FINANSTILSYNET
THE FINANCIAL SUPERVISORY
AUTHORITY OF NORWAY

Report

Risk Outlook

December 2024

Risk Outlook

Financial stability and well-functioning financial markets help ensure efficient use of society's resources, good services for consumers and other market participants and confidence in the financial system. The financial system should be able to cope with disruptions and unexpected events while carrying out its functions, thus preventing an economic downturn from being amplified. This requires sound and liquid financial institutions with good internal management and control.

The Risk Outlook report summarises Finanstilsynet's analyses and assessments of the stability of the Norwegian financial system. The report builds on Finanstilsynet's ongoing supervision of institutions and markets and provides an important basis for its work. The report is published twice a year, in June and December.

Developments in financial institutions and financial markets are discussed in more detail in the following reports from Finanstilsynet:

- Residential mortgage lending survey (in Norwegian only)
- Financial institutions' use of flexibility quotas in the lending regulations (in Norwegian only)
- Report on financial institutions' performance (in Norwegian only)
- Solvency reports for financial institutions (in Norwegian only)
- Report on bank' losses and non-performing loans (in Norwegian only)
- Report on developments in consumer loans (in Norwegian only)
- Report on alternative investment funds (in Norwegian only)
- Risk and vulnerability analysis for ICT security in the financial sector

In addition, Finanstilsynet has published the following reports in 2024:

- Price survey of mutual funds offered to consumers (in Norwegian only)
- Competition in the Norwegian banking market (in Norwegian only)
- Consumers' position in the financial markets (in Norwegian only)
- Control of listed non-financial corporations' taxonomy reporting for 2023 (in Norwegian only)
- Survey of the assessment of climate risk in insurers' own risk and solvency assessment (in Norwegian only)
- Survey of insurers' use of advanced technology (in Norwegian only)

Cut-off date: 4 December 2024
Data in the charts updated as of 30 November 2024

RISK OUTLOOK DECEMBER 2024

IN BRIEF

Norwegian financial institutions are profitable and meet regulatory requirements.

Low non-performing loans and moderate credit growth

Increased geopolitical tensions and political unrest

Crises may arise suddenly and spread quickly

Important to maintain the resilience of the financial system

SUMMARY

With the exception of the United States, economic growth has slowed somewhat in a number of advanced economies over the past year. Price inflation has declined significantly since its peak in 2022, and several central banks have reduced their policy rates. Lower interest rates and a favourable financial climate have stimulated prices of assets such as equities and other investments internationally. Moderate growth and somewhat lower interest rates are expected ahead.

Growth in the Norwegian economy was slightly higher in the first three quarters of 2024 than last year, with a moderate increase in unemployment. Forecasts indicate somewhat higher growth in the coming years, driven in part by higher private consumption and increased public demand. Norges Bank has kept its policy rate stable at 4.5 per cent, and the rate is expected to be cut in the first quarter of 2025.

Geopolitical tensions and political unrest create significant uncertainty about economic developments. Conflicts and extensive trade restrictions may lead to higher prices, weaken the basis for economic growth and heighten the risk of financial crises. There is little reflection of this uncertainty in the financial markets. High equity prices, low risk premiums in the bond markets and generally low market volatility indicate expectations of low interest rates and stable economic developments.

In many countries, sovereign debt is increasing from an already high level. High ambitions for a green transition and strengthening of the armed forces, coupled with an ageing population, make it challenging to reduce ongoing public sector deficits. Public debt, which accounted for more than 60 per cent of global GDP prior to the financial crisis, is estimated by the IMF to be more than 100 per cent of global GDP by 2030. This trend is driven primarily by increased debt in China and the United States. There is concern that further debt accumulation could lead to higher long-term government bond yields and reduced fiscal room for manoeuvre in many economies.

High household debt and elevated residential and commercial property prices remain the key vulnerabilities in the Norwegian financial system. Norwegian household debt has decreased over the past couple of years, measured in per cent of disposable income, and credit growth is moderate. Nevertheless, the debt burden remains high, and Finanstilsynet's residential mortgage lending survey shows that many borrowers take out large loans relative to income and the value of their property. Lower interest rates and the easing of the lending regulation could lead to a further increase in house prices and household debt in the future.

In spite of a significant increase in interest rates, there are few signs of serious debt servicing problems for the Norwegian household sector overall. The share of non-performing loans in the personal customer market has increased in recent years but is still below pre-pandemic levels. This development must be viewed in light of the continued high level of economic activity in Norway, with high employment and low unemployment.

Weaker operating earnings combined with higher interest expenses have resulted in lower profitability and impaired debt servicing capacity for a number of non-financial corporations. There are significant differences between industries. In industries such as retail trade and construction, the aggregate debt of corporations with weak debt servicing capacity was considerably higher last year than in the years prior to the pandemic. Parts of the manufacturing industry have benefited from a depreciated krone exchange rate and increased demand and have improved their debt servicing capacity.

Commercial real estate companies have high debt levels and can therefore be especially vulnerable to interest rate increases. The interest expenses of many of these corporations have risen more than operating earnings over the last couple of years. This has impaired their debt servicing capacity, and the proportion of high-risk debt has increased sharply. The estimated direct yield on offices in the most attractive areas of Oslo has shown an increase, though it is clearly lower than the yield on government bonds. If the yield on secure government bonds remains high, the proportion of high-risk debt may increase further if the risk premium is normalised. This will result in somewhat higher credit risk in the banks.

Norwegian banks enjoy very strong profitability, driven by high interest income and low losses. Competition for bank customers and reduced interest rates in the period ahead could cause a decline in banks' net interest income and a rise in losses. Several small banks have recorded higher losses on loans in the corporate market. These banks' loan portfolios are less diversified across industries and more geographically concentrated than the portfolios of large banks. They are thus more vulnerable to setbacks in their local business communities.

In an advisory opinion, the EFTA Court has pointed out that contractual terms for interest rate adjustments must be clear and concise and enable consumers to understand the functioning of the method used for calculating interest rate adjustments. Finanstilsynet expects the banks to review their practices in light of this opinion.

Following the global financial crisis in 2007–2008, the regulation of banks and other financial institutions has been strengthened internationally. The final part of the post-financial crisis reforms (Basel III) is now in the process of being implemented, including in Norway. The defences that have been built up help reduce the risk of severe crises in the financial system. Many countries have experienced that financial crises could represent a high cost for society, and that a good defence system, including well capitalised banks, provides the basis for long-term economic growth.

Financial market regulation serves important purposes but has become very comprehensive and complicated. There is growing international pressure to relax key regulatory requirements. Finanstilsynet, together with the other Nordic financial supervisory authorities, has expressed concern over the increased complexity of the pan-European regulations. According to the Nordic supervisory authorities, greater emphasis should be placed on ensuring that the regulatory framework is simple without easing important requirements for the industry.

The banks' capital adequacy ratios have been virtually unchanged in recent years. Several Norwegian banks could end up with an increased margin to the capital requirement once the final part of the post-financial crisis reforms (CRR3) is implemented. If the banks use this opportunity to boost lending, it is important that their goal to increase lending volume does not compromise the quality of credit assessments.

Over the past 20 years, the number of savings banks in Norway has fallen from 127 to just over 80. This trend is probably due to various factors, including extensive digitalisation, more stringent regulations and, in recent years, greater differences between banks that calculate capital requirements using internal models and the standardised approach, respectively. In Finanstilsynet's opinion, there is still effective competition in the Norwegian banking market.

Norwegian life insurers and pension funds have strong profit and solvency levels. Rising equity prices contributed the most to the improvement in life insurers' returns in the first three quarters of the year. The insurance result for disability risk has shown a clearly negative development in recent years. If the increase in the number of disabled persons is not restrained, future premium payments are likely to rise.

For non-life insurers, the increased scope and severity of weather and natural disasters have led to weaker earnings and heightened risk. The undertakings have also had to deal with strong cost growth. Finanstilsynet expects all insurers to consider how climate change may impact the scope of damage. Insurers increasingly use data and advanced analytical methods based on artificial intelligence and machine learning. The use of advanced analytical methods can help ensure that the undertaking's premiums are proportionate to the risk assumed. However, this can also lead to more tailored pricing where certain customers and customer groups in practice are excluded from the insurance collective. It is important that the undertakings ensure equal distribution of risk between members of an insurance collective and contribute to financial inclusion.

Norway has made a commitment to reduce greenhouse gas emissions by 55 per cent from the 1990 level by 2030 and to be a net zero emission economy by 2050. The transition to a low-emission economy requires a significant shift in the Norwegian and international business sectors. Required

investments and increased emission taxes, which are a key climate policy tool, may have a negative impact on the profitability of Norwegian businesses and lead to higher loan losses in Norwegian banks.

Overall, Norwegian banks have a moderate exposure to industries with high greenhouse gas emissions, which are especially exposed to transitional risk. This mitigates banks' climate risk. Climate-related risk has the most pronounced impact on banks' credit risk but also affects market risk, operational risk, liquidity risk and reputational risk. Finanstilsynet follows up the banks' management of climate-related risks through on-site inspections and assessments of the banks' overall risks and capital needs. Finanstilsynet expects the banks to include climate-related risks in their business strategy, internal governance and risk management framework.

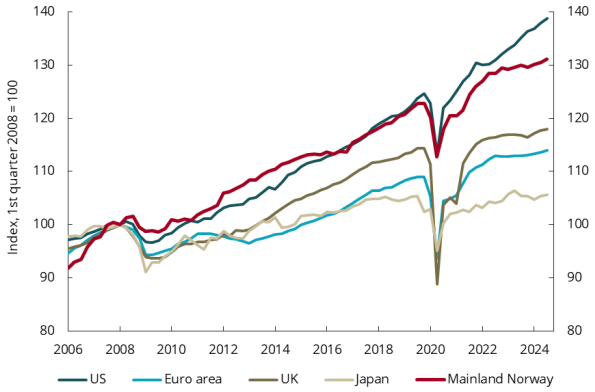
ECONOMIC DEVELOPMENTS AND RISKS

Stable but moderate economic growth

Global economic growth has remained stable over the past year and a half. There has been weak growth in several advanced economies, apart from in the United States (chart 1). The International Monetary Fund (IMF) estimates that global GDP will be 3.2 per cent in both 2024 and 2025. This is approximately the same growth rate as in 2023 but lower than average growth in the 20 years prior to the pandemic. The stable growth prospects can be attributed to a global shift from high demand for goods in the aftermath of the pandemic to higher consumption of services, increasing activity in the service sector and reduced industrial production.

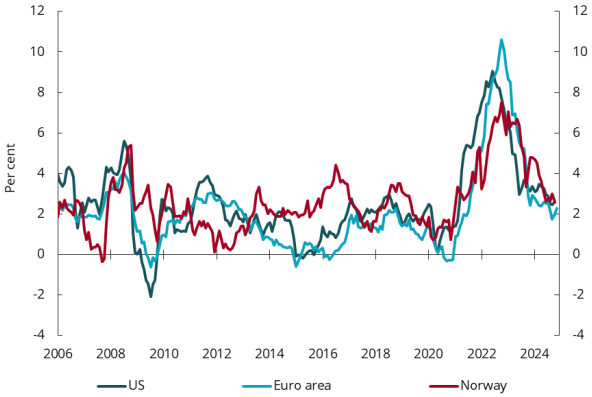
In most countries, inflation has fallen significantly from the peak in late 2022, but the rate of decline has levelled off somewhat in 2024 (chart 2). Unemployment has remained low, and wage growth is up in many countries. Goods inflation has stabilised or continued to decline, while services price inflation has remained high. The IMF estimates that global consumer price inflation will decline from 6.7 per cent in 2023 to 5.8 per cent in 2024 and 4.3 per cent in 2025.

Chart 1 Gross domestic product



Last observation: third quarter 2024. Source: LSEG Datastream

Chart 2 Inflation



Last observation: October 2024 for the US and Norway and November 2024 for the euro area. Source: LSEG Datastream

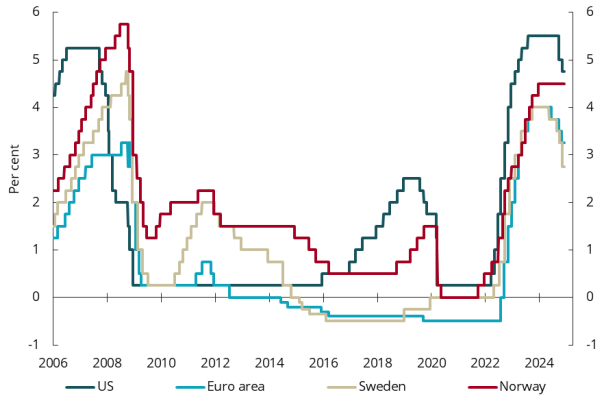
There has been sluggish growth in the Norwegian economy over the past year and a half. Unemployment has risen somewhat but from a low level. Key forecasters expect moderately higher growth next year as households' purchasing power improves and the decline in housing investment is reversed. Public demand is also expected to boost activity in the Norwegian economy, while unemployment is expected to rise moderately.

Lower policy rates

Several central banks have lowered their policy rates during the last six months (chart 3). Both the Federal Reserve and the European Central Bank (ECB) have cut their policy rates by 75 basis points since their peak, and further rate cuts are expected at upcoming monetary policy meetings.

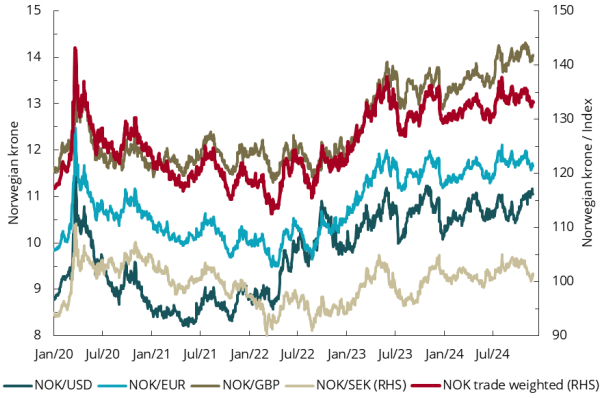
Norges Bank has so far kept its policy rate at 4.5 per cent. Underlying inflation in Norway is still above the central bank's target. High wage and cost growth in the business sector contributes to sustaining inflation. At the same time, the Norwegian krone has depreciated appreciably (chart 4). This means that imported goods and services cost more measured in Norwegian kroner and contributes to the high level of inflation. There are expectations that Norges Bank will lower its policy rate in the first quarter of 2025 and that the policy rate will thereafter be gradually reduced over the coming year.

Chart 3 Policy rates



For the US, the upper limit in the target interval is shown. For the euro area, the deposit rate is shown, which is the lowest of the three official policy rates. Source: LSEG Datastream

Chart 4 Krone exchange rate



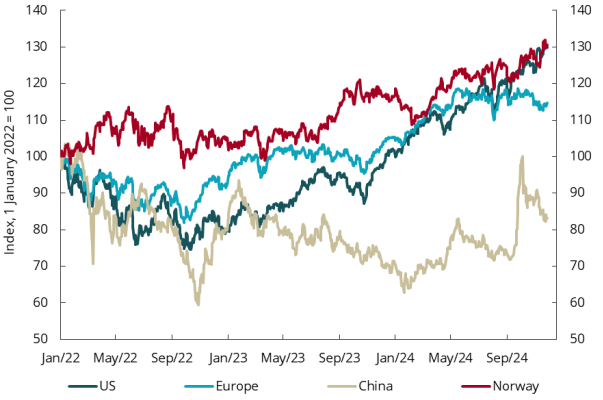
Source: LSEG Datastream

Elevated geopolitical risk and optimistic financial markets

Despite significant economic and geopolitical turmoil, global stock markets have continued to rise throughout 2024 (chart 5). Slower economic growth in China has contributed to weaker Chinese stock markets and falling prices of commodities for which China has covered a large share of global demand. This autumn, Chinese authorities have announced a series of monetary and financial stimulus measures.

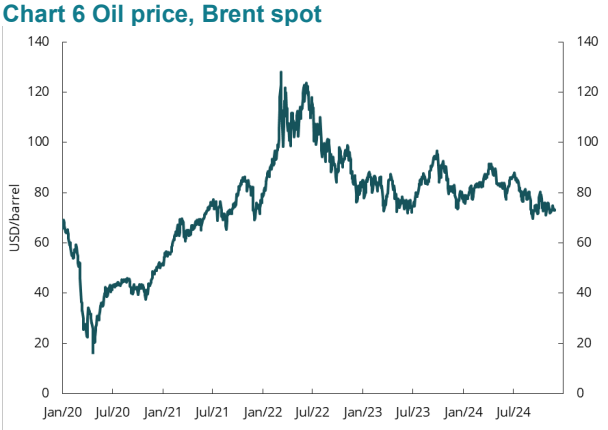
More moderate growth and expectations of lower demand for oil, especially from China, have had a dampening effect on the price of oil over the past year. This effect is partially offset by the wars and conflicts in the Middle East.

Chart 5 Equities, total return



MSCI indices. Source: LSEG Datastream

Chart 6 Oil price, Brent spot



Source: LSEG Datastream

In its latest report, the IMF points out that international economic uncertainty increased to record levels during the Covid-19 pandemic and has since remained high. Geopolitical tensions, high inflation, rapid rollout of new technology and climate-related risks contribute to the uncertainty in various ways and, according to the IMF, have increased the likelihood of negative shocks and weaker growth in the global economy.

Escalation of ongoing conflicts and political tensions could affect financial stability through various channels. Possible consequences include increased volatility, declining financial market values and rising prices due to disruptions in supply chains. Interest rates may rise, risk premiums in the financial markets may increase, and growth prospects may be dampened. Geopolitical tensions also entail an elevated risk of serious cyber incidents.

The IMF expects further reductions in key central banks' policy rates and a relatively positive trend in the global economy. This will mitigate the risk of financial instability in the short term. At the same time, market participants' expectations of lower interest rates may contribute to the further buildup of

financial vulnerabilities. Public and private debt has continued to rise in many countries, and equities and other assets are highly priced. Strong growth, particularly in the US stock market, is largely driven by relatively few and large technology companies. The increasing concentration of market value in a few large companies raises concerns about a possible stock market bubble related to artificial intelligence (AI). If expectations regarding these companies' future earnings are not met, it could trigger significant market corrections and have contagion effects beyond this sector. Financial market volatility has generally been low, and investors seem to require little compensation for uncertainty, as reflected in relatively low risk premiums in several markets. The volume of debt-financed investments through financial institutions other than banks also suggests a high risk appetite among investors.

The IMF points to the mismatch between high economic and geopolitical uncertainty and low volatility with moderate pricing of uncertainty in the financial markets. Economies with high levels of debt and highly priced financial asset markets are vulnerable to negative shocks. In the event of increasing turrmoil, the prices of equities and other capital assets may fall significantly. A sudden repricing of financial assets will, as previously experienced, weaken households' disposable income and corporate earnings and spread to other countries with lower public and private debt burdens.

