis of the bankruptcy process compared with other options. A very low interest rate level has made it relatively cheap for creditors to keep businesses with payment difficulties afloat. This could change as and when interest rates increase.

The bankruptcy rate has risen in the past year in all main industries apart from 'sale and operation of real property'. The rise has been strongest in 'manufacturing' and the 'retail industry', although differences between the industries are not large. The bankruptcy rate has been highest in 'lodging and food services', followed by 'building and construction'. The retail industry is roughly on a par with the average for all industries. The bankruptcy rate has risen across all sub-segments of the retail industry in 2018 (chart III.B).

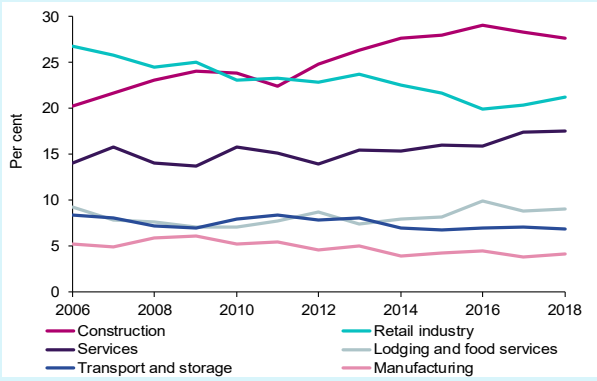
The retail industry's share of the total number of bankruptcies in Norway has fallen for several years, but has risen somewhat in the last two years. The proportion is largest in 'building and construction' (chart III.C).

III.B Number of bankruptcies in per cent of the number of entities in the particular sector (bankruptcy rate). Retail industry



Sources: Statistics Norway and Finanstilsynet

III.C Share of overall number of bankruptcies in Norway**

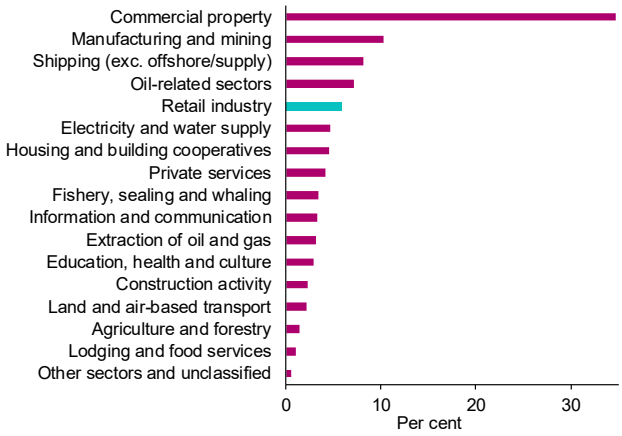


Sources: Statistics Norway and Finanstilsynet

These two industries combined accounted for about half of overall bankruptcies in 2018. Indeed they also account for more businesses than any other single sector: 12.5 per cent of all businesses are in the 'retail industry', 11.7 per cent in 'building and construction'. The third largest industry in terms of number of businesses is 'agriculture, forestry and fishery' (11.6 per cent).

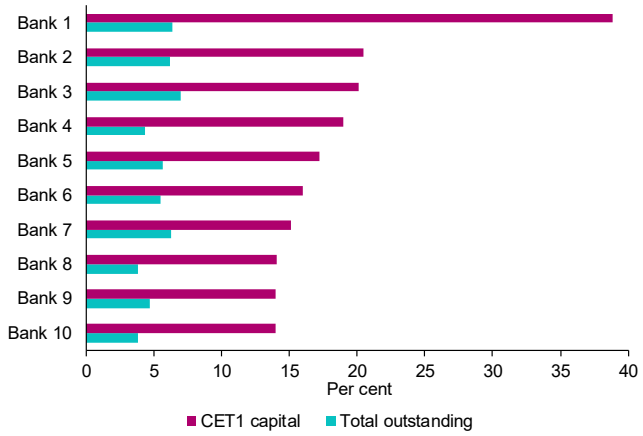
* No detailed figures for the number of bankruptcies exist prior to 2006. Finanstilsynet's estimate indicates that the bankruptcy rate during the dot-com crisis (2001-2003) peaked at 2.0-2.5 per cent, whereas it reached 3.5-4.0 per cent during the banking crisis (1988-1992).
** For 2018 the development in the number of bankruptcies in the period September-December is assumed to be the same as in the corresponding period of 2017

III.11 Norwegian financial institutions' outstanding credit to various industries. Per cent of outstanding credit to non-financial firms. As at 31 Dec. 2017



