

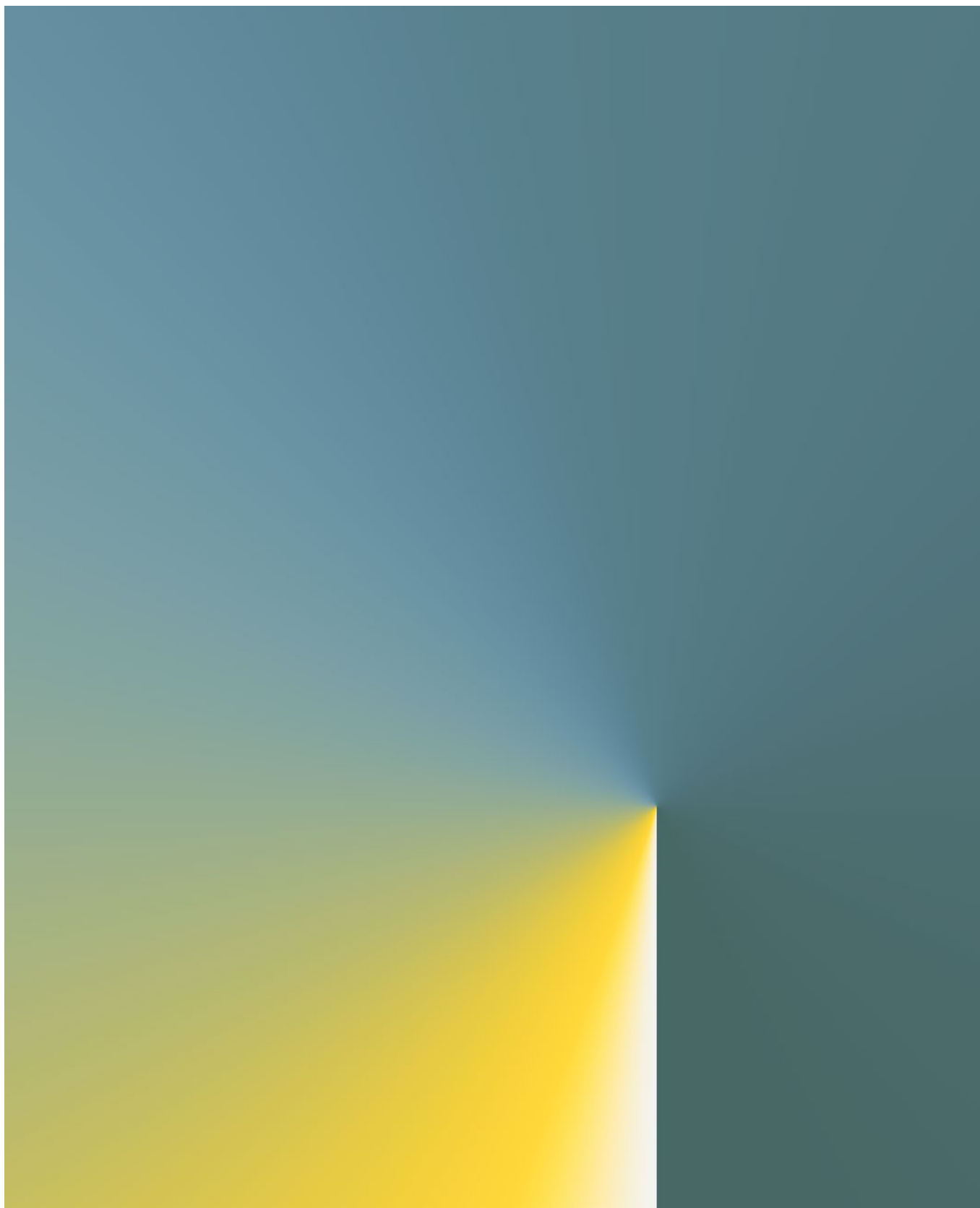


FINANSTILSYNET

THE FINANCIAL SUPERVISORY
AUTHORITY OF NORWAY

RISK OUTLOOK

DECEMBER 2021



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 2021

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Cut-off date: 1 December 2021.

Data in the charts last updated on 30 November 2021.

SUMMARY

Activity in the Norwegian and international economies has quickly rebounded after the sharp downturn triggered by the Covid-19 pandemic. The economic upturn reduces the risk of financial instability in the short term, but considerable uncertainty remains about the future path of the pandemic. There are significant vulnerabilities in both the Norwegian and the international economy, and some countries and regions are particularly at risk.

High household debt and high property prices have long been, and still are, the key vulnerabilities in the Norwegian financial system.

The debt burden of Norwegian households is high, both in historical terms and compared with other countries. Debt growth is somewhat higher than before the pandemic. Many households have very high debt relative to income and the value of their property and are vulnerable to declining incomes, rising lending rates and falling house prices. If a large number of households have to reduce their purchases of goods and services at the same time, this could have major negative ripple effects in the economy and the financial system.

After a sharp rise in house prices from summer 2020, growth has slowed over the past six months. The price level is considerably higher than prior to the pandemic.

Commercial property prices have risen sharply over many years, and the banks have large portfolios of loans to commercial property companies. An unexpected rise in interest rates or significantly higher risk premiums on corporate bonds may lead to a substantial fall in commercial property prices and heightened credit risk for the banks. Increased focus on environmental requirements may cause greater uncertainty about the properties' market value, especially older buildings.

Consumer price inflation has risen considerably in a number of countries over the past six months. Demand for goods and services has increased parallel to a weakening of globally important production chains. Shipping costs and commodity prices have risen steeply, and there is a shortage of input factors in some sectors. Adverse weather conditions have reduced crops and contributed to higher food and energy prices. It is uncertain whether the elevated level of inflation proves to be temporary. If inflation remains at the current level or rises, there may be a need for significant monetary tightening in a number of countries. If so, this will also affect the Norwegian economy and the Norwegian financial system, which is vulnerable to a sharp rise in interest rates.

The stock markets recovered rapidly, and stock market indices in most countries are significantly higher than prior to the pandemic. Yields on bonds with long maturities have risen and are approximately on a level with the beginning of 2020. The increase may be due to rising inflation, expectations of higher economic growth and indications from central banks of higher key policy rates and a reduction in securities purchases.

Norwegian industries were affected in different ways by the pandemic. Owing to increased energy, input, shipping and inventory costs, there has been a recent weakening of many firms' profitability. The phasing out of support measures may result in a further decline in earnings. The share of interest-bearing debt in firms with weak debt servicing capacity has increased, and the debt servicing capacity of parts of the business sector will deteriorate markedly if operating and interest expenses rise.

The risk of cybercrime is steadily increasing, but has so far not resulted in serious incidents in Norwegian financial institutions. Close interconnectedness in the financial system raises the risk that individual incidents will escalate, affect more market players and lead to financial instability.

The profitability of Norwegian banks is virtually back to pre-pandemic levels. On average, banks' loan losses

have been moderate, but losses on consumer loans remain high.

The Ministry of Finance's request to Norwegian banks to restrict dividend payments etc. remained in force through September 2021. Several banks have announced that they will distribute additional dividends during the fourth quarter. Finanstilsynet expects banks' capital planning to factor in the considerable uncertainty that prevails about future economic developments. It is vital that the banks are well capitalised to be able to absorb loan losses and provide loans to creditworthy customers during an economic downturn.

Partly as a consequence of less stringent capital requirements from year-end 2019 and a reduction in the counter-cyclical capital buffer requirement in spring 2020, the banks' capital far exceeded the regulatory requirements at the onset of the pandemic. Reduced capital requirements may gradually have an adverse impact on the banks' financial position, which will be unfortunate in light of the risk in the Norwegian financial system. The scope of action within European legislation should therefore be used to counteract such a development.

The profitability of pension institutions has improved thus far in 2021, backed by the positive stock market trend. The low interest rate level remains challenging for pension institutions with a large proportion of guaranteed products and may cause them to raise the proportion of high-risk and less liquid investments in order to increase expected returns. Sizeable financial market investments make the pension institutions vulnerable to a reduction in the prices of equities, bonds and real estate. Norwegian life insurers are highly exposed to the banking sector and have also increased their investments in green bonds. At end-September 2021, life insurers' solvency ratio was somewhat higher than prior to the pandemic, while the ratio has declined somewhat for pension funds (at end-June).

Non-life insurers achieved an unusually strong insurance result in the first three quarters of 2021.

Lower economic activity levels and reduced travel brought down the claims frequency. The solvency of non-life insurers improved in 2021, but their solvency ratios are still below pre-pandemic levels. This is partly due to dividend payments.

Climate change and the transition to a low-emission society will entail a significant restructuring of the Norwegian economy and cause a decline in earnings in industries and firms that are negatively affected by the changes. This may subject banks and other financial institutions to losses. In addition, non-life insurers are particularly exposed to physical climate risk.

Based on climate scenarios from the Network for Greening the Financial System and Bank of England, Finanstilsynet has analysed two possible pathways for the Norwegian economy. In the first scenario, the transition to a low-emission society starts immediately and takes place with no major costs to the real economy. In the alternative scenario, the restructuring starts later and is characterised by a sudden and disorderly transition both in Norway and internationally. This heightens the risk of misinvestment and a fall in the value of existing production equipment. Finanstilsynet's calculations indicate that in such a scenario, banks will suffer significant losses on corporate loans. Estimated losses are nevertheless considered to be manageable for Norwegian banks.

Low interest rates and ample access to liquidity in global markets have stimulated investors' risk appetite for a long period. Historically high prices heightens the potential fall in the stock markets. Valuations are particularly high in the technology sector, where recent years' increases are a key factor behind total global returns.

The number of new firms listed on Oslo Børs has risen further in 2021. The high level of activity reflects ample access to capital for startups. Many of these firms have no or little turnover. Access to capital has been particularly good for technology and renewable energy firms. In recent years, there have been strikingly few initial public offerings on Oslo Børs, while many startups have chosen to apply for admission to

SUMMARY

trading on Euronext Growth. There is considerable risk associated with investments in startups.

Many households have significantly increased their financial risk exposure by investing both directly in the equity market and through equity funds, and there has been a sharp rise in the number of private individuals owning equities in individual companies. Both in Norway and internationally, there is great interest in new investment opportunities, such as virtual currencies and other crypto assets. Such investments entail a high level of risk for the individual investor. Blockchain technology can facilitate the streamlining of many processes in a modern financial system, but the growth in the crypto market has so far had little impact on payment and settlement systems. Cryptocurrencies can make it harder to fight crime and have a negative effect on the financial system. Several international initiatives have therefore been taken to regulate crypto markets.

CHAPTER 1 ECONOMIC DEVELOPMENTS AND RISK AREAS

There has been a quick rebound in the Norwegian economy after the sharp downturn in spring 2020. Output levels are now higher than before the onset of the Covid-19 pandemic, and unemployment has fallen sharply. The economic upturn reduces the risk of financial instability, but uncertainty still prevails about the future path of the pandemic and significant vulnerabilities in both the Norwegian and the international economy. After a sharp rise in house prices from summer 2020, growth has slowed since March. Many households have very high debt relative to income and the value of their property. The vaccination rollout has improved the prospects for the global economy, but there are large differences in vaccine availability between individual countries and regions. There has been a steep rise in inflation in several countries over the past six months, which contributes to heightening the uncertainty about developments in both the Norwegian and the international economy.

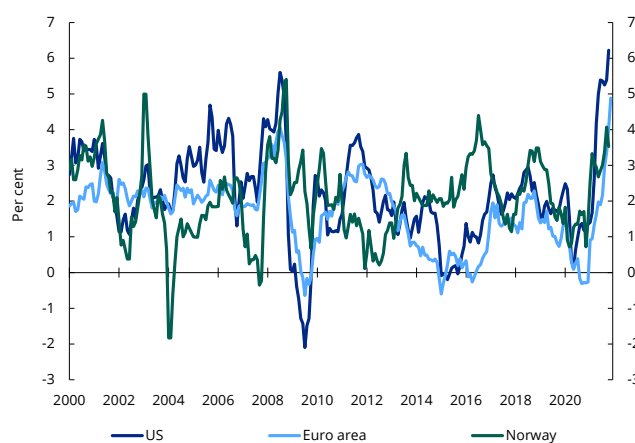
INTERNATIONAL AND NORWEGIAN ECONOMY

Upturn in the global economy

In industrialised countries, economic growth has picked up following the sharp downturn triggered by the Covid-19 pandemic in 2020. In the EU, the level of activity measured by GDP is still lower than before the pandemic, while GDP in the US is at a higher level than in March 2020. Developments are still weak in many emerging market and developing economies. This partly reflects lower vaccination rates and weak government finances.

Growth in the global economy is further dampened by disruptions to production chains. This also contributes to keeping investment down. The growth in global

1.1 Inflation, selected countries



Source: Refinitiv

industrial production has slowed somewhat after a period of strong growth, while service production has increased through 2021. International trade recovered rapidly after the abrupt and sharp fall at the start of the pandemic and is above pre-pandemic levels.

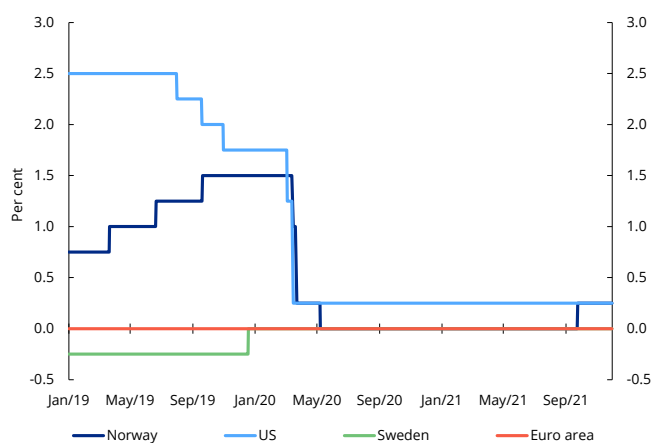
Declining unemployment

Unemployment has fallen in step with the reopening of society and increasing activity in advanced economies. The level is somewhat higher than prior to the pandemic in most countries, and there appears to be certain structural imbalances in the labour market. In spite of a large number of vacancies, employment is lower than before the pandemic in several countries, and unemployment among workers with low education in low-income occupations has increased.

Rising inflation

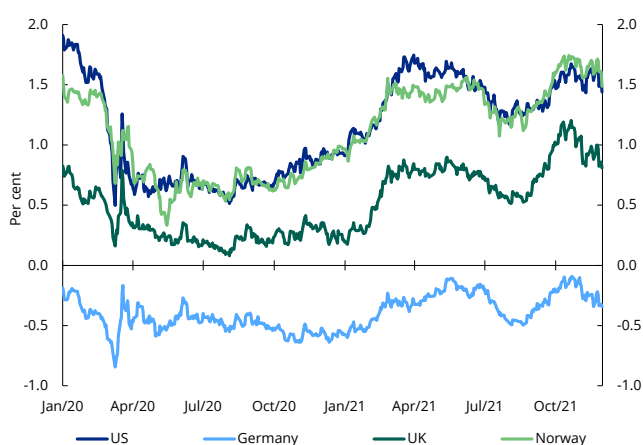
Since March 2020, consumer price inflation has increased considerably in a number of countries. The reopening of society has led to a significant rise in demand. The shutdown caused disruptions to important production chains, and computer chips are among the products in short supply. The green shift has led to a substantial increase in demand for important minerals and commodities. The higher level of activity has also helped to push up oil and gas prices. At the same time, transportation capacity is limited as a result of closed ports and the accumulation of containers. Adverse weather conditions have contributed to a sharp increase in food and energy prices.

1.2 Key policy rates, selected countries



Source: Refinitiv

1.3 10-year government bond yields



Source: Refinitiv

1.4 Equities, total return indices. Selected countries



MSCI indices. Source: Refinitiv

In the euro area, consumer prices increased by 4.9 per cent on a twelve-month basis in November. The upturn has been even stronger in the US, where prices were up 6.2 per cent in October (chart 1.1). This is the largest price increase in 30 years and far above the central banks' 2 per cent inflation target. Indices that measure underlying inflation show lower growth, but inflation measured in this way has also increased.

Key policy rates remain record low

Central banks in a number of countries quickly lowered their key policy rates in the spring of 2020 in response to the economic downturn. Key policy rates remain very low (chart 1.2). Norges Bank raised its key policy rate to 0.25 per cent in September 2021 and was one of the first central banks to tighten monetary policy. Forward rates indicate that the majority of Norway's most important trading partners will keep their key policy rates at current low levels up to the end of 2022 and then increase them gradually.

During autumn, long-term bond yields were up in several countries, and despite a certain decline from the beginning of October, yields are almost back at pre-pandemic levels (chart 1.3). The increase in yields may be due to expectations of higher economic growth, normalised interest rate levels, a reduction in central banks' securities purchases and rising inflation.

Stock market upturn

Stock markets recovered rapidly after the sharp decline following the outbreak of the pandemic. In most markets, prices are now significantly higher than before the pandemic (chart 1.4). In China, however, equity prices have been on the decline since February 2021. The Chinese authorities have introduced stricter restrictions in financial markets. In addition, a number of large Chinese property companies are reported to have debt problems. This has raised doubts about whether the growth in the Chinese economy can be sustained. See chapter 4 for a fuller account of the securities markets.

Considerable cross-country differences

After falling by just over 3 per cent in 2020, global GDP growth is estimated to pick up to between 5.5 and

6 per cent in 2021, according to the autumn reports issued by the IMF and the OECD. In 2022, the increase in output is expected to slow somewhat, and the growth estimates range from 4.5 to 5 per cent. This entails a slight downward revision of the estimates for 2021 and a corresponding upward revision for 2022 compared with the forecasts presented in the spring. The two institutions expect wide variation between countries and regions. Overall, growth is estimated to be somewhat higher in emerging market economies than in advanced economies (chart 1.5). Both the IMF and the OECD emphasise that there is still great uncertainty about global economic trends. New, more aggressive variants of the Covid-19 virus may gain a foothold before a sufficiently large proportion of the world's population has been vaccinated. In addition, developments in financial markets and commodity prices will be of great significance to global economic growth.

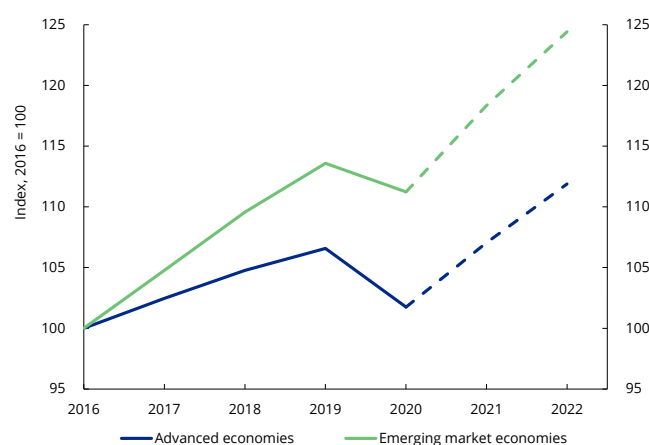
Rapid recovery in the Norwegian economy

Activity in the Norwegian economy has picked up markedly in recent months and now surpasses pre-pandemic levels (chart 1.6). The reopening of society and strong growth in household consumption have been important drivers behind the upturn. Increased activity among Norway's trading partners and higher prices of important Norwegian export goods are other contributing factors. Investment in mainland industries is starting to pick up, but limited supply of inputs and qualified labour has a dampening effect.

There are differences between activity levels in various industries, with the greatest rise in the sectors that were hardest hit by the pandemic. This applies in particular to accommodation, food services and culture, which were affected by the shutdown for several months. Overall, activity in the service sector was above pre-pandemic levels at end-September. Consumption of goods has remained at a high level throughout the pandemic, but the growth now appears to be abating.

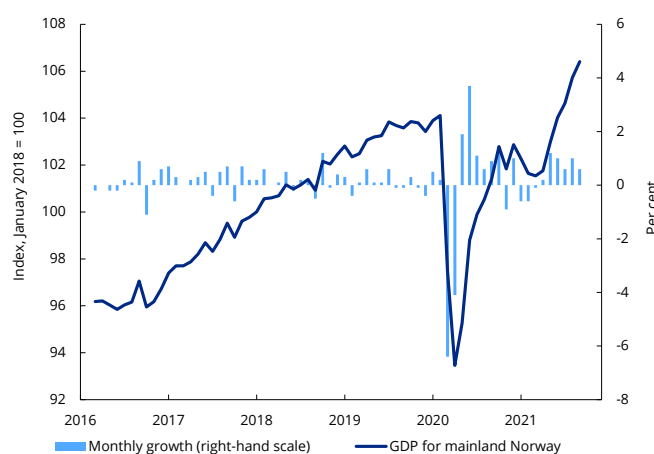
As a result of a high vaccination rate and the reopening of society, the Ministry of Finance, Norges Bank and

1.5 Developments in the global economy (GDP)



Sources: IMF and Refinitiv

1.6 GDP Mainland Norway, monthly figures



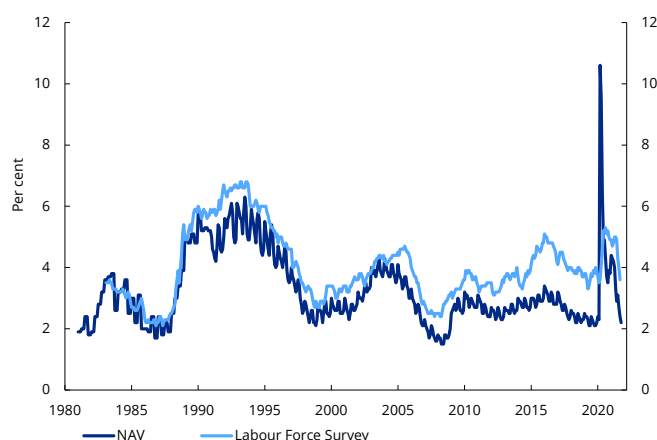
Seasonally adjusted. Sources: Statistics Norway and Refinitiv

Statistics Norway estimate that GDP for mainland Norway will grow by approximately 4 per cent in both 2021 and 2022. Household consumption is expected to be a particularly important driver, but investment and exports are also expected to have a positive effect. The phasing out of the authorities' support measures contributes to fiscal tightening. Norges Bank has indicated a gradual increase in the key policy rate, which will also dampen the upturn.

Unemployment back to pre-pandemic levels

Unemployment has fallen considerably since its peak in spring 2020 and has now virtually returned to pre-pandemic levels (chart 1.7). There has been a decrease in both the number of furloughed employees and the

1.7 Unemployment



Sources: NAV (Norwegian Labour and Welfare Administration), Statistics Norway and Refinitiv

number of unemployed employees since the restrictions were eased during the spring. The number of long-term unemployed has fallen in recent months, but around half of the job seekers have been unemployed for more than a year.

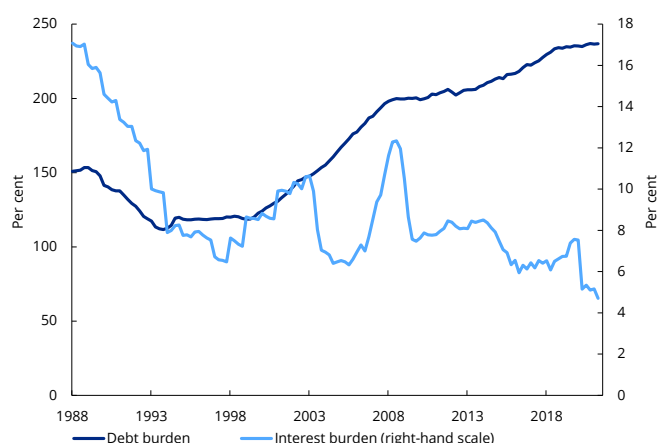
The rise in employment has recently outpaced the decline in unemployment, which indicates that people who were previously outside the labour market have now joined the workforce.