The market turmoil in August this year, when stock market volatility in the US and Japan increased sharply and global stock markets plunged, was a reminder of the vulnerability in the financial markets. In hindsight, the turmoil has been linked to debt-financed positions in so-called carry trades, where investors borrow in a low-yield currency, in this case Japanese yen, and invest in currencies and instruments providing a higher rate of return. The increase in Japanese policy rates coupled with weak labour market figures for the US led to a rise in Japanese interest rates and a strengthening of the Japanese yen. The carry trade positions thus became unprofitable, and unwinding of trades led to increased volatility in the currency and stock markets. The Nikkei index fell by over 12 per cent on 5 August, which is the largest daily drop since 1987. Financial institutions other than banks, such as hedge funds, played a key role in unwinding the positions. There is increased international focus on the activities of such entities, which are not very transparent and subject to less regulation and supervision.

Concern about high levels of debt

Private and public debt levels are high in several large economies. After a reduction in 2021–2022, the growth in public debt picked up in 2023 and is estimated by the IMF to reach 100 per cent of global GDP by 2030, mainly driven by increased borrowing in China and the US. The IMF points out that financing related to the green transition, strengthening of the armed forces, costly industrial policies and health-related expenses for ageing populations could lead to an even stronger buildup of public debt in the future than what is currently projected.

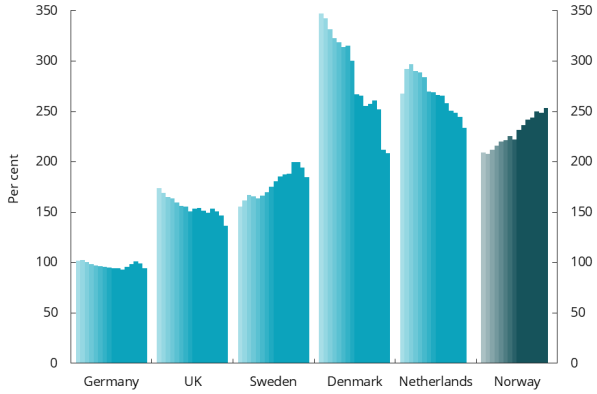
High government debt and uncertainty surrounding future fiscal policy may trigger an increase in investors' required rates of return and lead to higher long-term government bond yields. It will reduce these countries' fiscal room for manoeuvre and their ability to counter future economic shocks. Increased uncertainty in large economies such as China and the US will also spill over to international financial markets and could lead to higher funding costs and more high-risk debt in other countries. The Norwegian interest and capital markets will also be affected by higher long-term US government bond yields.

HOUSEHOLDS

Norwegian households are vulnerable to higher interest rates

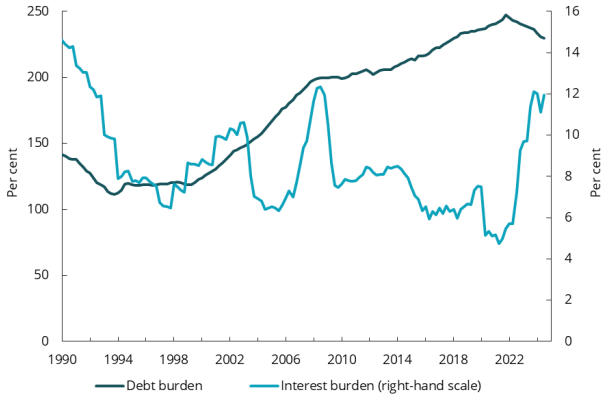
The debt burden[1] of Norwegian households is high, both in historical terms and compared with other OECD countries. While households in some countries reduced their debt burden in the wake of the international financial crisis in 2008–2009, the household debt burden in Norway continued to rise (chart 7). Since the late 1990s, the debt burden of Norwegian households has risen markedly but has declined somewhat since year-end 2021 (chart 8). The reduction is due to lower credit growth and a more rapid increase in households' nominal income during a period of high inflation. Since April 2024, credit growth has once again risen but remains below income growth. Twelve-month growth in households' domestic loan debt (C2) was up from 3.0 per cent in April this year to 3.7 per cent in October. At the end of the third quarter of 2024, households' average debt burden was approximately 230 per cent.

Chart 7 Household debt burden in selected countries 2008-2023



The last observation for the Netherlands and Norway is 2022. Source: OECD

Chart 8 Household debt burden and interest burden



Last observation: third quarter 2024. Sources: Statistics Norway and Finanstilsynet

Finanstilsynet's residential mortgage lending survey from autumn 2024 showed that both the average debt-to-income (DTI) ratio for borrowers who took out new residential mortgages and the share of new residential mortgages taken out by borrowers with high DTI ratios have both levelled off and approximate the 2023 level. This took place after a marked decline from 2022 to 2023. The average DTI ratio and the share of residential mortgages taken out by borrowers with a high DTI ratio remain high and exceed the levels prior to the introduction of the maximum DTI ratio requirement in 2017.

According to Norges Bank's survey of bank lending, households' demand for loans from banks increased in the second and third quarter of 2024. The banks expect demand to remain broadly unchanged from the third to the fourth quarter of 2024. Credit standards for households and the use of interest-only periods were approximately unchanged in the third quarter, and the banks expect no change in the fourth quarter. Demand for fixed-rate loans increased in the third quarter.

Households' interest burden[2] has increased significantly. From the second quarter of 2021 to the third quarter of 2024, households' average interest burden rose from a historically low level of 4.8 per cent to 11.9 per cent. Only a small proportion of Norwegian household debt carries fixed interest rates.[3] Higher interest rates are therefore quickly reflected in rising interest expenses. Many Norwegian borrowers have annuity loans, which means that the liquidity effect of interest rate increases is partially offset by reduced instalment payments.

[1] Measured as debt in per cent of disposable income.
[2] Measured as interest expenses in per cent of disposable income before deducting interest expenses.
[3] At the end of the third quarter of 2024, 95.0 per cent of households' loans from banks and mortgage companies had no or short fixed-rate periods (up to three months).

Debt growth and house prices in the event of an increase in the maximum LTV ratio requirement

Lower interest rates and the easing of the lending regulation would lead to a further increase in house prices and household debt ahead. The possible effects of different interest rate paths and the easing of the lending regulation can be illustrated by comparing alternative scenarios for the Norwegian economy.

In five scenarios, Finanstilsynet has projected[4] banks' average lending rates, house prices, households' domestic loan debt, households' average debt and interest burdens and housing investments (households) for the period 2024 to 2028. The baseline scenario in Finanstilsynet's stress test of Norwegian banks for 2024 has been used as a basis for comparison.[5] The projections illustrate that both a lower interest rate path and an easing of the lending regulation will contribute to stronger growth in household debt and house prices than in the baseline scenario.

Table 1 Underlying assumptions about the scenarios

Scenario	Interest rate level (short-term interest rates)	Maximum LTV ratio
1	Baseline	85 per cent
2	Baseline	90 per cent
3	1 pp. lower than in the baseline scenario	85 per cent
4	1 pp. lower than in the baseline scenario	90 per cent
5	2 pp. lower than in the baseline scenario	85 per cent
6	2 pp. lower than in the baseline scenario	90 per cent

European 3-month money market rate (Euribor). Per cent

	2023	2024	2025	2026	2027	2028
Baseline	3.4	3.6	2.6	2.4	2.4	2.4

Source: Finanstilsynet

The scenarios are based on different underlying assumptions concerning:

- developments in short-term interest rates[6] (either the same as in the baseline scenario or 1 or 2 percentage points lower than in the baseline scenario)
- the maximum loan-to-value (LTV) ratio requirement for residential mortgages in the Lending Regulations (either 85 or 90 per cent from 2025 onwards) (table 1)

Table 2 Changes during the projection period. Deviation from the baseline scenario (accumulated over the projection period) in percentage points

	Baseline	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6
European 3-month money market rate (Euribor, level)	2.4	0	-1	-1	-2	-2
Maximum LTV ratio requirement (level)	85	5	0	5	0	5
Banks' average lending rate (level)	4.8	0.0	-1.0	-1.0	-2.0	-2.0
Housing investment	8.5	5.4	7.2	12.9	16.3	22.5
Household debt	15.6	2.7	5.6	8.4	11.2	14.1
House prices	12.6	9.7	12.8	23.5	31.9	44.3
Households' debt burden (level)	205.3	4.8	6.7	11.6	13.1	17.9
Households' interest burden (level)	8.7	0.2	-1.3	-1.2	-2.8	-2.7

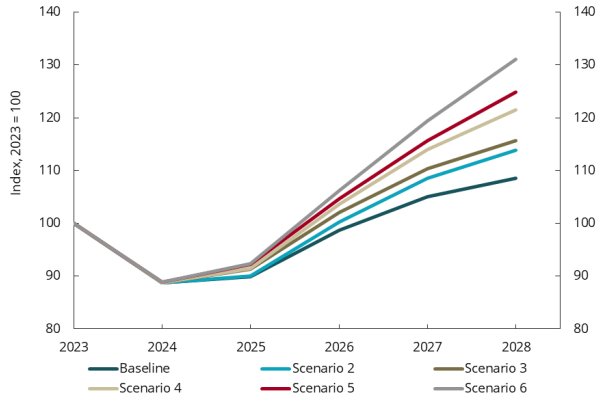
For the baseline scenario: i) all figures are given in per cent, ii) the figures for housing investment, household debt and house prices represent accumulated growth from 2023 to 2028, and iii) the level variables represent the value at the end of the projection period in 2028.
Sources: Statistics Norway and Finanstilsynet

In the baseline scenario, housing investment is projected to increase by 8.5 per cent through the projection period (table 2 and chart 9). During the same period, household debt is projected to rise by 15.6 per cent and house prices by 12.6 per cent (charts 10 and 11). In the baseline scenario,

[4] The projections are made by using the macroeconometric model NAM-FT.
[5] The baseline scenario is discussed in more detail in the Risk Outlook report – June 2024.
[6] Norges Bank's policy rate and 3-month Euribor.

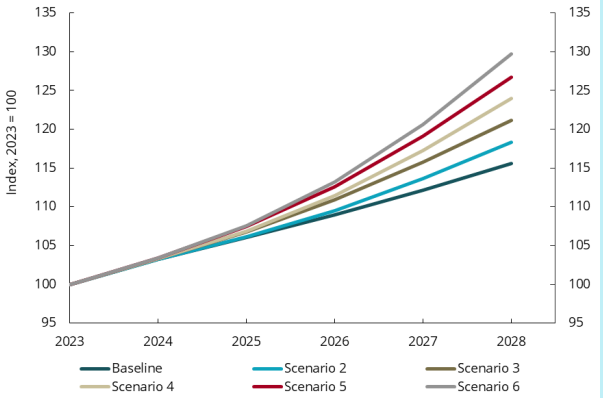
households' debt burden declines from 238 per cent in 2023 to 205 per cent in 2028, while the interest burden is down from 10.8 to 8.7 per cent.

Chart 9 Housing investment



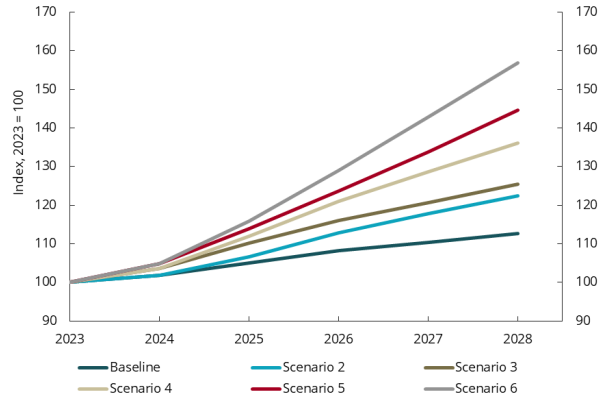
Sources: Statistics Norway and Finanstilsynet

Chart 10 Households' loan debt (C2)



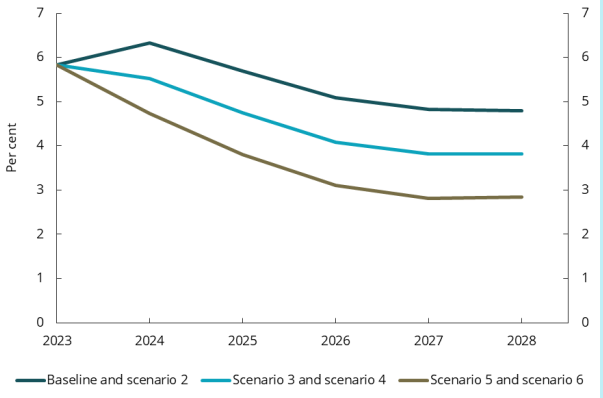
Sources: Statistics Norway and Finanstilsynet

Chart 11 House prices



Sources: Statistics Norway and Finanstilsynet

Chart 12 Banks' average lending rate



Sources: Statistics Norway and Finanstilsynet

A fall in global money market rates (3-month Euribor) and in Norges Bank's policy rate will be reflected almost in full in banks' average lending rates (table 2 and chart 12). This applies to all scenarios with an interest rate path that deviates from the interest rate path in the baseline scenario. Scenario 6 deviates the most from the baseline scenario, with a 2 percentage point lower interest rate and a maximum LTV ratio requirement of 90 per cent. Housing investment increases by 22.5 percentage points more in scenario 6 than in the baseline scenario, accumulated over the projection period. Household debt and house prices rise 14.1 and 44.3 percentage points more than in the baseline scenario. Households' debt burden declines 17.9 per cent less than in the baseline scenario and is estimated to be 223 per cent in 2028, while the interest burden is down to 6.0 per cent in 2028.

Assuming that the maximum LTV ratio requirement is raised from 85 to 90 per cent and that the interest rate path is unchanged from the baseline scenario, housing investment is assumed to increase by 5.4 percentage points more than in the baseline scenario during the projection period (see alternative A in table 3). Under the same assumptions, household debt is estimated to increase by 2.7 percentage points more and house prices by 9.7 percentage points more than in the baseline scenario during the projection period. If the interest rate path is kept 2 percentage points below the interest rate path in the baseline scenario (Alternative C), an increase in the maximum LTV ratio requirement from 85 to 90 per cent is estimated to result in a 6.2 percentage point greater increase in housing investment during this period. The corresponding effects on household debt and house prices are estimated to be 3.0 and 12.3 percentage points, respectively. This means that the increase in the maximum LTV ratio requirement from 85 to 90 per cent from 2025 onwards will, depending on the interest rate path, have an estimated effect on house price inflation that is between 1.8 and 2.0 times greater than the effect on housing investment growth during the period from 2024 to 2028.

Table 3: Effects of an increase in the maximum LTV ratio requirement from 85 to 90 per cent for different interest rate paths. Accumulated over the projection period. Percentage points

	Alt. A	Alt. B	Alt. C
European 3-month money market rate (Euribor, deviation from baseline)	0	-1	-2
Banks' average lending rate (level)	0.0	0.0	0.0
Housing investment	5.4	5.7	6.2
Household debt	2.7	2.9	3.0
House prices	9.7	10.8	12.3
Households' debt burden (level)	4.8	4.9	4.8
Households' interest burden (level)	0.2	0.1	0.1
Ratio of effect on household debt to effect on housing investment	0.5	0.5	0.5
Ratio of effect on house prices to effect on housing investment	1.8	1.9	2.0

In the column for Alternative A, the figures for housing investment, household debt and house prices show how much greater the effect of an increase in the maximum LTV ratio requirement from 85 to 90 per cent from 2025 onwards will be, accumulated over the projection period, if short-term interest rates follow the same path as in the baseline scenario. For the variables marked '(level)', the effect at the end of the projection period (2028) is shown. The columns for Alternative B and Alternative C show the corresponding effects calculated on the assumption that the interest rate path is 1 and 2 percentage points, respectively, below the interest rate path in the baseline scenario. For Alternative A, the figures between the two single lines equal the figures reported in the 'Scenario 2' column in table 2. For Alternative B, the corresponding figures equal the difference between the figures in the columns 'Scenario 4' and 'Scenario 3' in table 2. Correspondingly, the figures for Alternative C equal the difference between the figures in the columns 'Scenario 6' and 'Scenario 5'. Sources: Statistics Norway and Finanstilsynet

The estimated effect on total household debt of an increase in the maximum LTV ratio requirement from 85 to 90 per cent for a given interest rate path is less than the effect of a 1 percentage point reduction in the interest rate path for a given maximum LTV ratio requirement.

The Norwegian housing market consists of various sub-markets with certain significant differences in supply and demand. In areas with better conditions for increasing the supply of new homes, there could be a lesser impact on house prices and a greater impact on housing investment than shown in the calculations.

Loan default and payment problems

So far, there are few signs of serious debt servicing problems for the Norwegian household sector overall. Over the last couple of years, there has been an increase in both the volume and the number of non-performing loans for collection by debt collection agencies where the debtor is a private individual. Twelve-month growth in the total principal in debt collection cases where the debtor is a private individual increased from 3.6 per cent in June 2023 to 5.2 per cent in December 2024. The share of non-performing bank loans in the personal customer market has also increased in recent years but is still below pre-pandemic levels, and banks' loan losses remain low.

Statistics Norway and Norges Bank estimate that inflation will fall towards a level just above the central bank's target of 2.0 per cent in 2027, while the interest rate level is expected to decline by approximately 1.5 percentage points. Unemployment is expected to remain low. Such a development will help keep the number of debt collection cases and loan defaults down. There is considerable uncertainty associated with forecasts.

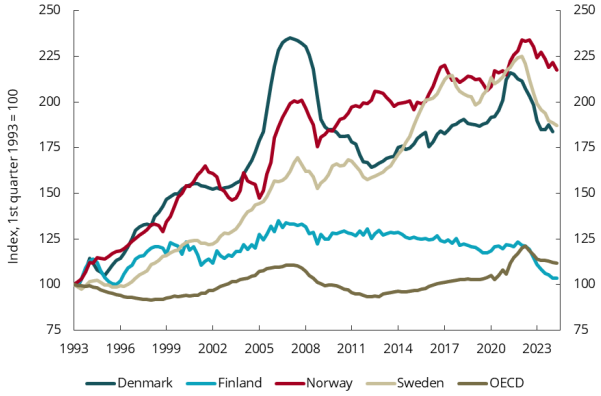
Norwegian households are affected to varying degrees by the higher interest rate level. Their financial resilience also varies. Some households have narrow margins between income and expenses and limited financial buffers to draw on. These households will be particularly vulnerable in the event of a loss of income, higher interest rates or a fall in house prices.

Further rise in house prices

Developments in house prices and household debt are closely interrelated. When house prices rise, many households will have to take out larger loans to finance home purchases. At the same time, the value of their collateral increases, both for first-time buyers and for households that already own a home. There is a mutually reinforcing effect between house price inflation and increasing household debt.