Source: Finanstilsynet

III.12 The 10 Norwegian banks with highest outstanding exposure to the retail industry. Share of CET1 capital exposure and total outstanding exposure to non-financial firms. As at 31 Dec. 2017



Source: Finanstilsynet

EXPOSURE TO THE RETAIL INDUSTRY

At the end of 2017 Norwegian banks' and finance companies' overall loan exposure to the retail industry came to NOK 105 billion, corresponding to 6.7 per cent of the banks' and finance companies' total loan exposure to non-financial firms (chart III.11). About 20 per cent of Norwegian banks' and finance companies' exposure to the retail industry is to retail businesses registered abroad. The overall exposure of branches of foreign financial institutions in Norway to

III.13 Norwegian banks' and other financial institutions' losses on loans to the retail industry and other non-financial sectors. Per cent of overall lending to the retail industry and other non-financial sectors respectively

Source: Finanstilsynet

retail businesses at the end of 2017 was NOK 48 billion, corresponding 5.5 per cent of these entities' total loan exposure to non-financial firms in Norway. The bulk of these branches' loan exposure to the retail industry is to Norwegian retail businesses.

Almost all Norwegian banks have loans to retail businesses. In the case of the ten Norwegian banks with the largest loan exposures to retail businesses, their exposures account for between 4 and 7 per cent of the banks' total loans to non-financial firms (chart III.12). In terms of common equity tier 1 capital the share is between 15 and 20 per cent for nine of the banks, while for the last bank it is almost 40 per cent. The ten banks account for 75 per cent of Norwegian financial institutions' overall credit to the retail industry.

None of the largest Norwegian banks are heavily exposed to the retail industry. However, the industry accounts for a substantial share of the commercial property companies' tenants, and commercial property is the largest single industry (apart from residential mortgage lending) on the Norwegian banks' loan books (chart III.11). Finanstilsynet does not have access to detailed data on the retail industry's share of the commercial property companies' overall tenant volume. In the period 2000–2017, utility area starts and completions of shopping centres, department

stores, shop buildings, filling stations and other commercial buildings accounted for about 16 per cent of total utility area starts and completions for other than residential and recreational properties[60]. The retail industry's (shopping centres, shops and the like) share of the annual transaction volume (measured in NOK) in the case of commercial properties sold on the Norwegian market in the period 2005–2017 averaged about 22 per cent[61]. This may indicate that the indirect exposure to the retail industry is relatively substantial and increasing. A negative trend in the industry will impair profitability in the commercial property sector. Problems in the retail industry due to slacker demand will also affect many suppliers to the retail industry. The impact on the Norwegian economy and Norwegian banks is dampened by the fact that several of these suppliers are foreign (food producers, electronics manufacturers, car manufacturers etc).

In aggregate for the period 1987–2017, the banks' losses on loans to the retail industry accounted for about 12 per cent of the banks' total losses on loans to non-financial sectors. In the same period the retail industry's share of total loans to non-financial sectors averaged about 8 per cent. The loan share fell fairly steadily from about 16 per cent at the start of the 1990s to about 6 per cent in 2017. The fact that the loss share is larger than the loan share indicates that loans to the retail industry have on average been more exposed to loss than loans to other non-financial sectors as a whole. One important reason is that the retail industry businesses are only limitedly able to furnish property as collateral, inasmuch as many of them do not own the premises they occupy. Although property values can also plunge, they have, in contrast to many other types of collateral (inventories, production equipment and the like), an element of permanent value in the form of site value. Hence property values are likely to rise in the next upturn whereas other types of collateral are likely to lose all or some of their value.

During the banking crisis at the end of the 1980s and start of the 1990s, losses on loans to the retail industry as a share of loans to that industry were roughly on a par with those in the other non-financial industries (chart III.13). Loan losses were substantial in all main industries. However, the marked increase in loan losses occurred at an earlier point in the retail industry than in many of the other industries. The same was the case during the financial crisis in 2008-2009, but the losses were smaller than during the banking crisis. In 2017 losses on loans to the retail industry increased sharply despite a relatively benign economic climate. The increase is related to the structural changes described in the introduction to this theme chapter. Both the trend in loan losses and in debt-weighted probability of default (chart III.9) indicate that the retail industry is vulnerable to weaknesses in the economy. As already mentioned, the retail industry has relatively little interest-bearing debt. This helps to curb financial institutions' losses in monetary terms. While suppliers and creditors other than financial institutions may have incurred losses on their claims against retail industry businesses, no assembled overview in this regard is available.

[60] Sources: Statistics Norway and Finanstilsynet.

[61] Sources: Akershus Eiendom and Finanstilsynet.

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