RISK AREAS

High debt burden in Norwegian households

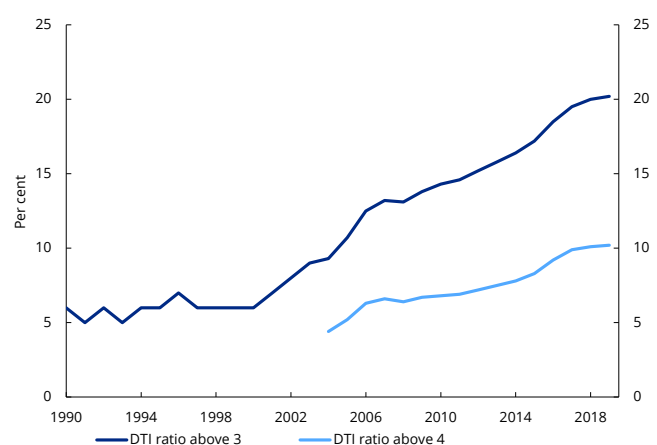
The high debt of Norwegian households represents a significant financial vulnerability. Debt growth is somewhat higher than prior to the pandemic and has been stable over the past six months. Households' debt burden has increased further from an already high level (chart 1.8). The current low interest rate level means that households' interest burden is historically low, but the level of debt means that Norwegian households and the Norwegian economy are vulnerable to a sharp rise in interest rates. Only a small proportion of Norwegian households' debt carries fixed interest rates. This proportion has been low for several years and has not increased significantly since interest rates started to decline. A higher interest rate level, as announced by Norges Bank, will therefore quickly be reflected in higher interest expenses for households.

1.8 Household debt burden and interest burden



Sources: Statistics Norway and Finanstilsynet

1.9 Share of households with a high debt ratio



Source: Statistics Norway

Households' wealth and debt are unevenly distributed, and a large proportion of their financial wealth is fairly illiquid. Households with high debt and limited savings are particularly vulnerable to higher interest rates, falling house prices and declining incomes. The share of households with a high debt-to-income ratio has increased markedly in recent years. From 2004 to 2019, the share of households with debt exceeding three times gross income rose from 9 to 20 per cent (chart 1.9). During the same period, the share of households with debt exceeding four times gross income was up from 4 to 10 per cent.

[Finanstilsynet's residential mortgage lending survey for 2021](#) (in Norwegian only) shows that almost half of new residential mortgages were granted to borrowers whose total debt represented more than 400 per cent of gross annual income (debt-to-income ratio, DTI). This proportion has risen over the last few years. The total DTI among borrowers who took out new residential mortgages has increased from 334 per cent in 2019 to 347 per cent in 2021.

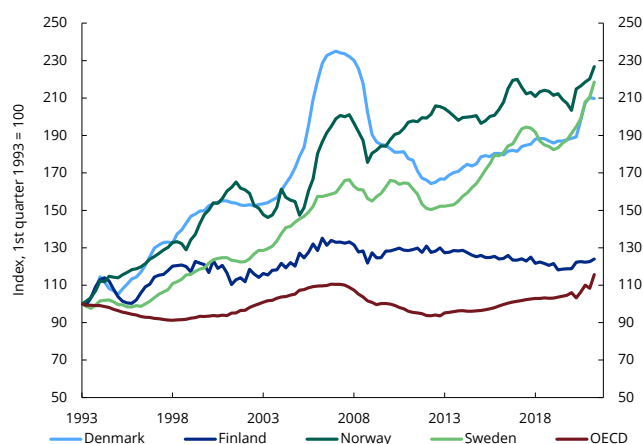
High house prices

House prices in Norway have risen considerably over a long period of time and significantly more than disposable income per capita (chart 1.10). The interest rate reductions in spring 2020 stimulated demand in the housing market, and extensive use of home working and limited consumption opportunities during the pandemic probably pulled in the same direction. Since April 2021, however, house price growth has slowed, and 12-month growth was 7 per cent at end-October. Many countries have experienced strong house price inflation since the outbreak of the pandemic, including countries where the central bank's key policy rate was zero or negative prior to the pandemic.

House prices have risen considerably in all major towns (chart 1.11). Oslo saw the highest house price growth in 2020, but now looks set to record the lowest growth among the largest towns in 2021. However, the price level is still significantly higher than in other towns. 2020 was the first year of net migration out of Oslo since 2000. There has been strong price growth in the areas around Oslo over the past year, indicating that more people have moved further out of the city centre during the pandemic.

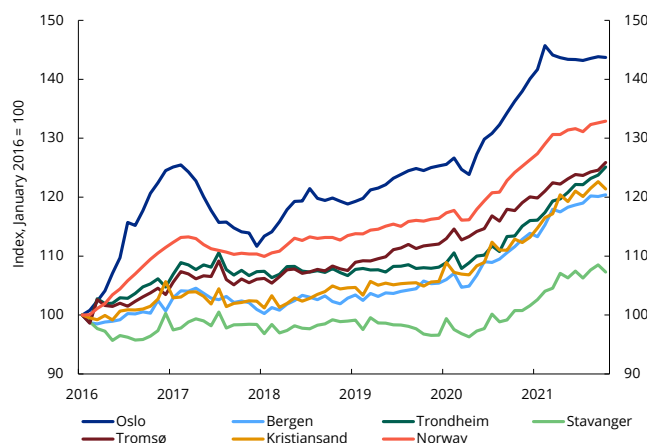
Forecasts from Statistics Norway and Norges Bank point to moderate house price inflation over the next two to three years. This is explained by a gradual increase in interest rates and higher consumption when the consumption pattern normalises after the pandemic. The expected increase in housing investment will also have a dampening effect on house price inflation.

1.10 House prices deflated by disposable income per capita



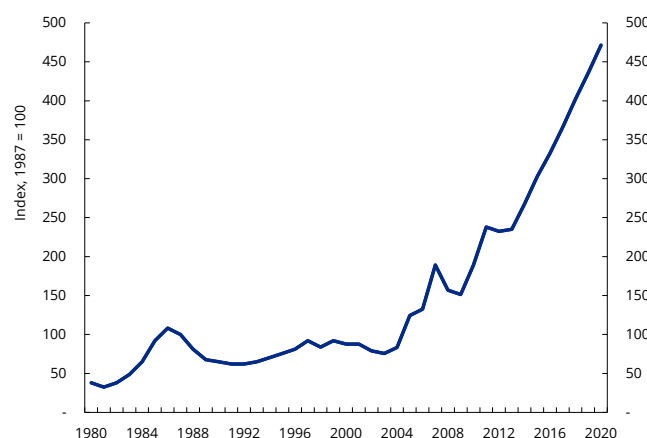
Source: OECD

1.11 House prices, selected towns



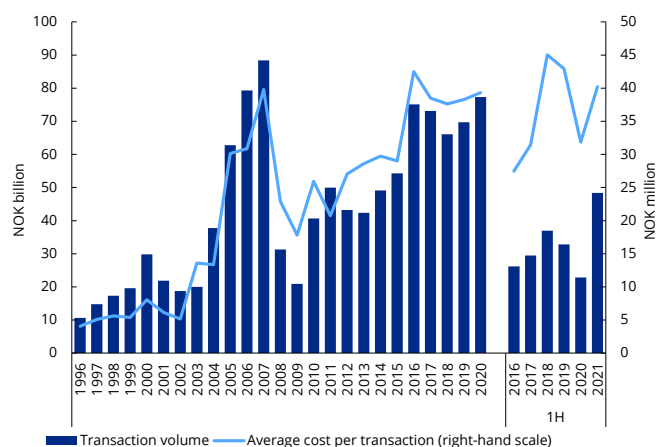
Sources: Eiendom Norge, Finn.no, Eiendomsverdi and Refinitiv

1.12 Price indicator, commercial real estate



Based on prime office space in central Oslo. Sources: OPAK, Dagens Næringsliv, Entra and Finanstilsynet

1.13 Commercial real estate, transaction data



Source: Finanstilsynet

High prices on commercial real estate

Commercial property prices have risen significantly over the past 15 years (chart 1.12). According to market participants, there are prospects of a further rise in rental prices, which may contribute to maintaining the high price level.

Statistics from real estate agents show that both the number of transactions and the average price per transaction fell markedly in the first half of 2020 (chart 1.13). However, the decline was followed by a sharp increase in the second half of 2020, and the transaction volume for the year as a whole was the highest reported since 2007. The positive trend continued in the first half of 2021, and the transaction volume is higher than the average at the same time of year for the preceding five years.

The high commercial property prices constitute a significant vulnerability that may affect financial stability in Norway. Many of the largest banks are heavily exposed to commercial property companies, which account for the largest share of banks' lending to non-financial firms. The required rate of return for commercial real estate has declined over the past year. A general increase in interest rates or higher risk premiums may lead to a steep fall in commercial property prices. The pandemic could have a lasting effect on future demand for office space and shop premises as well as hotels. Greater focus on environmental requirements for commercial real estate also

causes greater uncertainty about price developments, especially for older buildings. Insurers have sizeable investments in commercial real estate. Developments in the commercial property market, and in the companies operating in this market, are thus important for the earnings and financial strength of a number of financial institutions.

Weak debt servicing capacity in firms in vulnerable industries

Non-financial Norwegian industries were affected in different ways by the pandemic in 2020. Oil service, air-based transport, shipping, accommodation and food services, as well as fishing and fish farming were hardest hit by a weaker operating margin. These industries accounted for more than 20 per cent of total interest-bearing debt in the Norwegian non-financial sector excluding oil and gas extraction. Developments in a selection of listed companies in the aforementioned industries in 2021 indicate that their debt servicing capacity remains weak. The other main industries, including industrials, commercial property, private services and retail trade, generally fared well in 2020. This was not least attributable to lower costs associated with the purchase of goods and services and lower energy costs. The authorities' extensive support measures and the very low interest rate level were also key contributory factors. Many firms have experienced a recent increase in energy, input, shipping and inventory costs as well as in lending rates.¹ Earnings may also be impaired by higher labour costs and a further rise in interest rates. The tax authorities started collecting outstanding direct and indirect taxes in October. As other support measures are also being phased out, a number of firms may thus experience liquidity challenges.

Increased debt in firms with poor debt servicing capacity

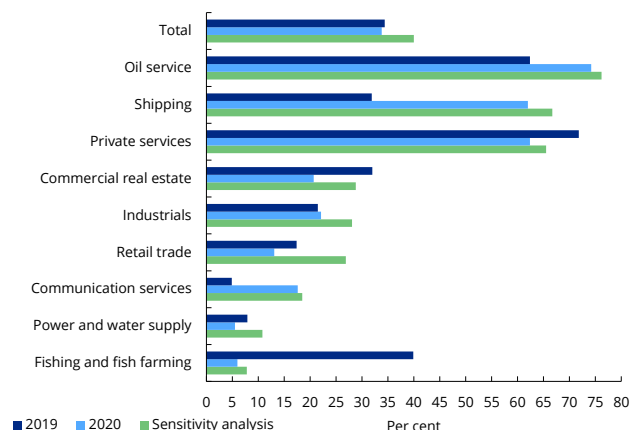
The share of interest-bearing debt in firms with poor debt servicing capacity² was approximately unchanged from 2019 to 2020 for the business sector as a whole (chart 1.14). There are significant differences between industries.

If operating earnings are assumed to be unchanged from 2020 while the cost of inputs rises by 2 per cent, wage costs by 1 per cent, other operating expenses by 2 per cent and the lending rate by 1 percentage point, interest-bearing debt in firms with weak debt servicing capacity as a share of total interest-bearing debt will increase from 34 to 40 per cent for the non-financial sector as a whole (chart 1.15). This corresponds to an increase of approximately NOK 140 billion. The sensitivity analysis indicates that the business sector is generally vulnerable to rising operating and interest expenses. The challenges ahead may be greater than the direct effect of the pandemic to date.

Just like borrowers who are in default, many of the firms with weak debt servicing capacity will recover financially ('return to non-default status') or be subject to an orderly liquidation or an acquisition with no loss to the lenders. Lenders may also temporarily keep loan customers more or less artificially alive by, for example, granting deferred payment of instalments or increasing the limit on the firm's working capital facility. With respect to firms that do not return to non-default status and thus go bankrupt, lenders will in some cases have such a high level of collateral that they avoid loan losses. But there will also be cases where the lender has no collateral backing, where the value of the collateral does not fully cover outstanding debt or where the lender only holds a second or third-priority security interest.

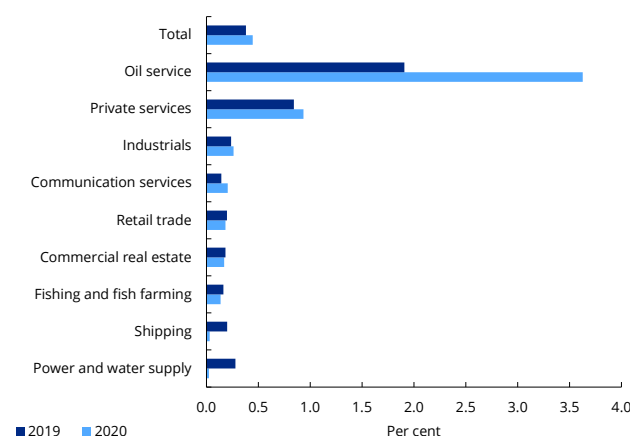
Chart 1.15 shows the total estimated undercollateralised interest-bearing debt in firms with weak debt servicing capacity as a share of total interest-bearing debt in the respective industry. The calculation is based on the assumption that only half of the debt of firms with weak debt servicing capacity is exposed to loss. The value of the collateral is estimated by summarising the book value of all assets excluding goodwill. This is an optimistic assumption, as it is rare that lenders have a first priority security interest in all assets and that the value of the collateral equals book value when realised. If interest-bearing debt exceeds the estimated value of collateral, the difference represents an undercollateralised exposure.

1.14 Interest-bearing debt in firms with weak debt servicing capacity as a share of total interest-bearing debt in the industry*



* All non-financial firms excluding oil and gas extraction. The chart shows the nine largest industries measured by interest-bearing debt. Source: Finanstilsynet

1.15 Estimated undercollateralisation in firms with weak debt servicing capacity as a share of total interest-bearing debt in the industry*



* All non-financial firms excluding oil and gas extraction. The chart shows the nine largest industries measured by interest-bearing debt. Source: Finanstilsynet

The estimated total undercollateralised exposure increased from 0.38 to 0.45 per cent of total interest-bearing debt from 2019 to 2020 (chart 1.15). When it comes to estimated undercollateralisation, there is also wide variations among industries.

Higher debt levels in many countries raise vulnerability

The economic upturn both in Norway and internationally reduces the risk of financial instability.

However, several of the stimulus measures implemented during the pandemic have contributed to higher debt in both the public and private sectors in many countries. This elevates vulnerabilities in the event of an economic downturn or higher interest rates.

Higher inflation may trigger vulnerabilities

The pandemic caused global supply chain disruptions and a shortage of input factors and difficulties for a number of manufacturers. Declining contagion rates led to a gradual reopening in an increasing number of countries, resulting in a steep rise in demand and considerable price pressures on goods. Inflation is therefore rising in many countries, particularly in the US, see chart 1.1 and further account above. The IMF and others expect the rise in prices to be temporary, but there are also factors indicating permanently higher inflation. Most central banks have an inflation target, and if prices rise for a prolonged period, it may be necessary to raise interest rates more than expected so far.

High pricing in the stock markets

Extraordinary fiscal policy measures, zero interest rates and substantial liquidity supplies from central banks to mitigate the downturn in the global economy have contributed to a sharp stock market upturn and low risk premiums. The ECB and the IMF believe that the rise in prices in the financial markets during the pandemic is a key risk factor which has been reinforced during the past six months. An unexpectedly sharp increase in interest rates combined with other negative events may lead to a significant decline in prices of equities, corporate bonds and real estate, as well as more restricted access to financing for banks and non-financial firms. Insurers will also be adversely affected by declining values in their equity, bond and property portfolios, and banks' loan losses may increase.

Digital vulnerability

Although the number of security incidents in the financial sector increased somewhat in 2020 and 2021 compared with previous years, this has thus far not led to

any serious incidents among institutions in the Norwegian financial sector. However, the incidents have uncovered vulnerabilities that, if exploited, could have caused significant harm. If a security incident occurs, it will primarily harm the institution itself and its customers. However, the high degree of interconnectedness within the financial system means that a single serious incident – in Norway or internationally – could lead to a more widespread crisis with the risk of financial instability if efforts to limit its consequences fail.

In situations with significant turbulence and uncertainty related to key economic or financial areas, serious ICT security incidents can amplify the turbulence and more easily lead to systemic crises.

Norwegian and international authorities devote considerable attention to cyber risk. In December 2020, the European Commission published its new [cybersecurity strategy](#), which will promote a secure digital economy and a secure digital society. Cybersecurity is one of the European Commission's top priorities. One of the measures is to build operational capacity to prevent, deter and respond to cyberattacks. In June 2021 the EU's plan for the establishment of a joint cyber unit was published. In Norway, Norges Bank and Finanstilsynet have cooperated on establishing a framework, TIBER-NO, for testing financial institutions' capabilities in detecting, protecting against and responding to sophisticated cyber attacks. The purpose of the framework is to promote financial stability by increasing the resilience of critical functions in the Norwegian financial sector against cyberattacks.

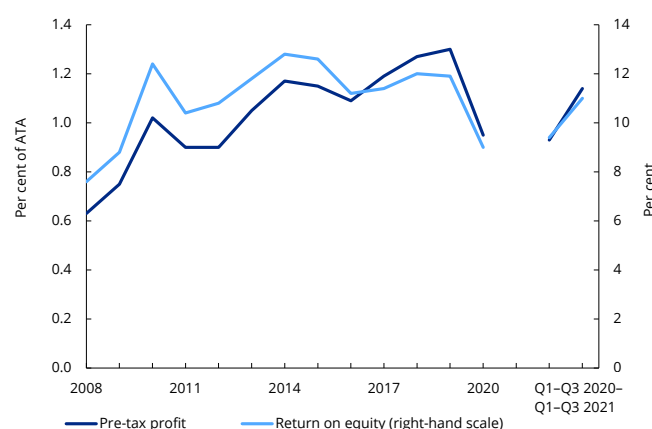
CHAPTER 2 BANKS

Banks' profitability is virtually back to pre-pandemic levels. As a result of the economic recovery, especially in Norway, banks have recorded moderate loan losses in 2021 owing to both reversals of previous impairment losses and a low level of new losses. Banks' net interest income has declined in consequence of the low interest rate level.

The banks need to be well capitalised to be able to absorb loan losses and provide loans during a future economic downturn. At the onset of the pandemic, banks' capital was well above the regulatory requirements. In addition, the counter-cyclical buffer requirement was reduced from 2.5 per cent to 1 per cent in March 2020, but has since been increased to 1.5 per cent with effect from 30 June 2022. In order to reduce the risk that the banks' financial strength would be seriously impaired through high distributions, the Ministry of Finance issued a request to Norwegian banks in January 2021, based on a recommendation from Finanstilsynet and the European Systemic Risk Board (ESRB), asking them to apply caution when distributing dividends for 2019 and 2020. The request remained in force until 30 September 2021. There is still considerable uncertainty about future developments in Norway and internationally, and Finanstilsynet expects the banks to take this uncertainty into account in their capital planning within the ordinary framework for distributions.

The banks have increased their liquidity reserves and their share of long-term funding. The outbreak of the pandemic in 2020 caused considerable market turbulence and increased risk premiums on banks' securities market funding. However, the markets recovered rapidly through 2020, and Norwegian banks have had ample access to new funding over the past year. This trend has continued through 2021, and the banks have been able to obtain bond market funding at risk premiums that have not been lower in ten years.

2.1 Return on equity and pre-tax profit



Source: Finanstilsynet

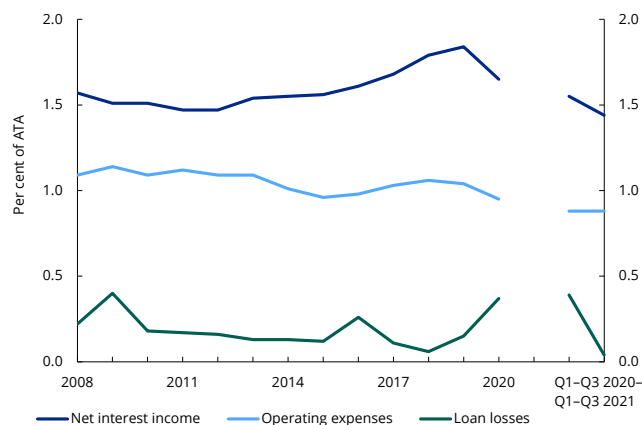
PROFITABILITY

Low loan losses ensure improved profitability

A rise in impairment losses at the start of the pandemic resulted in a reduction in profits for Norwegian banks. The lower interest rate level also had a negative effect on net interest income, which exacerbated the decline in profits in 2020. This year, banks' profitability has improved in step with the rebound of the economy after the reopening of society, mainly as a result of low loan losses and a positive trend in commission and fee income. After the first three quarters of 2021, the banks' total return on equity was 11 per cent (annualised) (chart 2.1). This was close to 2 percentage points higher than in the same period of the previous year and roughly on a level with the years prior to the onset of the pandemic.

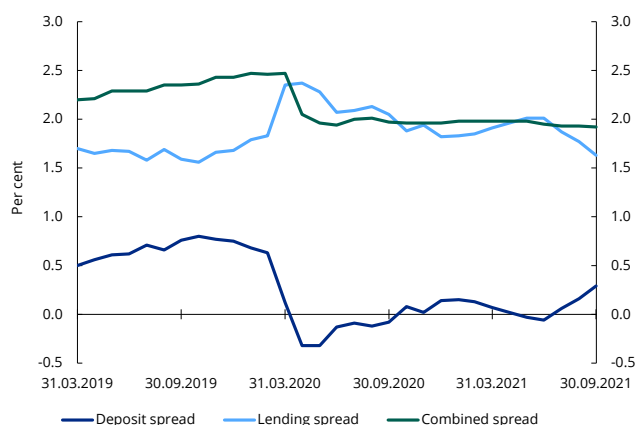
Reversals of previous impairment losses helped to keep loan losses at a very low level in the first three quarters of 2021. For the banks overall, loan losses represented just below 0.1 per cent of lending volume. Banks still have high losses on consumer loans, although these are also lower than the year before. If the consumer loan banks are excluded, the other Norwegian banks had a loss level of only 0.01 per cent of lending for the first three quarters. See Finanstilsynet's reports [Developments in consumer debt](#) and [Report on financial institutions' performance](#) (in Norwegian only) for a more detailed account of developments in consumer loans.

2.2 Net interest income, operating expenses and loan losses



Source: Finanstilsynet

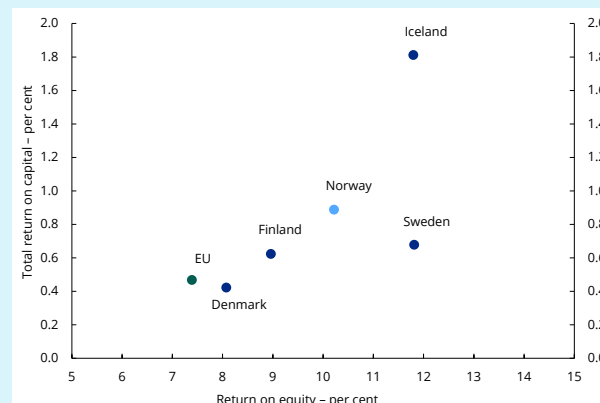
2.3 Interest spreads



Source: Statistics Norway

The banks' net interest income contracted following the decline in interest rates at the start of the pandemic (chart 2.2). In a situation where key policy and market rates have been close to zero, the deposit spread has been under particular pressure. A rise in money market rates since end-June has helped to raise the deposit spread (chart 2.3). The banks' lending spread has contracted during the same period, but they expect higher lending rates in the period ahead. A rising interest rate level, cf. description in chapter 1, may contribute to a higher interest spread and an increase in net interest income, but may also result in greater loan losses if higher interest rates lead to a deterioration in borrowers' debt servicing capacity.

2.4 Returns in Nordic countries and the EU, first half of 2021



Figures as at 30 June 2021. Sources: EBA Risk Dashboard and Finanstilsynet

Box 1 Profitability in the Nordic countries and the EU

The pandemic resulted in weaker profitability for banks in most European countries. Figures from the European Banking Authority (EBA) for the largest banks in each EU/EEA country show that the profitability of banks in almost half of the countries in the first half of 2021 was on a level with the period just before the outbreak of the pandemic. As can be seen from chart 2.4, the major banks in the Nordic countries, with the exception of Denmark, recorded a relatively sound return on capital in the first half of 2021, which was largely attributable to low loan losses.