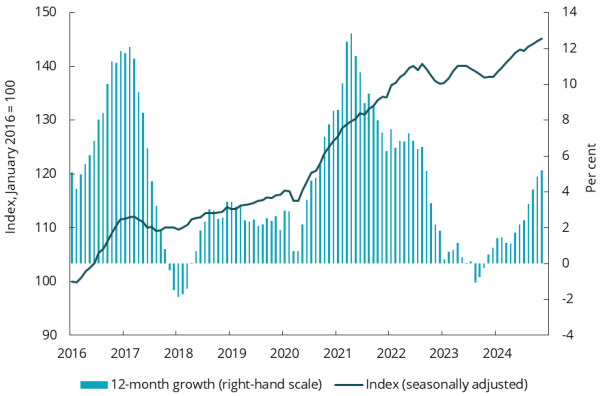
For a long period, house prices in Norway have risen at a faster pace than households' disposable income (chart 13). The ratio of house prices to disposable income per capita in Norway was at its highest in 2022. House prices changed little through 2023, while households' disposable income increased. In the first half of 2024, the ratio of house prices to disposable income per capita was relatively stable.

Chart 13 House prices as a share of disposable income per capita



Last observation: second quarter 2024. Last observation for Denmark: first quarter 2024. Source: OECD

Chart 14 House prices in Norway



Last observation: November 2024. Sources: Real Estate Norway, Eiendomsverdi and Finn.no

House prices have risen practically every month through 2024, and in November, the twelve-month growth rate was 5.2 per cent on a national basis (chart 14). Turnover in the market for existing homes was clearly higher in the period January to November this year than in the corresponding period last year, but more homes have also been put up for sale. The number of unsold homes has remained at a high level through the autumn. This may have contributed to somewhat weaker house price growth in recent months than in the first half of 2024. Sales of new homes and housing starts were up in the third quarter of this year compared with the previous year but remained at a low level.

Both Statistics Norway and Norges Bank expect improved purchasing power among households, low housebuilding activity and a gradual reduction in interest rates to contribute to raising house prices in the coming years. Statistics Norway estimates that house prices will rise at an annual rate of approximately 4 per cent from 2025 to 2027. Norges Bank expects house prices to increase by between 5 and 8 per cent each year during the same period.

After a sharp decline in 2023, both Statistics Norway and Norges Bank expect housing investment to fall further by 16 per cent this year. According to Statistics Norway, the recent increase in new home sales and the rise in house prices indicate a turning point. Norges Bank also notes that lower price differentials between new and existing homes will boost new home sales in the period ahead. Both therefore expect housing investment to increase in the coming years. Housing investment is projected to rise by between 4 and 5 per cent in 2025, around 10 to 13 per cent in 2026 and just over 8 per cent in 2027.

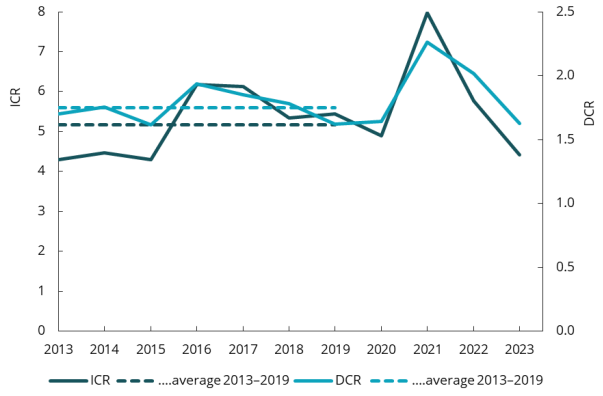
Future developments in house prices are uncertain and will depend on factors such as access to land, construction costs, immigration, centralisation and developments in interest rates, unemployment and household income. If demand were to increase more than housing supply, there could be a sharper rise in debt and house prices.

NON-FINANCIAL CORPORATIONS

The overall debt servicing capacity of non-financial corporations in mainland Norway was further reduced in 2023 and approximated the level in the years prior to the pandemic (chart 15). The impaired debt servicing capacity is generally due to a combination of weaker operating earnings and higher interest expenses. However, the picture is complex, and there are wide differences between industries.

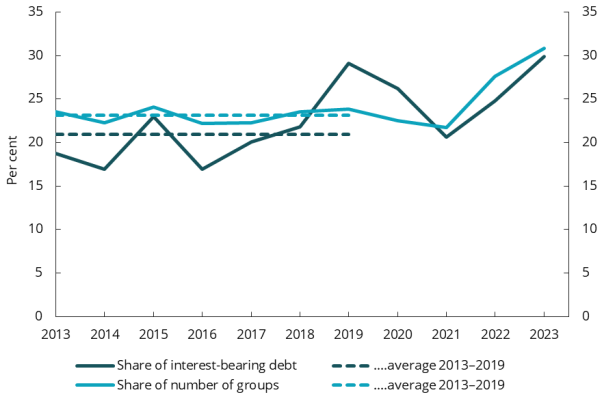
Developments in the weakest corporations are most important when assessing banks' risk of loan losses. The number of corporations (groups) with poor debt servicing capacity increased sharply in 2022 and 2023 and exceeded pre-pandemic levels in 2023 (chart 16). At year-end 2023, approximately 30 per cent, or close to NOK 650 billion, of the groups' total interest-bearing debt was held by groups whose operating earnings did not cover interest expenses and estimated annual required investments.[7] In the years prior to the pandemic, this share was around 20 per cent, which means that there has been an increase of just over NOK 200 billion in the interest-bearing debt of groups with poor debt servicing capacity compared with a few years ago. If other debt is included, such as accounts payable and tax liabilities, the figure is close to NOK 300 billion.

Chart 15 Interest coverage ratio (ICR) and debt coverage ratio (DCR).[8] Non-financial corporations, mainland Norway



Source: Finanstilsynet

Chart 16 High-risk debt.[9] Non-financial corporations, mainland Norway



Source: Finanstilsynet

Poor debt servicing capacity does not necessarily result in default and loan losses for creditors. However, if the debt servicing capacity does not improve, it can often be a matter of time before the corporation must be taken over by new owners, declare itself bankrupt or be declared bankrupt. Payment deferrals and restructuring of debt obligations could mean that borrowers with poor debt servicing capacity continue operations for several years. Loan agreements with low or no instalment payments or low fixed interest rates in loan agreements entered into in the years prior to the interest rate increases, are factors that may contribute to delaying events of default. Creditors' valuations of the collateral provided play a key role when estimating impairment losses. Commercial properties represent a major part of the collateral. Many of these properties have fallen in value over the past couple of years, and there is appreciable uncertainty about their market value. See separate section on commercial real estate.

Data from the global financial crisis in 2008–2009 are uncertain but could indicate that the share of debt in groups with poor debt servicing capacity increased more from 2007 to 2008 than over the past two years. In Norway, several factors contributed to a rapid recovery in the aftermath of the financial crisis. A generally strong financial trend for Norwegian households and corporations, increased property values, high oil prices and a sharp rise in investments on the Norwegian shelf with positive

[7] Estimated annual required investments are assumed to equal recorded annual ordinary depreciation ('scrapping/wear and tear') of fixed assets.
[8] The interest coverage ratio is defined as 'income from ordinary operations (operating earnings or EBITDA) / net interest rate expenses'. The debt coverage ratio (DCR) is defined as 'income from ordinary operations / net interest expenses plus estimated annual required investments'.
[9] Interest-bearing debt in groups with poor debt servicing capacity as a share of the sample's total interest-bearing debt. *Poor* debt servicing capacity is defined as a DCR below 1. This means that income from ordinary operations is lower than net interest expenses plus estimated annual required investments.

spillover effects to parts of the Norwegian business community, a sharp drop in interest rates and low and stable inflation helped ensure that the financial crisis had relatively little impact on the Norwegian real economy. Future setbacks may have more negative and lasting effects.

There are indications that the number of corporations with payment problems has increased lately. According to Kredinor, the number of debt collection cases rose by 8 per cent from January to August 2024 compared with the corresponding period in 2023, while the outstanding amount for debt collection was up 17 per cent. The increase in the number of debt collection cases was greatest within 'agriculture, forestry and fishing' (22 per cent), but there was also a significant increase within 'construction' (13 per cent) and 'property' (7 per cent). According to Kredinor's figures, the highest number of debt collection cases are found in the 'construction' industry, followed by 'retail trade' and 'property'.[10]

Overall, non-financial listed companies' annualised profits after tax as a share of total assets ('total return') were somewhat higher in the first three quarters of 2024 than for the full year 2023 (not shown in the chart).[11] However, the annualised total return for 2024 is still only just over half the 2022 level. Some listed companies in 'retail trade', 'industrials', 'fish farming' and 'commercial real estate' will record weak or negative profits after tax in 2024 if developments in the fourth quarter are in line with the first three quarters.

Developments in selected industries

The Norwegian business sector is complex, and the various industries are affected by different risk factors. Some industries (such as 'commercial real estate') are highly interest sensitive, while others (such as 'information and communication') are more vulnerable to weaker demand and elevated operating expenses.

If several of the main industries show a parallel negative development, the risk of financial instability could be elevated. Thus far, there are signs of two different development paths in the Norwegian business community. While there have been positive developments in some industries and corporations over the past couple of years, others have shown a weak trend. Charts 17a–17f show the situation in a sample of key industries, focusing on industries that have shown a negative development or faced greater challenges than the rest of the business community. These industries (including commercial real estate) account for just below 60 per cent of the sample's total interest-bearing debt (charts 15 and 16).

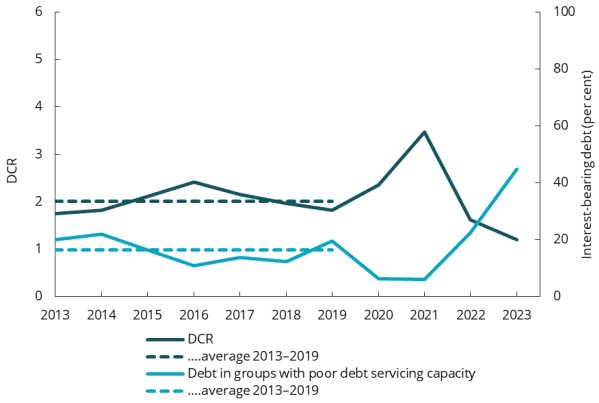
The industry with the clearest negative development in recent years is 'retail and wholesale trade excluding food and consumer staples' (chart 17a). There was a significant weakening of this industry's DCR in 2022 and 2023, which contributed to an increase in the interest-bearing debt of corporations with poor debt servicing capacity as a share of the industry's total interest-bearing debt ('high-risk debt'), from an average below 20 per cent for the years 2013–2019 to about 45 per cent in 2023. The share of high-risk debt was roughly the same within 'information and communication' and 'business services' but did not increase in 2023 (charts 17b and 17c).

[10] See Kredinor-Innsikt_3_2024.

[11] This applies to non-financial corporations listed on Oslo Børs, excluding companies in 'oil and gas extraction'. Annualise profits for 2024 are calculated as profits after tax for the three quarters multiplied by four and then divided by three. Thus, the fourth quarter is expected to show the same trend as the average for the first three quarters. Total assets are assumed to be unchanged from the third quarter of 2024.

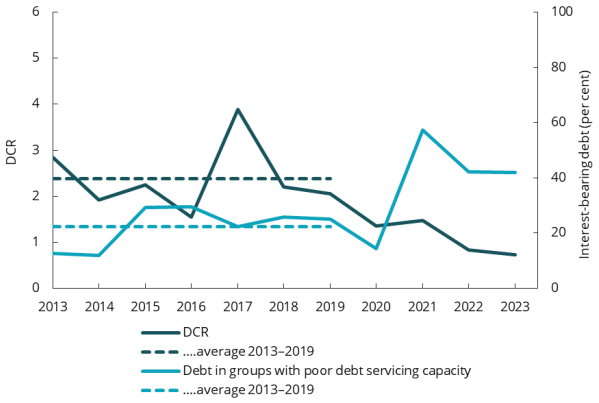
Charts 17a–17f. DCR and high-risk debt.[12] Selected industries. The industry's percentage share of the total sample's interest-bearing debt in parentheses

a. Retail and wholesale trade excluding food and consumer staples (6 per cent)



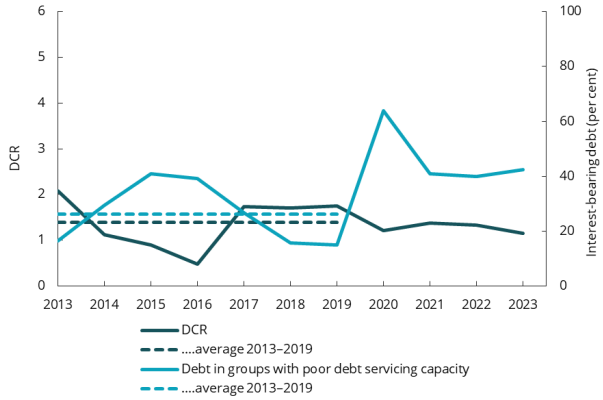
Source: Finanstilsynet

b. Information and communication (3 per cent)



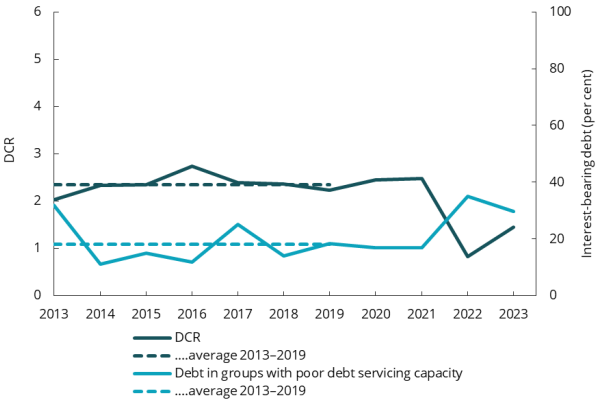
Source: Finanstilsynet

c. Business services (2 per cent)



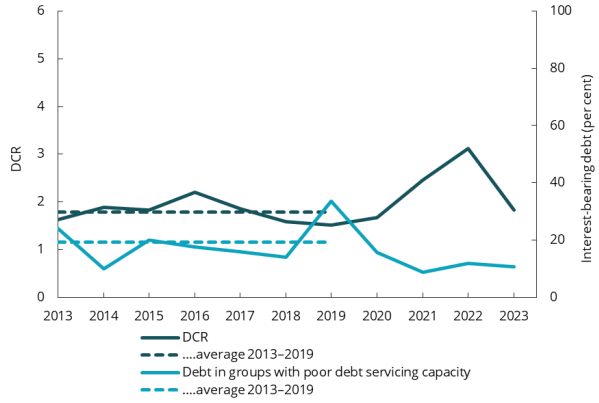
Source: Finanstilsynet

d. Construction (7 per cent)



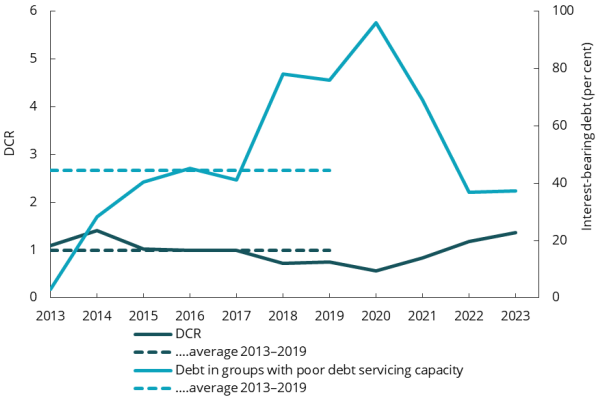
Source: Finanstilsynet

e. Industrials (15 per cent)



Source: Finanstilsynet

f. Oil service (3 per cent)



Source: Finanstilsynet

In 'construction', the share of high-risk debt increased significantly in 2022 but fell slightly in 2023 (chart 17d). However, there are wide differences within the industry. Some corporations are doing well, while others are facing serious challenges. The same applies to 'industrials' (chart 17e). Some corporations have been affected by lower demand and rising prices on imported goods, while others have benefited from increased demand and a weaker krone exchange rate. In 'oil service', the share of high-risk debt was unchanged at just below 40 per cent from 2022 to 2023 (chart 17f). Extensive and

[12] Interest-bearing debt in groups with poor debt servicing capacity as a share of the sample's total interest-bearing debt. *Poor* debt servicing capacity is defined as a DCR below 1. This means that income from ordinary operations is lower than net interest expenses plus estimated annual required investments.

long-lasting restructuring and (for this industry) positive effects from the energy price crisis have helped improve the challenging situation facing the industry before and during the pandemic. In the years 2013–2020, the average DCR for 'oil service' was below 1. This was part of the reason why practically all of this industry's interest-bearing debt was in oil service companies with poor debt servicing capacity, which in turn led to the banks recording extensive losses on loans to the industry.

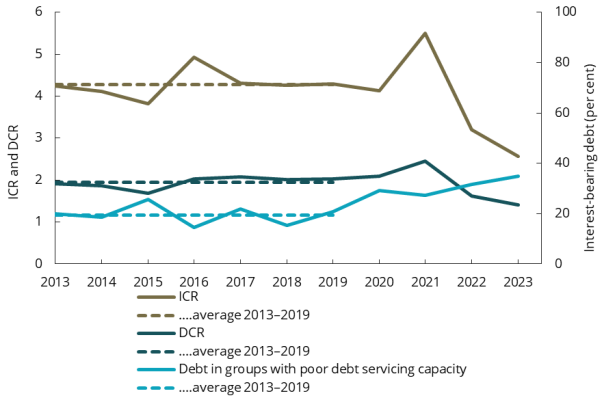
Commercial real estate

Commercial real estate (CRE) companies have high debt levels and are therefore especially vulnerable to interest rate increases. This vulnerability has increased considerably since the early 2010s[13], with the greatest increase in years with falling (and low) interest rates and rising property values.