Persistent high growth in lending to personal customers

Over time, banks' lending to personal customers is closely linked to developments in the housing market. House price inflation has contributed to upholding the growth in lending to personal customers during the pandemic (chart 2.5). Reduced volumes of consumer loans have contributed to slowing down growth, but the effect is limited since consumer loans make up a small part of banks' total lending to personal customers. The institutions included in Finanstilsynet's survey of the consumer loan market experienced a 12 per cent decline in lending during the twelve-

month period up to end-September 2021. Adjusted for the sale of portfolios of non-performing consumer loans, there was a reduction of 7 per cent.

Growth in corporate lending slowed considerably after the outbreak of the pandemic in 2020 (chart 2.6). The sharpest reduction took place among Norwegian branches of foreign banks throughout 2020. During the second and third quarter of 2021, there was once again a slight increase in banks' lending growth, which nevertheless remains markedly below pre-pandemic levels. Lending to firms within retail trade and transport in 2020 accounted for the most pronounced reduction in 2020, largely due to the negative effects of the pandemic. Following the winding down of the pandemic measures in 2021, the growth in lending to these industries has picked up. The growth in total corporate debt has increased slightly over the past year, especially due to a rise in securities market funding, and was back at pre-pandemic levels at end-September.

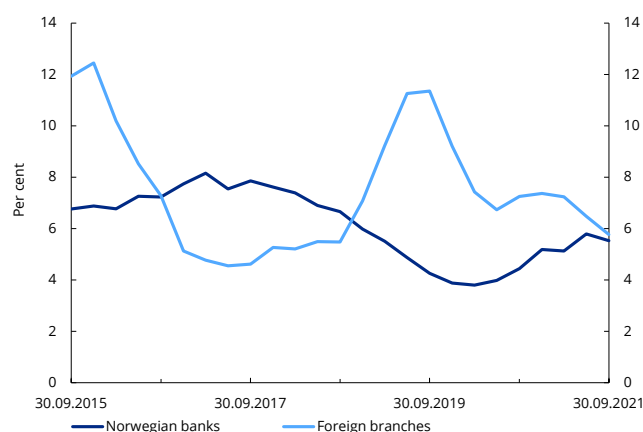
The banks expect moderate losses

Banks classify their loan portfolios according to the IFRS 9 accounting standard, whereby portfolios should be classified on the basis of estimated credit risk. Stage 1 is where credit risk has not increased significantly since initial recognition. Stage 2 is where credit risk has increased significantly since initial recognition, while stage 3 is where the loan is assessed to be credit impaired.³

A gradual improvement in the macroeconomic outlook has resulted in a decline in the share of stage 2 and 3 loans over the past year. In addition, the banks have reversed a large portion of the increased impairment losses recorded at the start of the pandemic. The major banks in particular have recorded substantial reversals, primarily on stage 2 and 3 loans to a number of different industries. The overall decline over the past year was partially offset by higher stage 3 loss allowances in a number of consumer loan banks.

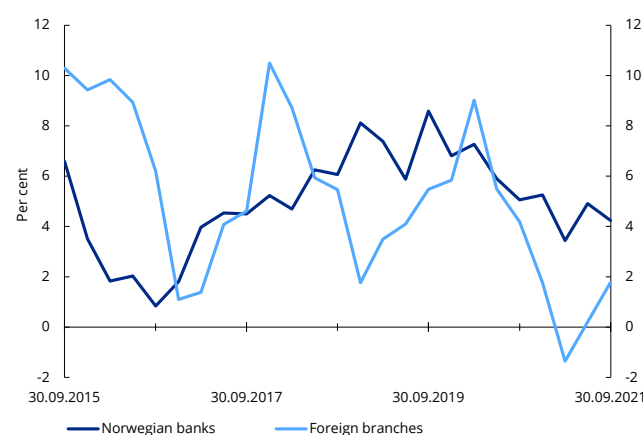
After the outbreak of the pandemic, the share of non-performing loans to both firms and personal customers increased and has only been marginally

2.5 Twelve-month growth in lending to personal customers



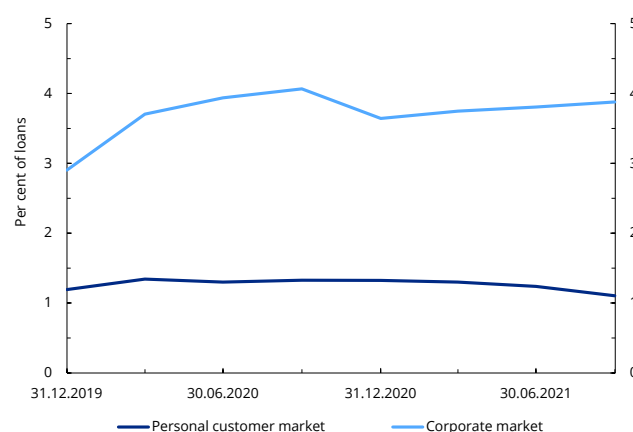
Source: Finanstilsynet

2.6 Twelve-month growth in lending to corporate customers



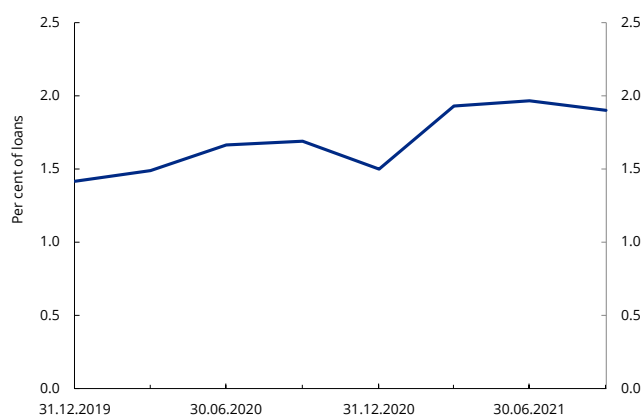
Source: Finanstilsynet

2.7 Non-performing exposures*



*Exposures more than 90 days past due and other non-performing exposures. Source: Finanstilsynet

2.8 Forborne exposures



Source: Finanstilsynet

reduced during the past year (chart 2.7). Just under 40 per cent of the total volume of non-performing loans in Norwegian banks represents payment default (more than 90 days past due). Other defaults concern loans where it is unlikely that the borrowers will be able to meet their obligations. The share of non-performing loans among firms included in Finanstilsynet's survey of the consumer loan market was considerably higher than for the banks as a whole at end-September 2021.

Developments in stage 2 and stage 3 loans, losses and non-performing loans may give the impression that the credit quality in the banks' loan portfolios has improved during the pandemic. However, the increased share of forborne exposures pull in the opposite direction (chart 2.8). Finanstilsynet's survey of the loan portfolios of a selection of the major banks may indicate that most of the interest and instalment payment deferrals granted in connection with Covid-19 have not been registered as forbearance, which means that the actual increase in forborne exposures may be greater than the chart suggests, cf. Finanstilsynet's report on losses and non-performing loans in credit institutions.

Climate change and the transition to a low-emission society entail a significant restructuring of the economy, with a risk of weakening the financial position of industries and enterprises that are negatively affected by the changes. This may subject banks and other financial institutions to losses. See further account in

chapter 5. Finanstilsynet expects financial institutions' risk management systems to cover all key risks, including risks related to climate change and the transition to a low-emission society, as well as risks related to structural changes in society and vulnerabilities in the business sector as a result of the pandemic.

Local savings banks expand geographically

At end-September 2021, there were a total of 117 Norwegian banks. The number of savings banks has decreased in recent years, mainly as a result of mergers among small and medium-sized banks. At the same time, the total number of Norwegian banks has been relatively stable following the establishment of a number of new specialised banks (consumer loans, SME loans, etc.). DNB Bank and some of the major Nordic banks have a physical presence in a large number of locations throughout Norway. Many of the newly established niche banks primarily offer online services. Savings banks have traditionally had the advantage of a local and regional presence.

Savings banks have served both personal customers and local businesses, and in-depth knowledge of their customers has been assumed to be an advantage in credit assessments.

Over the past decade, several savings banks have made strategic choices to expand their activities outside their traditional home market, partly by establishing physical branches/offices outside the county in which they are headquartered. Through this process, the banks have defined larger areas as being within their geographic range. Recently, a number of banks have also established online services targeting the national market. These services have often been given separate marketing names that do not reflect their local affiliation. This may have been done to facilitate marketing to customers outside the bank's traditional home market. At the same time, such marketing names may discourage the bank's local customers, who largely identify with a well-known bank name, from moving existing loans to new products with more favourable terms.⁴ Geographic expansion could trigger increased competition regionally and nationally. For the indi-

vidual bank, expansion may entail higher risk in the portfolio if the bank does not have equally good knowledge of customers and markets that are outside their traditional core area.

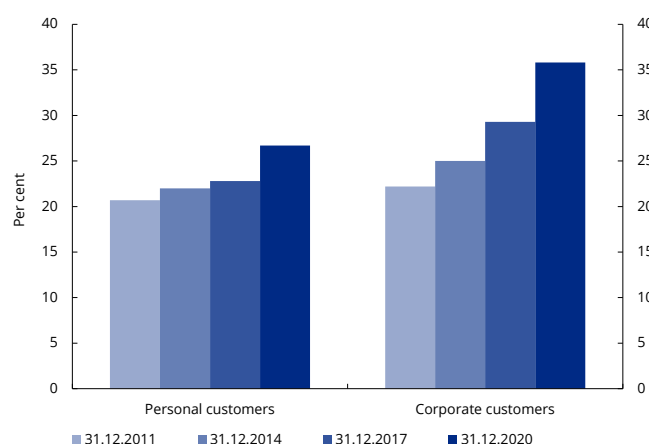
A description of developments in lending in the period 2011–2021 for all the ten large and medium-sized savings banks⁵ that have their own residential mortgage companies, follows below. The ten banks account for about 20 per cent of Norwegian banks' total lending. The banks' traditional home market is defined as the county⁶ in which their head office is located. As mentioned above, several of the large savings banks now also define neighbouring counties as their home market. For small savings banks, their home market will often be within a limited geographic area in a county.

Loans to personal customers primarily comprise residential mortgages, which account for about 90 per cent of banks' lending to this customer group. Such loans are basically standardised products. The banks make extensive use of automated models for credit assessments, based on available information about the borrower's income, debt situation, value of collateral, etc. Many borrowers wish to retain the customer relationship with their local bank, even after they have moved out of their home county. Due to geographic mobility, a proportion of the banks' personal customer loans is thus granted to customers outside their original home market.

As can be seen from chart 2.9, the banks in the sample have significantly increased their proportion of lending to customers outside their traditional home market over the past decade. The proportion varies, but increased for most banks during this period.

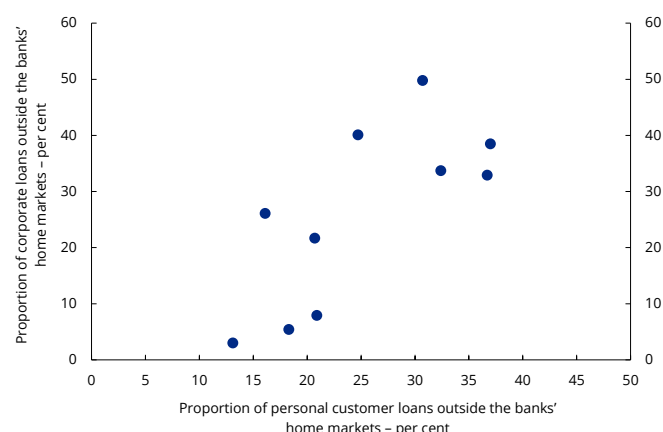
With respect to corporate loans, banks can rely less on automated credit assessment models. In-depth knowledge of the individual customer and the market in which it operates is thus more important for corporate loans than for personal customer loans in order to ensure a sound credit assessment. Chart 2.9 shows that there has been a greater increase in the propor-

2.9 Proportion of loans outside the banks' traditional home markets



Source: Finanstilsynet

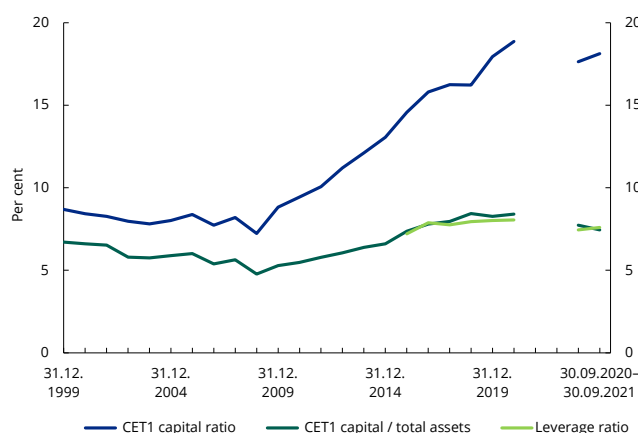
2.10 Proportion of individual banks' loans outside their traditional home market, 31 Dec. 2020



Source: Finanstilsynet

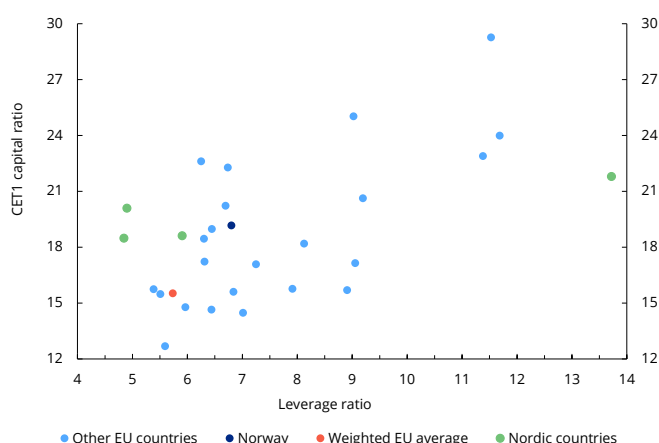
tion of lending outside the traditional home market for corporate customers than for personal customers, and that the proportion is higher for corporate customers. At the same time, there is considerable variation between the banks in the sample with respect to the volume of loans outside their home market. Chart 2.10 shows that there is some degree of correlation in individual banks' exposure to corporate and personal customers outside their traditional home market.

2.11 Capital adequacy ratios, Norwegian banks combined



Source: Finanstilsynet

2.12 Capital adequacy ratios of major European banks, 30 June 2021



Sources: EBA Risk Dashboard and Finanstilsynet

CAPITAL ADEQUACY

Owing to retained profits, banks' capital adequacy has improved during the past year

At-end September 2021, Norwegian banks' CET1 capital ratio, calculated as a weighted average, was 18.1 per cent, compared with 17.8 per cent a year earlier (chart 2.11). The increase in risk-weighted ratios in recent years is primarily due to regulatory changes and not an actual improvement in the banks' financial soundness. Over the past ten years, increased use of the internal ratings-based approach (IRB) to measure credit risk and higher growth in lending to the personal customer market than to the corporate market have helped to raise the CET1 capital ratio.

The incorporation of the European solvency framework into the EEA Agreement in 2019 entailed the removal of the Basel 1 floor for IRB banks and the introduction of the SME supporting factor for the calculation of capital requirements for loans to small and medium-sized enterprises, see Risk Outlook June 2021.

The leverage ratio is defined as Tier 1 capital as a share of on- and off-balance sheet exposures before risk weighting. The common equity Tier 1 capital ratio is defined as common equity Tier 1 capital as a share of risk-weighted assets. The banks' leverage ratio was 7.6 per cent at end-September 2021. With the exception of Iceland, Norwegian banks' leverage ratio is higher than for large banks in the other Nordic countries (chart 2.12). On the other hand, Norwegian banks' common equity Tier 1 capital ratios are on a level with corresponding ratios for the largest banks in these countries, which mainly reflects that Norwegian banks have a higher average risk weight.

Box 2 Future changes in banks' capital requirements

Changes to the EU's Capital Requirements Regulation (CRR2)

In spring 2019, changes to the EU's Capital Requirements Regulation and the Bank Recovery and Resolution Directive (the 'banking package') were adopted. The changes in the banking package will affect the common equity Tier 1 capital ratio through reduced capital requirements for lending to small and medium-sized enterprises (SMEs), reduced capital requirements for loans to infrastructure projects, changes as to which intangible assets can be included in CET1 capital, and new calculation methods for counterparty risk. CRR2 was introduced in the EU in summer 2021 and is expected to be introduced in Norway in the second quarter of 2022 at the earliest.

- Reduced capital requirements for loans to SMEs:
The SME supporting factor in the prevailing capital requirements regulations in Norway

reduces the capital requirement for small and medium-sized enterprises by 23.81 per cent for all loans to SMEs* below EUR 1.5 million. In CRR2, the same reduction applies to loans up to EUR 2.5 million. For loans that exceed this, there is a reduction of 15 per cent. Consequently, there will be a reduction in capital requirements for all loans to SMEs.

- Reduced capital requirements for loans to infrastructure projects:
CRR2 also includes a 25 per cent reduction in capital requirements for loans to enterprises that operate or finance infrastructure projects.
- Changes as to which intangible assets can be deducted from CET1 capital:
Software that is not adversely affected by the institution being subject to resolution or liquidated may be included in CET1 capital.
- New calculation methods for counterparty risk:
Three new calculation methods are introduced for counterparty risk. The new standardised approach is advanced, but enterprises with limited derivative activities may use simpler models.

Increase in the systemic risk buffer

In December 2019, the Ministry of Finance increased the systemic risk buffer requirement from 3 to 4.5 per cent. For enterprises using the advanced IRB approach (AIRB), the increased buffer rate applied from end-December 2020. For banks that use the standardised approach and the foundation IRB approach, the buffer requirement enters into force at year-end 2022. The systemic risk buffer requirement shall cover risks related to structural vulnerabilities and systemic risk in Norway and was therefore changed from encompassing all exposures to encompassing only exposures in Norway. Banks with large exposures abroad will thus be subject to a lower buffer requirement for the overall portfolio.

Increase in the countercyclical capital buffer

As a result of the higher level of activity in the Norwegian economy after the pandemic, the Ministry of Finance decided in June 2021 to increase the countercyclical capital buffer from 1 to 1.5 per cent with effect from 30 June 2022. The countercyclical capital buffer is intended to increase the resilience of the banks to loan losses during a future economic slump and mitigate the risk that the banks will contribute to reinforcing a possible downturn by reducing their lending. Norges Bank has announced that the buffer requirement will be returned to 2.5 per cent in the somewhat longer term.

New circular to banks using the IRB approach

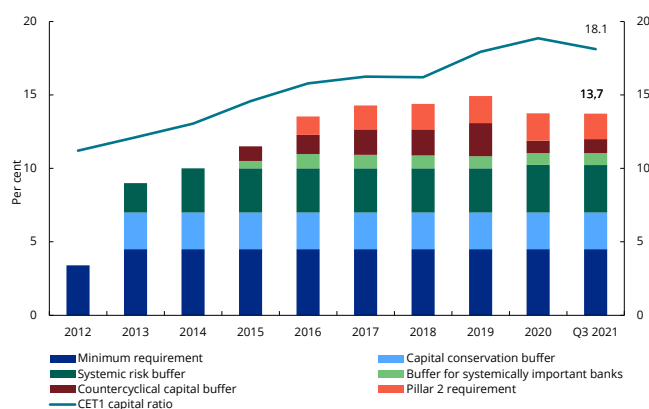
Circular 3/2021 clarifies Finanstilsynet's expectations regarding banks' use of the IRB approach, including requirements for banks' models for probability of default (PD) and loss given default (LGD) and their validation of the models. The circular is followed up in the ongoing supervision of banks, including the processing of applications from the banks for the change of models.

Proposal for the implementation of the final elements of Basel III

In October 2021, the European Commission presented a proposal for the implementation of the final elements of the Basel III regulations in the EU. The proposal included a new floor for capital requirements (output floor) calculated under the IRB approach, a new standardised approach for credit risk and requirements for the disclosure of ESG risk (Environmental, Social and Governance Risk). The proposed implementation deadline is 1 January 2025 in the EU, and the regulations will be implemented in Norwegian law through the EEA Agreement.

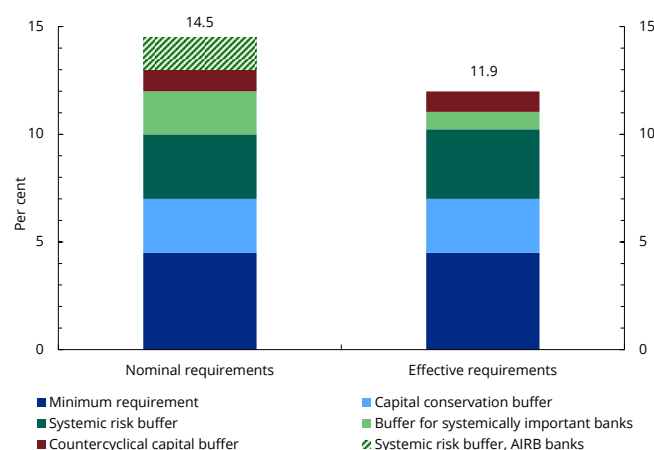
*Small and medium-sized enterprises are defined in the CRR as enterprises that employ fewer than 250 persons and have an annual turnover below EUR 50 million.

2.13 CET1 capital and effective capital requirements as a share of risk-weighted assets



Source: Finanstilsynet

2.14 CET1 capital requirements for Norwegian banks as at 30 September 2021*



*Excl. Pillar 2 requirements. Source: Finanstilsynet

Changes to the banks' capital requirement will reduce their margin to the capital requirement

As at 30 September 2021, Norwegian banks' total effective capital requirements excluding the Pillar 2 requirement was 12.0 per cent, weighted by risk-weighted assets. Including the Pillar 2 requirements, which total 1.7 per cent of the banks' risk-weighted assets, the total CET1 capital requirement was 13.7 per cent (chart 2.13). At end-September 2021, the banks thus held a total margin above the CET1 capital requirement (including the Pillar 2 requirements) of 4.4 percentage points. The announced future increases in banks' capital requirements, including the countercyclical capital buffer and the systemic risk buffer for

banks using the standardised approach and the foundation IRB approach, will affect this margin.

DNB Bank is the only Norwegian bank subject to the buffer requirement for systemically important institutions. The countercyclical capital buffer and systemic risk buffer are also set as institution-specific ratios based on the banks' exposures in different countries. This means that banks' effective requirements are lower than nominal ratios (chart 2.14). Based on Norwegian banks' exposures broken down by country, a countercyclical buffer of 2.5 per cent in Norway will give an average increase in the capital requirement of 1.4 percentage points from the current level. Correspondingly, an increase in the systemic risk buffer from year-end 2022 for banks using the standardised approach and the foundation IRB approach will raise the total capital requirement by 0.5 percentage points. All else equal, an increase in the systemic risk buffer and a potential countercyclical capital buffer requirement of 2.5 per cent would therefore have reduced banks' margin to the capital requirement from 4.4 to 2.5 percentage points if the changes had been in force as at 30 September 2021. As mentioned above, it has been decided to raise the countercyclical capital buffer to 1.5 per cent from 30 June 2022, while Norges Bank has announced that the buffer will be increased to 2.5 per cent in the somewhat longer term.

Recommendation on banks' dividend distributions lifted as of 30 September 2021

On 18 December 2020, the European Systemic Risk Board (ESRB) issued a recommendation to national authorities to request banks and insurers to refrain from making dividend payments and other distributions until 30 September 2020, unless the institutions apply extreme caution and the distributions do not exceed the conservative thresholds set by the national supervisory authorities. The background for this was the considerable uncertainty that prevailed about economic developments in the wake of the Covid-19 pandemic. In January 2021, the Ministry of Finance asked the banks to apply caution and to keep total

distributions within a maximum of 30 per cent of cumulative annual profits up to 30 September 2021.

In August 2021, the Ministry of Finance asked for Finanstilsynet's assessment of the need for further communication regarding the distribution of profits after 30 September 2021. Finanstilsynet pointed out that considerable uncertainty remains about the future path and economic effects⁷ of the pandemic, but that the uncertainty concerning future economic developments has nevertheless been markedly reduced. Finanstilsynet also pointed out that Norges Bank has stated that the countercyclical capital buffer rate will return to 2.5 per cent in the medium term, which helps to reduce the risk that their financial soundness will be severely impaired through high distributions. On this basis, Finanstilsynet stated that there would no longer be a need to restrict banks' distributions after 30 September. According to a press release dated 7 September 2021, the Ministry followed Finanstilsynet's advice, stating that it expected the banks to observe ordinary limits for future distributions. At end-September, the European Systemic Risk Board (ESRB)⁸ confirmed that the request to restrict distributions would lapse on 30 September 2021.

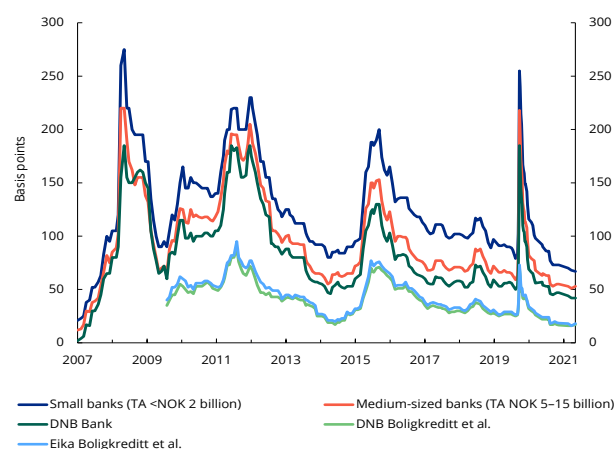
FUNDING AND LIQUIDITY MANAGEMENT

Continued low risk premiums on banks' market funding

The outbreak of the Covid-19 pandemic triggered significant market turbulence, which resulted in a steep rise in risk premiums on bonds. In mid-March 2020, risk premiums were about the same as during the global financial crisis in autumn 2008. However, the markets recovered relatively quickly. So far in 2021, risk premiums have been at the lowest levels recorded during the last ten years, both for senior bonds and for covered bonds (chart 2.15).

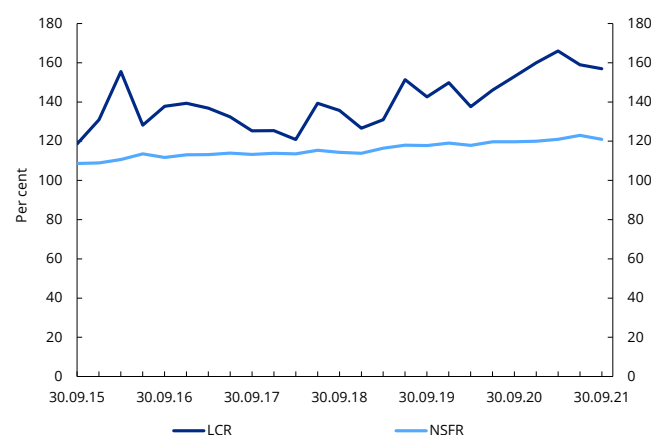
The ECB's pandemic emergency purchase programme (PEPP), which includes purchases of bonds, and similar support programmes from other central banks have contributed to the low risk premiums. The down-

2.15 Risk premiums on senior and covered bonds



Source: DNB Markets

2.16 Liquidity coverage ratio (LCR) and net stable funding ratio (NSFR)



Source: Finanstilsynet

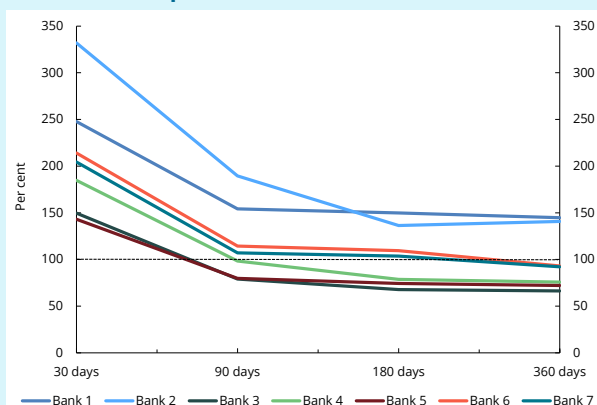
scaling of central banks' support programmes may lead to an increase in risk premiums, but it is uncertain when this will happen and to what extent it will affect the market. The Federal Reserve (FED) has announced that, starting in November, it will gradually slow down bond purchases, but this was expected and has so far had no effect on market pricing.

Strong liquidity coverage and a high share of stable funding

Overall, Norwegian banks have increased both their liquidity reserves, measured by the liquidity coverage ratio (LCR), and their share of long-term funding, measured by the NSFR (net stable funding ratio) in

recent years (chart 2.16). Liquidity reserves ensure banks' ability to honour their commitments during a short period of limited access to new funding while long-term, stable funding helps to reduce funding risk in the longer term.

2.A Liquidity coverage without exploiting the covered bond potential



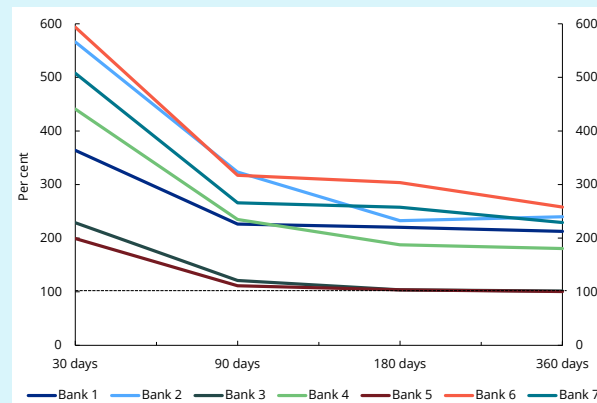
Source: Finanstilsynet

Box 3 Stress test of liquidity

In 2017, Norges Bank and Finanstilsynet developed a framework for stress testing the liquidity of individual banks. The framework is designed to gauge the individual bank's ability to withstand stress in the financial markets and the real economy. In this stress test, the framework has been applied to seven large Norwegian banks. The scenario in the stress test is based on substantial global financial markets stress.

Turbulence in foreign financial markets causes higher risk premiums, reduced market liquidity and depreciation of the Norwegian krone. Both the price and the supply of market funding are affected. Substantial market volatility compels the banks to provide extra collateral for existing derivative contracts. Higher risk premiums and lower market liquidity heighten the risk of large price movements when banks liquidate their liquidity portfolios. Deposits in Norwegian banks are assumed to be less affected by a foreign stress event, although some deposit loss is expected from larger entities and other credit institutions

2.B Liquidity coverage exploiting the covered bond potential



Source: Finanstilsynet

that are affected by the turbulence abroad and are in need of liquidity. Lending to personal customers is expected to show continued growth, while no increase is expected in lending to the corporate market. For more information on the framework and scenario, see the Risk Outlook report from December 2018.

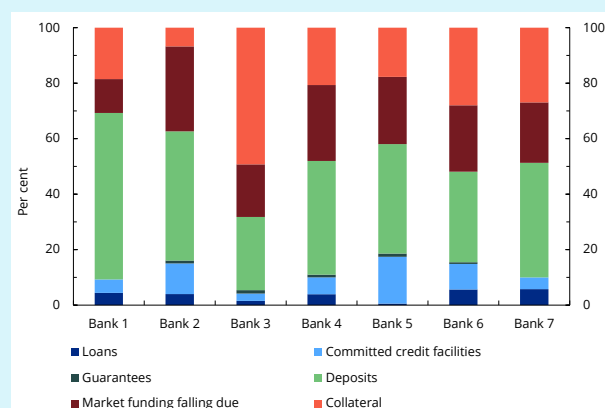
Definitions

- Funding needs = the sum of incoming and outgoing payments
- Liquidity buffer = LCR eligible assets + other available securities and deposits in other banks
- Covered bond potential = 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.
- Liquidity coverage = liquidity buffer in per cent of funding needs
- Survival horizon = the period from the stress arises until the liquidity coverage is below 100 per cent

Results

In the stress test, all seven banks have a liquidity coverage above 100 per cent during the first 30 days and thus sufficient liquidity to meet their

2.C Cash flow composition



Source: Finanstilsynet

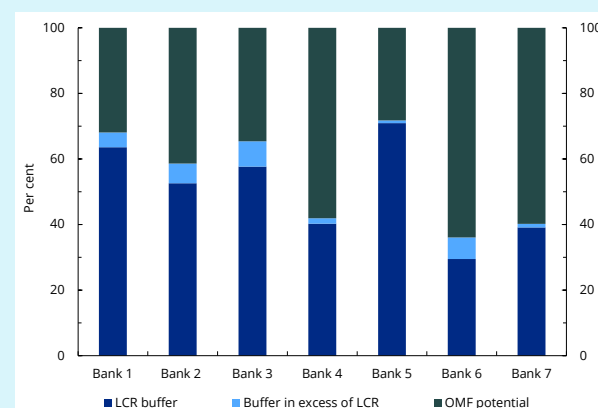
funding needs. Only two of the banks have a liquidity coverage ratio above 100 per cent throughout the period (one year) (chart 2.A). However, if it is assumed that the individual bank can exploit the covered bond potential inherent in the cover pool in a fully or partly owned mortgage company, as well 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 ratio above 100 per cent throughout the stress period (chart 2.B).

Deposit loss is the factor with the most pronounced impact on the net cash flow in the stress, although market funding falling due and collateral also account for a large share (chart 2.C). How well the individual bank withstands the stress period is heavily affected by its share of deposits, deposit composition, the proportion of its market funding that matures within a period of one year and the share of foreign currency funding (derivatives).

Strong dependence 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 many banks' liquidity buffer (chart 2.D). Covered bonds also constitute a large share of the banks' addi-

2.D Composition of the liquidity buffer



Source: Finanstilsynet

tional liquidity buffer (the LCR buffer and the buffer beyond LCR). Hence the banks' dependence on covered bonds is greater than what is referred to here as the covered bond potential.

Covered bonds are regarded as a stable funding source that is less volatile than other market funding. In the years subsequent to the financial crisis, covered bonds have ensured the banks more stable funding with longer maturities at favourable prices. However, the covered bond market has not been subject to a serious crisis. This applies to both the opportunity to issue new covered bonds and the sale of covered bonds in the secondary market. 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 market turbulence in March 2020 in connection with the Covid-19 pandemic had a strong impact on covered bond prices, but the market quickly recovered, largely due to strong support measures from central banks.

As mentioned above, Norwegian banks have increased their liquidity reserves and their share of stable funding in recent years. The banks are thus better equipped to handle financial market turbulence, but are heavily dependent on well-

functioning markets for the issuance of new covered bonds and the sale of covered bonds in the secondary market.

The substantial dependence on covered bonds also represents a potential systemic risk. Were a number of banks to simultaneously liquidate covered bonds 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 issues. Norwegian life insurers are heavily exposed to the banking sector through their large holdings of both covered and senior bonds. This means that challenges in the banking sector could also affect the profitability and solvency of insurers, see chapter 3.

CHAPTER 3 INSURANCE AND PENSIONS

After a weaker performance in 2020, pension institutions' profitability has improved thus far in 2021, reflecting the positive trend in share prices. Overall, pension institutions are financially sound.

However, the low interest rate level remains challenging for pension institutions in the private sector with a large proportion of guaranteed pension products. The credit quality in life insurers' bond portfolios is somewhat weaker than prior to the crisis, and the share of liquid assets has been reduced. Norwegian life insurers are highly exposed to the banking sector and have also increased their investments in green bonds.

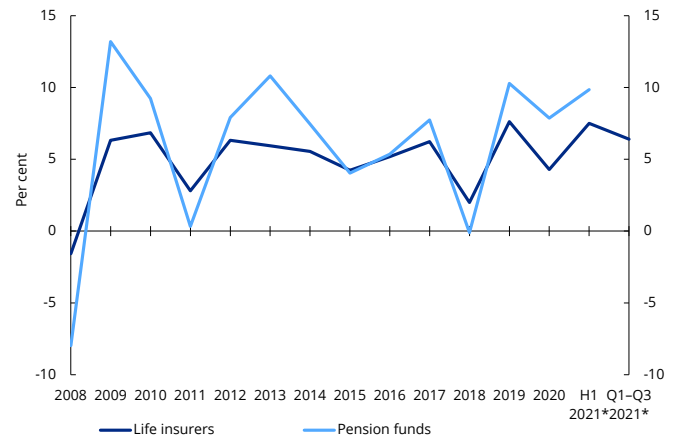
Non-life insurers' claims ratios have been reduced during the pandemic, and a number of the undertakings enjoy very good results in 2021. The solvency position of non-life insurers is somewhat weaker than at the onset of the pandemic, but is sound overall.

LIFE INSURANCE AND PENSIONS

Developments in interest rates and stock markets are of great significance to profitability and solvency

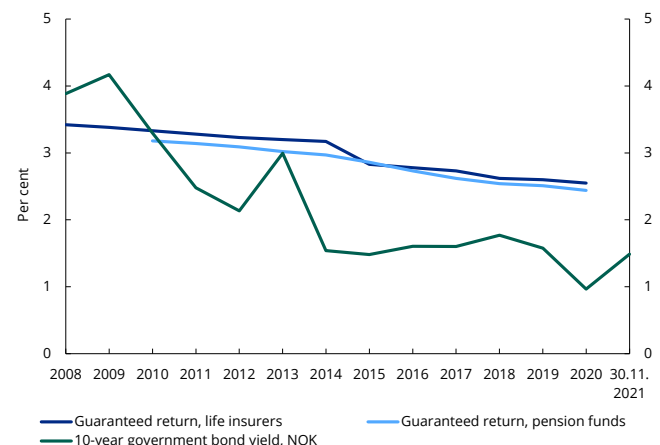
The stock market recovery so far in 2021 has given a boost to pension institutions' returns and profits compared with 2020, which was characterised by a significant fall in equity prices following the outbreak of the Covid-19 pandemic. The adjusted return on pension institutions' collective portfolios so far in 2021 is somewhat lower than 2019 (chart 3.1). However, the return on life insurers' unit linked portfolios is slightly higher at 10.7 per cent in the first three quarters of 2021, mainly as a result of a higher proportion of equities. The variations in the return over time are closely related to stock market fluctuations. For a more detailed description of the

3.1 Adjusted return on pension institutions' collective portfolios



* Annualised. Source: Finanstilsynet

3.2 Developments in the 10-year government bond yield and average guaranteed rate of return

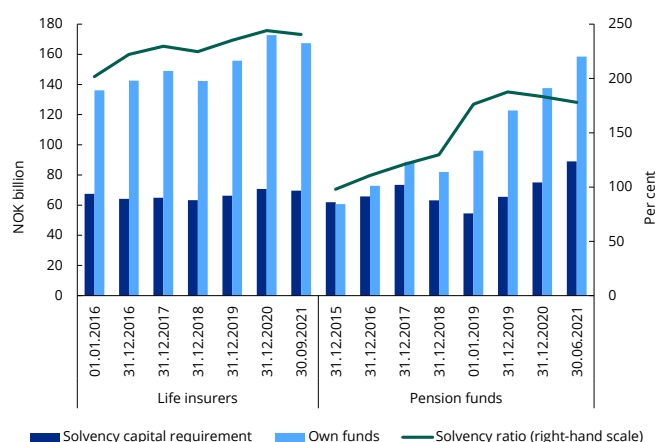


Sources: Finanstilsynet and Refinitiv

profit performance of life insurers and pension funds, see Finanstilsynet's [quarterly reports on financial institutions' performance](#) (in Norwegian only).

In 2020, the risk-free market rate, represented by the 10-year Norwegian government bond yield, declined from an already low level. However, the yield rose somewhat towards the end of the year and has increased so far in 2021 (chart 3.2). The level is still considerably lower than the average guaranteed rate of return in pension institutions' defined-benefit pension schemes. A low interest rate level increases the present value of future liabilities and makes it more challenging to achieve excess returns for pension

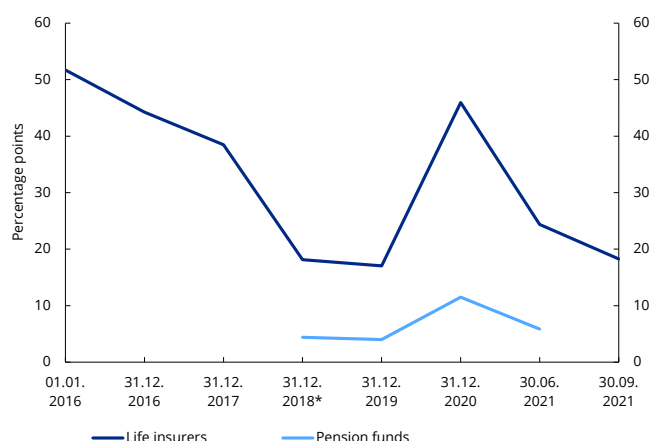
3.3 Solvency position of life insurers and pension funds*



*The requirement for a solvency ratio above 100 for pension funds was introduced on 1 January 2019. The basis of the calculations was also changed.

Source: Finanstilsynet

3.4 Effect of the transitional measure on technical provisions on solvency ratios



*For pension funds, the effect as at 1 January 2019 is shown.

Source: Finanstilsynet

institutions with guaranteed products. In recent years, the institutions' returns have exceeded the guaranteed rate of return, which is partly attributable to returns on equities and real estate. A protracted low interest rate level may trigger pension institutions to increase their share of risky and less liquid investments in order to increase expected returns.

Life insurers' solvency ratio was 240 per cent as at 30 September 2021, which is somewhat higher than before the pandemic (as at 31 December 2019). Pension funds' solvency ratio contracted somewhat,

standing at 178 per cent as at 30 June 2021 (chart 3.3).

The rules for calculating solvency ratios includes a transitional measure on technical provisions that partly offsets the effect of lower interest rates in solvency calculations. The transitional measure is particularly important for life insurers and pension funds with a high proportion of paid-up policies.

Higher interest rates have contributed to reducing the effect of the transitional measure in 2021 (chart 3.4). Without the use of the transitional measure, life insurers' solvency ratio was 222 per cent as at 30 September 2021, up from 218 per cent at year-end 2019.

For pension funds, the effect as at 1 January 2019 is shown. For further information about the solvency of life insurers and pension funds, see Finanstilsynet's [solvency reports for financial institutions](#) (in Norwegian only).

In September 2021, the European Commission presented a proposal for amendments to the Solvency II framework. The Commission's proposal entails an easing of the solvency requirements compared with the proposal submitted by the European Insurance and Occupational Pensions Authority (EIOPA) in December 2020. Among other things, the Commission proposes a more moderate increase in the capital requirement for interest rate risk than that proposed by EIOPA, which is of great significance to Norwegian life insurers with a high proportion of liabilities with guaranteed rates of return. The Commission also proposes other ways to ease requirements compared with EIOPA's proposals, including a higher volatility adjustment, a lower risk margin and less strict criteria for classifying equities as long-term investments. The Commission's proposals are now under consideration by the European Parliament and Council. The new regulations will not take effect until 2024 at the earliest. In the light of possible amendments to the Solvency II framework, Finanstilsynet will consider whether to make adjustments to the simplified solvency capital requirement for pension funds.

Life insurers have sizeable bond investments

Bonds constituted the largest asset class in life insurers' collective and corporate investment

portfolios as at 30 September 2021 (chart 3.5). Life insurers' assets have a considerably lower duration⁹ than their liabilities, which means that changes in the interest rate level can have a major impact on solvency capital. At year-end 2020, the average duration of their bond portfolios and insurance liabilities (excluding unit linked contracts) was 5 and 14 years, respectively.

An international comparison of defined-benefit pension products carried out by the IMF shows that the gap between the guaranteed rate of return and the interest rate level in the market is not unique to Norway.¹⁰ In several countries, this has resulted in an increase in credit risk in life insurers' bond portfolios. The study also shows that the portfolios of Norwegian life insurers will be among those least exposed in a simulated market shock.

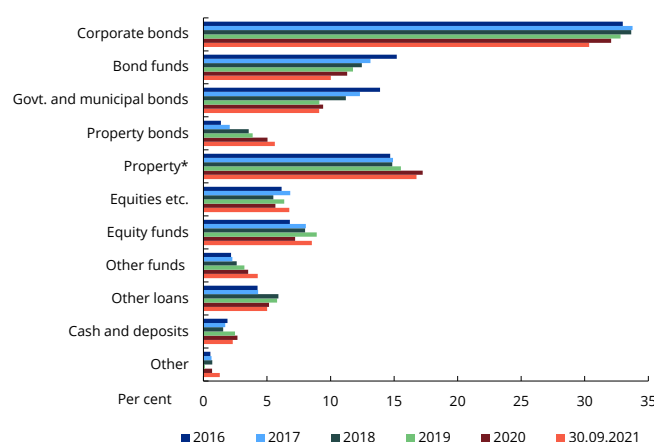
The credit quality in life insurers' bond portfolios has been slightly impaired

Norwegian life insurers have largely invested in corporate bonds of good credit quality. Just under 80 per cent of corporate bonds were rated as at 30 September 2021. Investments in corporate bonds with a credit rating of BBB increased from year-end 2019 to 30 September 2021, and the share of bonds with a higher credit rating showed a corresponding decline (chart 3.6). This may be driven by so-called 'search for yield', but the Covid-19 crisis also prompted rating agencies to downgrade corporate bonds. As at 30 September 2021, 4 per cent of life insurers' corporate bonds had been downgraded compared with 31 December 2019. The capital requirement for spread risk is linked to the bonds' credit rating, and further downgrades may result in higher capital requirements for spread risk and a decline in the value of life insurers' investments.

Norwegian life insurers are heavily exposed to the banking sector

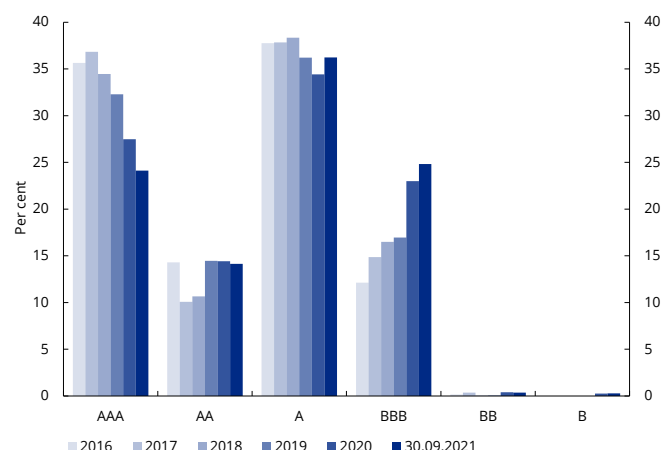
Bonds issued by financial sector undertakings accounted for 57 per cent of corporate bonds in the collective and corporate portfolios as at 30 September 2021. 77 per cent of corporate bonds in the financial sector are issued by banks and mortgage companies

3.5 Investments in life insurers' collective and corporate portfolios



*Property includes real estate, equity of real estate related corporations, real estate funds, real estate exposure related to collateralised securities and mortgages, as well as other assets with a 'property' sector code. Source: Finanstilsynet

3.6 Life insurers' investments in different risk classes as a share of investments in rated corporate bonds

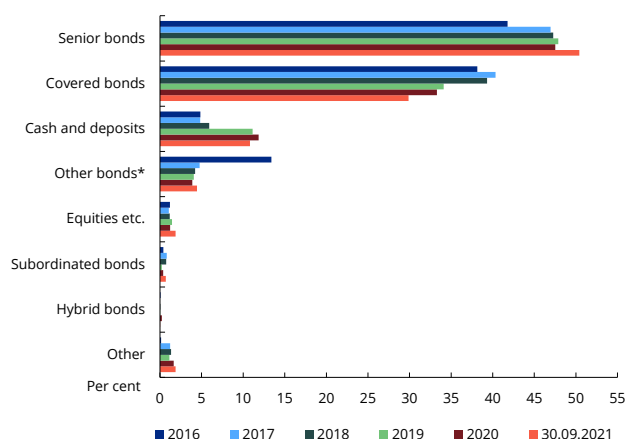


Source: Finanstilsynet

owned by banks, of which just under half are Norwegian. According to EIOPA, Norwegian insurers combined have a high exposure to the banking sector compared with similar undertakings in a number of other European countries.¹¹ A high exposure to banks increases the likelihood that challenges in the banking sector will affect insurers' profitability and solvency.