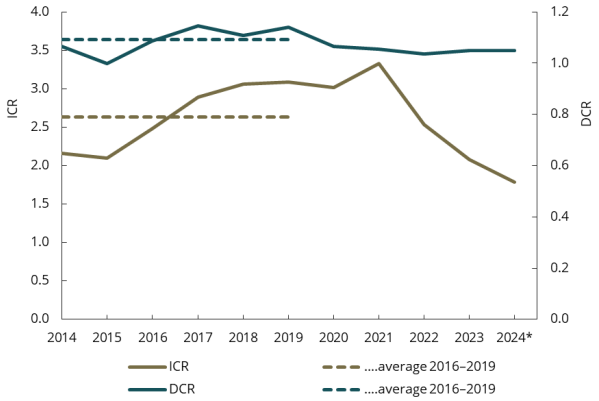
Despite the fact that part of the debt carried low fixed interest rates in the years prior to the interest rate hikes, the interest expenses of many CRE companies have increased more than their operating earnings. This has had a negative impact on their interest servicing capacity (chart 18a – not listed and chart 18b – listed). The listed CRE companies experienced a further weakening of their ICR in 2024.[14]

Charts 18a and 18b. Interest coverage ratio (ICR), debt coverage ratio (DCR) and high-risk debt.[15] Commercial real estate (rentals/management, purchases/sales and real estate project development)

a. Non-listed (20 per cent)



b. Listed (Oslo Børs) (4 per cent)



Sources: Finanstilsynet and listed CRE companies' annual and interim financial reports

The share of risk-exposed debt in 'commercial real estate' has increased sharply over the past two years and was much higher in 2023 than in the years prior to the pandemic. If the debt servicing capacity of non-listed CRE companies shows the same trend as the debt servicing capacity of listed companies, the overall debt servicing capacity for the three years 2022–2024 will be significantly weaker than in the years prior to the pandemic. There is uncertainty over interest rate developments and tenants' payment ability, and thus also over CRE companies' earnings over the coming years.

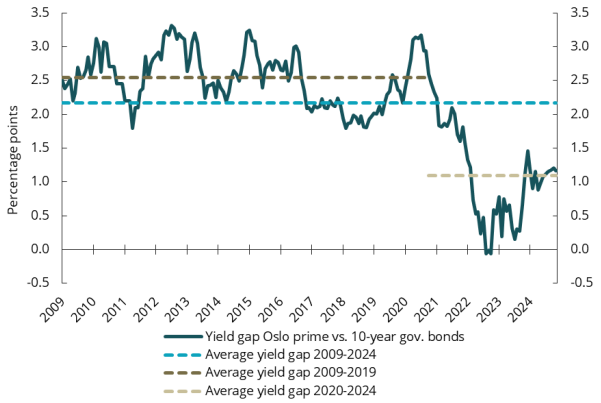
If CRE companies experience serious debt servicing problems in the coming years, developments in commercial property values, which constitute a large part of creditors' collateral, will be important for the creditors. There is significant uncertainty associated with commercial property values, especially in areas outside the large cities, where there are few or no transactions.

For the most central areas, yield indicators for commercial real estate are published. The yield indicates how much investors are willing to pay for a given future cash flow (net rental income). However, the yield can only be observed at the moment a property is sold. Due to low liquidity and

[13] Total interest-bearing debt as a share of total income was almost 2.5 times higher in 2023 than in 2010. For the *median group* (i.e. the group in the middle of the sample ranked from the lowest to the highest), this ratio was almost twice as high in 2023 as in 2010. The fact that both the weighted average and the median rose sharply indicates that the increase in vulnerability is broadly based.
[14] The figures for 2024 are based on figures for the first three quarters. It is assumed that the fourth quarter will show the same trend as the average for the first three quarters.
[15] Interest-bearing debt in groups with poor debt servicing capacity as a share of the sample's total interest-bearing debt. *Poor* debt servicing capacity is defined as a DCR below 1. This means that income from ordinary operations is lower than net interest expenses plus estimated annual required investments.

limited transparency, yield requirements and valuations in the period after the transaction has been completed, remain highly uncertain. In addition, yield estimates are generally only available for central areas in the largest cities.

Chart 19 Difference between the yield on Oslo prime office and the yield on 10-year Norwegian government bonds ('yield gap')



Last observation: mid-November 2024. Sources: Akershus Eiendom, LSGE Datastream and Finanstilsynet.

The estimated yield on offices in the most attractive areas in Oslo ('Oslo prime office') has increased from 3.30 per cent in September 2022 to 4.75 per cent (as of mid-November 2024, not shown in the chart). This indicates a sharp decline in the value of these properties. Despite the increase, the difference between the yield and the government bond yield is significantly smaller than it was before the interest rate hikes (reduced yield gap) (chart 19). This indicates a low risk-adjusted yield on investments in commercial real estate. A normalisation of the risk-to-yield ratio is conditional on either a rise in rental income, a decline in interest rates from the current level or a further write-down of commercial property values. Developments in commercial property values in less central areas and in the outskirts of the largest cities are generally far more uncertain. The collateral security of most Norwegian banks is predominantly found in these areas.

NORWEGIAN BANKS

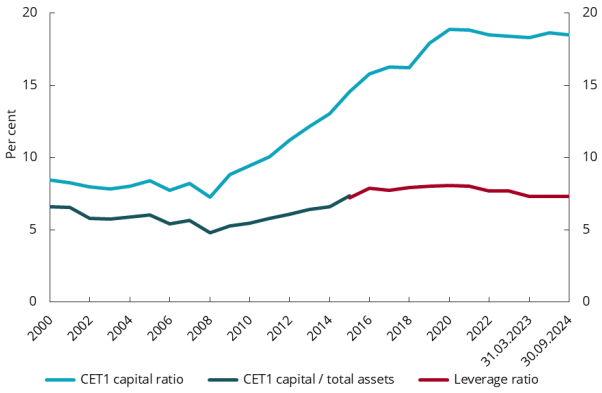
Capital adequacy

Norwegian banks meet regulatory capital requirements and are better capitalised than prior to the global financial crisis in 2008–2009 (chart 20). Banks are thus better positioned to provide loans to creditworthy customers even during an economic downturn.

Norwegian banks' capital adequacy ratios have stabilised and declined somewhat in recent years. This development can be partly attributed to regulatory changes. For banks using the internal ratings-based approach (IRB banks), the total risk-weighted exposure has been reduced since 2018 as a share of unweighted exposure (chart 21). This has resulted in lower capital requirements for IRB banks than for banks using the so-called standardised approach to calculate capital requirements. Measured by the leverage ratio, banks' solvency ratio is approximately the same as ten years ago.

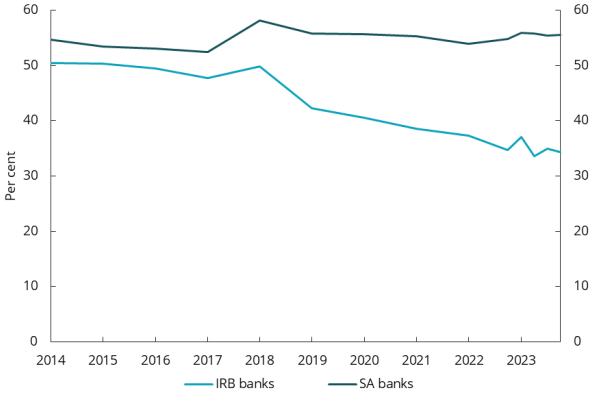
For many banks, the implementation of the final part of the post-financial crisis reforms in the European capital adequacy framework (CRR3) may result in an increase in CET1 capital ratios although there will be no real improvement in the banks' solvency levels. It is expected that some of the differences between IRB banks and the banks using the standardised approach will even out after the new regulations are introduced.

Chart 20 Capital adequacy of Norwegian banks



The chart shows CET1 capital / total assets up to and including 31 December 2015 and the leverage ratio as from 31 December 2015. Both are measures of non-risk-weighted capital adequacy. Source: Finanstilsynet

Chart 21 Risk-weighted assets as a share of total assets

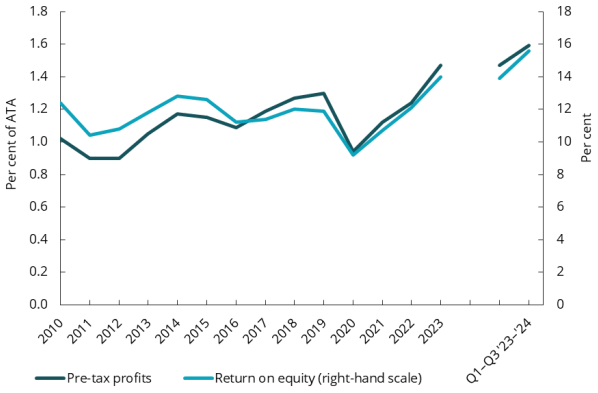


The banks are divided into groups based on whether or not they are authorised to use the IRB approach. IRB banks use the standardised approach for some portfolios, but this is not reflected here. Source: Finanstilsynet

Profitability

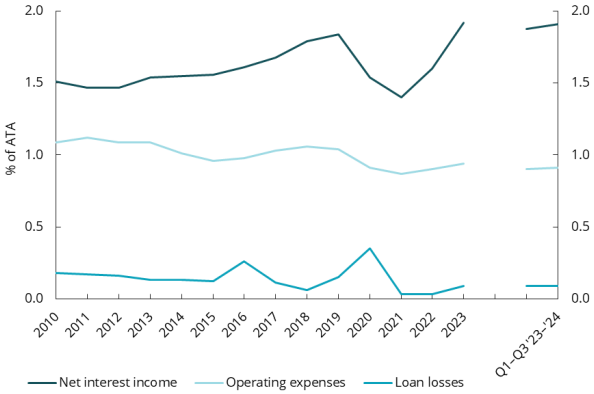
The profitability of Norwegian banks has improved considerably in recent years, mainly as a result of increased net interest income. After the first three quarters of 2024, return on equity in the banking sector was 15.6 per cent. In comparison, the average return on equity in US and European banks was around 11 per cent in the second quarter of 2024.

Chart 22 Pre-tax profits and return on equity



Source: Finanstilsynet

Chart 23 Net interest income, operating expenses and loan losses

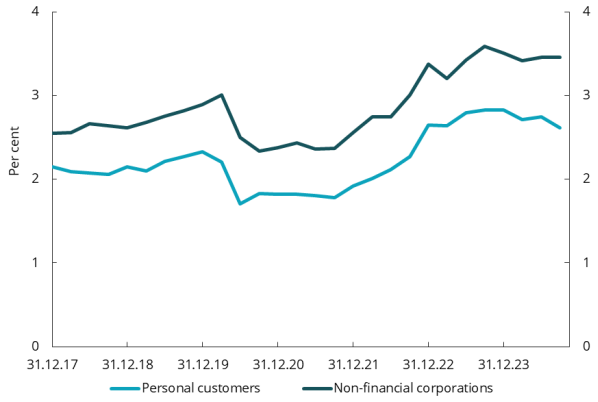


Source: Finanstilsynet

Rising interest rates after 2021 have helped boost banks' net interest income, which is their primary source of income (chart 23). A decomposition of the growth in interest income since the interest rate hikes began in 2021 shows that 13 per cent of the increase in income can be attributed to lending growth, while the remaining 87 per cent can be attributed to higher lending rates. Money market rates remain unchanged since July 2023. However, as a result of a significant lag in the repricing of loans and deposits, banks' net interest income continued to rise in the subsequent quarters. Both Norges Bank and market participants expect money market rates to decline somewhat in the coming years. Intensified competition in the deposit and lending markets and lower interest rates may contribute to reducing net interest income and normalising the level of income in the period ahead.

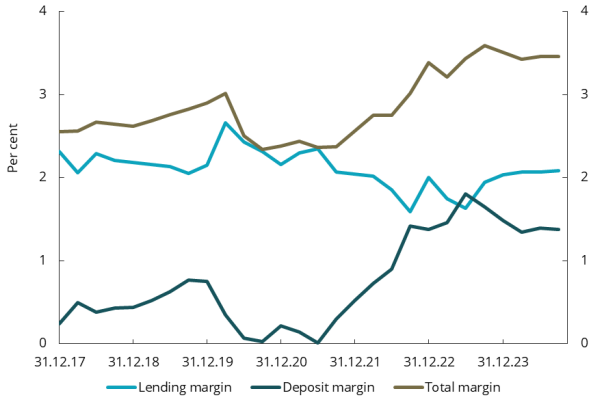
The interest margin (average lending rate less the deposit rate) on loans to corporate and personal customers has widened since Norges Bank began raising its policy rate in 2021. The margin is generally higher for loans to non-financial corporations, which mainly reflects the lower lending rates to personal customers. The difference between margins for personal customers and non-financial corporations has also increased in recent years. There has been a slight reduction in the interest margin on loans to both corporate and personal customers since the end of last year. The decrease is mainly due to a narrower margin between deposit rates and 3-month Nibor.

Chart 24 Total interest margin (difference between lending and deposit rates) for personal customers and non-financial corporations



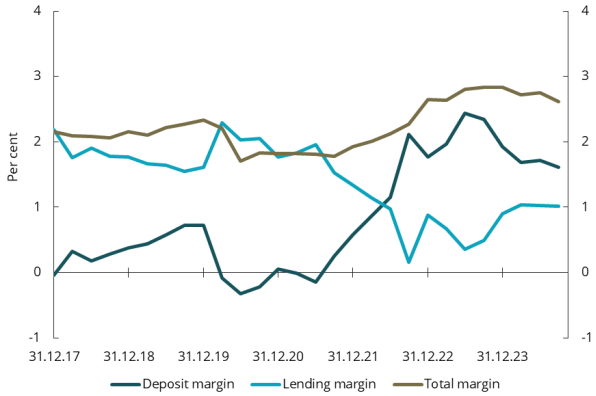
Source: Statistics Norway

Chart 25a Interest margins, non-financial corporations



Source: Statistics Norway

Chart 25b Interest margins, personal customers



Source: Statistics Norway

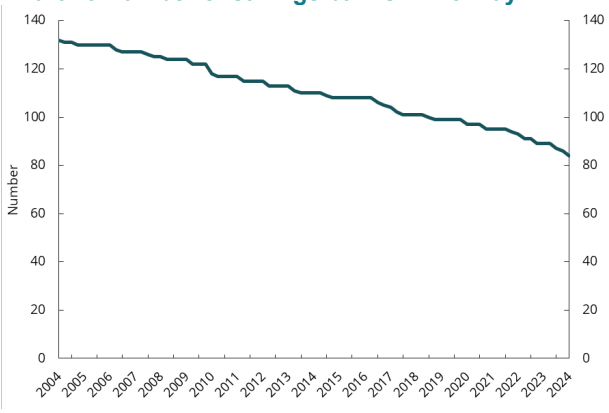
Based on Finanstilsynet's proposed implementation of the final part of the post-financial crisis reforms (CRR3), many banks will end up with a higher margin to the capital requirement. The wider margin to the requirement may encourage more banks to further increase their lending in the period ahead. This could intensify competition for loan customers and cause pressure on interest margins. In addition, consolidation in the savings bank sector may increase competition for large corporate customers. In the personal customer market, niche banks and new digital marketing channels at established banks could add to the competition. These factors, combined with a lower interest rate level, may contribute to normalising banks' net interest income in the coming years.

Over the past few years, small banks have recorded much higher net interest income as a share of average total assets than medium-sized and large banks. At the same time, small banks have also had higher operating expenses and loan losses, which makes the return on equity lower for this group.

Structural changes in the Norwegian banking industry

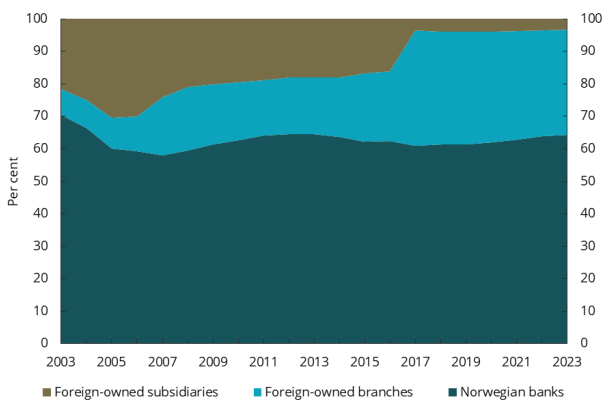
Over the past 20 years, there have been many mergers among small and regional savings banks. The number of savings banks has fallen from 127 in 2004 to 84 in September 2024 (chart 26). In October 2024, Sparebank 1 SR Bank ASA and Sparebank 1 Sørøst-Norge merged to form Sparebank 1 Sør-Norge ASA. Sparebanken Vest and Sparebanken Sør have agreed to merge in 2025, subject to approval from the authorities. Both merged entities will be among the largest banks in Norway and larger than the majority of Norwegian branches of the large Nordic banks. Some small savings banks have also agreed to merge. If these mergers are carried out, the number of savings banks will be reduced to 80. Norwegian banks have had a stable high share of the lending market, particularly lending to personal customers (charts 27a and 27b).

Chart 26 Number of savings banks in Norway



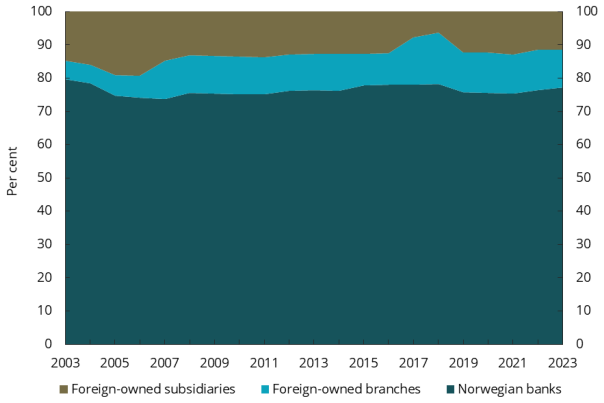
Source: Finanstilsynet

Chart 27a Share of lending, corporate market



Source: Finanstilsynet

Chart 27b Share of lending, personal customer market

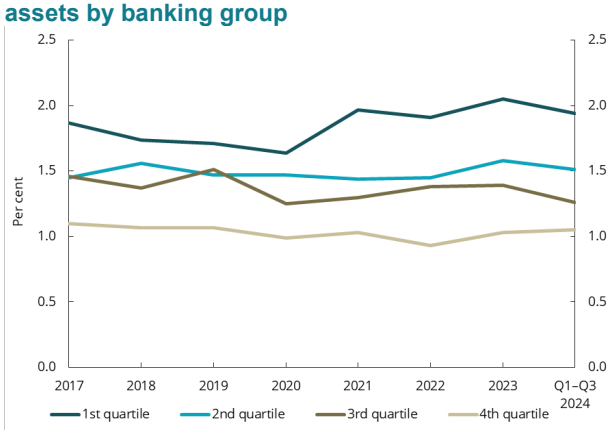


Source: Finanstilsynet

Consolidation in the banking industry is driven by various factors. Rapid technological development has paved the way for new and more streamlined banking services, with more evident economies of scale and an increased need for investment. At the same time, regulations have become more extensive, particularly in the wake of the global financial crisis, and place greater demands on banks' expertise and capacity. In recent years, the trend towards lower risk weights for banks using internal models to calculate capital requirements has provided stronger incentives for mergers between banks using the standardised approach and internal models. Such mergers can contribute to 'freeing up' equity. This may boost the profitability of the banks involved but also entails a risk of higher costs for society as a result of weaker solvency.