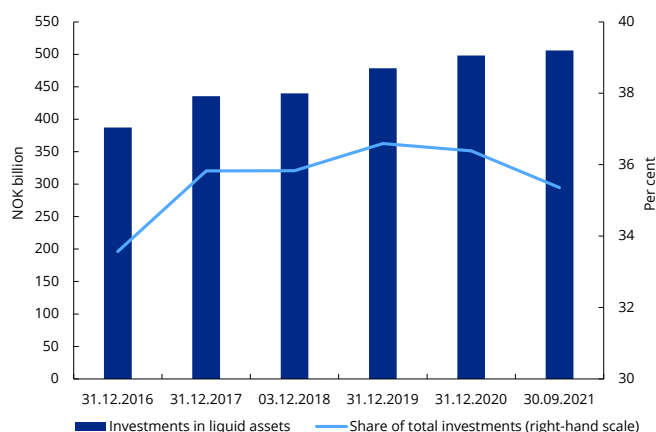
Life insurers' exposure to the banking sector is mainly in the form of senior bonds and covered bonds. The share of covered bonds has been reduced since year-end 2019 (chart 3.7). These are generally AAA-rated

3.7 Investments in the banking sector in life insurers' collective and corporate portfolios



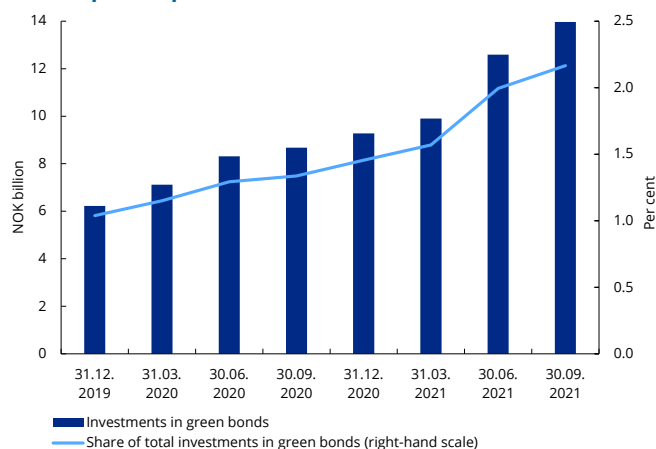
* Mainly bonds issued by public banks. Source: Finanstilsynet

3.8 Investments in liquid assets in life insurers' collective and corporate portfolios



Source: Finanstilsynet

3.9 Investments in green bonds in life insurers' collective and corporate portfolios



*See endnote 14 for a definition of green bonds.

Source: Finanstilsynet

bonds. The share of senior bonds has increased and constitutes the main category. Norwegian life insurers still hold a modest share of bonds with the lowest priority in connection with the liquidation or resolution of the issuer, such as subordinated loans and additional Tier 1 instruments issued by banks.

Liquidity risk is limited, but has increased somewhat
Fluctuations in the foreign currency market in connection with the outbreak of the Covid-19 pandemic revealed liquidity risk in life insurers and mutual funds. According to EIOPA, Norwegian life insurers have one of the lowest liquidity asset ratios among undertakings in a number of other European countries.¹² The liquidity asset ratio shows liquid assets as a proportion of total assets in the collective and corporate portfolios. The ratio is calculated by applying different weights (from 100 per cent for cash to 0 per cent for intangible assets) to various assets according to their liquidity profile.¹³ A high ratio indicates a liquid portfolio. The share of liquid assets in life insurers' collective and corporate portfolios has been reduced since year-end 2019 (chart 3.8), partly because investments in covered bonds have been replaced by investments in less liquid assets. The European Commission's proposed new Solvency II framework presented in September 2021 sets stricter requirements for the undertakings' liquidity management.

Investments in green bonds

The market for green bonds is growing rapidly. The funds generated through green bonds shall be used to finance sustainable or 'green' investments. Several criteria must be met in order for a bond to be classified as green.¹⁴ Chart 3.9 shows an increasing share of such bonds in life insurers' collective and corporate portfolios. More than 80 per cent of these bonds have been issued by Norwegian institutions. In addition, green bonds in the unit linked portfolio represent NOK 1.5 billion. The current pricing of bonds reflects high demand. Prices may change significantly when binding market standards for green bonds are introduced. In July 2021, the European Commission presented a proposal for a green bond standard.

Box 4 Proposal for a reduction in the payment period for guaranteed pension products in the private sector

On 18 June 2021, the Solberg government submitted Proposition 223 L (2020–2021) on changes in pension legislation, etc. (pension from the first krone and day for guaranteed pension products). The proposed rules on guaranteed pension products could have a profound impact on pension institutions' solvency position, especially the increased scope for reducing the payment period for paid-up policies. The rules may also have a significant effect on policyholders' pension payments.

According to prevailing rules, the payment period for time-limited benefits may be reduced to the number of years required for the total annual retirement pension (from the scheme) to represent approximately 30 per cent of the National Insurance Scheme basic amount (G) (currently NOK 106 399). Furthermore, the member and the pension institution may agree to change lifelong benefits to time-limited benefits for the number of full years necessary to ensure that the total annual retirement pension will be approximately 30 per cent of G. In the proposition, it is proposed 'to give pension providers and policyholders greater scope for individually requiring a reduction in the payment period set out in current rules, according to which the benefits shall be approximately 30 per cent of G, thereby increasing the benefits to approximately 100 per cent of G'. This should be applicable to both benefits that are initially time-limited and to benefits that are initially lifelong. Furthermore, it has been proposed that the policyholder and the pension institution may jointly agree to reduce the payment period for time-limited and lifelong benefits to the number of full years necessary for the total annual retirement pension to be approximately 150 per cent of G.*

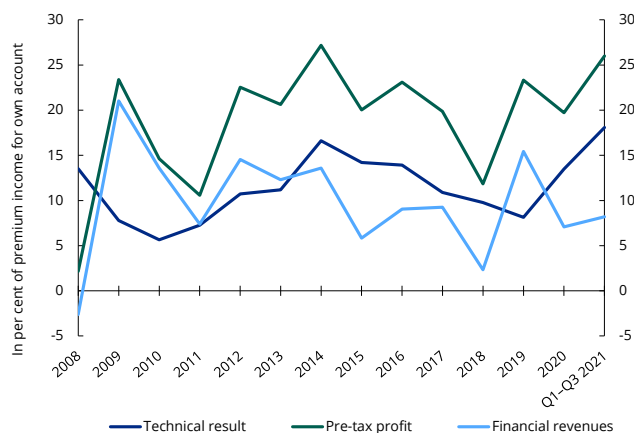
At year-end 2020, the contractual liabilities of the approximately NOK 1 million paid-up policies

in Norwegian pension institutions amounted to approximately NOK 425 billion. The proposed rules to extend the scope for recalculation will affect a substantial proportion of these liabilities. For the pension institutions, the payment period for paid-up policies will be shorter, and the inherent interest rate risk can be expected to be reduced. The insurance risk associated with life expectancy will also be reduced. At the same time, new risks may arise. For one thing, the recalculation may result in higher total pension payments to policyholders who die early. In order to reduce this risk, the pension institutions may wish to recalculate the entire portfolio where the proposal gives the institution a unilateral right to decide on such recalculation (i.e. a reduction in the payment period whereby annual benefits will be approximately 100 per cent of G). In any case, the pension institutions must ensure that provisions for future liabilities will cover the liabilities that arise under the rules prevailing at any time. Enough funds must be allocated to cover both the pensions that are recalculated and the pensions that will remain lifelong.

If pension payments will be terminated at a certain age because the pension institution decides to recalculate, this could make individuals' financial planning for old age challenging. The proposed rules will impose new and comprehensive requirements for pension institutions' customer advisory services. The policyholder's state of health and life expectancy, market conditions and the guaranteed rate of return on the paid-up policy are all factors that have a bearing on whether the recalculation will be financially beneficial for holders of paid-up policies.**

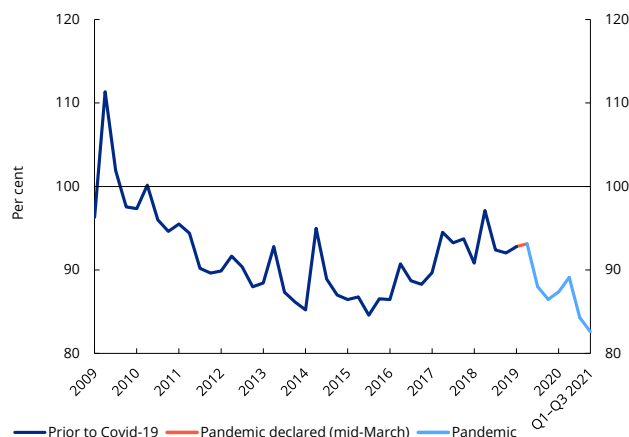
* Similar changes were proposed in the consultation document on guaranteed pension products prepared by Finanstilsynet in 2019. However, the recalculation limits set out in the consultation document were lower (50 per cent of G for unilateral

3.10 Financial performance of all non-life insurers*



* Excl. captives, marine insurers with diverging financial years and DNK (the Norwegian Shipowners' Mutual War Risks Insurance Association). Source: Finanstilsynet

3.11 Developments in the net combined ratio*

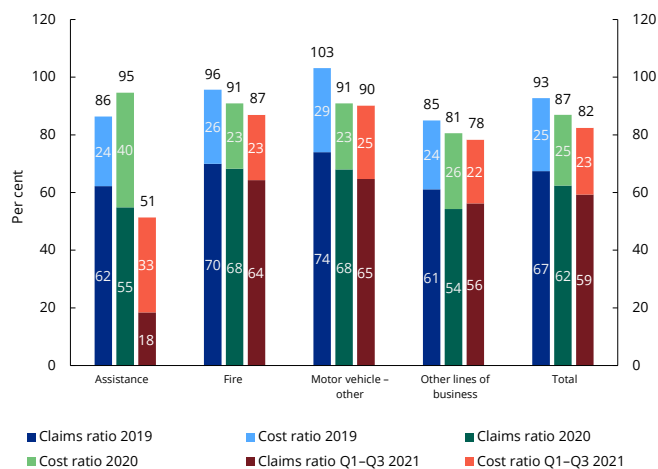


* Excl. captives, marine insurers with diverging financial years and DNK (the Norwegian Shipowners' Mutual War Risks Insurance Association). Source: Finanstilsynet

decisions on recalculation and 100 per cent of G for mutual agreements).

** Since it is unusual to allocate profits to paid-up policies for the regulation of benefits, it may be an advantage to receive pension payments early. However, if there is a recalculation from lifelong to time-limited pensions, the holders of paid-up policies will miss out on many years of high guaranteed returns. Under current market conditions, this guaranteed return will be higher than what can be achieved risk free in the financial market by the policyholders themselves.

3.12 Net combined ratio for all non-life insurers*. Selected lines of business, aggregated



* Excl. captives, marine insurers with diverging financial years and DNK (the Norwegian Shipowners' Mutual War Risks Insurance Association). Source: Finanstilsynet

NON-LIFE INSURERS

Good results and satisfactory solvency position

With the exception of the first quarter of 2020, the Covid-19 pandemic has had a limited negative effect on insurers' financial performance (chart 3.10). In lines of business where the claims frequency is affected by the level of economic activity, such as damage to motor vehicles, profitability has improved as a result of less travel during the pandemic. Overall, this has helped to raise profits from insurance operations, and non-life insurers recorded an unusually strong insurance result in the first three quarters of 2021. Financial market developments have also contributed to the strong performance of non-life insurers. For a more detailed description of the profit performance of non-life insurers, see Finanstilsynet's [quarterly reports on financial institutions' performance](#) (in Norwegian only).

The solvency ratio for non-life insurers combined decreased somewhat in 2020, but widened in the first three quarters of 2021, standing at 220 per cent as at 30 September 2021 (chart 3.13). The solvency ratio was 16 per cent lower at end-September 2021 than at year-end 2019. This is partly due to the distribution of dividends. For a more detailed description of the

solvency position of non-life insurers, see Finanstilsynet's [solvency reports for financial institutions](#) (in Norwegian only).

Non-life insurers are exposed to physical climate risk

Non-life insurers are exposed to risks arising from physical climate changes. In summer 2021, Germany and Belgium were hit by severe floods that had serious consequences. Several countries also experienced extensive forest fires. Natural damage such as storms, storm surges, floods and landslides are expected to increase in the future due to climate change. Such natural damage is covered by the Norwegian Nature Perils Pool¹⁵, where all non-life insurers offering fire insurance in Norway are members. Weather-related damage that is not covered by the Natural Perils Pool, such as torrential rain and forest fires, is also expected to increase in scope in the future.

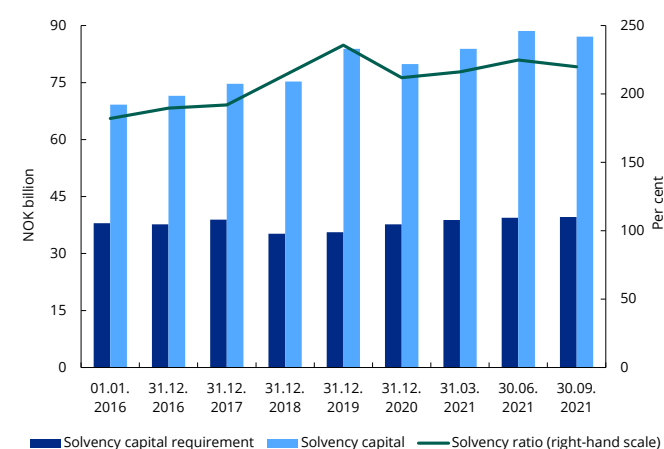
In July 2021,¹⁶ EIOPA published a methodological paper assessing how the risk of climate change may be included in calculations of capital requirements for catastrophe risk. The report also assesses the consequences of climate change for European countries. For Norway, the risk of more rain, more frequent torrential rains, pluvial flooding, higher water levels and coastal/river flooding are highlighted.

Norway has fewer inhabitants and is less densely populated than countries such as Germany and Belgium. The damage potential is thus more limited, although the consequences of flooding are serious in Norway as well.

During the period 2001 to 2020, there was an increase in the number of flood damage cases reported to the Norwegian Natural Perils Pool compared with the two previous decades (table 3.1). Both total claims payment expenses and the average payment per damage event increased.

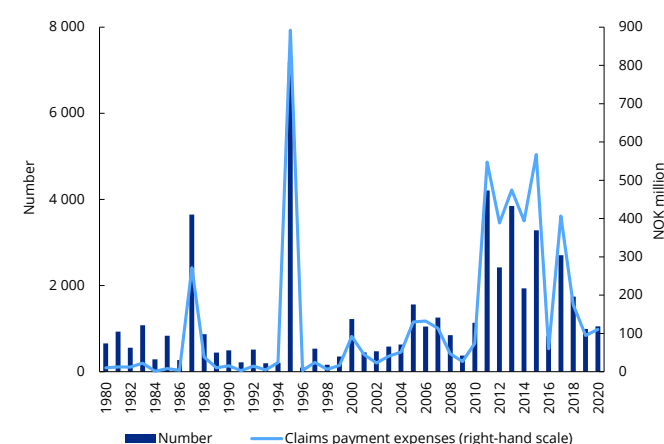
There is also a higher frequency of severe floods reported to the Norwegian Natural Perils Pool over the past decade (chart 3.15). The Natural Perils Pool

3.13 Non-life insurers' solvency position



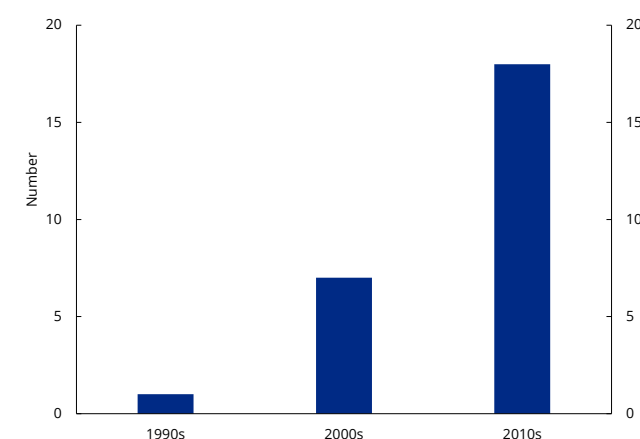
Source: Finanstilsynet

3.14 Flooding. Number of events and claims payment expenses



Sources: The Norwegian Natural Perils Pool and Finance Norway

3.15 Flooding. Number of severe events



Sources: The Norwegian Natural Perils Pool and Finance Norway

Table 3.1 Claims payments for flood damage (NOK 1 000)

Period	1980–2000	2001–2020
Number of floods	20 800	31 393
Claims payment expenses	1 489 793	3 903 697
Average claims payment expenses	72	124
Claims payment expenses, CPI adjusted	2 709 930	4 560 303
Average claims payment expenses	130	145

CPI adjusted compensation payment up to 2020. Sources: The Norwegian Natural Perils Pool and Finance Norway

defines severe events as situations where thousands of individual damage events occur. Statistics from the Natural Perils Pool indicate that insurers with obligations in Norway are more exposed to damage claims from flooding today than they were 20 years ago. In the past, allocations to the pool have been sufficient. However, if extreme weather and claims payment expenses increase, the price of insurance may rise. Owing to the risk of more extreme weather, higher claims payment expenses and more expensive insurance, Norwegian insurers will place more emphasis on damage prevention in the period ahead. In June 2021, the Norwegian Water Resources and Energy Directorate (NVE) published a report estimating that it will cost around NOK 85 billion to secure all existing vulnerable buildings against floods and landslides up to 2100.¹⁷

In 2022 and 2023, EIOPA will further assess the need to adjust the standard formula for solvency capital requirements to better incorporate climate risk considerations. In its methodological paper, EIOPA reaches no conclusion as to which types of catastrophe risk may be reflected in current capital requirements for various countries. It is not inconceivable that flooding may be included in the capital requirement for catastrophe risk for non-life insurers with obligations in Norway at a later date. If the standard formula is recalibrated, EIOPA will request input from supervisory authorities and other stakeholders.

Finanstilsynet has looked into how insurers deal with climate change

Over the past two years, Finanstilsynet has held meetings with a total of 15 non-life insurers where

climate risk has been on the agenda. The purpose of the meetings has been to identify how climate change may affect non-life insurers' risk, how such risk will affect them and how they manage the risk.

For ordinary non-life insurers, changes in precipitation and wind conditions are key risks. Storms may be more frequent and more powerful, and they may come from other directions than they used to in the past. More frequent and extreme torrential rain will cause flooding, landslides and surface water damage. The trend towards longer periods of the same type of weather has caused drought damage in the agriculture sector when there is no rain or rot damage due to persistent precipitation. On the other hand, fewer months with slippery roads give a reduction in damage to vehicles.

The undertakings still seem to be of the opinion that climate risk is mainly associated with extreme weather conditions resulting in both more frequent and more severe damage events. Compensation in connection with such events is largely covered by the Natural Perils Pool or by reinsurance. Increased payments from the Natural Perils Pool may result in an overall rise in customers' premium payments. Some undertakings have seen a higher frequency of water damage. Customers and owners also have expectations of sustainable claims handling, environmental requirements in tenders, etc. The transition from fossil fuel vehicles to electric vehicles has already resulted in changes in the damage situation. As an example, the shift to electric cars is a factor behind the increase in individual claims payments.

The undertakings also point out that there may be commercial risk associated with changes in customer behaviour, for example related to car sharing. Some undertakings also see new business opportunities arising from these developments.

Marine insurers state that changes in wind conditions have the most pronounced impact on insurance risk. They find that the storms are becoming more severe and that tropical storms hit Europe more often. Fixed installations are most at risk, since they cannot be

moved out of the storm area. The undertakings also experience higher costs as a result of stricter requirements concerning wreckage removal. Insurers that insure smaller vessels also see a heightened risk of damage to quays and docked boats, as well as a higher risk of boats being docked for long periods. Less ice due to climate change may lead to increased marine traffic in the Northeast Passage. Several undertakings point out that this may give rise to risks associated with costly rescue operations and increased emissions.

The climate risk of captives reflects the climate risk of their parent entities. Several of these undertakings offer insurance policies related to renewable energy (water, wind, biopower and solar power) and non-renewable energy (gas and oil). Their operations span several continents. Through their parent entities, these undertakings may have access to considerable climate risk expertise.

Several of the undertakings have pointed out that insufficient capacity and higher premiums in the reinsurance market could be a result of heightened climate risk.

Finanstilsynet expects insurers to treat climate risk as an integral part of their risk management process. The undertakings should assess how climate risk, both physical and transition risk, affects their operations. Furthermore, they are expected to address climate risk in their Own Risk Solvency Assessment (ORSA), and to prepare qualitative and quantitative scenarios.

Experience gained so far is that non-life insurers with customers who produce, make extensive use of or transport fossil fuels have come the furthest in identifying and managing climate risk. At the same time, non-life insurers appears to gradually give more attention to the work on climate risk and sustainability, making it an integral part of their risk management process. Any guidelines on sustainability prepared by non-life insurers are of a quite general nature. It appears that the initiatives taken are mostly at the administrative level, especially by risk management, claims settlement and product units.

Modern technology offers a number of opportunities

Norwegian financial institutions are at the forefront of digitalisation. The use of advanced technology is also evolving rapidly in several industries. Insurers have access to large amounts of data with long time series. By means of artificial intelligence (AI) and machine learning, such data can be used, among other things, in pricing, risk management and product development.

EIOPA's report from 2021 on the use of advanced analytics in motor and health insurance shows that 31 per cent of the participating insurers were using AI and that a further 24 per cent were in the process of testing the use of AI. The results from EIOPA's analysis show that AI is mainly used to assess risks and price insurance products, for marketing or to offer customers enhanced products and services. EIOPA also points out that several studies indicate that the adoption of AI has accelerated in all industries during the Covid-19 pandemic.¹⁸

Norwegian non-life insurers have used AI for, among other things, insurance fraud detection, customer service and pricing of insurance products. The use of AI models for insurance fraud detection may, for example, help to raise profitability as a result of reduced wage costs and lower claims payments.

AI allows the undertakings to use a number of variables in the pricing of insurance premiums and can contribute to ensuring that premiums more closely reflect the risk faced by the undertakings. However, there is a risk that the use of AI may result in personal characteristics that are not permitted to be used in the pricing of insurance, such as ethnic origin, gender, sexual orientation, religion, political opinion etc., and can indirectly affect insurance prices. The use of AI and new explanatory variables can also make the risk assessment of a customer so accurate that large groups can end up without being offered insurance because the customer represents a too high risk to the insurer, or result in a marked increase in insurance premiums.¹⁹

CHAPTER 3 INSURANCE AND PENSIONS

Large insurers with many customers and a long history tend to have better access to data, infrastructure and resources in general. This may give them a competitive advantage compared with smaller insurers.²⁰ The European Commission has announced that it will present new rules in 2022 that may entail mandatory sharing of data. This may reduce the competitive advantage of the large undertakings.

CHAPTER 4 SECURITIES MARKETS

International stock markets quickly rebounded after the sharp fall in March 2020, and several equity indices have set new all-time highs in 2021. For a long period, low interest rates and ample access to liquidity in global markets have stimulated investors' risk appetite. In many sectors, share prices are high relative to firms' earnings, dividend payments and book values, which could entail a higher risk of falling prices. Risk premiums in the bond market are also very low. The expansionary monetary policy pursued by several central banks may also have contributed to the increased interest in untraditional investment alternatives, such as cryptocurrencies.

STOCK MARKETS

High returns in global stock markets

Overall, returns in global stock markets have been high over the past 30 years.²¹ In some sectors, particularly the technology sector, average returns have been very high, despite large price falls in the early 2000s.

For all sectors combined, the average annual global return was 8.6 per cent in the period 1990–2020. The highest return in a single calendar year was close to 40 per cent, while the lowest annual return was negative at 43 per cent and was recorded during the international financial crisis in 2008, see table 4.1 and chart 4.1. For the stock markets combined, there was a negative return for eight of the years during this period.

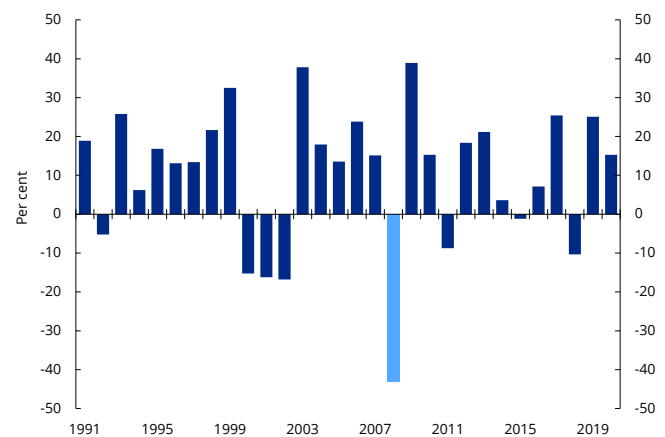
The largest price fluctuations, as measured by the various sectors' standard deviation, have been seen for equities issued by technology companies and companies in the basic resources sector.²² The share prices of companies in the health services, consumer discretionary, consumer staples²³ and supply sectors have fluctuated the least.

Table 4.1 Returns in global stock markets by sector, 1991–2020. Per cent

Geometric annual return (per cent)	Average	Standard deviation	Max	Min	Average/standard deviation
Technology	13.0	33.6	112.3	-45.1	0.39
Telecommunications	7.0	24.1	76.6	-43.1	0.29
Health services	11.0	14.5	40.2	-20.4	0.76
Banks	5.6	20.7	48.3	-52.3	0.27
Financial services	7.9	22.3	51.3	-56.2	0.36
Insurance	8.0	18.9	36.5	-44.3	0.42
Property	7.7	25.2	82.1	-52.8	0.31
Cars, car parts etc.	8.5	22.2	57.5	-47.0	0.38
Consumer discretionary	10.4	15.3	30.8	-35.8	0.68
Consumer staples	8.2	17.0	39.5	-36.8	0.48
Industrials	9.2	21.0	48.3	-46.3	0.44
Basic resources	6.6	32.8	99.2	-59.9	0.20
Energy	7.4	20.6	40.9	-44.7	0.36
Supply services	7.6	16.9	41.0	-34.7	0.45
Total market	8.6	18.3	38.9	-43.3	0.47

Sources: Refinitiv and Finanstilsynet

4.1 Annual returns in global stock markets



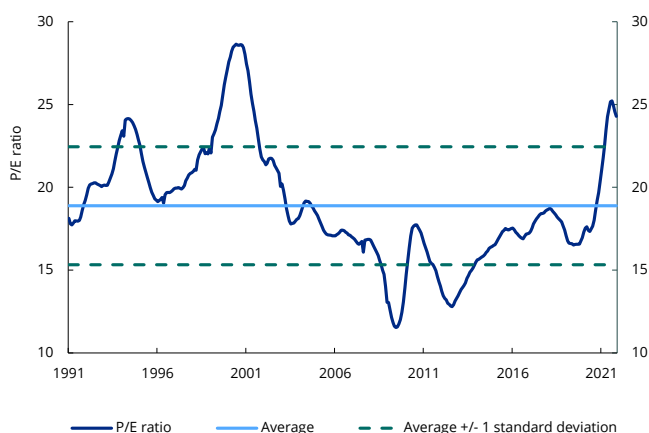
Sources: Refinitiv and Finanstilsynet

The highest (best) ratio of return to risk measured by the standard deviation has been recorded for health-care companies and companies in the consumer discretionary sector. Banks and companies within telecommunications, basic resources and property have the lowest ratios.

The total return in the stock market as a whole was particularly high during the twelve months to end-October 2021. Negative news, such as new and more

CHAPTER 4 SECURITIES MARKETS

4.2 Price/earnings in global stock markets*



* November 2020 – November 2021

Sources: Refinitiv and Finanstilsynet

4.2 Price/earnings in global stock markets*

Valuation indicators	Price/earnings		Price/book		Dividend yield	
	Average (30 years)	Last 12 mos.*	Average (30 years)	Last 12 mos.*	Average (30 years)	Last 12 mos.*
Technology	27.4	32.6	3.2	6.5	1.1	0.8
Telecommunications	20.0	17.6	2.7	2.1	3.2	3.3
Health services	22.7	31.8	2.7	1.6	2.0	1.5
Banks	14.5	13.0	1.5	1.0	3.0	3.0
Life insurers	16.2	12.0	1.7	1.2	2.8	3.2
Non-life insurers	16.4	16.2	1.8	1.6	2.0	2.7
Property	17.3	20.1	1.3	1.4	3.4	3.1
Motor vehicles etc.	17.3	26.5	1.5	1.6	2.0	1.2
Consumer discretionary	21.1	35.2	2.4	4.5	2.2	1.0
Media	24.6	38.7	2.5	3.6	1.8	0.8
Retail trade	23.5	35.7	3.6	7.0	1.5	0.7
Travel and leisure	25.8	79.1	2.5	4.5	1.5	0.8
Consumer staples	19.2	24.4	3.2	3.5	2.0	2.6
Industrials	20.1	28.4	2.2	3.0	1.9	1.5
Basic resources	18.4	17.0	1.7	1.5	2.5	3.5
Energy	17.2	31.0	1.9	1.8	3.2	3.9
Supply services	16.4	21.1	1.6	1.8	3.8	3.3
Total market	19.0	24.6	2.0	2.1	2.3	1.9

* November 2020 – November 2021

Sources: Refinitiv and Finanstilsynet

contagious coronavirus mutations, global conflicts, social unrest, higher inflation and interest rates or climate-related events, could trigger powerful, self-reinforcing negative price spirals. In many economies, the downturn may be exacerbated by high public and private debt.

High valuations in some sectors

Historically high prices heightens the potential fall in the stock markets. Over the past year, the valuation of companies, measured by price/earnings (P/E) over the past year, in the global stock markets has been higher than the average over the past 30 years, while the dividend yield (DY) has been lower, see chart 4.2 and table 4.2. The two valuation ratios indicate that the stock markets are relatively highly priced. The ratio of market capitalisation to the book value of equity (price/book ratio – P/B) has been marginally higher than the 30-year average over the past twelve months, although it is considerably higher in some sectors. According to the valuation indicators, technology shares are particularly highly priced, although retail trade, travel/leisure, media and consumer discretionary are also priced high compared with the stock market average and the sectors' historical valuation indicators. Low earnings during the pandemic have contributed to high P/E ratios for several sectors. Increased activity in the period ahead must be expected to result in improved earnings in several of these sectors, which means that, seen in isolation, their P/E ratios will contract.

For some sectors, P/E and P/B are now lower than the average for the past 30 years. This applies to telecommunications companies, basic resources companies, banks and life insurers. For the banks, DY is at the same level as the historical average, while DY for life insurers is higher. Banks and life insurers appear to be low priced compared with both average indicator values over the past 30 years for these sectors and indicator values for other sectors.

Technology shares account for much of stock market returns

On average, returns in the technology sector over the past 30 years account for almost 20 per cent of total global returns. During the first five-year period, this proportion is estimated at just below 10 per cent. It increased to 17 per cent during the internet bubble in the late 1990s, but fell to minus 16 per cent during the subsequent dot-com crash. The proportion has risen again and was as high as 33 per cent during the final five-year period.

The technology sector's share of total market capitalisation has varied considerably over the past 30 years (chart 4.3). At end-August 2000, the share was just over 25 per cent after increasing from 5 per cent in the early 1990s. In February 2008, the share had fallen to 7.2 per cent. Since then, a significantly higher return on technology shares than on shares in general resulted in an increase to 23 per cent in October 2021. A consequence of this development is that investors whose portfolio composition closely resembles the market portfolio have markedly increased their exposure to the technology sector.

Ample access to capital for startups on Oslo Børs

As in 2020, many new companies have been admitted to trading on Oslo Børs' three marketplaces for equities in 2021. In the first three quarters of 2021, a total of 72 companies were admitted, while 58 companies were admitted in 2020.²⁴ The high level of activity reflects ample access to capital for startups. In the first three quarters of 2021, NOK 36.5 billion in new equity was raised in connection with new companies' initial public offerings (IPOs), compared with NOK 32.1 billion for the whole of 2020. In comparison, such companies' average annual issue volume was NOK 10 billion in the period 2010–2019. Access to capital has been particularly good for companies with a green profile and for technology companies. High price growth for companies in these sectors both in Norway and internationally since summer 2020 has incited professional investors, but also households, to invest in the companies. A number of households have significantly increased their risk exposure through such investments.

4.3 The technology sector's share of all sectors' total market capitalisation*



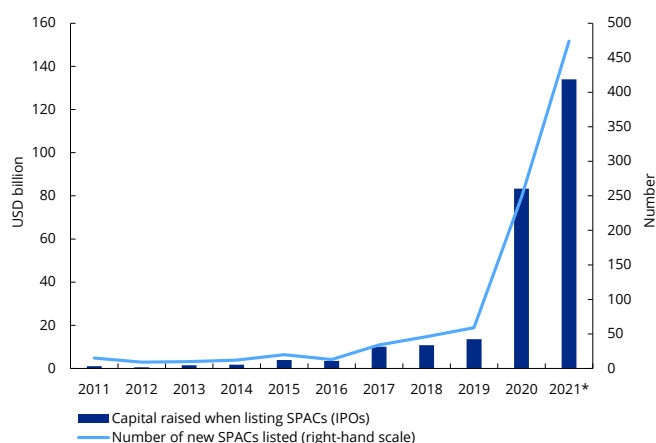
*I.e. the sectors included in the selection. On average, these account for 90 per cent of the market capitalisation of Refinitiv's global equity index.

Sources: Refinitiv and Finanstilsynet

However, listing activity has declined since summer 2021. In the third quarter, a total of 12 new companies were admitted to Oslo Børs' marketplaces, compared with 26 in the first and 23 in the second quarter. In October, only one company was admitted. High issue volumes and a large number new listings thus far in 2021, coupled with large price movements on these shares, may have contributed to reducing the market potential for new listings.

Finanstilsynet has noted that many companies choose to apply for admission to Euronext Growth at an early stage and subsequently apply for a transition to Oslo Børs. This shows that Euronext Growth, in line with Oslo Børs' stated ambition, has served as a marketplace where companies can be developed to qualify for a full stock exchange listing. The number of IPOs carried out in recent years is nevertheless surprisingly low compared with the number of admissions to trading on Euronext Growth. In 2020, only five companies were admitted directly to listing on Oslo Børs, while 49 were admitted to Euronext Growth. In the first three quarters of this year, there were also five new companies listed directly on Oslo Børs, while 56 companies were admitted to trading on Euronext Growth.

4.4 IPOs in the US



As at 19 October 2021. Sources: SPACInsider.com and Statista.com

There is considerable risk associated with investments in startups, which are often at a pre-commercial stage. Arrangers and trading venues are responsible for ensuring that investors are informed about relevant risks. As a result of the large number of admissions for relatively immature companies to Euronext Growth and the risks associated with investments in such companies, Finanstilsynet has carried out inspections of both Oslo Børs' admission process for this marketplace, investment firms that have acted as arrangers for the companies and auditors who audit the accounts of the companies admitted to trading.

Some investors may not distinguish between an IPO and admission to trading on Euronext Growth, where admission requirements are less strict and regulation is generally more lenient. This may have given the companies and their arrangers greater incentives for having the company admitted to trading on Euronext Growth rather than preparing the company for a full IPO. Moreover, experience shows that there are periods ('windows') where it is easier for companies to carry out issues at favourable prices through a quick admission process, which is facilitated at Euronext Growth.

Listing of blank cheque companies (SPACs)

Listing of special purpose acquisition companies (SPACs) is an international phenomenon. The US has seen the most pronounced increase in SPACs in recent years. In 2020, SPACs raised USD 83 billion in IPOs,

spread over 248 companies (chart 4.4). There has been a further increase in 2021.

Blank cheque companies differ from traditional limited liability companies that are admitted to trading, and the typical way of structuring the companies raises special issues. On 15 July 2021, the European Securities and Markets Authority (ESMA) issued a public statement on the content of prospectuses for blank cheque companies²⁵. The statement also discusses risk and complexity and the need for assessments of suitability and investor protection for such companies.

According to the ESMA statement, 'SPAC transactions may not be appropriate investments for all investors due to their complexity because of factors such as the risks related to dilution, incentives issues for sponsors, the different way costs of underwriting fees may be borne by SPAC redeeming investors and remaining investors, as well as uncertainty as to the identification and, subsequently, the evaluation of target companies'.

No SPACs have yet been admitted to trading on Oslo Børs' marketplaces. In Finanstilsynet's view, there are two issues in particular that Oslo Børs needs to address prior to deciding to admit SPACs for trading.²⁶ The first is related to the fact that a SPAC may have characteristics whereby it comes under the definition of an alternative investment fund (AIF) pursuant to the Act on the Management of Alternative Investment Funds. In such case, special requirements set out in the Act must be taken into account. The second issue is related to investor protection and the fact that Oslo Børs wishes to admit SPACs to trading on the multi-lateral trading facility (MHF) Euronext Growth rather than on its main marketplace. This will entail a lower level of regulation, which could lead to information becoming less accessible. It should be noted that the sister companies Euronext Amsterdam and Euronext Paris admit SPACs to trading on regulated markets. This is also the case in the Swedish market.

HOUSEHOLD EXPOSURES IN THE FINANCIAL MARKET

Both in Norway and internationally, households' net

financial investments have been significantly higher in 2020 and 2021 than during the years prior to the pandemic. According to statistics from Statistics Norway, Norwegian households' net financial investments²⁷ reached an all-time high of NOK 62 billion in 2020. This trend has continued in 2021. Net financial investments in the first and second quarter of 2021 totalled NOK 66.9 billion.

There have been certain changes in the nature of Norwegian households' financial investments, partly in the form of increased allocations to equity funds and a considerable rise in the number of private individuals owning individual shares on Oslo Børs' trading venues. Internationally, many households have also invested in blank cheque companies, see account above.

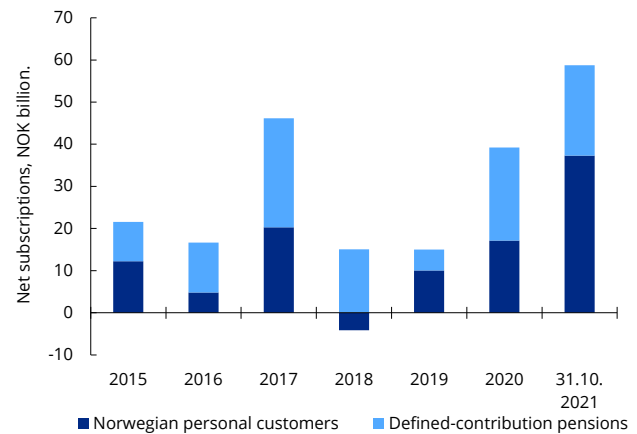
In Norway, as well as internationally, there has also been considerable interest in new investment opportunities, such as virtual currencies and other crypto assets, especially among young people. While a broader allocation may lead to greater diversification of risk, it is important that consumers know and understand the risks of investments in less established and more volatile assets. The emergence of social media as a channel for promoting investment opportunities makes it even more important that private individuals take a critical approach to and thoroughly assess returns and risks before making an investment.

Norwegian households' mutual fund investments continue to grow

Figures from the Norwegian Fund and Asset Management Association show positive net subscriptions of fund units every month in 2021 for Norwegian personal customers. Up till end-October, Norwegian personal customers' net subscriptions for mutual funds totalled NOK 37 billion (chart 4.5). Norwegian households' investments in defined-contribution pension schemes come in addition to this. Accumulated net subscriptions for defined-contribution pension schemes came to NOK 21 billion at end-October 2021.

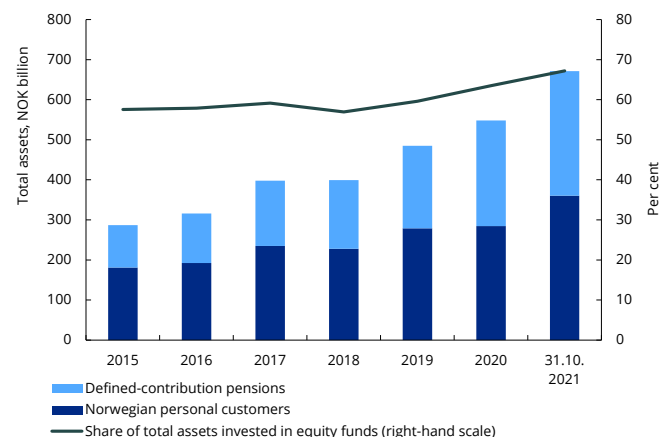
While increased subscription of mutual fund units has given a boost to Norwegian households' mutual

4.5 Norwegian households' net mutual fund subscriptions



Source: Norwegian Fund and Asset Management Association

4.6 Norwegian households' mutual fund investments



Source: Norwegian Fund and Asset Management Association

fund exposure, a rise in the value of invested capital is another factor behind the 22 per cent rise in Norwegian households' total mutual fund investments from year-end 2020, to NOK 671 billion at end-October 2021 (chart 4.6).

An increasing proportion is invested in equity funds, while the proportion invested in funds with a lower expected return and risk (e.g. fixed-income funds and/or combination funds) is declining. From year-end 2020 to the end of October 2021, the share of investments in equity funds increased by 4 percentage points to 67 per cent.

A survey conducted by the Norwegian Fund and Asset Management Association²⁸ shows a record-high

number of persons with equity fund investments in June 2021. The percentage of persons whose savings had been invested for less than a year was also higher than before. The survey points out that the number of persons with mutual fund investments was increasing the most in the age group 18–39 years. A higher exposure to the equity market through investments in equity funds and individual shares means that households are more vulnerable than before to a possible stock market correction.

Box 5 Finanstilsynet's survey of inducements

Mutual funds are largely distributed through investment firms. Investment firms have traditionally received inducements from management companies in the form of a fixed percentage of the management fee, normally 50 per cent or more. The investment firms' right to receive benefits from parties other than the customer (in this case inducements from the management company) was strongly restricted when MiFID II entered into force to ensure better consumer protection. The main rule is that investment firms should be paid directly by the customer. In order for an investment firm to be allowed to accept and retain benefits from anyone other than the customer, the investment firm must be able to prove that the customer receives a relevant additional service or a service of enhanced quality that is proportionate to the benefit received.

In 2019, Finanstilsynet conducted a thematic review of investment firms' compliance with the new requirements related to inducements. The survey showed that at the time, the firms were generally not compliant with the requirements.

Finanstilsynet conducted a follow-up review of investment firms' compliance with the inducement rules in 2020*. It showed that 70 per cent of the firms are in the process of changing their payment model so that fees are paid directly from the customers and not in the form of inducements from management companies. 16 per cent of the firms

are making significant changes to their model, with a considerably lower proportion of inducements, while 14 per cent of the firms will continue to accept and retain inducements. Finanstilsynet's conclusion was that the firms that still accept and retain inducements are largely compliant with the new, stricter regulations.

In an identical letter sent to the management companies in April 2020, Finanstilsynet communicated an expectation that the companies will reduce their distribution fees to reflect the changes made to the investment firms' models, where direct payments from customers represent a larger share and inducements from management companies a smaller share.

Finanstilsynet is now following up the investment firms' implementation of the new payment models and their compliance with the inducement rules. Parallel to this, Finanstilsynet also carries out a survey of price developments for mutual funds in the Norwegian personal customer market. The purpose is to investigate whether the inducement rules have influenced general price developments in the mutual fund market. Another key element is to establish whether the management companies' reduced distribution costs have benefited the unit holders in the form of lower management fees in keeping with Finanstilsynet's guidance on how the regulations should be understood in the letter sent in April 2020.

* Finanstilsynet: [Significant changes in payment models. Investment firms are largely compliant with the new inducement regulations](#) (in Norwegian only). News item published on 30 October 2020.

Strong growth in crypto assets

Since the first bitcoin was mined in January 2009, virtual currencies and other assets based on cryptographic technology have received considerable attention. The IMF estimates that as many as 16 000 different crypto assets have been established and traded on

a crypto exchange, of which approximately 9 000 are still available for trading. Globally, the market value of these crypto assets is estimated at close to USD 3 000 billion.

Norway has good payment systems

Bitcoin and a number of other virtual currencies were originally introduced as an alternative payment system for easier payment transfer outside established financial institutions' networks and without the use of traditional currencies such as Norwegian kroner, US dollars etc. Norway has had good payment systems for a long time. The bank giro service is provided by all Norwegian banks, and instant payment solutions such as Vipps have been established in recent years. International payments within the EEA can also be made relatively easily and quickly. The value of the Norwegian krone has been relatively stable measured against other currencies. The underlying need for virtual currencies as a means of payment has been limited in Norway.

Nevertheless, the Norwegian Tax Administration has identified at least 70 000 Norwegians who own crypto assets, but assumes that the actual figure is much higher. Estimates from private actors are up to 300 000. In comparison, about 531 000 Norwegians own individual shares on Oslo Børs.

Greater needs in countries with a less developed infrastructure

Internationally, the need for cryptographic solutions as an alternative to traditional payment services has been greater than in Norway. This is especially true in countries where a large proportion of the population does not have access to regular banking services, where fees are high for transfers, especially international transfers, or where unstable currencies cause an unpredictable situation. Analyses by the Financial Times of peer-to-peer (P2P) payments show that Sub-Saharan Africa is in the process of becoming the largest region in the world for cryptocurrency payment transfers. Reduced costs for international transfers have been an important goal behind the introduction of bitcoin as a legal tender in El Salvador.

The IMF, the BIS and others therefore believe there is a need for central bank digital currencies

The International Monetary Fund (IMF) and the Bank for International Settlements (BIS) in Basel have advocated the rapid development of central bank digital currencies (CBDC). A CBDC is a digital representation of the central bank's currency and in principle does not differ from banknotes and coins. CBDCs are better adapted to a digital everyday life, with a greater degree of e-commerce, card payments, electronic instant payments etc., where physical payments are used for an ever declining number of transactions. CBDCs can ensure that consumers and firms will still have access to a practical currency guaranteed by the central bank which ensures fast and low-priced domestic and international transfers. Norges Bank is considering the introduction of a CBDC in Norway.²⁹

In addition, the value of the CBDC will be more stable than that of most virtual currencies, which have proved to be highly volatile. For example, the value of bitcoin fell by over 40 per cent against the USD in the course of ten days in May 2021. High volatility is a factor behind the emergence of private stable currencies (stablecoins). Lower volatility is normally achieved by a central counterparty guaranteeing a fixed exchange rate against a central bank currency, such as USD or EUR, a basket of central bank currencies or a commodity, such as gold. Each time someone buys a new stablecoin unit, the counterparty will purchase a corresponding amount of the currency or commodity that guarantees its value, for example in the form of short-term fixed-income securities issued by central banks.

However, analyses from the IMF and others show that the collateral underlying some of the world's largest stablecoins has considerable credit and liquidity risk. The IMF and the BIS believe that this increases liquidity risk and the risk of runs. In May 2021, there was a run on a small stablecoin collateralised by another virtual currency that lost all its value over a short period of time. Today, none of the largest stablecoins

have been introduced or been backed by large, established players in the financial sector. In addition, the largest stablecoins are collateralised by such large holdings of securities that a rapid sale to meet redemption requirements could have significant ripple effects and result in falling prices, which could spread to other parts of the bond market.

Cryptographic technology may have socioeconomic benefits, but also inherent challenges

The development of virtual currencies is based, among other things, on cryptographic programming code and blockchain technology, but it may be possible to use the technology for a number of other purposes than the establishment of alternative payment systems, which so far have received the greatest attention. Decentralised registers and the use of smart contracts may enable the streamlining of many processes in a modern financial system.

However, the IMF and others point out a number of challenges related to cryptographic products. Today, both investor and consumer protection must be deemed to be inadequate, and the European Securities and Markets Authority (ESMA) has warned that some crypto assets are highly risky and speculative products. Crypto assets are not defined as a financial instrument, and any investment advice concerning crypto assets falls outside financial market regulation. According to European regulations, providers of exchange and storage services for virtual currencies are subject to money laundering supervision, but not prudential and market conduct supervision. The crypto security firm CipherTrace estimates that in 2020 alone, investors lost USD 1.9 billion in various crypto asset scams. Faud was estimated to represent USD 4.5 billion in 2019. Moreover, there is significant digital vulnerability in global decentralised structures that are often based on program code without a real, controlling counterparty, so-called Decentralised Autonomous Organisations (DAOs).