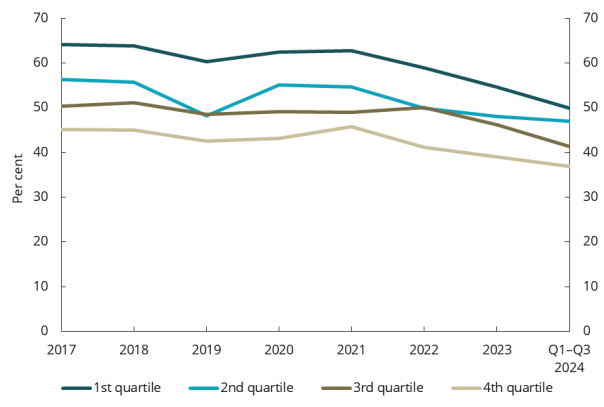
In the charts below, all Norwegian banks are divided into four groups of equal size (in number) based on their total assets (first quartile: 25 per cent smallest banks, etc.). The key figures are calculated as an equal-weighted average per group. Small banks have considerably higher operating expenses as a share of total assets than large banks (chart 28). The difference has widened over the last six years. The small banks also have a higher cost/income ratio[16] than the other banks. The cost/income ratio has improved for all groups over the past year, mainly due to a large increase in net interest income.

Chart 28 Operating expenses as a share of total assets by banking group



Source: Finanstilsynet

Chart 29 Cost/income ratio by banking group

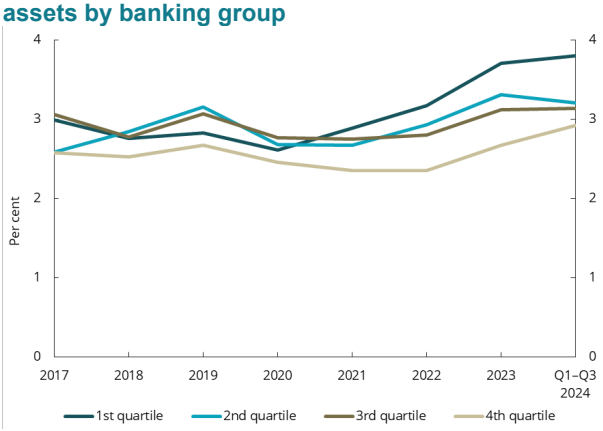


Source: Finanstilsynet

Since 2020, small banks have recorded higher operating income as a share of total assets than large banks (chart 30). Higher net interest income is the main factor behind the small banks' strong income growth. Even though small banks have higher income as a share of total assets than large banks, there is such a large difference in operating expenses that the smallest banks' profits in per cent of total assets are considerably lower than for the large banks (chart 31).

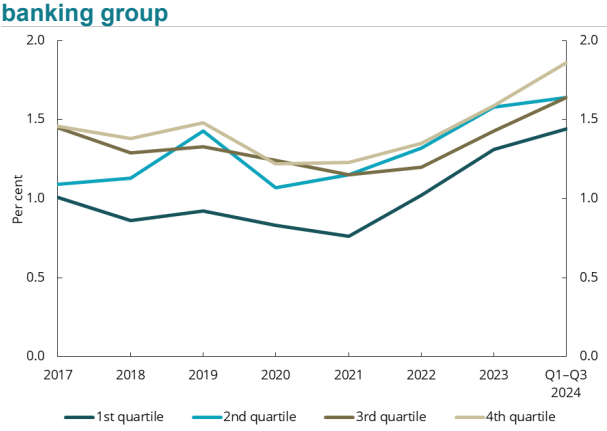
[16] Total operating income excluding capital gains on financial instruments.

Chart 30 Operating income as a share of total assets by banking group



Source: Finanstilsynet

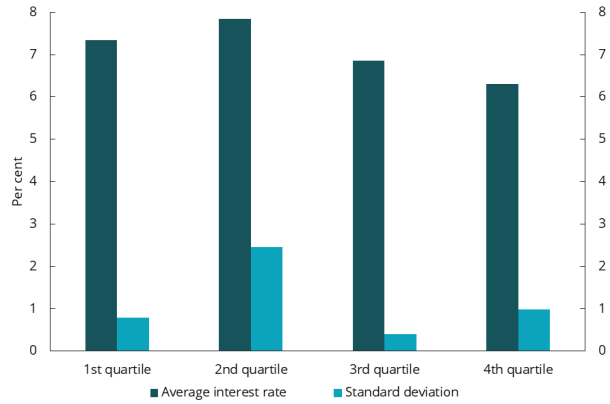
Chart 31 Pre-tax profits as a share of total assets by banking group



Source: Finanstilsynet

There are various reasons why the small banks have higher operating income. The small banks have a much larger share of lending to the personal customer market, where the interest margin is narrower than in the corporate market. In the corporate market, however, volume-weighted lending rates are higher for the two groups with the smallest banks than for the two groups with larger banks (chart 32). This may reflect differences in the composition and risk of the corporate portfolios, which include a larger proportion of small and medium-sized firms and local businesses for the small banks. The group of small banks also has higher losses in their corporate market portfolios, which contributes to lowering these banks' profits. Small banks' higher lending rate in the corporate market may thus reflect higher credit risk.

Chart 32 Average corporate lending rate as at 30 September 2024 by banking group

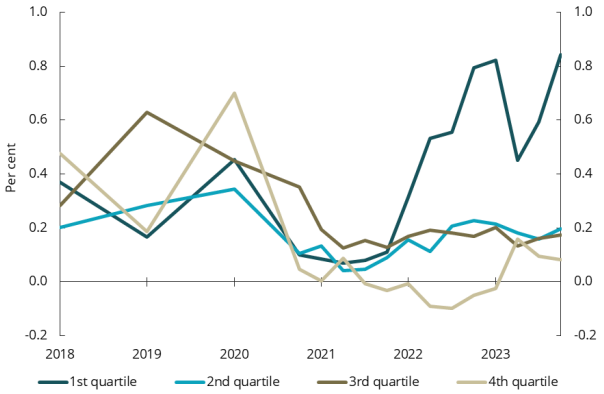


Source: Finanstilsynet

Losses at small banks

In recent years, most banks have recorded low losses and relatively few non-performing loans for both corporate and personal customers. Since the beginning of the year, volume-weighted losses as a share of gross lending have increased for all banking groups, from 0.05 per cent to 0.14 per cent. This is a large relative increase, but the level of losses is still low. However, for the 25 per cent smallest banks, losses now exceed the level at year-end 2020, when they were high as a result of allowances for losses related to the Covid-19 pandemic (chart 33). This trend is driven by a small number of banks in this group. Apart from these, developments in small banks are on a par with the other groups.

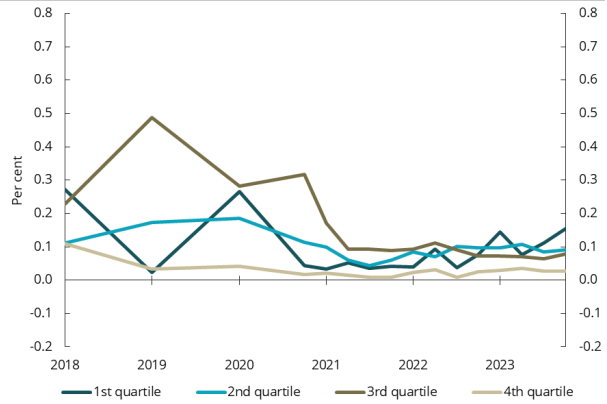
Chart 33 Losses by banking group



Source: Finanstilsynet

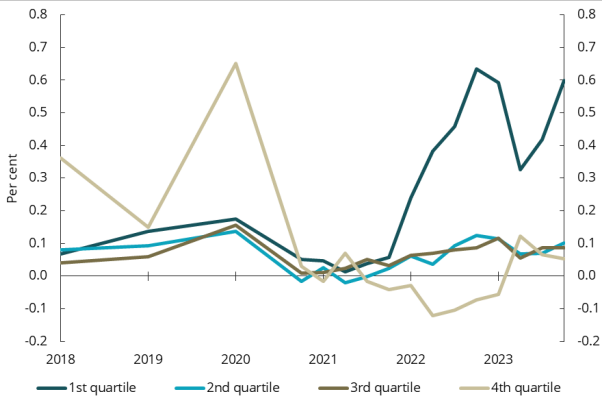
Loans in the personal customer market, for which the level of losses is lower than for corporate loans, account for a much larger share of the total portfolio for small banks than for large banks. In recent years, loans to the corporate market have represented 60 per cent of total lending for the group with the largest banks, while the corresponding share for the three other banking groups has been around 28 per cent. In recent years, however, losses in the corporate market portfolio have been considerably higher for small banks than for the other banking groups, and these banks have thus recognised the highest loan losses. Losses recognised by large banks have also been reduced through the reversal of substantial allowances on loans to the oil and offshore industry recorded during the first part of the Covid-19 pandemic. In consequence of this, losses in small banks' personal customer portfolio have exceeded large banks' losses on corporate loans in recent years.

Chart 34 Losses in the personal customer market as a share of gross lending to the personal customer market



Source: Finanstilsynet

Chart 35 Losses in the corporate market as a share of gross lending to the corporate market



Source: Finanstilsynet

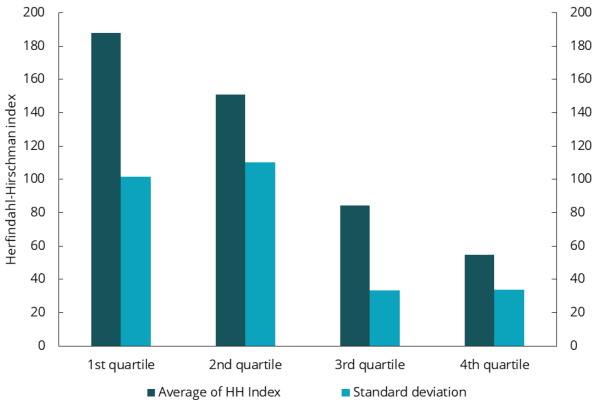
The fact that small banks record the highest losses in their corporate market portfolios may be due to these portfolios being less diversified in terms of size, industry and geographical distribution of the firms. A lower degree of diversification may cause increased volatility, which over time may result in a higher level of losses. Systematic differences in the composition of the portfolios could give a higher level of losses over time.

Herfindahl-Hirschman index calculations[17] applied to banks' corporate portfolios show that the average index level is higher in the smallest and second smallest banks than in the two groups of larger banks (chart 36). This indicates that the concentration on individual firms is greater in the small banks than in the large banks.

[17] A Herfindahl-Hirschman index can give an indication of the concentration in a portfolio by squaring the share each loan constitutes of total lending and summing the resulting numbers. Firms representing a larger share of the portfolio will be given more weight, which means that a higher HH index indicates that fewer loans account for a larger share of total lending.

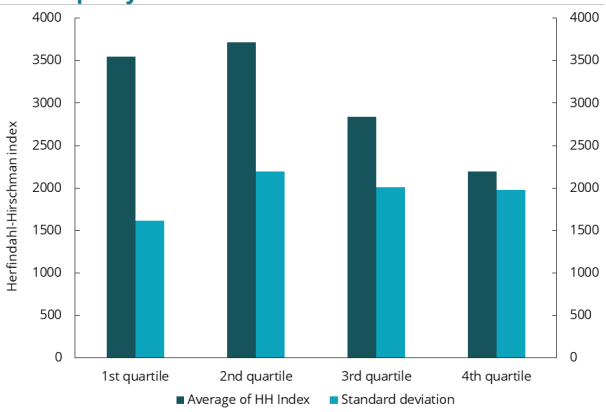
The small banks also have a far greater geographical concentration than the large banks. Chart 37 shows an HH index calculation of lending to individual municipalities as a share of the banks' total loan portfolios. As expected, the calculations indicate that exposures are significantly more geographically concentrated in the small banks than in the large banks, and that the small banks will therefore be hit harder by negative local events, such as the bankruptcy of cornerstone companies.

Chart 36 Average of HH Index per banking group as at 30 September 2024, corporate loans



Source: Finanstilsynet

Chart 37 Average of HH Index per banking group as at 30 September 2024, corporate loans by municipality

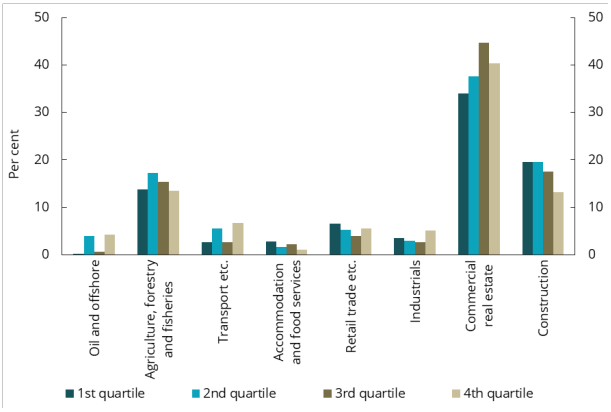


Source: Finanstilsynet

The three groups with the smallest banks have roughly the same industry concentration. Compared to the group with the largest banks, they are somewhat more exposed to the industries 'services' and 'construction'. In these two industries, there has been an increase in losses in recent years. A special feature of the largest banks is their higher share of loans to 'industrials', 'agriculture, forestry and fisheries' and 'oil and offshore'. The last industry was behind the increase in loan losses in 2020.

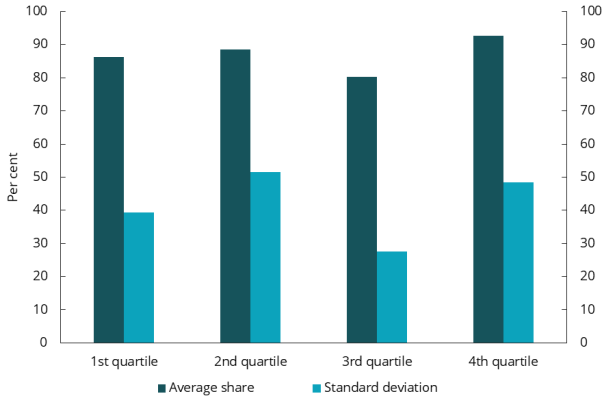
While the HH index indicates greater concentration in the small banks' loan portfolios, the 25 largest exposures in each bank are at the same level for the four groups. These exposures account for between 80 and 90 per cent of CET1 capital in the four banking groups (the banks are weighted equally) (chart 39).

Chart 38 Distribution of corporate loans on selected industries by banking group as at 30 September 2024



Source: Finanstilsynet

Chart 39 25 largest loans granted as a share of equity (CET1) by banking group as at 30 September 2024



Source: Finanstilsynet

Survey of Norwegian banks' use of online deposit platforms

Online deposit platforms (ODPs) are digital marketplaces that enable firms and individuals to both compare and invest in different savings and deposit products from multiple banks and financial institutions. Some platforms only provide an overview of available deposit products and terms and conditions from different banks, while other platforms serve as an actual link between the customer and

the bank, managing deposits and executing transactions. What they have in common is that banks pay a fee to these platforms.

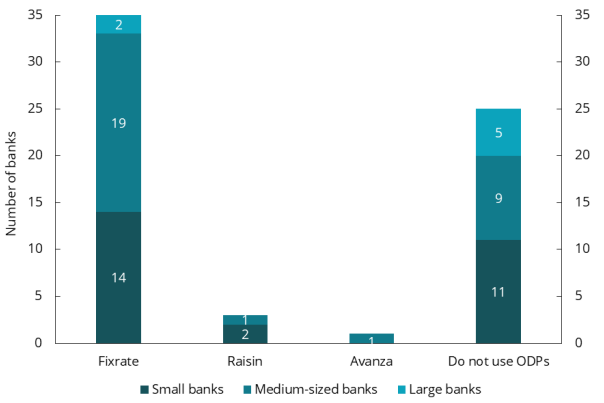
Norwegian banks' use of ODPs

In recent years, ODPs have been established as a source of funding for banks, both in Norway and abroad. The use of such platforms has received increased attention internationally. In the summer of 2024, Finanstilsynet sent a questionnaire to all Norwegian banks to map their use of ODPs. Responding to the survey was voluntary, and 65 of 103 banks responded. 39 of the 65 banks reported that they use ODPs (chart 40).

Fixrate is the most widely used platform among Norwegian banks. On its website, Fixrate states that over 60 banks use the service. Fixrate targets the corporate market, aiming to make firms, municipalities and organisations invest surplus liquidity in the platform's member banks.[18]

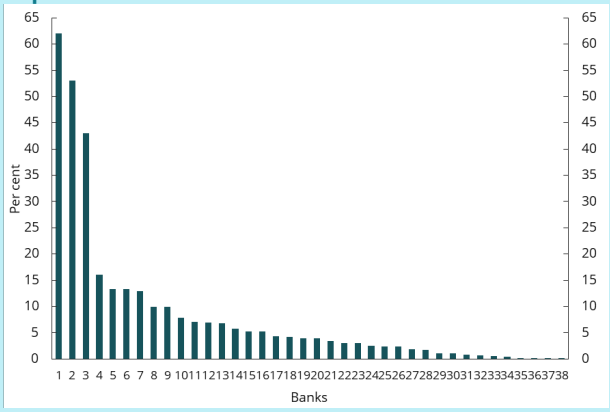
The German platform Raisin is also used, but only a few banks state that they use it. The platform differs from Fixrate in that it exclusively targets personal customers and also manages deposits and executes transactions via the platform.

Chart 40 Use of ODPs among Norwegian banks by banking group at end-June 2024



Only 65 of 103 Norwegian banks responded to Finanstilsynet's questionnaire. The number of banks that actually use ODPs may be higher than shown in the chart. Source: Finanstilsynet

Chart 41 Deposits from ODPs as a share of total deposits



One of the banks in the survey did not report its share of deposits from ODPs. The chart therefore shows 38 banks instead of 39. Source: Finanstilsynet

Dependence on ODPs increases concentration and liquidity risk

The survey showed that three of the banks have a particularly high share of deposits from an ODP (chart 41). The high share represents a significant concentration risk for these banks. Although there are different depositors, the entire deposit pool is mediated via one platform and can often quickly be moved to other banks without prior notice.

Finansinspektionen (the Swedish Financial Supervisory Authority) has collected data from Swedish banks showing monthly changes in deposits from ODPs. The volume of deposits varies widely, and some banks have experienced withdrawals of almost 50 per cent of the deposit base during a single month. On average, the withdrawals were 24 per cent.

Finanstilsynet, like other European supervisory authorities, generally assesses the liquidity risk to be higher for these deposits.