Problems may also spill over to the established financial system in the form of a confidence crisis, falling prices or credit losses on leveraged exposures

Today, crypto assets and decentralised finance (DeFi) are considered to be little integrated in the traditional financial system (TradFi). As their scope of application is further developed, a number of international organisations expect the distinction between TradFi and DeFi to become less apparent.

According to the IMF, digital vulnerability and the decentralised structure of crypto assets entail considerable operational risk. A serious scandal could trigger a confidence crisis that could spread to established parts of the financial system. The prices of virtual currencies have largely moved in tandem, which may indicate that crypto investors makes little distinction between the various assets. A problem relating to a virtual currency with limited distribution may therefore have more serious consequences than the prevalence of the individual currency would indicate.

Market volatility and the spread to TradFi could also be triggered by a fall in the value of crypto assets that leads to major shifts in traditional investor portfolios. The IMF points out that in some countries, there is more widespread trading in crypto assets than in shares. A major fall in the value of crypto assets may therefore result in substantial losses and also make investors reduce their exposure to shares and bonds, which could lead to increased volatility in the traditional money and capital markets.

The concerns voiced by the international supervisory bodies are partly due to the fact that a fall in value is often amplified when investments are partially financed by debt or leveraged in some other way, as in the case of derivative positions. A new reinforcement mechanism may occur when crypto assets are used as collateral for the purchase of securities. Internationally, an increased volume of crypto loans has been observed where virtual currencies are provided as collateral for loans in central bank currencies via specialised platforms for loan mediation. If prices fall, additional collateral and margins may be required, and

at worst, this may lead to 'fire sales', declining values in the money and bond markets and loan losses for banks and other creditors.

Global structures require global regulation

The crypto assets market is global and expanding, and several international regulatory initiatives have been initiated. Since 2019, the Financial Action Task Force has had a global standard for national authorities' fight against money laundering and terrorist financing using crypto assets. The European Commission has presented a proposal for regulation (Markets in crypto-assets regulation, MiCA) aiming to give EU consumers access to innovative financial products while at the same time ensuring consumer protection and financial stability. The Financial Stability Board has laid down ten basic principles for the regulation and supervision of stablecoins and is in the process of preparing international standards in this area. The Basel Committee has circulated a proposal for a specific capital requirement for banks' exposure to crypto assets.

A key issue in future regulation is the responsibilities of different actors in decentralised systems, i.e. their responsibility for misleading information and the validation of transactions, software developers' responsibility for the code in a DAO, and any power concentrations that may change the code etc.

Box 6 Finfluencers in the Norwegian securities market

Much attention has recently been focused on influencers on social media, so-called 'finfluencers', who recommend investments, including the purchase of cryptocurrency, growth stocks and other instruments. The target group for the finfluencers' activities is often young adults who do not have special knowledge of or experience with investments. On several occasions, Finanstilsynet has expressed concern that finfluencers may encourage consumers to invest in products they do not understand, want or have the financial ability to hold.*

Finanstilsynet has emphasised that finfluencers' activities are subject to regulation, including the prohibition against misleading marketing in the Marketing Control Act and the prohibition against market manipulation in the Securities Trading Act. Finanstilsynet has given a separate account** of the rules that apply to everyone who recommends investments in financial instruments (shares, bonds and derivatives) that have been admitted to trading on a marketplace. The rules follow from the Market Abuse Regulation (MAR) and Commission Delegated Regulation 2016/958, which have been implemented in the Securities Trading Act and Regulations. The rules entail, among other things, that everyone who produces investment recommendations must state the identity of the person who has produced the recommendation, present the recommendation in an objective manner and disclose possible conflicts of interest. Assessments spread on social media of how the price of a share will develop could be regarded as investment recommendations and are thus covered by these rules. The rules also apply to people who directly suggest a specific investment in a financial instrument, for example by promoting the purchase of a particular share. Finanstilsynet may levy administrative fines for breaches of the rules on investment recommendations.

The European Securities and Markets Authority, ESMA, is also aware of the finfluencers' activities and has prepared information on the rules on investment recommendations on social media.***

* Finanstilsynet: [Finfluencers and consumer protection](#). Article dated 19 August 2021

** Finanstilsynet: [Rules for investment recommendations apply to finfluencers](#) (in Norwegian only). Published on 1 November 2021.

*** [ESMA addresses investment recommendations made on social media platforms](#), published on 28 October 2021

REPORTING ON SUSTAINABILITY AND CLIMATE RISK

The requirements for large companies' disclosure of climate, environmental and other social matters are based on Directive 2014/95/EU on disclosure of non-financial and diversity information (Non-Financial Reporting Directive, NFRD). NFRD is an amending directive to the Accounting Directive and has been implemented in Norwegian law in the Accounting Act.

On 21 April 2021, the European Commission presented a proposal for a new amending directive on companies' sustainability reporting, Corporate Sustainability Reporting Directive (CSRD). The proposed directive amends the EU Accounting Directive, Disclosure Directive, Audit Directive and Audit Regulation. It has been proposed that the new requirements be made effective as from the 2023 fiscal year, with reporting in 2024.

According to the proposal, the scope of the sustainability reporting obligation is extended to all large companies and all listed companies, with the exception of so-called micro-enterprises. Listed small and medium-sized enterprises will not be subject to the reporting requirements until three years after the CSRD has entered into force in the EU. Other small and medium-sized enterprises may choose to report on a voluntary basis. The Directive requires the companies to report according to a standard for what information is to be provided and how the information is to be prepared. A simplified standard shall be established for small and medium-sized enterprises. The Commission also proposes that the auditor or another independent third party should base their opinion of the sustainability reporting on a limited assurance engagement, that it should be digitalised in accordance with the European Single Electronic Format (ESEF) and made readily available through a public database (European Single Access Point).

Report on stranded assets

Finanstilsynet has reviewed the companies' assessments concerning so-called stranded assets and climate risk. Stranded assets are assets that are of

reduced or no value prior to the expiry of their original economic life as a result of changes in external parameters, including changes in technology, regulations, markets or societal habits. The survey of stranded assets was based on the report [Survey of companies' sustainability reporting](#), which was published in the autumn of 2020, and focused on companies stating that they possessed assets exposed to significant environmental or climate risk that may affect the value of the assets. Such assets are referred to as climate stranded assets.

The survey included 28 listed companies and focused on the companies' assessments relating to climate risk and assets that are considered to be or be at risk of becoming stranded assets. A report with the results of the survey will be published on Finanstilsynet's website during December 2021.

The key findings are:

- Few companies state that they take climate risk into account in their valuation of assets.
- Few companies state that they have assets that are considered to be climate stranded as at 31 December 2020, while several companies state that they have assets that may become climate stranded.
- Most of the companies state that they ensure consistency between the content of the company's sustainability report and the content of the accounts by making a manual and comprehensive review of the annual report.

The report also describes current regulatory developments in this area and provides guidance on the companies' further work on sustainability reporting and climate risk.

THEME: CLIMATE RISK IN NORWEGIAN BANKS

The transition to a low-emission society will require adjustments in the Norwegian economy, which may have a significant impact on banks' risk of losses and profitability. Just like other risk, climate risk must be taken into account in the individual bank's credit assessments and capital planning. Considerable work is in progress internationally to increase knowledge about the economic consequences of climate change and the transition to low-emission economies, including the preparation of exposure analyses, scenarios and stress tests. The European Commission has put forward proposals whereby banks and supervisory authorities will be required to carry out climate stress tests on a regular basis. Finanstilsynet will develop tools and analyses to follow up financial institutions' climate exposure and risk. The work carried out internationally in this area under the auspices of central banks and financial supervisory authorities forms the basis for Finanstilsynet's follow-up of financial institutions.

This report analyses the possible impacts for Norwegian banks in two different scenarios for the transition to a low-emission society: one scenario with an orderly transition (baseline scenario) and one scenario with a disorderly transition. The scenarios are based on climate scenarios prepared by the Network for Greening the Financial System (NGFS) and analyses from the Bank of England. Finanstilsynet's calculations indicate that the banks may suffer significant losses on corporate loans in a disorderly transition scenario. The total level of losses is nevertheless considered to be manageable for Norwegian banks.

INTRODUCTION

Climate change can have serious consequences for the environment and people's living conditions. This acknowledgment has led to extensive international

commitments to reducing greenhouse gas emissions. National targets on emission reductions have been set, and climate policy measures will be implemented to achieve the targets. There is considerable uncertainty as to how climate change and measures to reduce emissions will affect the economy.

Finanstilsynet has previously analysed banks' and insurers' direct exposure to industries exposed to transition risk. Climate-sensitive industries include industries with large greenhouse gas emissions and industries that are affected by measures implemented by other industries when the price of emissions increases. The analyses were based on frameworks from Battiston³⁰ and PACTA³¹ and showed that some banks and insurance companies have a significant exposure to climate-sensitive industries, but that their overall exposure is nevertheless moderate and thus poses a limited risk to financial stability.

In 2020, the IMF³² analysed the impact of higher carbon prices for various Norwegian industries and how such an increase may affect Norwegian banks' lending. Norges Bank conducted a similar analysis in 2021.³³ These analyses show that banks overall have moderate credit exposures to industries with high emissions. However, higher carbon prices may have a pronounced impact on individual banks and parts of the banks' loan portfolios.

The transition to a low-emission society will entail transition costs. The scope of these costs will depend on several factors. A gradual and orderly transition will require lower transition costs than a sudden and disorderly climate change adaptation, which may also cause greater uncertainty in financial markets. In such a scenario, other parts of the economy than the most climate-sensitive undertakings will also be affected, and this may result in higher loan losses for banks and a fall in the value of insurers' securities holdings. There is uncertainty about how quickly new green technology can be developed, taken into use and contribute to lower emission intensity.

The preparation of climate scenarios is an important tool in analysing climate risk. The TCFD³⁴ recommends

companies to stress test their business models against relevant climate policy scenarios. The European Commission has proposed that banks and supervisory authorities should carry out climate stress tests on a regular basis.³⁵

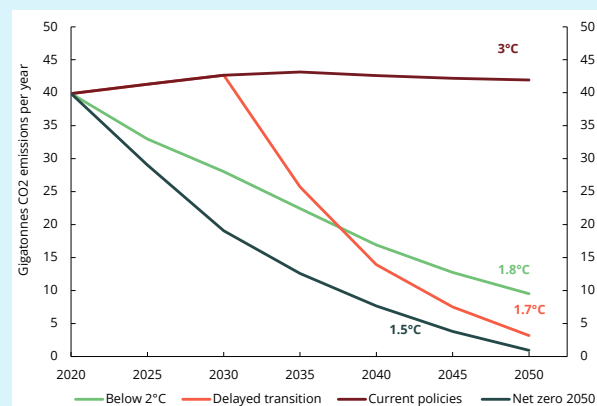
Box 7 Climate scenarios from the NGFS

In June 2021, the NGFS* published six different climate scenarios to provide a common starting point for analysing climate risk in stress tests. The climate scenarios have been developed using three so-called IAM models. In such models, modelling of physical climate variables, such as the concentration of greenhouse gases in the atmosphere and temperatures, is interconnected with economic variables and the design of climate policy. The models calculate, among other things, carbon prices that are consistent with a given climate target, for example the Paris Agreement goals.

The NGFS scenarios start in 2020 and run until 2100. The scenarios are designed to show a variety of possible outcomes, ranging from low to high risk associated with transition and physical climate change. The scenarios include different combinations of climate policy timing and intensity and the coordination of policies between countries and regions. The scenarios are also based on different assumptions about how quickly technological progress will occur, and the extent of carbon dioxide removal and storage.

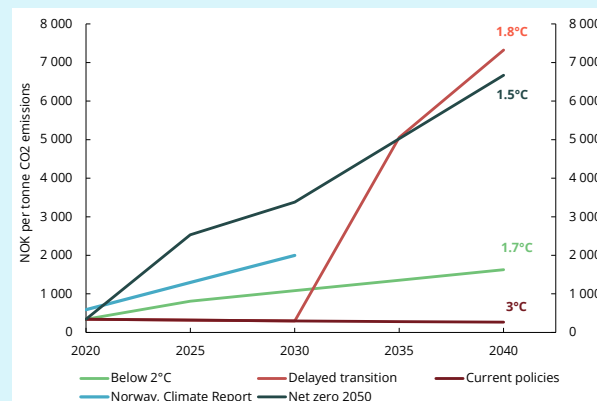
Charts A and B show four of the six scenarios from the NGFS. In one of the scenarios, current climate policies are retained throughout the period, see the line for 'Current policies' in charts A and B. In this scenario, global warming will be above 3°C, resulting in significant climate change and high economic costs throughout the period. Two other scenarios are based on the assumption that the transition to a low-emission society will start immediately and that greenhouse gas emissions will thus be reduced and global warming

A CO₂ emissions in the NGFS scenarios



Source: NGFS

B CO₂ emission prices



Sources: NGFS and Report to the Storting 13 (2020–2021)

limited to below 2°C. In these scenarios, there are moderate costs associated with both the transition and climate change.

These scenarios are illustrated by 'Below 2°C' and 'Net zero 2050' in charts A and B. The last two scenarios illustrate the transition risk associated with the transition to a low-emission economy. In these scenarios, the transition will not start until 2030. At this time, much of the world's remaining carbon budget will be gone. The transition must therefore take place quickly in order for the global warming target below 2°C to be reached, see the line for 'Delayed transition' in chart B. A sudden and disorderly transition heightens the risk of misinvestment and a fall in the value of

existing production equipment in the years after 2030.

The models used calculate cost-effective transition pathways. This means that for given assumptions about temperature targets, population growth, technological advancement and political aspects, the least costly pathway is estimated. This means, among other things, that necessary investments in renewable energy production can be realised. The models do not take the financial markets into consideration and thus do not capture the risk of misallocation of capital and the risk that a lack of financing opportunities could slow the transition to a low-emission society.

* The Network for Greening the Financial System (NGFS) is a network of supervisory authorities and central banks. Norges Bank and Finanstilsynet are members. The climate scenarios are described in 'NGFS Climate Scenarios for Central Banks and Supervisors', NGFS, June 2021.

Some central banks and supervisory authorities have already used the climate scenarios from the NGFS in their stress tests of banks and insurers, and several are planning to carry out such analyses. The purpose is to gain increased insight into financial institutions' climate risks and consequences for the financial system, as well as to challenge the institutions' business strategies. Climate stress tests have so far not been applied for regulatory requirements.

In several of the published climate scenarios, such as the analyses from the Bank of England³⁶, it is assumed that a sudden and disorderly transition will result in adjustments that amplify the negative economic impacts. Examples are increased uncertainty and higher risk premiums in financial markets and frictions in the labour market that delay the transition. This amplifies and prolongs the downturn and increases economic losses during the restructuring.

A small, open economy such as the Norwegian economy is heavily influenced by international

developments. Among other things, a sharp fall in demand for petroleum will have significant ripple effects for large parts of the Norwegian economy. A sudden and disorderly climate adaptation can therefore have serious negative consequences for the Norwegian economy and Norwegian financial institutions.

FINANSTILSYNET'S CLIMATE SCENARIOS

The assessments in this report are based on two scenarios: one scenario with an orderly transition to a low-emission society (baseline scenario) and one scenario with a disorderly transition. The two scenarios describe possible pathways for the Norwegian economy during the transition to a low-emission society and do not represent Finanstilsynet's forecast of future developments. The projections are made by using the macroeconometric model NAM-FT³⁷.

Finanstilsynet has not assessed or modelled the effect of various measures to reduce greenhouse gas emissions. Such an analysis would have required different modelling tools than those available to Finanstilsynet, and also falls outside Finanstilsynet's field of expertise.

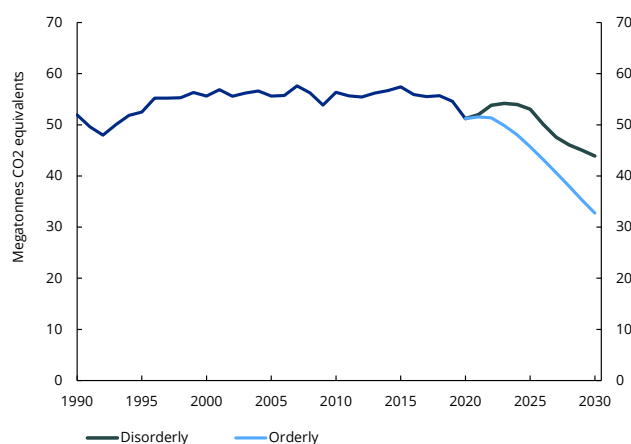
In the baseline scenario, the transition to a low-emission society takes place in an orderly manner throughout the projection period. Decision makers both in Norway and internationally succeed in implementing necessary measures in a systematic and coordinated manner, thereby reaching the global warming goals in the Paris Agreement. It is assumed that the target to cut greenhouse gas emissions by 50 per cent from the 1990 level will be achieved for Norwegian mainland industries (both private enterprises and the public sector) and households by the end of 2030.³⁸ In the baseline scenario, total Norwegian greenhouse gas emissions (for mainland industries, households and the petroleum industry, but excluding international shipping) decline from 52 million tonnes CO₂ equivalent in 1990 to 33 million tonnes CO₂ equivalent in 2030 (chart 1).

Box 8 Norwegian climate targets

in February 2020, Norway submitted an enhanced climate target under the Paris Agreement. Norway thus committed to reducing greenhouse gas emissions by at least 50 per cent, and up to 55 per cent, in 2030 compared to 1990 levels. For emissions covered by the emissions trading system EU ETS, which covers most of the emissions from mainland industries, the petroleum sector, air traffic and some of the emissions from energy supply, the EU's overall emission reduction target is 43 per cent in 2030 compared to 2005 levels. The European Commission has proposed increasing the reduction target to 61 per cent in 2030 compared to 2005 levels. Norway has participated in the EU ETS on an equal footing with other European countries since 2008. There are no separate requirements for emission reductions in Norway or other countries within the ETS.

Source: Norwegian Environment Agency

The Norwegian emission reductions are assumed to be attributable to a rise in the price of greenhouse gas emissions in the non-ETS sector in keeping with the Climate Report (Report to the Storting 13 (2020–2021)) and higher allowance prices in the EU ETS. It is assumed that a gradual transition to low-emission technology contributes to emission reductions. Emission intensity, measured as CO₂ emissions in tonnes relative to GDP in NOK million, is reduced faster in this scenario than in the period from 1990 to 2020. There is a cost associated with a more rapid decline in emission intensity during the projection period. In the model calculations, this is reflected in somewhat lower consumption growth in the period from 2021 to 2030 than under a pathway where the reduction in emission intensity shows the same trend as in the period from 1990 to 2020. It is not clear how quickly new technology can be introduced, making it uncertain whether the target of a 50 per cent reduction in non-ETS emissions can be reached by 2030.

1 Norwegian greenhouse gas emissions (excluding international shipping)

Sources: Statistics Norway and Finanstilsynet

In the disorderly transition scenario, the start of the transition to a low-emission society is postponed both in Norway and internationally. The calculations are based on a technical assumption that the transition will start in 2025. The postponement entails a need to apply more drastic measures. The implementation of measures is also less coordinated and systematic than in the baseline scenario. This results in higher friction costs during the transition and greater uncertainty among investors and other players than in the baseline scenario. Up until 2025, emission intensity shows approximately the same development as in the period from 1990 to 2020. In the disorderly transition scenario, emissions initially increase before starting to decrease towards the end of the period. It is assumed that the emission cut targets will be achieved later than 2030 in the disorderly transition scenario.

NGFS' 'Below 2 degrees celsius scenario' and 'Delayed transition scenario' are used as a starting point when preparing the baseline scenario and the scenario with a disorderly transition to a low-emission society, respectively. However, when preparing the disorderly transition scenario, elements have been added that increase transition risk approximately to the same level as in the Bank of England's 'Late action' scenario, including higher risk premiums, steeper falls in oil prices and greater frictions in the labour market. Forecasts presented in Statistics Norway's 'Economic Survey 2021/3' and Norges Bank's 'Monetary Policy

Table 1 Developments in important variables determined outside the model. Percentage growth in annual averages, unless otherwise stated

		2020	Average 2021–2024	2025	2026	2027	Average 2028–2030
International CPI	Orderly	1.4	2.1	2.0	2.0	2.0	2.0
	Disorderly	1.4	2.1	3.3	4.1	4.1	3.1
Foreign money market rate (3-month, EURIBOR, per cent, level)	Orderly	-0.4	-0.4	0.0	0.3	0.5	0.9
	Disorderly	-0.4	-0.4	2.0	1.8	1.5	1.7
International demand for goods and services produced in Norway	Orderly	-7.3	7.1	4.6	4.6	4.5	4.3
	Disorderly	-7.3	7.1	-9.0	-2.0	2.0	3.0
Oil price (producer price, USD per barrel)	Orderly	41.8	65.2	62.0	62.0	62.0	62.0
	Disorderly	41.8	72.5	30.0	30.0	30.0	30.0
Public consumption	Orderly	1.7	1.9	2.0	2.0	2.0	2.0
	Disorderly	1.7	1.9	2.0	2.0	2.0	2.0
Public real investment	Orderly	-1.0	0.1	2.5	2.5	2.5	2.5
	Disorderly	-1.0	0.1	2.5	2.5	2.5	2.5
Norges Bank's key policy rate (per cent, level)	Orderly	0.4	1.0	1.7	1.7	1.7	1.7
	Disorderly	0.4	1.0	1.0	1.0	1.0	1.0

Sources: Statistics Norway and Finanstilsynet

Report 3/21' have been used as a basis for determining developments in some key economic variables in the period up to 2024.

The NGFS's scenarios cover the period up to 2100, while the Bank of England's scenarios runs until 2050. On account of technical aspects of the models, Finanstilsynet's projections have been made for the period from 2021 to 2030. The consequences of a transition to a low-emission society in Finanstilsynet's scenarios are therefore more concentrated in time than in the NGFS and Bank of England scenarios. The discussion of risk in the analysis is restricted to transitional risk.

The fiscal policy stance is assumed to be the same in both scenarios. Public consumption and real investment are based on Statistics Norway's forecasts up to 2024. After this, growth rates are based on historical averages, see table 1. In both scenarios, Norges Bank's key policy rate is assumed to develop in line with the forecast presented in the Monetary Policy Report 3/21 up to 2024.

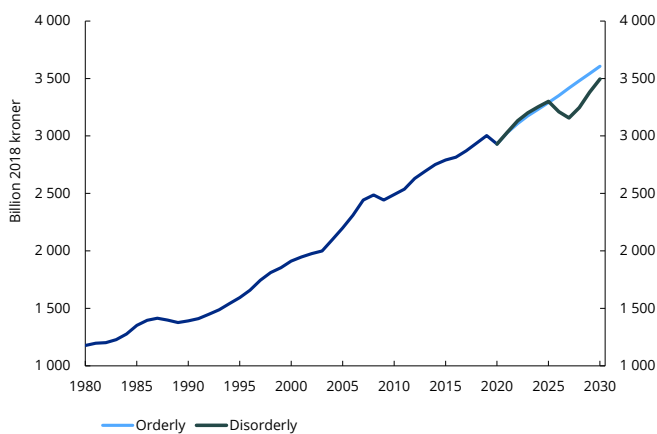
ORDERLY TRANSITION SCENARIO (BASELINE SCENARIO)

As mentioned above, the baseline scenario is based on the NGFS' 'Below 2 degrees celsius scenario'. In the scenario, the transition to a low-emission society is assumed to take place in an orderly manner, and there are relatively low real economic costs associated with the transition. A further underlying assumption for the scenario is that there will be a faster reduction in emission intensity than in the period from 1990 to 2020.

In this scenario, there is an ongoing transition to less climate-polluting energy carriers in Norway and internationally throughout the period. It is assumed that demand for oil remains high during the first few years. Extraction and exports of Norwegian oil are initially assumed to rise roughly in keeping with Statistics Norway's forecast up to 2024, and then be reduced as projected in the Report to the Storting on long-term perspectives on the Norwegian economy 2021 (Perspective Report). The producer price of oil is expected to decline from close to USD 70 to USD 62 at the beginning of the projection period and remain at this level for the rest of the period, see table 1. However, the price of oil and other polluting forms of

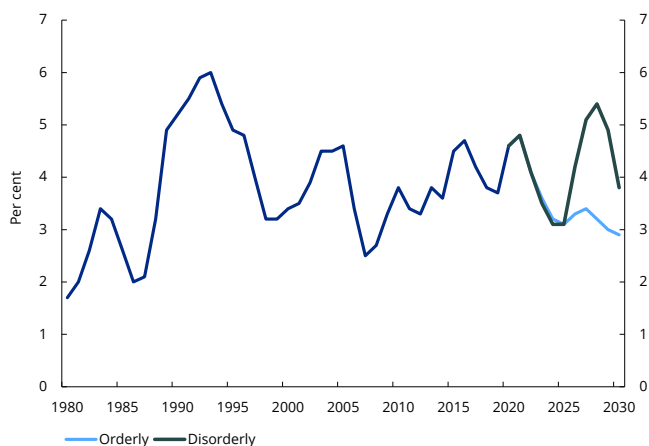
THEME: CLIMATE RISK IN NORWEGIAN BANKS

2 GDP for mainland Norway



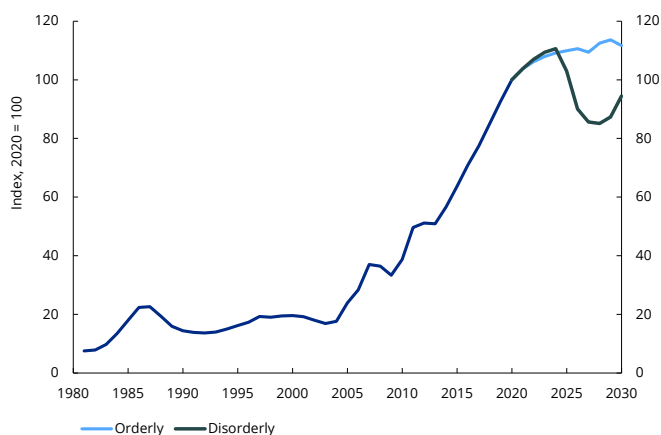
Sources: Statistics Norway and Finanstilsynet

3 Unemployment (LFS)



Sources: Statistics Norway and Finanstilsynet

4 Commercial property prices



Sources: Dagens Næringsliv, OPAK, Entra and Finanstilsynet

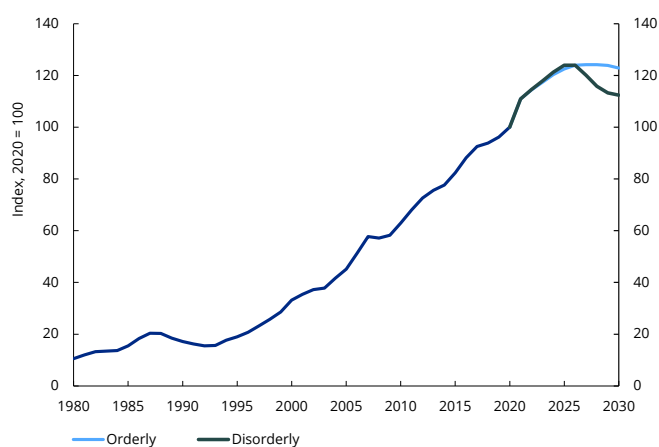
energy that consumers must pay for are expected to increase in step with the planned rise in the price of greenhouse gas emissions. Developments in petroleum investments up to 2024 are based on Statistics Norway's estimates, but have been revised slightly downwards to reflect greater uncertainty about the industry's future level of profitability. From 2025, investments on the Norwegian shelf are assumed to gradually decline.

International demand for traditional goods and services produced in Norway is assumed to develop in line with the NGFS' scenario of an orderly transition to a low-emission society, with global warming below 2°C, see table 1. In the scenario, growth in Norwegian GDP is close to Statistics Norway's forecasts up to 2024, but slows somewhat towards the end of the projection period. GDP growth is positive throughout the period (chart 2). GDP for mainland Norway is higher than total GDP. This reflects the decline in production in the petroleum industry. Unemployment remains low throughout the projection period (chart 3).

The increase in prices of energy and imported goods gives a certain rise in inflation. Norges Bank is assumed to raise its key policy rate gradually to 1.6 per cent in 2024 in keeping with the interest rate path set out in the Monetary Policy Report 3/21 and then leave the key policy rate at 1.7 per cent for the remainder of the period. International money market rates are expected to develop in line with estimates from the NGFS. In the scenario, three-month international money market rates gradually rise to 1.2 per cent in 2030. Developments in financial markets are stable both in Norway and internationally, and no shocks occur during the projection period. Norwegian banks' average lending rates therefore rise gradually and moderately throughout the period.

Low interest rates and economic growth in mainland Norway contribute to an increase in Norwegian share prices and commercial property prices (chart 4). The upturn is particularly strong in the stock market. There is a 5.3 per cent increase in non-financial firms'

5 House prices



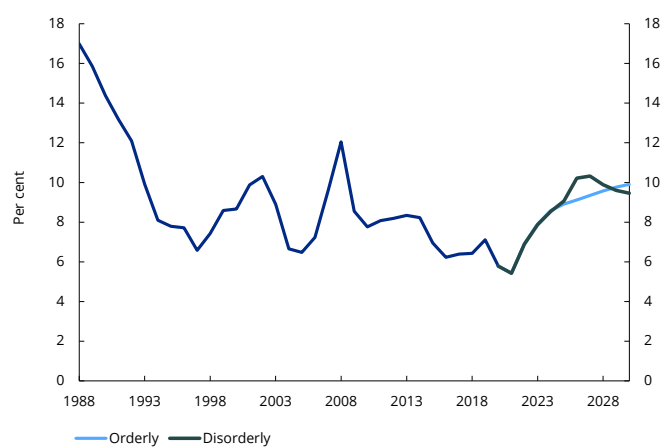
Sources: Statistics Norway and Finanstilsynet

average debt (C2) per year from 2022 to 2030. The rising debt reflects an increase in real investment related to the green shift. On average, there is a nominal rise in households' disposable income of 4.1 per cent per year from 2022 to 2030. The nominal increase in household income is largely absorbed by inflation. Household consumption grows moderately throughout the period, and house prices level off in the second half of the period (chart 5). Household debt (C2) increases during the projection period, with the most pronounced rise in the first half of the period. There is a gradual increase in households' interest burden throughout the period due to a rise in both lending rates and household debt (chart 6). Households' debt burden is up 8 percentage points to 247 per cent in 2025, but declines to 244 per cent at the end of the period. Banks' losses on corporate loans and personal customer loans remain at a low level (charts 7 and 8).

DISORDERLY TRANSITION SCENARIO

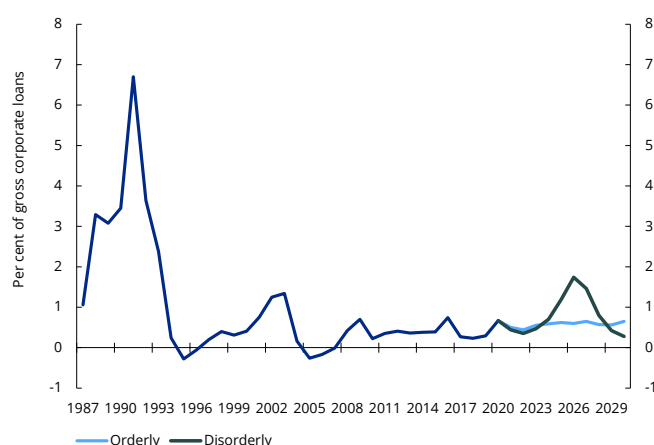
In this scenario, prices of greenhouse gas emissions in both the ETS and non-ETS sectors are assumed to remain low until the transition to a low-emission society starts. This matches the Bank of England's 'Late action' scenario. From 2025, there is a sudden and steep rise in emission prices both internationally and in Norway. The increase in emissions leads to lower producer prices and higher prices for users of fossil-based forms of energy. In turn, this leads to significantly higher costs and eroded competitiveness

6 Households' interest burden



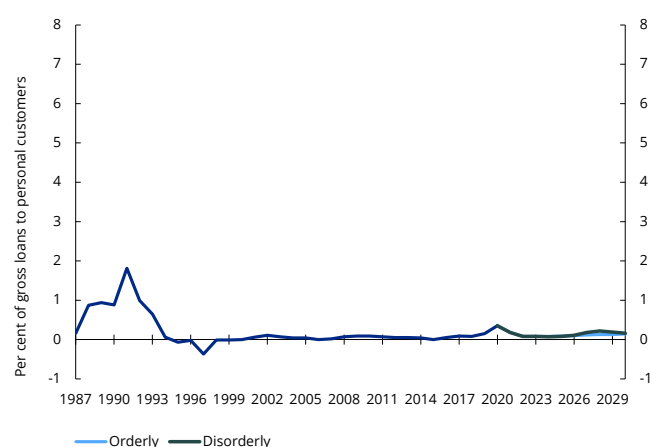
Sources: Statistics Norway and Finanstilsynet

7 Banks' losses on corporate loans

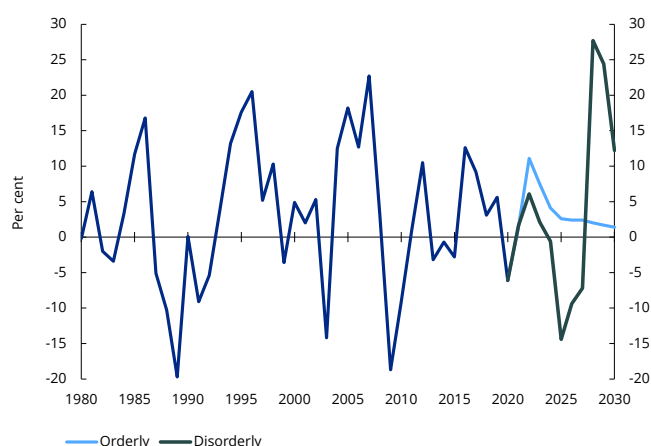


Source: Finanstilsynet

8 Banks' losses on loans to personal customers



Source: Finanstilsynet

9 Gross corporate investment (mainland), year-over-year growth

Sources: Statistics Norway and Finanstilsynet

for industries with large CO₂ emissions. Industries that are unable to adapt will thus experience weaker profitability. At the same time, technological progress leads to more efficient production of renewable energy, whereby the production costs of such energy declines. More affordable non-fossil energy and changing preferences in the population are assumed to amplify the shift in demand for non-fossil energy. User prices of all forms of energy rise in the scenario, with a particularly strong price increase on fossil-based energy.

The producer price of oil is expected to decline from close to USD 70 to USD 30 in 2025 and to remain at this level for the rest of the period, see table 1.³⁹ The fall in prices means that profitability in the petroleum industry is strongly curtailed and that petroleum investment on the Norwegian shelf is drastically reduced, especially after 2025. In the period from 2025 to 2030, Norwegian petroleum investment is expected to contract by 87 per cent. This will significantly reduce production capacity on the Norwegian shelf after the end of the projection period in 2030. Extraction and export of Norwegian oil remain approximately at the same level as in the baseline scenario up to 2030.

International money market rates rise after the start of the transition to a low-emission society, see table 1. As energy prices increase and the higher transition costs

are passed on to the consumers, inflation rises higher than in the baseline scenario from 2025. Just like in the Bank of England's 'Late action' scenario, central banks reduce their key policy rates somewhat to stimulate economic activity. Norges Bank is assumed to reduce its key policy rate from about 1.7 to 1.0 per cent in 2025 and to keep it at this level until the end of the period.

The economic impacts of the transition to a low-emission society will be greater in this scenario than in the orderly transition scenario. The degree of uncertainty and risk premiums in financial markets are expected to be particularly high in 2025 and 2026. The overall effect of lower key policy rates and higher risk premiums is that on average, the interest rates borrowers have to pay for loans in Norwegian banks will at no time be more than 0.5 percentage points higher in this scenario than in the baseline scenario.

Developments in GDP in key Norwegian export markets are assumed to approximately match those in the Bank of England's 'Late action' scenario, but are more compressed in time. International demand for traditional goods and services produced in Norway is assumed to contract by a total of 11 per cent in 2025 and 2026, see table 1. Significant uncertainty in 2025 and 2026 leads to a sharp decline in corporate investment in mainland Norway (chart 9). The declining trend in activity also results in sluggish growth in households' disposable income in 2026 and 2027. Private consumption is down 5.5 per cent from 2025 to 2028. Both total GDP and GDP for mainland Norway declines by 4.4 per cent from 2025 to 2027 (chart 2).

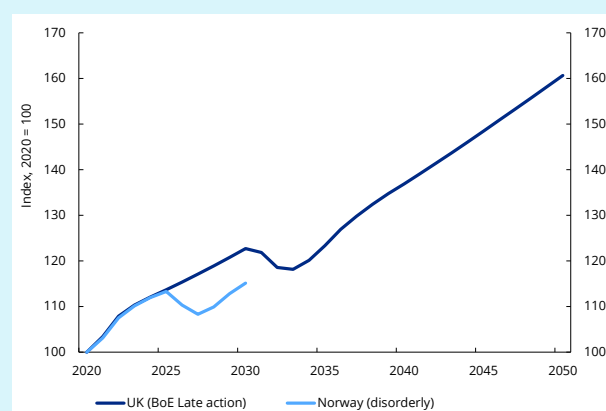
Box 9 Comparison between the disorderly transition scenario and the Bank of England's 'Late action' scenario

Finanstilsynet has calibrated the disorderly transition scenario so that the negative impulses that affect the domestic economy during the transition period roughly equal those in the Bank of England's 'Late action' scenario. A comparison of the severity of these two scenarios is compli-

Table A Developments in key economic variables during the transition phase

	UK Bank of England Late action scenario	Norway Finanstilsynet's disorderly transition scenario
International factors:		
Export market indicator*	- 10 per cent	- 11 per cent
Oil price (producer)	- 62 per cent	- 62 per cent
Implicit volatility of US shares, increase	11 percentage points	10 percentage points
Domestic factors:		
GDP	- 3.7 per cent	- 4.4 per cent
Share prices	- 15 per cent	- 37 per cent
Commercial property prices	- 28 per cent	- 23 per cent
House prices	- 19 per cent	- 9 per cent
Unemployment, increase	3.5 percentage points	2.3 percentage points
Unemployment, highest level in scenario relative to highest level in recent history	8.5 per cent in 2033 represents 72 per cent of the 1984 level	5.4 per cent in 2028 represents 90 per cent of the 1993 level

* Estimated effect on international demand for goods and services produced in Norway, as measured by the NAM-FT export market indicator, subject to international GDP developments specified in the two scenarios. Sources: Bank of England, Refinitiv and Finanstilsynet

C (Total) GDP in the Bank of England's 'Late action' scenario and Finanstilsynet's disorderly transition scenario

Sources: Bank of England and Finanstilsynet

cated by the fact that they are of very different duration and that no specific variable or index provides an unambiguous measure of the severity of such scenarios. Table A compares developments in key macroeconomic variables from the highest to the lowest value (or vice versa) from the start of the transition to a low-emission society and for as long as the variable is declining (or rising), which is considered to represent the duration of the transition phase.

The changes in the export market indicator, the producer price of oil and the implicit volatility of US shares, which represent developments in international factors, are very similar in the two scenarios, see table A.

The international impulses have different effects on the Norwegian and the UK economies in the two scenarios. Despite the fact that there is a steeper decline in (total) GDP in Finanstilsynet's scenario for Norway (-4.4 per cent from 2025 to 2027) than in the Bank of England's scenario for the UK economy (-3.7 per cent from 2030 to 2033) (chart C), unemployment increases more in the UK (3.5 percentage points) than in the Norwegian scenario (2.3 percentage points). In Finanstilsynet's scenario, unemployment rises to 5.4 per cent, which is somewhat below the highest level during the 1993 downturn. There are structural differences between the Norwegian and the UK labour markets. For one thing, the proportion of public sector employees is higher in Norway than in the UK.

There is a smaller decline in commercial property prices and house prices in the scenario for the

Norwegian economy than in the scenario for the UK economy, while the fall in share prices is greater in Norway than in the UK. These differences partly reflect the significant importance of the oil industry for the Norwegian economy.

Rising interest rates, declining activity levels and higher risk premiums are factors contributing to the fall in the stock and real estate markets. Owing to the fact that the oil companies constitute a large proportion of the companies listed on Oslo Børs, the decline in Norwegian share prices will be particularly sharp. From 2024 to 2026, Norwegian share prices are down 37 per cent, while commercial property prices are reduced by 23 per cent from 2024 to 2028 (chart 4). House prices decline by 9 per cent from 2026 to 2030 (chart 5).

Towards the end of the projection period, frictions in the transition to a low-emission society are assumed to gradually subside, and the uncertainty in financial markets declines towards normal levels. Both Norwegian share prices and commercial property prices are rising, but do not reach pre-transition levels by the end of the projection period. It is assumed that a large number of green investments will be introduced, particularly in private mainland industries (chart 9). International demand for goods and services produced in Norway is expected to rise by 2-3 per cent per year from 2027 to the end of the projection period. A decline in inflation and higher growth in households' disposable income provide a boost to private consumption. Growth in GDP for mainland Norway picks up markedly towards the end of the projection period, while there is a continued decline in the petroleum industry. On account of developments in GDP, unemployment increases markedly in the second half of the projection period. Unemployment (LFS) increases from 3.2 per cent in 2025 to 5.4 per cent in 2028 and does not decline to 3.8 per cent until 2030 (chart 3).

Households' debt and interest burdens rise during much of the projection period and are somewhat reduced towards the end of the period. While the debt

burden in 2030 is 2 percentage points lower than in 2021, the interest burden increases by 4 percentage points, to 9.5 per cent, during the same period. This reflects the fact that banks' average lending rates are not reduced by more than 0.2 percentage points from 2027 to 2030.

Banks' loan losses rise considerably during the projection period. Losses are particularly high on corporate loans. From 2025 to 2030, banks' losses on loans to corporate customers represent 5.9 per cent of gross lending to the sector (chart 7). During the same period, the banks' losses on loans to personal customers come to 0.9 per cent of gross lending to the sector (chart 8). Banks' annual losses on loans decrease towards the end of the period. During the banking crisis from 1988 to 1992, the banks' accumulated losses were 20.2 per cent on corporate loans and 5.5 per cent on personal customer loans.

Higher loan losses will have a negative impact on banks' earnings. Estimates for a macro bank representing a weighted average of 19 of the largest Norwegian banking groups show that profit after tax will be more than halved in some years during the projection period. Nevertheless, the macro bank is projected to record net annual profits throughout the period. The fall in earnings thus has little direct impact on the banks' capital adequacy ratios, which nevertheless contract somewhat in consequence of the estimated strong lending growth up to 2026. Despite the increase in loan losses, slowing lending growth helps to raise capital adequacy ratios towards the end of the projection period. Such a development is considered to be manageable for Norwegian banks. Nevertheless, it must be emphasised that there is considerable uncertainty associated with both the macroeconomic scenario and banks' losses during a disorderly transition.

NOTES

¹ See, among others, Norsk PMI (Purchasing Manager Index).

² Firms whose operating earnings before depreciation and amortisation (EBITDA) are lower than net interest expenses and estimated instalments on interest-bearing debt.

³ Evidence that a loan is credit-impaired includes observable data about the following events:

- significant financial difficulty of the borrower
- a breach of contract, such as a default or past due event
- the borrower has been granted concessions due to financial difficulties
- it is probable that the borrower will enter bankruptcy or other financial reorganisation

⁴ In January 2020, Finanstilsynet ordered Sparebanken Vest to stop using the name Bulder Bank. The reason for this was that the marketing of Bulder Bank gave the impression that the service was provided by a separate financial institution, which is in violation of Section 2-21, subsection (2) (b) of the Financial Institutions Act. Sparebanken Vest has appealed Finanstilsynet's decision to the Ministry of Finance.

⁵ Totens Sparebank, Sparebanken Øst, Sparebanken Sør, Sparebank 1 SR-Bank, Sandnes Sparebank, Fana Sparebank, Sparebanken Vest, Sparebanken Sogn og Fjordane, Sparebanken Møre, Sparebank 1 Helgeland. Other savings banks are not included, since they transfer loans to group-owned residential mortgage companies and no geographic information about the loans is recorded that can be traced to the individual bank.

⁶ The distribution by county is based on the current county structure. Figures from counties that were merged as part of the regional reform in 2017 are also included in the new county's figures for the period prior to the merger.

⁷ See [Finanstilsynet's letter to the Ministry of Finance on the distribution of profits, dated 3 September 2021](#) (in Norwegian only)

⁸ See [the European Systemic Risk Board's press release dated 24 September 2021](#)

⁹ Duration is the weighted average time to maturity calculated on the basis of the present value of future cash flows. Duration is a measure of the sensitivity of the price of a bond or other liability to a change in interest rates.

¹⁰ See [the IMF's Global Financial Stability Report](#), October 2021

¹¹ See [EIOPA's Financial Stability Report](#), July 2021

¹² See [EIOPA's Financial Stability Report](#), July 2021

¹³ See [EIOPA's Insurance Stress Test 2021 Technical specifications](#), 6 May 2021

¹⁴ A list of 'green' bonds is drawn up by the Climate Bonds Initiative using [The Climate Bonds Standard](#) with sector-specific eligibility criteria.

¹⁵ See [Risk Outlook June 2021](#) for a description of the Natural Perils Pool.

¹⁶ See [EIOPA's methodological paper](#) dated 8 June 2021 which is based on [EIOPA's discussion paper](#) from 2 December 2020.

¹⁷ See NVE: [New methodology for assessing the overall need for securing buildings against floods and landslides, 17 June 2021](#) (in Norwegian only)

¹⁸ See EIOPA's [Artificial intelligence governance principles](#), 17 June 2021

¹⁹ See NAIC's [Big Data topic page](#) (update as at 27 May 2021).

²⁰ See EIOPA's [Open insurance: accessing and sharing insurance-related data](#). Consultation spring 2021

²¹ Total return is the change in price plus any dividends paid, divided by the original price of the share.

²² Basic resources include the extraction and processing of materials, metals, precious metals, chemicals, etc.

²³ Consumer discretionary includes education, funerals, catering, furniture, electrical appliances, entertainment products, clothing, shoes, etc. Consumer staples include beverages, food, other retail trade, personal hygiene products, etc.

²⁴ The figures include transfers from Euronext Growth to Oslo Børs, intra-group mergers, etc.

Source: Euronext Oslo Børs, [topic page](#) on IPOs (live)

²⁵ See ESMA: [SPACs: prospectus disclosure and investor protection considerations](#). Public statement dated 15 July 2021.

²⁶ See [Finanstilsynet's letter to Oslo Børs dated 3 June 2021](#), published on Finanstilsynet's website (in Norwegian only).

²⁷ Net financial investments defined in the income and capital accounts = savings + net capital transfers - net investments in non-financial capital.

²⁸ Norwegian Fund and Asset Management Association: [Record number of new mutual fund investors this year](#), published on 21 June 2021 (in Norwegian only).

²⁹ See [Norges Bank – Central Bank Digital Currency – topic page](#)

³⁰ See A climate stress-test of the financial system, Battiston et al. (2017)

³¹ See [Climate risk in insurance, exposure analyses and use of the PACTA framework](#), Finanstilsynet (2021) (in Norwegian only) and [PACTA's website](#).

³² See [Climate-Related Stress Testing: Transition Risks in Norway](#), IMF Working Paper 20/232

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³³ See [Climate risk and banks' loans to firms](#), Norges Bank Staff Memo 7/2021

³⁴ See [Task Force on Climate-related Financial Disclosures](#)

³⁵ See [the European Commission's proposed amendments](#) to CRR2 and CRD5, aiming to strengthen the banking sector's resilience to ESG risks.

³⁶ See [Key elements of the 2021 Biennial Exploratory Scenario](#)

³⁷ NAM-FT is based on the Norwegian Aggregate Model (NAM) and was developed specifically with a view to

stress testing of banks and analysis of financial stability. NAM was developed by Professors Gunnar Bårdsen and Ragnar Nymoen. Documentation of NAM can be found at [Normetrics](#). The model is also discussed in the Risk Outlook reports from 2014 to 2021.

³⁸ International shipping is not covered by the Paris Agreement and is excluded from this analysis.

³⁹ The price of natural gas is not included in the NAM-FT model. Just like the price of other fossil-based energy sources, however, a fall in prices is expected in the latter half of the projection period.

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