ODPs are defined as deposit brokers in Sweden – will have consequences for the LCR and the NSFR

Finansinspektionen has concluded that the ODPs used by Swedish banks meet the criteria for being a deposit broker pursuant to Article 411 (4) of the CRR. Deposits from such brokers shall be treated more conservatively, partly because the deposits are considered to be more volatile. This means that Swedish banks must apply stricter weights and factors to these deposits when calculating liquidity coverage and

[18] In 2023, Fixrate was granted a licence as an investment firm authorised to provide investment services related to the receipt and transmission of orders for one or more financial instruments.

net stable funding requirements (LCR and NSFR). When a bank obtains large volumes of deposits from ODPs, it could have major consequences for LCR and NSFR levels.

Table 4 shows how this affects the LCR and the NSFR for the three Norwegian banks with the highest share of deposits from ODPs, as shown in chart 41. The application of more conservative weights means that banks, based on their current funding model, will probably have significantly lower LCR and NSFR and thus risk breaching the minimum requirements.

Table 4 Liquidity coverage ratio (LCR) and net stable funding ratio (NSFR) with different weights*

Banks	Reported LCR (5–10% withdrawal factor)	Recalculated LCR (20% withdrawal factor)	Reported NSFR (90% ASF**)	Recalculated NSFR (50% ASF**)
Bank 1	565%	228%	151%	116%
Bank 2	287%	74%	128%	103%
Bank 3	265%	139%	136%	84%

*For the LCR, figures as at 30 May 2024 have been used, while for the NSFR, figures as at 30 June 2024 have been used.
**ASF (available stable funding) represents the proportion of funding that the institutions can include when calculating the NSFR.

Finanstilsynet will assess whether ODPs meet the criteria for deposit brokers according to Article 411 (4) of the CRR. The regulations clearly state that deposits from brokers must be subject to higher risk weights when calculating both the LCR and the NSFR.

Finanstilsynet's survey revealed that some banks already apply higher weights when reporting deposits from ODPs. Finanstilsynet supports such an approach.

Amendments to the Capital Requirements Directive (CRD 6)

Finanstilsynet has been commissioned by the Ministry of Finance to prepare a consultation document on the implementation of amendments to the Capital Requirements Directive (CRD6) in Norwegian law by end-December 2024. CRD 6 has yet to be incorporated into the EEA Agreement. The Ministry of Finance aims for the rules to enter into force in Norway at the same time as in the EU. Together with amendments to the Capital Requirements Regulation (CRR 3), CRD 6 implements the Basel III recommendations and is referred to as the ‘2021 banking package’.

CRD 6 in itself is assumed to have little impact on Norwegian banks' capital requirements, but certain provisions of the directive may be of significance. According to the directive, the assessment of sustainability risk shall be included in the SREP processes and may thus affect banks' capital requirements in the long term. Under the directive, national authorities may justify the introduction and size of a systemic risk buffer by the banking system's exposure to climate risk. It is difficult to estimate precisely how the provisions will affect capital requirements, and any effects are not assumed to materialise for some time yet.

The directive also contains provisions on sustainability risk (ESG), sanctions and administrative measures, rules for transfers of material holdings, divisions and mergers, and portfolio and business transfers, as well as rules on the independence of supervisory authorities.

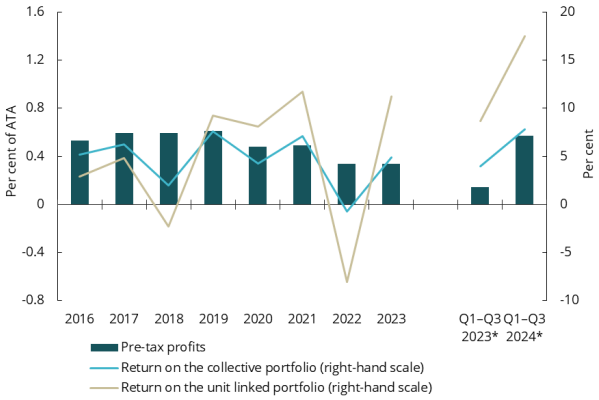
INSURERS AND PENSION FUNDS

Improved profitability and strong solvency for pension institutions

A positive stock market trend and higher interest income contributed to raising life insurers' profits and returns in the first three quarters of 2024 compared with the corresponding period in 2023 (chart 42). The return on the collective and unit linked portfolios increased to 7.8 and 17.5 per cent respectively, up from 4.0 and 8.7 per cent. In both portfolios, positive changes in the value of equities contributed most to investment income. Changes in the value of derivatives had a negative impact on income. This is partly due to life insurers' currency hedging and the depreciation of the Norwegian krone against a number of currencies in the course of 2024. For pension funds, the stock market upturn, resulting in both realised and unrealised gains on equities, has also contributed to positive returns and results thus far in 2024. The return on pension funds' collective portfolio was 11.2 per cent in the first half of the year, up from 9.9 per cent in the corresponding period in 2023.

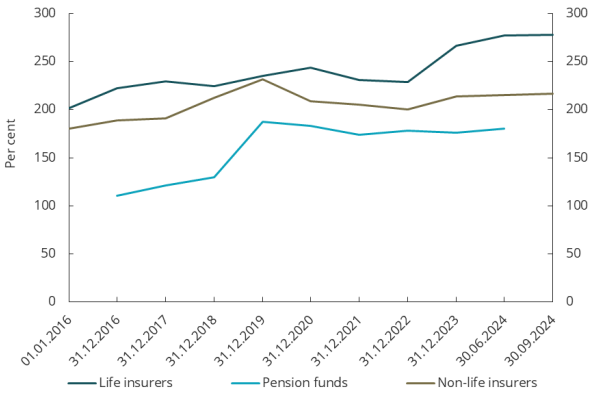
Overall, Norwegian pension institutions enjoy a strong solvency position. Life insurers' solvency ratio widened from 202 per cent when the Solvency II framework was introduced on 1 January 2016 to 278 per cent as at 30 September 2024 (chart 43). The increase in the solvency ratio thus far in 2024 is mainly attributable to higher solvency capital, partly due to positive returns.

Chart 42 Life insurers' profits and returns[19]



*Annualised return. Source: Finanstilsynet

Chart 43 Solvency ratios of 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

Growth in the unit linked portfolio

At end-September 2024, life insurers' investments totalled NOK 2 358 billion, of which NOK 798 billion was placed in the unit linked portfolio (chart 44). The value of the unit linked portfolio has more than tripled since 2016. The increase is partly due to high returns and a rise in investments in unit linked products during this period. Defined-contribution occupational pension schemes provided by employers have contributed most to the increase.

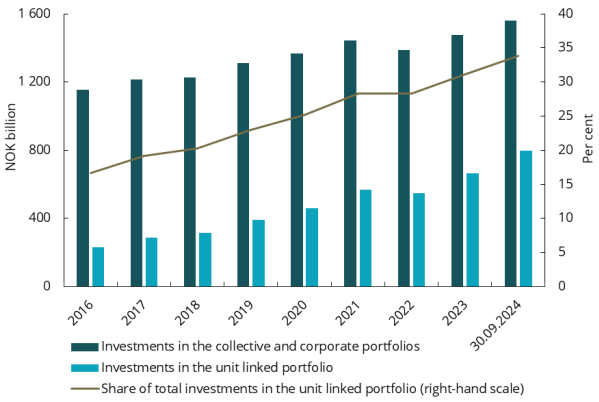
Equities and equity funds are the largest asset class in the unit linked portfolio, accounting for 66 per cent (chart 45). The proportion of equities has increased by 13 percentage points since 2016 and by 3 percentage points so far in 2024. The share invested in bonds, including debt funds, declined to 27 per cent during the same period.

The transition from defined-benefit to defined-contribution occupational pension schemes means that members of the pension schemes increasingly choose the allocation and bear the return risk themselves. There has also been strong growth in individual investment products during this period, with a particularly steep increase in individual endowment insurance. It is important that the

[19] The references to book and adjusted returns have been removed from the Regulations on the calculation of return on capital in life insurers as a result of the introduction of Regulations on the implementation of rules on buffer funds for private guaranteed pension products. Consequently, as from of 1 January 2024, only one return shall be calculated for the collective portfolio, corresponding to the previous adjusted return.

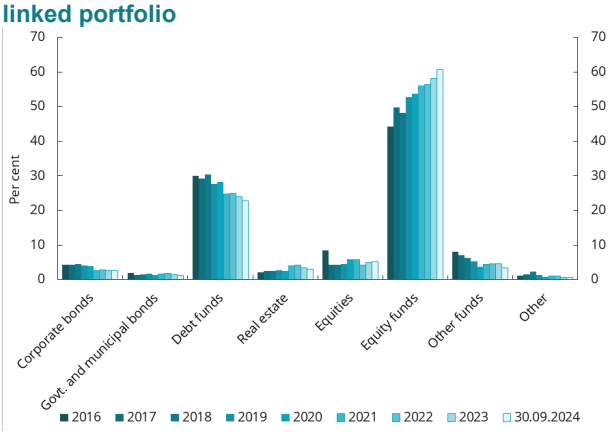
undertakings give customers the necessary information to enable them to make informed decisions, and that the customers' interests are safeguarded in the portfolio management process.

Chart 44 Life insurers' investments



Source: Finanstilsynet

Chart 45 Life insurers' investments in the unit linked portfolio

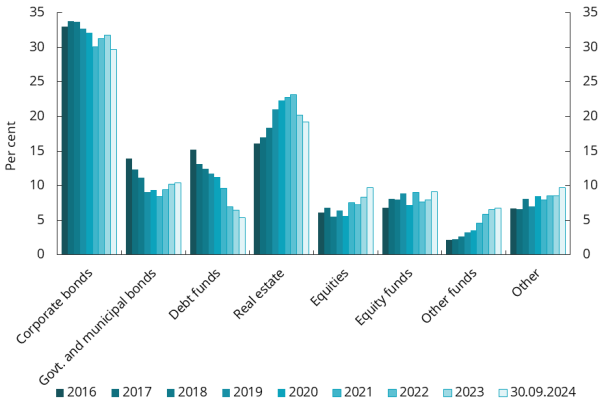


Source: Finanstilsynet

Good credit quality of investments in government and municipal bonds

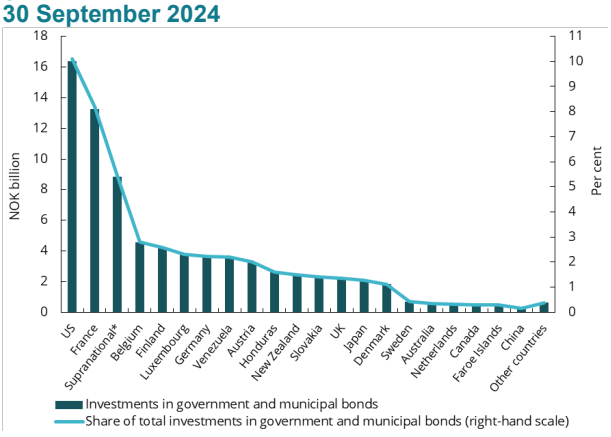
Bonds, including debt funds, constituted the largest asset class (45 per cent) in life insurers' collective and corporate investment portfolios as at 30 September 2024 (chart 46). 10 per cent represents investments in government and municipal bonds. Norwegian life insurers largely invest in government and municipal bonds of good credit quality. 85 per cent of these had a credit rating of AAA or AA at end-September 2024. More than half of the government and municipal bonds are issued by the Norwegian government, municipalities and county municipalities (52 per cent), followed by the US (10 per cent) and France (8 per cent) (chart 47). Many countries have high sovereign debt. Faced with the prospect of a further increase in debt, government bonds may come under pressure and be downgraded, which may lead to a fall in the value of life insurers' investments.

Chart 46 Investments in life insurers' collective and corporate portfolios



Source: Finanstilsynet

Chart 47 Life insurers' investments in foreign government and municipal bonds as at 30 September 2024



*Multinational bonds issued by public institutions.

Source: Finanstilsynet

Proportion of equities also on the rise in the collective and corporate portfolios

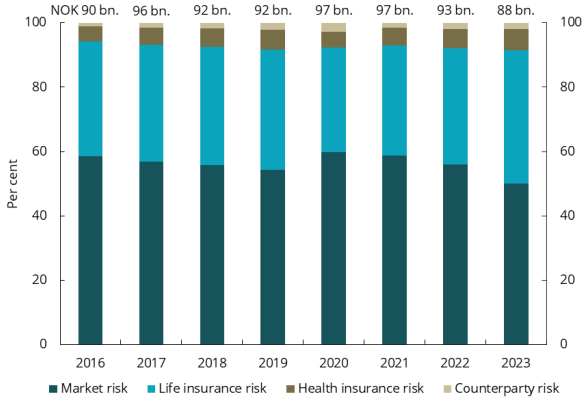
The proportion of equities, including equity funds, in life insurers' collective and corporate portfolios has increased by 4 percentage points, to 19 per cent, since year-end 2022 (chart 46). Finanstilsynet notes that the increase in the proportion of equities can largely be explained by a larger proportion of equities in municipal schemes, while there is a more moderate increase in the in portfolios of paid-up policies. In recent years, regulatory changes have been implemented with the aim of increasing customers' expected returns by allowing the undertakings to take greater risk in their asset

management.[20] Among other things, a buffer fund has been introduced for both municipal and private schemes. For the regulatory changes to benefit customers, as was the intention, asset management must be adjusted to achieve an increase in expected returns. The undertakings' exposure to fixed-income securities at amortised cost accounts for a substantial share of the investments, carries low risk for the undertakings and generates relatively low expected returns.

A higher proportion of equities may increase the undertakings' risk. Life insurers are exposed to market risk associated with their insurance obligations and investments in bonds, equities and real estate etc. Market risk constitutes 50 per cent of total risk (before deducting diversification effects) and is the largest risk component of the solvency capital requirement for life insurers (chart 48). Equity risk increased by 8 percentage points in 2023 and represented the largest contribution to overall market risk (chart 49).

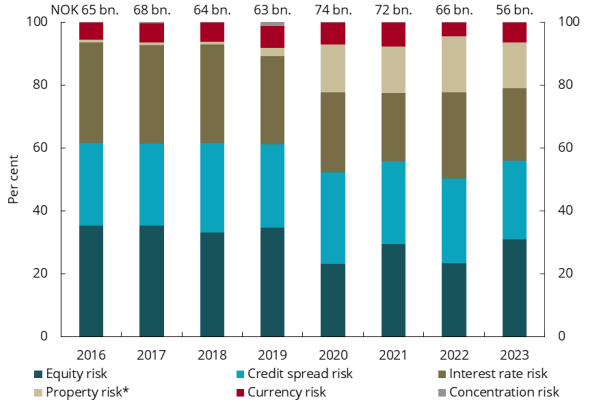
Higher solvency capital requirements for equity risk are partly due to a higher proportion of equities in the collective and corporate portfolios and greater equity stress in the solvency calculation. The stress factor for equities in the capital requirement (the equity price shock) increased from 36 per cent for listed equities in OECD countries and 46 per cent for other equities as at 31 December 2022 to 40.5 and 50.5 per cent, respectively, as at 31 December 2023. The adjustment mechanism entails that the size of the equity price shock depends on equity price developments. The purpose is to adapt the equity price shock to the state of the stock market and dampen the effects of short-term equity price movements. If the equity indices are high relative to the average level for the last three years, there will be a positive adjustment, whereby the equity price shock increases, and vice versa if the indices are low relative to the average.

Chart 48 Breakdown of life insurers' solvency capital requirement*



*Before deducting diversification gains.
Source: Finanstilsynet

Chart 49 Breakdown of life insurers' solvency capital requirement for market risk*



*Before deducting diversification gains. The increase in property risk and the reduction in equity risk as from 2020 are mainly a consequence of regulatory changes whereby investments in related real estate companies are no longer treated as equity risk when calculating insurers' solvency capital requirement but as property risk.
Source: Finanstilsynet

Negative trend for life insurers' disability risk

Life insurers offer individual and collective disability insurance. Collective disability insurance mainly consists of disability pension insurance as part of employers' occupational pension schemes. Disability pension is disability coverage paid monthly over several years. It also includes waiver of premium and waiver of contribution insurance, where the employer insures itself against paying future pension premiums to employees who become disabled. In addition, life insurers offer group life insurance policies that provide payment in the event of disability. Individual disability insurance policies comprise

[20] On 20 December 2023, the government appointed a working group with participants from the Ministry of Finance, the Ministry of Labour and Social Inclusion, Finanstilsynet, the Norwegian Confederation of Trade Unions and NHO – Confederation of Norwegian Enterprise to look at possible regulatory changes for further safeguarding the values and the regulation of paid-up policies. The working group's report includes draft amendments to laws and regulations concerning private guaranteed pension products and has been circulated for comment with the deadline for response set at 16 December 2024 (in Norwegian only).

both policies that provide lump sum payments upon disability, and policies that disburse disability pensions over several years.

The total annual risk premium for disability came to approximately NOK 11 billion in 2023. Of this, individual disability insurance accounted for 18 per cent, group life insurance 9 per cent, occupational pension schemes in the private sector 37 per cent and occupational pension schemes in the public (municipal) sector 36 per cent.

There is reason to be concerned about the increase in health-related benefits in the National Insurance Scheme (sickness benefit, work assessment allowance and disability benefit). The proportion of people receiving health-related social security benefits has increased significantly compared with pre-pandemic levels. At year-end 2023, more than 18 per cent of the population in the age group 18–66 years received such a health-related benefit.

For life insurers' combined disability insurance policies, the insurance result (risk result) for disability risk has shown a clear negative trend over the past five years. The negative trend has been particularly noticeable for individual disability insurance and occupational pension schemes in the public sector. The disability risk is also increasing for group life insurance and defined-contribution pension schemes in the private sector.

As part of its supervisory activity, Finanstilsynet has in recent years followed up pension providers' risk premium levels for disability risk in occupational pension schemes in both the public (municipal) and private sectors. Pension providers have made adjustments, but developments in insurance results may indicate that further adjustments are necessary. This also applies to individual disability insurance.

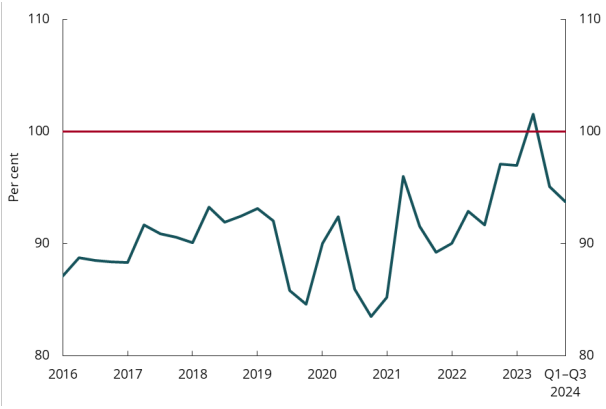
Higher claims payments for non-life insurers

Non-life insurers offering land-based insurance experienced a significant increase in natural damage claims payments in 2023 after, among other things, the extreme weather 'Hans' and the landslide in Halden. This includes both claims distributed by the Norwegian Natural Perils Pool and so-called 'feigned natural damage', which is damage from natural events caused by human factors which the individual insurer is responsible for covering.

Again in 2024, there have been many weather-related claims that have had a negative impact on the profitability of non-life insurers. The undertakings have also had to deal with strong cost growth. Chart 50 shows developments in non-life insurers' net combined ratio (the total of the claims ratio and the cost ratio), i.e. the ratio of net costs related to claims payments and operations to net premium income. A combined ratio above 100 per cent implies that the sum of claims payment expenses and insurance-related operating expenses exceed premium income and means that insurance-related operations have not been profitable.

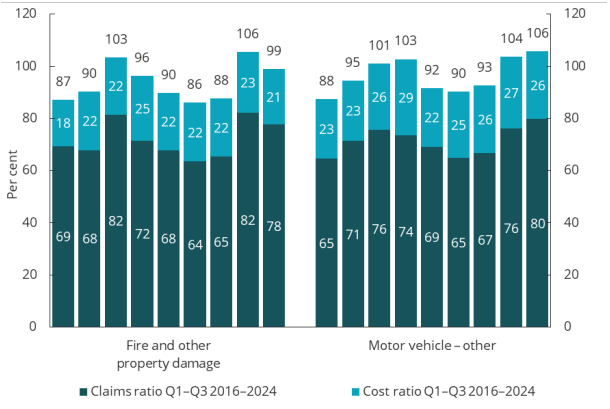
Thus far in 2024, the storm 'Ingunn', periods with difficult driving conditions after heavy snow and periods of lightning activity and several fires have contributed to reduced profitability in the real estate and motor vehicle lines of business (chart 51). Non-life insurers report that a combination of fixed low deductibles, a higher claims frequency and increased claims payments has led to stricter terms and conditions and rising prices and deductibles.

Chart 50 Net combined ratio*



*Assuranceforeningen Skuld has a diverging financial year and has been excluded. Source: Finanstilsynet

Chart 51 Net combined ratio* for selected lines of business



*Assuranceforeningen Skuld has a diverging financial year and has been excluded. Source: Finanstilsynet

Climate risk in insurance undertakings

Climate change represents major challenges for the insurance industry. More frequent and intense weather phenomena such as floods, droughts, storms and forest fires give an increase in payments and may weaken the undertakings' financial resilience. It is therefore important that the undertakings assess their exposure to climate risk and integrate climate risk into their risk management systems. EIOPA, the ECB and ESMA have conducted a 'Fit-For-55' climate stress test to assess the impact of transition risk on the European financial system. The stress test shows that transition risk alone is unlikely to threaten the financial stability of European insurers, while physical climate risk is difficult to estimate and may have severe consequences.

Norwegian insurers are covered by the Regulation on the Integration of Sustainability Risk. In October 2024, Finanstilsynet published a report that maps the assessment of climate risk in the own risk and solvency assessments (ORSA) of 22 non-life insurers and nine life insurers.

The survey shows that climate risk assessments have become a more important part of the ORSA reports. The undertakings consider the risk to be low to moderate. Practically all the undertakings have carried out qualitative risk assessments which, however, are of varying scope and generally have a short-term perspective. Several undertakings state that quantification of risk assessments and climate scenarios will be given priority when preparing their next ORSA report.

In Finanstilsynet's opinion, most of the undertakings need to further develop their analyses of climate risk in order to meet recommendations and expectations regarding the quantification and preparation of long-term risk assessments. As a number of undertakings expect heightened climate risk in the future, such analyses should be prioritised. Finanstilsynet is monitoring developments in this area and will, as part of its ongoing supervisory activity, also raise the issue of climate risk in ORSA with individual undertakings.

Survey of insurers' use of advanced technology

On 12 September 2024, Finanstilsynet published a survey of ten life insurers' and 21 'ordinary' non-life insurers' use of advanced technology (in Norwegian only). The survey shows that advanced technology, including artificial intelligence (AI), is used by insurers to varying degrees, and that non-life insurers have adopted advanced technology to a greater extent than life insurers. A majority of the undertakings focus on expertise and capacity in all parts of their operations, especially the undertakings that make most extensive use of advanced technology. The undertakings give priority to building sufficient internal expertise and capacity, while outsourcing is mainly used during the development and advisory phases.

A large number of undertakings state that the AI systems that have been developed must be designed so that decision-making processes and the functioning of the algorithms can be explained, and that the factors that influence the decisions must be known. In the undertakings' opinion, the use of advanced technology affects strategic risk, operational risk, reputational risk, legal risk, climate risk and financial risk.

Finanstilsynet expects insurers that use advanced analysis methods to comply with prevailing sectoral regulations and other requirements, guidelines and recommendations relevant to this activity.[21] Finanstilsynet refers in particular to the 'EIOPA Consultative Group on Artificial Intelligence Governance Principles'. Among other things, the undertakings must meet requirements for sound governance and control, including risk management. The undertakings' board, executive management and control functions are expected to have sufficient expertise. The board must ensure that the undertaking has relevant guidelines, and that thorough risk assessments have been performed before decisions are made and implemented. Undertakings should ensure that the data used are accurate and relevant, and that data management processes and modelling methodologies are documented to ensure traceability and enable independent control. Undertakings should ensure adequate human oversight of systems, processes and results.

The use of advanced analytical methods can help ensure that the undertaking's premiums are proportionate to the risk assumed. However, this can also lead to more tailored pricing where certain customers and customer groups in practice are excluded from the insurance collective. It is important that the undertakings ensure equal distribution of risk between members of an insurance collective and take financial inclusion into account. This is especially relevant for products providing significant benefits to society or in cases where exclusion may affect vulnerable customer groups in particular.

When using advanced analytics, an imbalance may arise between the undertakings, which can use large amounts of data to price risk, and the customers and their insight and ability to assess whether this price is reasonable in relation to the risk assumed and the services provided. Finanstilsynet refers to the requirement in the Act on Insurance Activity that premiums must be proportionate to the risk assumed and the services provided and expects the undertakings not to adopt a practice where the price is maximised on the basis of the customer's willingness to pay for the insurance product. Finanstilsynet also expects the undertakings to ensure that prices are transparent and can be explained to the customer.

[21] Non-life insurance and customer protection (in Norwegian only).

CLIMATE TRANSITION AND BANKS' RISK

Norway has made a commitment to reduce greenhouse gas emissions by 55 per cent from the 1990 level by 2030 and to be a net-zero emission economy by 2050. The transition to a low emission economy requires a significant restructuring of the Norwegian business sector and large investments for Norwegian firms. Higher investment costs and increased emission taxes, which are a key climate policy tool, may have a negative impact on the profitability of Norwegian businesses and lead to higher loan losses for Norwegian banks.

Finanstilsynet has analysed two different scenarios for developments in emission taxes and climate investments. In the first scenario (the continuity scenario), the observed decline in emission intensities over the past decades is assumed to continue until 2030. In the second scenario (the transition scenario), it is assumed that the investments made and measures implemented are far more energy-efficient than the measures that have already been introduced to limit greenhouse gas emissions, and that are implicitly included in the continuity scenario.

The purpose of the analyses is to illustrate how sensitive Norwegian firms' profitability is to increased taxes on greenhouse gas emissions and rising costs related to the implementation of climate measures. The analyses are not forecasts for developments towards 2030 nor a cost analysis of planned climate policies. The analysis is an illustration of the transition risk for Norwegian businesses and for Norwegian banks. Such analyses are highly uncertain and must necessarily be based on a number of assumptions.

Finanstilsynet published a similar analysis in its Risk Outlook December 2021 based on scenarios for the transition to a low-emission society.[22] Norges Bank has also carried out analyses of climate risk in Norwegian firms and the consequences for Norwegian banks.[23]

Limited restructuring (the continuity scenario) in the business sector towards 2030 increases the transition risk in the period after 2030. In the transition scenario, there are also high remaining emissions in 2030 for petroleum-related industries and international shipping. For some industries, it may be more profitable to buy emission allowances than to invest in emission reduction measures. However, by postponing the restructuring, transition risk may increase in the period after 2030.

The macro scenario

Developments in the Norwegian economic are assumed to be largely consistent with the forecasts in Statistics Norway's Economic Survey 3/2024 and Norges Bank's Monetary Policy Report 3/2024 in the period from 2024 to 2027. In the last three years of the projection period, the development of endogenous variables is driven by the equilibrium properties of the macroeconometric model NAM-FT (see also the box 'Extended NAM-FT model').[24] After 2024, value added is expected to increase in all industries apart from oil and gas extraction, where value added is expected to decline from 2025 to 2030 (table 5). A higher value added will, in isolation, lead to a rise in greenhouse gas emissions towards 2030.

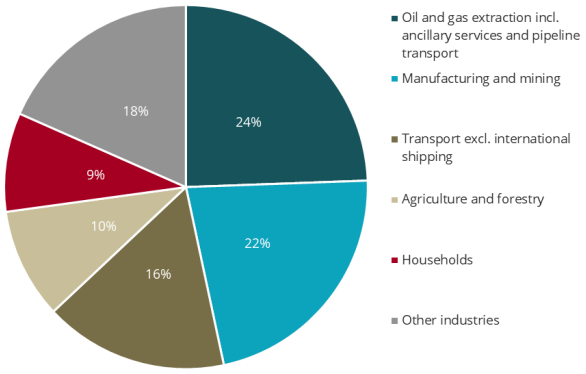
[22] The analysis was based on scenarios developed by the NGFS (Network for Greening the Financial System) using IAM models (Integrated Assessment Models).
[23] See 'Firms' transition to lower greenhouse gas emissions and risks in Norwegian banks' from June 2024 (in Norwegian only) and 'Climate risk and banks' loans to firms' from November 2021.
[24] NAM-FT is based on the Norwegian Aggregate Model (NAM) and has been developed specifically with a view to stress testing of banks and analysis of financial stability. NAM was developed by Professor Gunnar Bårdsen (Norwegian University of Science and Technology) and Professor Ragnar Nymoen (University of Oslo). Documentation of NAM can be found at **Normetrics**.no.

Table 5 Annual average growth in value added in main industries. Per cent

	2024	2025–2027	2028–2030
Manufacturing and mining	2.2	3.4	1.3
Other commodity production	-2.1	2.1	1.0
Services including housing services	0.7	4.2	2.2
Public administration	2.8	1.9	1.8
Extraction of crude oil and natural gas	5.5	-1.2	-1.4
International shipping	12.3	1.3	2.0

Sources: Statistics Norway and Finanstilsynet

Chart 52 Share of total greenhouse gas emissions from Norwegian economic activity excluding international shipping in 2023



Sources: Statistics Norway and Finanstilsynet

Extended NAM-FT model

To better analyse the risk related to the transition to a low-emission society, NAM-FT has been further developed. The new version has a more disaggregated industry classification and includes greenhouse gas emissions and emission intensity by industry for ten industry groups.

In the previous version of the model, value added in mainland Norway was distributed across four industries with corresponding equations: manufacturing and mining, production of other goods, services including housing services and public administration. In the new version, value added in other commodity production is disaggregated into four sub-industries: 1) construction, 2) agriculture and forestry, 3) fishing and aquaculture, and 4) electricity, gas and steam. Value added in the private services sector is also disaggregated into four sub-industries: 1) services related to the extraction of crude oil and natural gas, 2) transport excluding international shipping, 3) retail trade and motor vehicle repairs, and 4) other private services. The new distribution is based on the industry classification in the national accounts (Statistics Norway, table 09171).

In addition to equations for value added by industry in mainland Norway, NAM-FT includes equations for value added in the following industries: 1) extraction of crude oil and natural gas, 2) pipeline transport, and 3) international shipping. The production part of NAM-FT thus consists of twelve industries.

Value added and greenhouse gas emissions for the industries oil and gas extraction, services incidental to oil and gas extraction, and pipeline transport are aggregated into a larger industry, referred to as the oil industry in the analysis, which means that total greenhouse gas emissions are distributed across ten industries.

Greenhouse gas emissions

Greenhouse gas emissions from Norwegian economic activity, including households and all industries apart from international shipping, came to 51.6 million tonnes of CO2 equivalent in 2023. This is 2 per cent below the emission level in 1990. Emissions from 'Norwegian economic activity', as used in the analysis, are somewhat higher than the emissions from 'Norwegian territory', as used in the Climate Change Act and in connection with Norway's emission reduction targets.[25] In 2023, the difference was around 10 per cent.

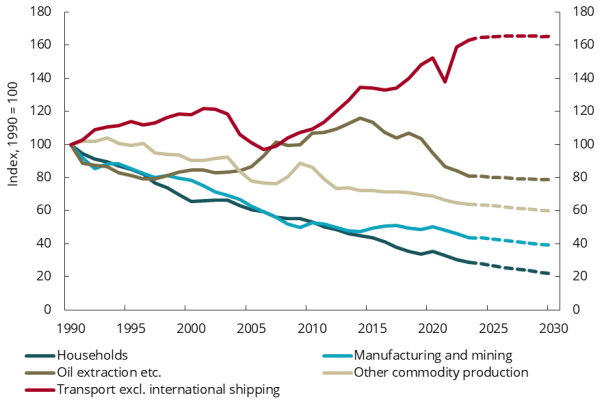
The three industries with the highest emissions in 2023 are oil and gas extraction including ancillary services, and pipeline transport (hereafter referred to as the oil industry), manufacturing, mining and quarrying (hereafter referred to as manufacturing), and transport (chart 52). Within transport (excluding international shipping), emissions doubled in the period from 1990 to 2023.

The oil and manufacturing industries account for about half of Norway's emissions, and most of the emissions in these industries are covered by the EU Emissions Trading System (ETS). Emissions from other industries are mainly included in the non-ETS sector, referred to as the 'effort sharing sector'.

In most industries, greenhouse gas emissions as a share of value creation have been markedly reduced since 1990. As an example, emission intensity, defined as tonnes of CO2 equivalent per unit of value added in millions of constant 2021 kroner, fell by almost 60 per cent in the manufacturing industry from 1990 to 2023.

In the continuity scenario, it is assumed that emission intensity during the projection period in relative terms changes at the same rate in each industry as the average for the period from 2006 to 2023. For most industries, this means that emission intensity is gradually reduced towards 2030 (chart 53). The exception is transport excluding international shipping, whose emission intensity increased in the period from 2006 to 2023, apart from during the pandemic. For this industry, it is assumed that emission intensity will remain constant at the 2023 level until 2030. Seen in isolation, lower emission intensities give a reduction in emissions during the period, while production growth results in higher emissions. Based on these assumptions, total greenhouse gas emissions increase somewhat towards 2030. In certain industries, emissions are significantly higher than the Norwegian emission target for 2030.

Chart 53 Emission intensity*, selected industries



*Actual numbers up to and including 2023, projection 2024–2030
Sources: Statistics Norway and Finanstilsynet

In many industries, emission intensity has been reduced more quickly over the last five years than in the reference period from 2006 to 2023. This may be related to more accessible and less costly technology to reduce emissions and more stringent national commitments to climate cuts. The construction and oil industries and other private services in particular experienced a stronger decline in

[25] In Norway's emission accounts, *emissions to air from Norwegian territory,* which are specified by source, are used (Statistics Norway, table 13931). Since the purpose of this analysis is to map climate transition risk in the industries, *emissions to air from Norwegian economic activity* are used, which show emissions by industry, defined as in the national accounts (Statistics Norway, table 13932). Emission statistics for Norwegian economic activity combined with value added statistics provide a basis for calculating emission intensities per industry.

emission intensity in the period from 2018 to 2023 than in the reference period. Assuming that the emission intensities change at the average rate for the period from 2018 to 2023, the calculations show a slight reduction in total emissions from 1990 to 2030. Nevertheless, emissions in most industries are clearly above the Norwegian emission target.

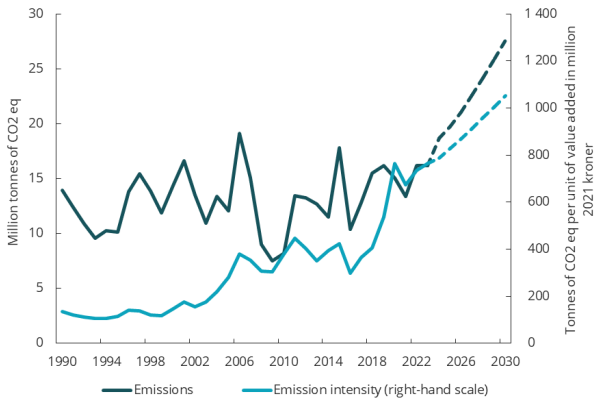
To reach the climate target for 2030, the reduction in emission intensities must take place much faster than in recent years. In the transition scenario, it is assumed that increased emission taxes will lead to sufficient emission reduction measures to ensure that the targets of the Paris Agreement are met, given that Norwegian economic growth towards 2030 is in line with Finanstilsynet's macroeconomic scenario.

International shipping

International shipping has been exempt from international agreements regarding emission reductions and has not been subject to CO2 taxes or been part of the EU Emission Trading System (ETS). The emissions from international shipping have therefore not been included in Norway's emission accounts. Ships over 5 000 gross tonnes in international shipping will be fully included in the ETS from 2026 and will have to pay for emissions by purchasing allowances.

Greenhouse gas emissions from international shipping in the period from 1990 to 2023 remained at a high level compared to other industries, and the industry's emission intensity increased significantly during the same period (chart 54). In 2023, international shipping had both the highest greenhouse gas emissions and the highest emission intensity.[26] If emissions from international shipping are included, total emissions from Norwegian economic activity in 2023 will amount to 67.8 million tonnes of CO2 equivalent. Greenhouse gas emissions from international shipping account for 31 per cent of total emissions.

Chart 54 International shipping, emissions and emission intensity. Historical developments and projections 2024–2030



Sources: Statistics Norway and Finanstilsynet

Emission taxes by industry and investments in emission reduction measures

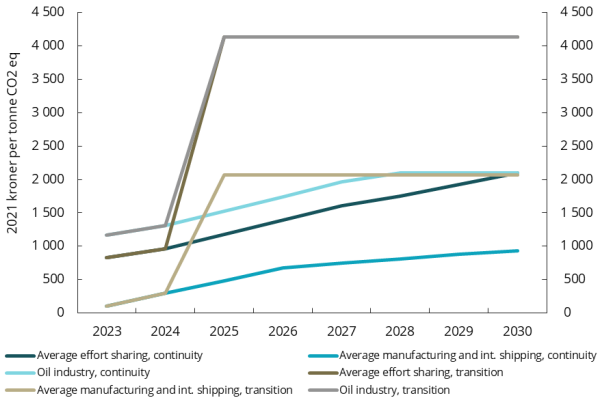
In both scenarios, effective carbon prices in 2023 calculated by Statistics Norway are used as a basis for estimates of the industries' effective emission prices.[27] Since the greenhouse gas emissions used in the analysis include all greenhouse gases, not just CO2 emissions, some adjustments have been made to the estimates.

[26] In 2023, greenhouse gas emissions from international shipping were 16.2 million tonnes of CO2 equivalent, and emission intensity was 765 tonnes of CO2 equivalent per unit of value added in millions of 2021 kroner.

[27] Effective emission prices (or effective emission taxes) are based on statistics on effective carbon prices (in Norwegian only) and supplemented by statistics on the industries' total environmental taxes and total greenhouse gas emissions from Statistics Norway. Effective emission prices include both explicit and implicit taxes applied to various energy products. Due to the allocation of free allowances and various exemption schemes, effective emission prices are lower than the tax rates.

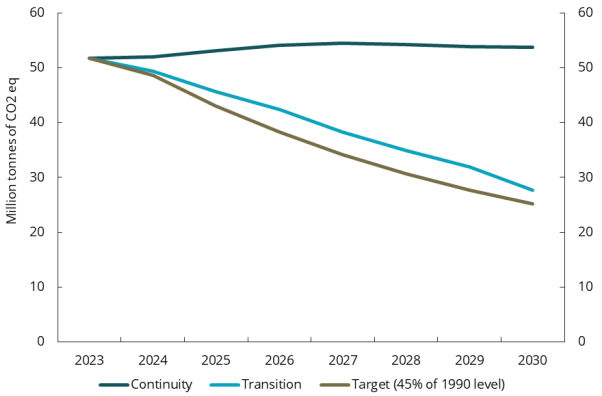
In the continuity scenario, the costs incurred by firms are calculated by multiplying greenhouse gas emissions by emission taxes[28] for the years 2024 to 2030. The emission taxes are based on the Ministry of Finance's carbon price path[29], and there is a gradual increase from the industries' effective emission price in 2023 to the Ministry of Finance's estimated carbon prices in 2030. Increased emission taxes and somewhat higher greenhouse gas emissions contribute to raising the total costs of non-financial corporations towards 2030 (charts 55 and 56).

Chart 55 Developments in emission taxes under different scenarios



Sources: Statistics Norway, Ministry of Finance and Finanstilsynet

Chart 56 Total emissions from Norwegian economic activity under different scenarios*



*Emissions from international shipping are not included.
Sources: Statistics Norway and Finanstilsynet

In the transition scenario, emission prices are higher than in the continuity scenario, and emissions are markedly reduced towards 2030. In the transition scenario, it is assumed that developments in emission taxes for the effort sharing sectors and allowance prices are set equal to the results of the analyses in chapter 11 ‘Climate-related transition’ in Statistics Norway's report for the Wage Leader Model Committee from 2023.[30] In a scenario where Norway meets its obligations under the Paris Agreement in cooperation with the EU, Statistics Norway estimates a carbon price of NOK 4 000 for the effort sharing sector and an allowance price of NOK 2 000 (both measured in 2020 kroner). In Finanstilsynet’s calculations, it is assumed that the industries' effective emission taxes in 2023 will be increased abruptly in 2025 to a high effective emission tax level to incite firms to implement timely emission reduction measures.

The costs in the transition scenario include emission taxes and additional costs associated with investments in emission reduction measures. The additional investment costs are calculated in two stages. Based on estimates of emission reduction measures and the economic costs of the measures proposed by the Norwegian Environment Agency[31], costs and associated emission reductions are calculated for each industry. With respect to industries in the effort sharing sectors that, after the implementation of these measures, have greater emissions than the emission target, it is assumed that investments in emission reduction measures must be further increased to a cost of NOK 4 000 per tonne of CO2 equivalent. This assumption is based on the modelling in ‘Climate-related transitions’, where this carbon price leads to emission reductions in effort sharing sectors in accordance with the Paris Agreement. For ETS industries, no further investments are assumed to be made, which means that the firms’ additional costs are based on the allowance price.

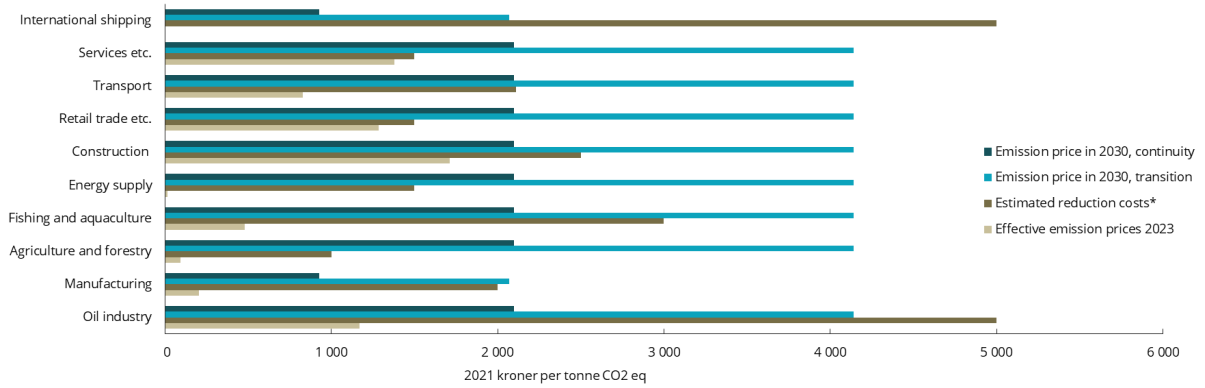
[28] In the analysis, ‘emission taxes’ is used both for taxes imposed by Norwegian authorities and for the cost associated with allowances for ETS emissions.

[29] Carbon price paths for use in economic analyses in 2024. Ministry of Finance, 21 December 2023 (in Norwegian only).

[30] In the analysis from Statistics Norway, the SNOW Global model is used, which is a static and global general equilibrium model tailored to analyse the effects of climate policy on emissions and economic variables. Bye, B., Fæhn, T. and Kaushal, K. R. (2023). Chapter 11 in ‘Challenges for wage formation and the Norwegian economy. Report/Study for the Wage Leader Model Committee’ (pp. 292–310), ed. by G. H. M. Bjertnæs, P. Boug, T. V. Brasch and T. C. Vigtel. Reports 2023/99, Statistics Norway. (All in Norwegian only)

[31] The information in ‘Knowledge Base 2024’ (in Norwegian only) is mainly used for identified possible measures. In addition, ‘Climate measures in Norway towards 2030’ (in Norwegian only) is used for supplementary information on estimated costs for emission reductions. This is a similar approach as in Norges Bank's analysis ‘Firms' transition to lower greenhouse gas emissions and the risk in Norwegian banks’ from June 2024.

Chart 57 Estimated effective emission prices, estimated emission reduction costs* and emission prices in 2030 in each scenario

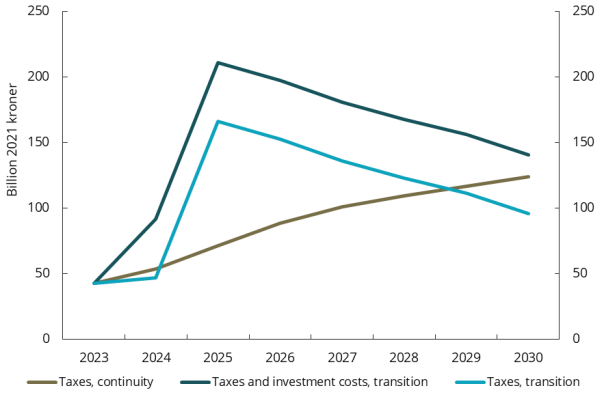


*Estimated emission reduction costs for the measures proposed by the Norwegian Environment Agency.
Sources: Finanstilsynet, Norwegian Environment Agency and Statistics Norway

Chart 57 shows effective emission prices for the various industries in 2023, estimated costs of the measures proposed by the Norwegian Environment Agency and the emission taxes that the industries must cover at the end of the projection period in each scenario. For some industries, such as manufacturing, international shipping, agriculture and forestry, and energy supply, there were low or no effective emission prices in 2023. The cost incurred for the implementation of measures to reduce emissions also vary significantly between industries. The cost estimates are highly uncertain.

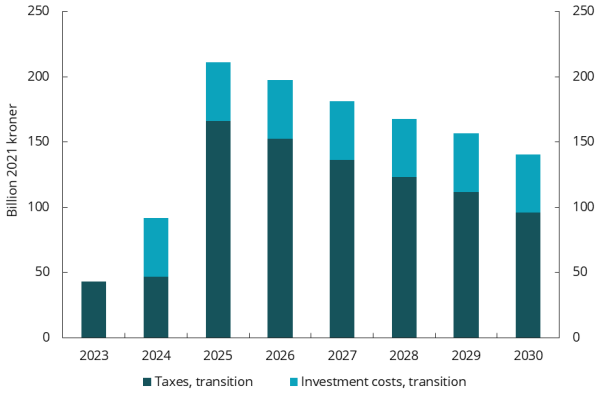
Firms' total emission taxes and costs related to climate measures are much higher in the transition scenario than in the continuity scenario. This is due, among other things, to the assumption of a stronger increase in taxes on greenhouse gas emissions from 2025. In the transition scenario, investment costs represent a smaller share of firms' climate costs than do emission taxes (chart 59).

Chart 58 Tax costs in the continuity scenario and tax costs and additional investment costs in the transition scenario*



*Excl. international shipping. Sources: Finanstilsynet, Norwegian Environment Agency and Statistics Norway

Chart 59 Tax costs and additional investment costs in the transition scenario*



*Excl. international shipping. Sources: Finanstilsynet, Norwegian Environment Agency and Statistics Norway

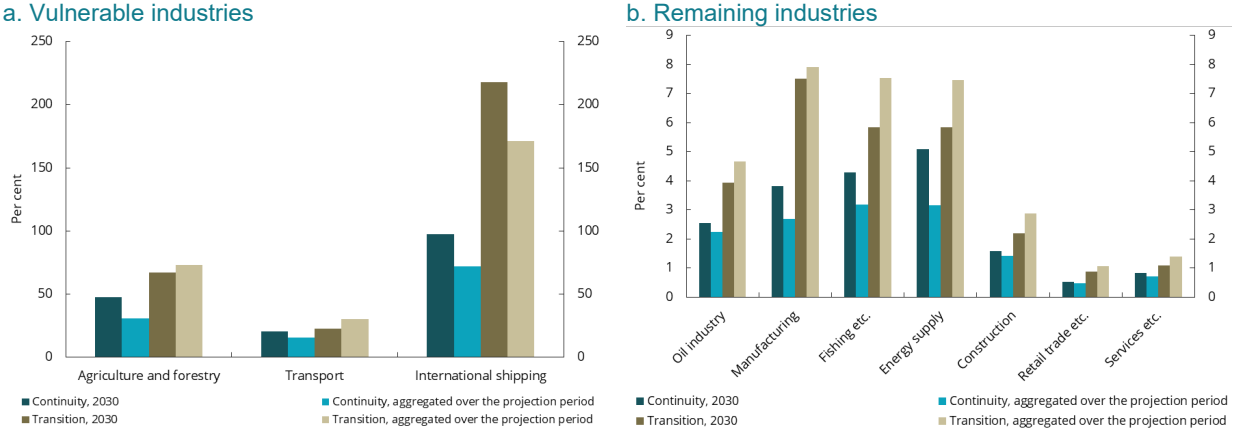
Consequences for the real economy of an increase in taxes and costs for the implementation of measures are not modelled in NAM-FT and are therefore not included in the analysis. Higher taxes and large climate-related investments will affect producer and consumer prices, wages, private consumption, real investments and credit growth. Gross investments in mainland industries in the period from 2024 to 2030 will be around 9 per cent higher in the transition scenario than in the continuity scenario, while oil investments will be 3 per cent higher.

The calculations are based on the assumption that the firms must bear the full cost of the taxes and not raise prices as a compensatory measure, and that they will not reduce production as a result of the tax increases. It is assumed that emission taxes paid will not be used to reduce other taxes for households or firms.

Chart 60 a and b Estimated costs as a share of the industries' value added*

a. Vulnerable industries

b. Remaining industries



*Tax costs in the continuity scenario, and tax costs and additional investment costs in the transition scenario. For the series 'aggregated during the projection period', the ratio is calculated as total costs relative to total value added in the period from 2024 to 2030.
Sources: Finanstilsynet, Norwegian Environment Agency and Statistics Norway

For most industries, the sum of taxes and costs for the implementation of measures represents a moderate share of the industry's value added (chart 60 a and b), while for some industries, costs may constitute a large share of value added. This illustrates that certain industries may face significant challenges in a scenario with high emission taxes and emission reduction requirements. International shipping is particularly vulnerable.

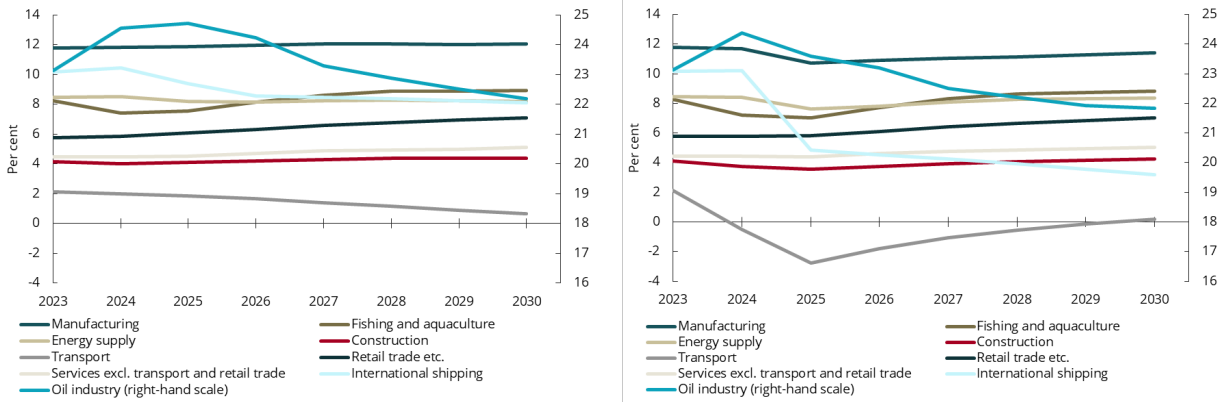
From aggregated costs per industry to the firms' accounts

Key items in the income statements of practically all Norwegian limited companies have been projected for the years 2024 to 2030 based on estimated climate transition costs by industry. The projections are based on a number of assumptions and are uncertain. Several key accounting figures are projected, but in this analysis, the key figure 'pre-tax profits in per cent of total assets' (total return) forms the basis for assessing the extent to which increased climate costs will affect firms.

Chart 61 a and b Developments in total pre-tax return for the industries*

a. Continuity scenario

b. Transition scenario



*Oil industry on the right-hand scale, other industries on the left-hand scale. Agriculture and forestry are excluded.
Sources: Statistics Norway, Norwegian Environment Agency and Finanstilsynet

There are moderate differences in total returns between most of the industries in the two scenarios. This is due to the fact that most industries have relatively low climate costs as a share of total pre-tax profits regardless of scenario, and that production is rising in most industries throughout the projection period. The exceptions are international shipping and transport, which incur much higher costs in the transition scenario than in the continuity scenario (charts 61 a and b).

International shipping is hardest hit by increased climate costs in the projection period from 2024 to 2030, measured as a percentage point reduction in total return. The oil industry incurs the highest total climate costs. Overall, this industry enjoys sound profitability, measured by total return, and profitability remains strong at the end of the projection period in 2030.

Increased emission taxes will have varying effects on firms and industries, which overall seem to have a level of profitability that enables them to absorb the higher costs in both scenarios. However, there is wide variation within each industry. Higher climate costs may have serious consequences for firms with negative or weak profitability at the beginning of the projection period. For some firms, increased climate costs can be crucial to their survival.

Banks' exposure to individual industries

A few industries account for a large share of total greenhouse gas emissions but represent a moderate share of the banks' total loan exposures (chart 62). International shipping, the oil industry and manufacturing account for a major part of total emissions and represent 17.5 per cent of the banks' exposures. Chart 63 shows that some banks are heavily exposed to industries that are responsible for a significant share of Norway's total greenhouse gas emissions. This indicates that Norwegian banks' credit risk related to climate transition is unevenly distributed.

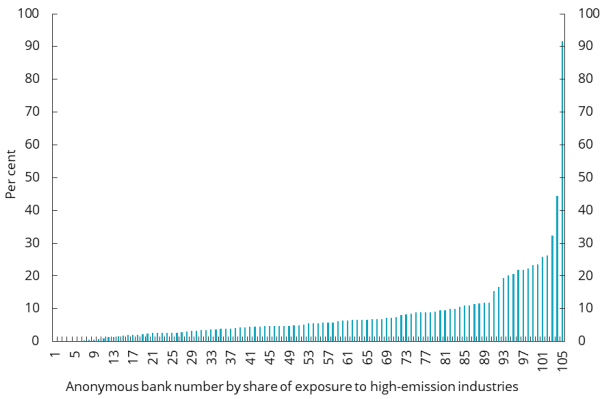
The banks' exposures to agriculture and forestry, transport and international shipping, which have the highest total costs as a share of value added and the sharpest drop in total return, account for approximately 12 per cent of the banks' total exposures.

Overall, Norwegian banks have a moderate exposure to industries with high greenhouse gas emissions that are especially exposed to transitional risk. This helps mitigate the banks' climate risk, but higher emission taxes and investment costs for firms may cause a certain increase in banks' losses.

Chart 62 Individual industries' share of total emissions from all industries and total loans to non-financial corporations

The exposure percentages do not add up to 100 because firms with missing data on industry codes are excluded.
Sources: Statistics Norway and Finanstilsynet

Chart 63 Banks' share of exposures to high-emission industries*



*Other transport, international shipping, petroleum-related and manufacturing and mining are defined herein as high-emission sectors.
Source: Finanstilsynet

Climate-related risk has the most pronounced impact on banks' credit risk but also affects market risk, operational risk, liquidity risk and reputational risk. Finanstilsynet expects the banks to treat climate-related risks in the same way as other types of risks to which they are exposed. Finanstilsynet follows up the banks' management of climate-related risks through on-site inspections and assessments of the banks' overall risks and capital needs (Supervisory Review and Evaluation Process, SREP). Finanstilsynet considers whether the banks have integrated climate-related risks in their business strategy, internal governance and risk management framework. In addition, it evaluates whether the banks have sufficiently demonstrated that their business model is viable in the short, medium and long term.

Climate-related risk is included in assessments of banks' capital needs and is also one of the risk areas when determining the systemic risk buffer for Norwegian banks. Upcoming EU regulations will impose stricter requirements for banks' assessments of their own climate risk, including requirements for scenario analyses, stress tests and the preparation of transition plans.

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